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A prelude to matching: Locus of control and belief in divine intervention among members of Alcoholics Anonymous and Rational Recovery

Auxier, John Wheeler, Ph.D.

The University of Arizona, 1994

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A PRELUDE TO MATCHING: LOCUS OF CONTROL AND BELIEF IN DIVINE INTERVENTION AMONG MEMBERS OF ALCOHOLICS ANONYMOUS AND RATIONAL RECOVERY

by

John Wheeler Auxier

A Dissertation Submitted to the Faculty of the

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THE UNIVERSITY OF ARIZONA

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GRADUATE COLLEGE

As members of the Final Examination Committee, we certify that we have read the dissertation prepared by John Wheeler Auxier

entitled A PRELUDE TO MATCHING: LOCUS OF CONTROL AND BELIEF IN DIVINE INTERVENTION AMONG MEMBERS OF ALCOHOLICS ANONYMOUS AND RATIONAL RECOVERY.

and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy

Dr. Amos P. Sales	May 3, 1994 Date
Dr. James Organist	May 3, 1994 Date
Dr. Betty Newlon	May 3, 1994 Date
	Date
	Date

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copy of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Dissertation Director Dr. Amos P. Sales	May 3, 1994 Date

STATEMENT BY AUTHOR

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DEDICATION

This work is lovingly dedicated to my parents, Fernallen Arnold Auxier and George Washington Auxier, and my wife Doris Hutton Auxier, whose support and love enabled me to complete this work. I love you.

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ABSTRACT

The purpose of the study was to explore the relationship between locus of control orientation, belief in divine intervention and successful affiliation with Alcoholics Anonymous (AA) and Rational Recovery (RR). "Successful affiliation" was defined in the study by the following criteria. First, a history of problem drinking as measured by a score of 12 or above on the Michigan Alcoholism Screening Test (MAST). Second, at least three (3) months of continuous sobriety. Third, substantial involvement in AA or RR as measured by Reinert's (1992) Alcoholics Anonymous Involvement Scale (AAIS), or Auxier's (1994) Rational Recovery Involvement Scale (RRIS).

Fifty seven (57) subjects met the above criteria as successful AA or RR members for the study (AA n=34, RR n=23). Successful AA affiliates were then compared with successful RR affiliates on a locus of control measure, (the Rotter I-E Scale) and on a measure of belief in divine intervention, the Auxier (1994) Divine Intervention Scale (DIS).

As hypothesized, the results of the locus of control measure showed that successful AA members were significantly more external in orientation than successful RR members ($p<.016$). Also as hypothesized, the results of the Divine

Intervention Scale showed that successful AA members had significantly stronger beliefs in divine intervention than their RR counterparts ($p<.001$).

These findings were interpreted using the framework of Leon Festinger's Cognitive Dissonance Theory (1957). It was suggested that AA's drop-out phenomena may be a reflection of cognitive dissonance processes. Individuals with a low beliefs in divine intervention and an internal locus of control may be expected to drop out of AA due to cognitive dissonance effects.

A third hypothesis of the study predicted that external locus of control and strong beliefs in divine intervention would positively correlate. This prediction was not supported. This finding suggests that the impulse towards external locus of control in successful AA members has its source in non-spiritual aspects of AA's philosophy of recovery.

It was concluded that locus of control and belief in divine intervention show promise as treatment matching criteria and further research using these dimensions as predictors of successful affiliation is warranted.

CHAPTER 1

INTRODUCTION

Background of the Problem

Addictions in general and alcoholism in particular are among the most discussed and disruptive social phenomena in American society today. In 1986, health care costs in the United States associated with alcoholism were estimated to be $16.5 billion dollars, with 27,000 deaths alone from cirrhosis of the liver (Blum & Payne, 1991). In an analysis of the federal employee health benefit program with Aetna Life Insurance, researchers concluded that families with alcoholic members used health care benefits at twice the rate of nonalcoholic families, incurring significantly higher costs to health insurers and employers ("Alcoholism Treatment Impact", 1985). The total economic impact of alcohol abuse the following year (1986), including unemployment and loss of productivity, was estimated to be in the area of $128 billion dollars (Blum & Payne, 1991).

Additionally, nearly half of all automobile traffic fatalities, suicides and homicides have been found to be alcohol related (Vaillant, 1983). Current estimates of the number of persons who are abusing and/or who are chemically dependent on alcohol range from 15 to 40 million in the United States (Blum & Payne, 1991).

The last two decades have seen a growing increase in public awareness about the health risks of excessive drinking and the availability of treatment programs for alcoholism. Films such as Clean and Sober, and My Name is Bill W., new federally mandated warnings about the effects of alcohol on fetal development, activist movements like Mothers Against Drunk Drivers (MADD), and the application of the 12 Steps of Alcoholics Anonymous (AA) to a plethora of compulsive behaviors, have increased public awareness of the need for prevention and treatment of alcohol related problems.

In addition to the traditional AA model of sobriety maintenance, a number of new treatment approaches have arisen. For example, brief interventions (where a problem drinker meets only twice with a counselor), selective use of aversion therapies, the use of disulfiram when monitored by a loved one, social skills training, and the growth of alternative addiction self-help groups such as Rational Recovery (RR) are but a few of the treatment options that have demonstrated promise (Hester & Miller, 1989; Trimpey, 1992; Ellis & Velten, 1992).

The purpose of this study was to explore hypothesized differences between members of Alcoholics Anonymous and Rational Recovery in order to determine if systematic differences exist that could lead to more effective

treatment matching. The following two sections in this chapter offer a rationale for the selection of AA and RR for comparison in the study.

Alcoholics Anonymous

Founded in 1935 by two struggling alcoholics, Bill W. and Dr. Bob, Alcoholics Anonymous was heavily influenced by a British religious movement known as the Oxford Group, and whose practices (such as self-searching honesty, public confession of faults, and dependence upon God) were the inspiration for the Twelve Steps of AA. The movement spread gradually at first, but by 1968 had approximately 170,000 members in the United States and Canada. Over the last twenty years membership and visibility has exploded, with over 900,000 members in the United States and Canada by 1988 (Blum & Payne, 1991). Organizationally, AA is guided by a set of precepts known as The Twelve Traditions, which provide the structural basis for AA's operation.

The focus of AA's recovery methodology are the Twelve Steps, which encourage members to admit they are powerless over alcohol and surrender themselves to God or a Higher Power in order to remain sober. In addition, AA emphasizes that alcoholism is a incurable disease, that recovery from alcoholism is a lifelong task, and that continual attendance at AA meetings is necessary to avoid relapse.

The 12 steps have been used to treat a wide variety of addictive and behavioral disorders, such as overeating, cocaine addiction, narcotics addiction, compulsive gambling, co-dependency, and sexual compulsivity, to name a only a few (Peele, 1989; Trimpey, 1992. For examples of the genre see Carnes, 1983; Beattie, 1987; Hollis, 1986). In many jurisdictions mandatory AA attendance has become a routine part of sentencing for DUI offenders, or for prisoners with problem drinking histories who are seeking parole.

AA and it's 12 Step approach to alcohol abuse has become so influential in the treatment field that it has been called "the cornerstone of the majority of contemporary alcoholism rehabilitation efforts" (Gilbert, 1991, p.22). It is this position of influence that makes AA a worthwhile comparison group for this study (Glaser & Ogborne, 1982; Galanter, 1990).

Rational Recovery

In the 1970's an agnostic social worker named Jack Trimpey became frustrated with the 12 step model of AA and turned to Rational Emotive Therapy (RET) for help with his alcohol problems (Ellis & Harper, 1975; Trimpey, 1992a). In 1986, Trimpey founded the Rational Recovery Self-help Network to provide a non-theistic alternative to AA. Affiliated for a time with the American Humanist Association (AHA), RR has grown into a movement with 500 to 600 groups

through-out North America by 1994 (J. Gerstein, personal communication, March 1994).

Rational Recovery groups use the principles of RET in a unique formulation developed by Trimpey as the basis for their recovery methodology. The heart of the RR path to sobriety is Addiction Voice Recognition Training (AVERT) designed to help members to recognize and dispute what is referred to as "The BEAST" (addictive self-talk) that triggers relapse behavior. The cognitive approach of RR to sobriety maintenance seems to have much in common with cognitive processes long associated with "spontaneous" recovery phenomena (Ludwig, 1985).

Using an adaptation of Ellis' ABC model for the analysis of beliefs and behaviors called the "Sobriety Spreadsheet", RR members learn how to replace addictive self-talk with rational beliefs that promote sobriety (Trimpey, 1992a). In contrast to AA, RR explicitly rejects any reliance on Higher Powers, disputes the disease model, tends to see recovery as a process with an finite end, and discourages long term group attendance as fostering dependency.

These clear differences in approach to alcoholism recovery from AA, and the fact that RR has had little research published to date on its membership and methods,

recommend it as a promising comparison group for this study (Trimpey, 1992a; Miller & McCrady, 1993).

Having glimpsed the widespread impact of alcohol abuse on American society, the development of Alcoholics Anonymous over the last 50 years as the mainstay of alcoholism treatment, and the recent growth of Rational Recovery as a treatment option, it seems appropriate to turn to the need for research on treatment matching.

Need for Research

> Given that an estimated 36-43 million Americans will have a disorder of dependence on alcohol or other drugs in their lifetimes, it is imperative that prevention and treatment programs maximize their potential impact and effectiveness" (Emener & Dickman, 1992, p.15).

Research on treatment effectiveness has not borne out the conventional wisdom of insisting on AA involvement for all problem drinkers. Only limited correlations have been verified between long range drinking out comes and AA membership (Peele, 1989; Emrick, Tonigan, Montgomery, & Little, 1993).

Emrick et al., (1993) also cite studies indicating that a sizeable portion of problem drinkers either reject AA outright or drop out within their first year of contact. For example, of 42 recovering male alcoholics in a Swedish

study, only 7% reported AA as a significant factor in their recovery (Nordstrum & Berglund, 1986, cited by Emrick et al,. 1993).

Over the last 20 years, the General Services Office of Alcoholics Anonymous (GSO) triennial surveys indicate a consistent drop-out pattern of 50% by the fourth month of AA attendance and a 75% drop-out rate for new attenders by the end of the first year. "Obviously, many referrals do not find AA attractive or beneficial enough, for whatever reasons, to stay with the organization for any extended period of time" (Emrick et al., 1993, p. 59). Mandating AA participation for problem drinkers in need of help, therefore, may be unethical and even counter productive for some individuals (Glaser, 1993).

According to Emener and Dickman (1992), rehabilitation counseling literature has not kept up with recent advances in drug and alcohol treatment research. For example, in Benshoff, Janikowski, Taricone, and Brenner's (1990) content analysis of rehabilitation literature over a ten year period, only twenty articles out of over 1700 reviewed, dealt with chemical dependency, and nearly all of these focused exclusively on vocational rehabilitation issues, with little interaction on treatment effectiveness and new treatment modalities (Benshoff, Janikowski, Taricone, & Brenner, 1990; Emener & Dickman, 1992).

One of the areas where research is needed is how to maximize the effects of maintenance strategies for sobriety. According to Miller & Hester (1989) there are three prevailing myths about alcoholism treatment:

1. Nothing works.
2. There is one particular approach which is superior to all others.
3. All treatment approaches work about equally well (Miller & Hester, 1989, p. 3)

According to Miller and Hester (1989) there is a growing body of literature documenting the fact there are a number of interventions that work, that no one treatment is clearly superior to all others, and that some approaches are more effective than others (Hester & Miller, 1989; Miller, 1990). The assumption follows that individuals will respond to some treatments better than others, due to individual differences that enhance treatment effectiveness.

The task before addiction researchers is to find out which individuals might most likely benefit from a particular treatment, and match clients accordingly, in order to optimize treatment effectiveness. Among factors that have been identified as having some promise for matching research are degree of field dependence, attitudes towards authority, and locus of control orientation. In this

study two factors were examined for matching potential: locus of control, and belief in divine intervention.

Locus of Control

Locus of control (LOC) has been a long studied personality factor in alcoholism. According to LOC theory, the more dependent an individual believes his/her life to be on outside factors, the more "external" his/her locus of control. Conversely, the more an individual believes that he or she is in control of his/her life, the more "internal" is that person's locus of control. In the case of AA, the study will hypothesize that involved AA members will be more external, as compared to involved RR members, due to AA's emphasis on dependence on Higher Powers.

Divine Intervention

In comparing AA and RR, this study examined a particular aspect of spirituality and recovery, the concept of "divine intervention", which is defined as the willingness and ability of God or a Higher Power to act in the world. This aspect of spiritual belief has been chosen because it can help clarify the exact content of the commonly surveyed question "Do you believe in God?" It is theorized that one unstudied dimension of "belief in God" is the extent to which one may expect God or some Higher Power to intervene in everyday affairs. Individuals who have a strong belief in divine intervention presumably will be more

compatible with AA, because it is a spiritual program of recovery. Contrariwise, it may be expected that individuals who either do not believe in God or whose concept of God is non-interventionist, would be more successful with RR, because it de-emphasizes the role of Higher Powers in recovery.

Statement of the Problem

Researchers are becoming increasingly aware that AA, despite its domination of the field, is effective for only a limited portion of the alcoholic population (Glaser, 1993). As one has commented: " Arguably AA's relatively high abstinence outcome derives from a self-selection process in which those individuals who are most likely to commit to and achieve abstinence are the ones most apt to join AA " (Emrick, 1989, p. 45).

Another related possibility is that AA's relatively high abstinence rate derives from a self-selection process, in which individuals who share certain beliefs or outlooks that are congruent with AA's philosophy of recovery, are the ones most likely to successfully achieve sobriety through AA. This same self-selection process is likely to be occurring with successful RR members as well.

The problem is that little has been done to discover how to match individuals with the treatment that could best help them. Therefore, research on how to better match

treatment options with individuals is a needed area of inquiry. This study sought to explore possible relationships between successful group affiliation in AA and RR, locus of control orientation, and beliefs about divine intervention, as a prelude to the development of more effective treatment matching criteria.

Significance of the Study

In social learning theory, a critical distinction can be drawn between the initiation and the maintenance of behavior (Emrick & Aarons, 1990). Similarly, in the field of alcoholism treatment it has been recognized the problem of initiating recovery from alcohol abuse (eg. through a planned intervention, or in-patient hospitalization) is not the same problem as maintaining abstinence from alcohol long term, (eg. through affiliation with a sobriety maintenance group) (Vaillant, 1983). As Annis and Davis (1988) state:

> Traditional alcoholism programming has enjoyed considerable success in initiating a change in drinking behavior in clients. At the same time, reports of alcoholics in the community suggest that many alcoholics successfully initiate periods of abstinence on their own. A critical problem in alcoholism, as in other addictive behaviors, is one of maintaining the change in behavior over time (p. 89).

In particular, there is a need for research on how to match persons with drinking problems to the most effective aftercare treatment for their individual needs. Historically, the treatment culture in the United States has been heavily influenced by AA and the 12-Steps, and alternatives to AA for aftercare have not been well received (Peele & Brodsky, 1991; Trimpey, 1992). As Stanford Peele (1989) has pointed out, one would have been hard pressed to find a treatment program in the United States through the mid-1980s that was not 12-Step based. The prevailing assumption of the treatment establishment has been that the AA approach is a universal "best fit" for all problem drinkers, and that little else really works. Consequently, there has been little motivation for treatment matching.

Over the last decade, however, a number of treatment interventions have been identified that can effectively help alcohol dependent individuals maintain sobriety (Hester & Miller, 1989). Therefore, an important area for research is the exploration of which clients may benefit most from which treatment alternatives, so that treatment services might match the needs of clients more effectively (Ogborne & Glaser, 1981; Miller, 1989).

Research Questions

The primary purpose of this study was to discover the relationship between locus of control orientation, beliefs

about divine intervention, and successful group affiliation by problem drinkers involved in Alcoholics Anonymous or Rational Recovery.

The study employed a questionnaire to gather demographic, spiritual and group affiliation data. In addition, a series of paper and pen instruments were used to measure the following: history of problem drinking, level of involvement in AA or RR, beliefs about divine intervention, and locus of control orientation. These measures were used to answer the following research questions:

1. What is the relationship between locus of control and successful involvement in Alcoholics Anonymous or Rational Recovery?

2. What is the relationship between belief in divine intervention and successful involvement in Alcoholics Anonymous or Rational Recovery?

3. What relationship exists between locus of control orientation and belief in divine intervention?

Hypotheses

The following hypotheses were tested in order to help answer the research questions:

Hypothesis 1: Successful members of AA will be significantly more external in terms of locus of control than successful members of Rational Recovery.

Hypothesis 2: Successful members of AA will have significantly stronger beliefs in divine intervention than successful members of RR.

Hypothesis 3: In all subjects, strong beliefs in divine intervention will positively correlate with a more external locus of control orientation.

Definition of Terms

A number of terms used in this project have been used by various researchers in different ways, depending on theoretical orientations and convention in their field of expertise. To avoid potential misunderstandings, the following definitions are used in the study:

1. Alcoholism: is understood to refer to a variety of problem drinking patterns, which indicate some level of alcohol dependency and have caused an individual to seek help. The terms "alcoholism", "problem drinking", "alcohol dependency" and their derivatives, are used interchangeably.

2. The Disease Model: refers to the belief that all problem drinking is a reflection of a single unitary biological disorder that closely resembles other biological disorders such as diabetes and coronary atherosclerosis (Vaillant, 1983; Blum & Payne, 1991).

3. Sobriety: complete abstinence from illegal drugs and alcohol.

4. Locus of Control (LOC): can be defined as "...the degree to which an individual perceives rewards or reinforcement as contingent on his or her own behavior or attributes" (Donovan & O'Leary, 1983, p. 108). The more external in LOC orientation, the more one believes outcomes are contingent on forces outside one's control. The more internal in orientation,the more one believes outcomes are dependent upon one's own actions.

5. Spirituality: is defined as an individual's "direct, personal experience of the sacred, unmediated by particular belief systems prescribed by dogma or by hierarchical structures of priests, ministers, rabbis or gurus" (Berenson, 1990 as cited by Gorsuch, 1993; p. 304). In other words, one's personal beliefs about God and transcendent reality. The terms "religion" and "religious" will be avoided out of deference to traditional AA practice.

6. Spiritual Variables: are those variables that reflect belief in transcendent beings or processes that supersede material existence (Miller, 1990).

7. Divine Intervention: is defined as the willingness and ability of God or a Higher Power to act in the world.

8. Higher Power: any transcendent being, entity, or force.

9. Affiliation, Membership: refer to involvement or engagement in an alcohol recovery group and it's practices.

In the context of AA and RR there is no formalized notion of membership, "members" are those who choose to be involved.

10. Successful Group Involvement or Affiliation: Within the study "successful group member" or "successful group affiliate" will refer to individuals who meet the following criteria:

1. A history of serious problem drinking.
2. At least 3 months of continuous sobriety.
3. Evidence of substantial involvement in AA or RR.

Limitations of the Study

The following limitations apply to this study:

1. One of the obvious limitations of this study is the problem of self-report, namely that participants may not be accurate in their answers to questions due to their own subjectivity. It is therefore acknowledged that supplemental observations of actual behavior or other collaborative measures could provide additional confirmation about RR and AA affiliation characteristics. At the same time, the researcher notes that since all study participants have already self-identified as having a drinking problem by virtue of their affiliation with either AA or RR, and that all responses are anonymous, there seems little motivation for participants to deliberately falsify their answers.

2. The generalizability of this study is limited due to the use of self-selected volunteers who represent a non-

random sample from a limited area: Tucson, Phoenix and San Diego. This kind of limitation is common to almost all research on alcoholism recovery groups, due to their volunteer nature (Ogborne, 1993).

3. It is acknowledged that the gender and ethnic make-up of the subject population is mainly limited to english-speaking, caucasian males and that the study's findings may not be valid for women and other ethnic or language groups.

4. It is assumed that both locus of control orientation and belief in divine intervention are characteristics subject to change, and therefore it is acknowledged that the findings of the study only represent a post-affiliation "snap shot" of these characteristics, which may not reflect pre-affiliation beliefs and attitudes. It is entirely possible that group affiliation itself significantly alters many subject's locus of control orientation and beliefs about divine intervention (Glaser, 1993). It does seem reasonable to suggest, however, that problem drinkers seeking treatment will be more cooperative and successful in a recovery program that is congruent with their attitudes and beliefs, than a program that is in conflict with the same, though this remains for further research to explore.

5. This study is a planned comparison whose conclusions are to be regarded as correlational and heuristic, and not causative. It is acknowledged that the usefulness of these

findings for more effective matching of problem drinkers with treatment options awaits experimental confirmation.

6. This study is not directly about treatment effectiveness, but is an investigation of possible matching criteria that might eventually enhance treatment effectiveness of both AA and RR. As such it is best described as a process study (successful group affiliation) not an outcome study (Ogborne, 1993). No conclusions therefore should be drawn about the relative effectiveness of AA and RR from the information gathered in this study.

7. Despite the finding of a significant difference in the mean LOC scores of AA and RR subjects, it should be kept in mind that individuals within each of these groups may differ from these means. Stereotyping of all members of one group as "externals" and all members of another group as "internals" is not warranted.

Assumptions

1. Alcoholism is a bio-psycho-social phenomena that is best studied from a multi-dimensional perspective (Jacobson, 1989a). One of the most neglected dimensions of alcoholism research is spirituality (Laundergan, 1993; Miller, 1990).

2. The study of spiritual variables, such as belief in divine intervention, does not require researchers to either affirm or deny the reality of a transcendent realm. The researcher's task is to explore the relationship of

spiritual variables to other aspects of addiction in order to account for experimental variance (Miller, 1990).

3. The theoretical orientation of the study is that of Social Learning Theory and Rational-Emotive Theory. It is assumed that most behavior is goal directed and mediated by cognitive processes (Bandura, 1977; Ellis & Harper, 1975). By understanding cognitive components of group affiliation (e.g., Locus of control expectations and belief in divine intervention) it is believed that data can be discovered which can promote greater treatment compliance and success.

Summary

Chapter one included a discussion of the background and need for research in the area of treatment matching. A rationale for the study was provided, describing a statement of the problem, the significance of the study, research questions, hypotheses, and definition of terms, limitations and assumptions. The following chapter is a review of the literature relating to the components of the study.

CHAPTER 2

REVIEW OF THE LITERATURE

This review of literature focuses on research about treatment effectiveness, treatment matching, locus of control and alcoholism, spirituality and recovery, the Michigan Alcoholism Screening Test, and defining "sucessful affiliation" in alcohol recovery groups.

Treatment Effectiveness

Studies of treatment effectiveness seem to indicate that there is no one most effective treatment for problem drinking. Instead, there appear to be a number of promising treatment interventions that help some alcoholics, and do not help others (Hester & Miller, 1989; Miller,1990). Since AA is the most common candidate for a universally effective treatment, the focus of this section will be research on the effectiveness of AA. The rationale for this is if an effective "one size fits all" treatment intervention already exists, then there is no need for treatment matching. If, on the other hand, AA has been shown to be limited in its effectiveness, then the research on treatment matching is a vital endeavor.

Alcoholics Anonymous

McCrady and Irvine (1989) in their review of the literature on AA effectiveness have stated that: ". . .

despite the large membership of AA and the enthusiasm for AA held by many in the alcoholism field, there is a paucity of scientific studies supporting the superior effectiveness of AA." (McCrady & Irvine, 1989, p. 165). Indeed, the authors conclude their literature review by stating that there is no evidence that AA is the most effective treatment for alcoholism, recommending that clinicians view AA as but one possible option among others.

Emrick (1989) reviewed several studies where AA was the only intervention. He found that a sizable number of study subjects referred to AA (35-68%) dropped out, and that only 40-50% of those who remained in AA achieved significant periods of sobriety. In randomized clinical trials of court ordered subjects (where motivation has been controlled for), AA has not been found to be more effective than no treatment or alternative treatments (Emrick, 1989).

Some studies of treatment effectiveness do indicate higher rates of abstinence for AA attenders than non-attenders (Lindeman, 1993). In doing so the authors usually overlook the fact that AA is avoided by most patients for maintaining sobriety. AA, in spite of its hegemony in the treatment community, only gets regular attendance from about 20% of those referred to it (Ogborne & Glaser, 1981). Nonetheless, AA treatment methodology (the 12-Steps), continues to dominate both inpatient treatment and sobriety

maintenance planning (Peele, 1989; Miller, 1990; Trimpey, 1992).

Ogborne and Glaser (1981) offer the following explanation for this quandary:

> A principal reason for the apparent discrepancy between the widespread use of AA and the at best inconclusive results of evaluative studies is the lack of recognition that AA may be appropriate for only a minority of problem drinkers. This being so, studies that seek to demonstrate the effectiveness of AA across a wide range of problem drinkers are necessarily inconclusive. The reason is that any positive effects on the minority for whom AA is particularly appropriate are masked by the absence of positive effects, and possibly by the presence of negative effects, on others...It is not a fair test of AA to ask that it take on all comers and then chide it for the inevitable failures. The target population is simply too heterogenous for any single intervention to be universally effective (Ogborne & Glaser, 1981, pp.662, 672).

A Case in Point.

An example of the tension between AA's popularity and its limited effectiveness can be found in Thurstin, Alfano,

and Nerviano's (1987) article which claimed to find that about 50% of AA attenders maintained abstinence over an 18 month period, compared to only about 20% of non-attenders. While the abstract of the article cites a 50% abstinence rate for AA attenders at 18 months, the body of the article reveals that the difference between the groups in maintaining abstinence only achieved a .08 significance level for the inter-group difference. This is above the accepted minimal level for statistically meaningful differences of $p<.05$. In other words, there really was no statistically significant difference between attenders and non-attenders in maintaining abstinence.

In addition, a large number of subjects dropped out over the course of the study: 145 ss began the study, at 6 months 106 reported in, at 12 months only 71 ss were located, and at 18 months 91 ss remained. If it is safe to assume that those who dropped out were also choosing not to remain in AA, then one possible conclusion is that only 39 out of 145 ss were willing to attend AA regularly (26% of ss). Of these 39 AA attenders, only 16 were abstaining at 18 months, or 41% of the 39.

Therefore a more appropriate conclusion might be that:

1. About 75% of ss chose not to attend AA.

2. For those that did attend AA, it worked only about 41% of the time. In other words, even for those who attended, it failed for nearly 6 out of 10 people.

3. Overall, only 11% of the subjects in this study were helped to sobriety by AA, (16ss out of 145ss).

In spite of these modest results, the article concludes with a ringing endorsement of AA ideology, and suggests that all treatment staff be trained in 12- Step methodology, and that AA should be used more extensively in post residential follow-up (Thurstin, et al, 1987).

As can be seen by the above example, instead of placing even more emphasis on AA as the universal answer for all alcohol dependence problems, there is a need for further research examining what factors may incline individuals to successfully maintain sobriety via AA affiliation, and what factors may attract others to maintain sobriety through other treatment alternatives, such as Rational Recovery. Such research could help clinicians make more accurate referrals to aftercare groups that best fit an individual's personality and world-view, and therefore enhance affiliation strength and treatment effectiveness.

Ogborne and Glaser (1981) bring a healthy perspective to the problem when they state:

> Future studies of AA should, therefore, identify the characteristics of those to whom affiliation

> is most appealing and assess the impact of affiliation on these persons. The need to take a similar approach in the evaluation of other programs for problem drinkers is now widely accepted. (Ogborne & Glaser, 1981, p. 662)

Rational Recovery

No studies have been made of RR's effectiveness. This is probably due to several factors. First, RR has been in existence only about 8 years (since 1986). By comparison, AA was founded in 1935, and therefore has had over 50 years to gain the attention of researchers. Secondly, although RR has shown respectable growth since it's founding, it is a relatively small organization compared to AA. For example, nation-wide there are about 500-600 RR meetings weekly (J. Gerstein, personal communication, March 1994). By comparison, there are about 400 AA meetings weekly in the city of Tucson, Arizona. The smaller size of RR has probably made it less visible to researchers. Thirdly, it appears that much of the treatment effectiveness research has initially recruited subjects from inpatient treatment programs. Such programs tend to be dominated by AA alumni/ae (Peele, 1989). RR, on the other hand, has only recently been included as an option in a handful of inpatient settings (Gerstein, 1994b). Finally, the prevailing assumption in the treatment community that AA is the only effective treatment

for problem drinking may have limited motivation to evaluate alternatives such as RR (Tournier, 1979; Chiauzzi & Liljegren, 1993).

Treatment Matching

Theoretical Basis

The theoretical basis for treatment matching lies with the notion that problem drinking patterns do not appear to be homogeneous in character. If alcoholism is an unitary disease then a single universal treatment may be justifiable. On the other hand, if alcoholism is a diverse phenomenon with multiple etiologies and outcomes, then the development of more treatment alternatives is critical, since no one treatment can be expected to help all problem drinkers (Glaser, 1993). The difficulty of reducing alcoholism to a unitary disease can be illustrated by the work of Jellinek (1960) and Cloninger (1983).

In E. M. Jellinek's pioneering work, The Disease Concept of Alcoholism (1960), Jellinek identified five types of alcoholics:

1. Alpha alcoholics, who develop a psychological dependence upon alcohol as a means to escape physical or emotional pain, and violate some social sanctions as a result but do not suffer from a loss of control.

2. Beta alcoholics, who are neither physically or psychologically dependent on alcohol, do not suffer either

withdrawal symptoms or loss of control, but do experience health problems (such as liver damage, gastritis).

3. Gamma alcoholics, who develop true psychological and physical dependence, evidenced by tissue tolerance, cell adaptations, physical ailments, withdrawal symptoms, and loss of control.

4. Delta alcoholics, who need to maintain a constant level of alcohol in their systems to avoid withdrawal symptoms, but are otherwise highly functional and do not experience loss of control.

5. Epsilon alcoholics, who binge drink (Jellinek, 1960).

Although consequent research has not verified Jellinek's specific schema, the fact that such an eminent defender of the disease model recognized substantial differences between problem drinkers underlines the evidence that alcoholism is best viewed as a heterogeneous phenomenon, and as such calls for a wide variety of treatment options.

Another example of an alcohol typology that recognizes at least some degree of heterogeneity can be found in the work of Robert Cloninger and his associates at the Washington University School of Medicine. Cloninger suggests that there are two basic types of alcoholics: Type I "milieu-limited" alcoholics, who can be either male or

female, are equally influenced by both genetic inheritance and environmental factors, usually have less severe symptoms, and tend to have a relatively late onset; and Type II "male-limited" alcoholics, who are males with a predominantly genetic form of alcoholism little affected by environment, more severe in their symptomatology, tending to have earlier onset of drinking problems, and usually manifest traits indicative of antisocial personality disorder (Bohman, Sigvardsson, & Cloninger, 1981; Cloninger,1983).

Unfortunately, due to the diversity of alcoholic patterns, Cloninger's typology appears to hold only for a limited portion of the problem drinking population, and while heuristically fruitful, a comprehensive, research based typology of problem drinkers is still absent from the field (Blum & Payne, 1990).

Another indication of the heterogeneity of the problem drinker population is the failure of researchers to uncover a distinctive pattern of personality characteristics that marks the "Addictive Personality". The results of two decades of inquiry into the addictive personality is that there isn't one: addicted people are a diverse cross-section of the general population in terms of personality characteristics.

More recently, George Jacobson (1989a) has stated that he believes that there is not a unitary entity called "alcoholism" , but rather a group of "multiple alcoholisms" with various etiologies, effects and treatment needs. Using the concept of cancer as a metaphor, Jacobson points out that the term "cancer" actually refers to a long list of cancers (e.g., leukemia, breast cancer, sarcomas, etc.) which are similar in some respects, but can also vary widely in etiology, lethality, and treatment regimens. In the same way, Jacobson holds that alcoholism can be seen best as a broad term referring to a variety of alcohol abuse patterns and not as single unitary phenomena (Jacobson, 1989a).

Clearly, at least at the research level, there is growing recognition that alcoholics are not all alike in their addiction patterns and etiology. As Mendelson and Mello (1989) state: "Recognition of the heterogeneity of alcohol abusers, and the multiple factors that contribute to alcoholism, is even more important today" (p.294). Matching individuals with treatments therefore is a rational response to the heterogeneity of the alcoholic population.

Obstacles

W. R. Miller (1989) lists several obstacles to matching clients with treatments. First, there must be diverse treatment options available. Second, there must be recognition by clinicians that these options are viable.

Third, there needs to be a "reasonable system" for making matching decisions. Lastly, matching a client to treatment must overcome the economic agenda of the matching agency. The agenda of treatment providers is to promote more expensive treatment as the most effective. The agenda of insurers is to emphasize the least expensive treatment alternatives, regardless of effectiveness (Miller, 1989).

An additional obstacle to effective matching is the inertia of traditional treatment practices. When treatment facilities are dominated by the alumni of one particular treatment approach, a de facto exclusion of other options can exist (Peele & Brodsky, 1991). When treatment personnel are convinced that there is only one effective universal treatment for addiction (eg. the 12-steps) there is little motivation to pioneer matching strategies. The reward of pursuing matching research, however, may be significant improvement in treatment effectiveness.

Benefits

W. R. Miller (1989) outlines several potential benefits of matching individuals with interventions. First is the issue of what Miller calls "the least sufficient effort". Matching seeks to avoid giving expensive treatments to those who don't need them, thereby increasing effectiveness and efficacy of treatment.

Secondly, when clients are matched with inappropriate treatments, they tend to fail (e.g., forcing feminists, fundamentalists, atheists, and agnostics to work 12-step programs). This failure is often seen as a further sign of personal worthlessness and hopelessness by the client, which may discourage him or her from seeking further help. In addition, treatment staff also became discouraged or resort to blaming the client inappropriately.

Thirdly, more clients will get better. Instead of wasting their time and money on a "one size fits all" treatment (that may even exclude interventions most helpful to them), clients will have a better chance of recovering when matched appropriately. The health and welfare of clients and their families could be immeasurably enhanced by careful matching.

Matching: The Growing Consensus

According to Shaffer and Gambino (1990), there are some signs of consensus growing about the nature of addiction and the need for treatment matching. Among these are:

1. A recognition that addictions usually represent some kind of goal oriented coping mechanism, actively chosen by the addict to handle life stressors. This focuses on the addict as a change agent, as opposed to a helpless victim of uncontrollable biological urges (Peele, 1989; Baker & Cannon, 1988).

2. A realization that people drink or drug for a reason: there is a motive behind the madness, such as negative affect reduction (Peele & Brodsky, 1991).

3. A recognition that addict expectancies play a major role in addiction (Baker & Cannon, 1988; Peele & Brodsky, 1991).

4. A growing amount of research on individual differences in addicts, that indicates the need for individual matching of Treatment to specific types of addicts (Miller & Hester, 1989; Miller, 1989; Gottheil, McLellan, & Druley, 1981).

5. The increased interest in patient-treatment matching as a logical wave of the future in research and practice (Hester & Miller, 1989; Miller, 1990; Shaffer & Gambino, 1990).

With the ground work laid in treatment effectiveness and matching backgrounds, the remainder of this section will discuss research on potential matching criteria.

Potential Matching Criteria

A survey of research findings on AA affiliation in the early 1980's found that the majority of AA affiliates tended to be white, middle class men over 40, with associated personality traits or tendencies such as strong affiliation needs, proness to guilt, external locus of control, field dependence, high scores on the California F scale (an

authoritarianism measure), cognitive simplicity, formalistic thinking, low conceptual level, high autokinesis, strong religious orientation, high existential anxiety, and a tendency to conform (Ogborne & Glaser, 1981).

Chad Emrick reviewed AA affiliation studies in 1989 and drew the following conclusions: (1) It is not possible to predict reliably those who will affiliate with AA and those who will not, with the possible exception that those with a more severe drinking problem will be more likely to join (Emrick, 1989). (2) No criteria have been established that would indicate which AA attenders are more likely to be successful in AA (Emrick, 1989).

Emener and Dickman's (1992) study of 229 AA affiliates found that AA members in their study had the following characteristics: slightly more males (53%) than females 47%), females were younger (mean=38) than males (mean=43), the majority of members were white, middle class Catholics and Protestants, that few Jews attended, 76% of subjects reported alcohol abuse in their family of origin, educational levels were similar to overall population, and the unemployment for the sample group was 16% - significantly higher than the national average (Emener & Dickman, 1992).

One study that was favorable reviewed by McCrady and Irvine (1989) was a Veterans Administration research project

that looked at correlations between levels of AA affiliation, personality traits and patterns of alcohol use (O'Leary, Calsyn, Haddock & Freeman, 1980). Those with the highest AA affiliation tended to report greater expectation of gain from attendance, similarities in style and consequences of alcohol use, higher anxiety, greater losses due to their drinking and a feeling rather than cognitive orientation (McCrady & Irvine, 1989).

After reviewing over a dozen alcoholism diagnostic instruments, Jacobson (1989a) makes two points that are especially significant for matching studies. First, that matching alcoholic patients with therapists by cognitive characteristics appears to have a positive impact on recovery rates. Taken a step further, it would make sense to attempt to match treatment also by using cognitive indices, such as Locus of Control, in order to maximize treatment effectiveness.

Secondly, Jacobson recommends LOC as one of the three "most relevant" cognitive measures for matching therapist and clients. This endorsement underscores the importance of the internality/externality dimension in assigning the most effective treatment to the individual (Jacobson, 1989a).

Spiritual beliefs may be a significant factor in affiliation.

Ogborne and Glaser (1981) suggest that individuals with organized religious beliefs that reflect purpose in life may be most likely to join AA. Some research on meaning and purpose in life and AA affiliation has confirmed this speculation. For example, Giannetti (1981) found that AA affiliates showed higher treatment effectiveness expectations, stronger purpose in life, and more internal locus of control that non-affiliates (McCrady & Irvine, 1989). In follow-up studies of inpatient alumni, Laundergan (1982) found that the two best predictors of AA attendance were increases in prayer and meditation (cited by Laundergan, 1993).

From the standpoint of the research literature, a wide variety of characteristics appear to hold some promise for treatment matching. Which characteristics of affiliation may hold sufficient interest for investigation in this study? McCrady and Irvine (1989) make some suggestions:

> In summary, the research to date provides few definitive guidelines for the clinician. Severity of drinking, an affective rather that cognitive focus, and concern about \purpose and meaning in life may be client factors that should lead the clinician to be most encouraging of AA involvement. (McCrady & Irvine, 1989, p 155)

The three areas of individual differences cited above suggest that a study which examined drinking severity, a cognitive variable such as locus of control, and a purpose and meaning related variable such as belief in divine intervention, might shed valuable light on affiliation dynamics of group members.

Locus of Control and Alcoholism

Locus of control can be defined as ". . . the degree to which an individual perceives rewards or reinforcement as contingent on his or her own behavior or attributes" (Donovan & O'Leary, 1983, p. 108). The more individuals see themselves as in control of their lives, the more "internal" their locus of control. Individuals who view themselves mainly as dependent on forces outside their control are said to be "external" in orientation.

The most widely used locus of control measure is the Rotter Internal-External Locus of Control Scale (I-E) (Rotter, 1966). The I-E scale consists of either 23 or 29 forced choice items that measures the way in which individuals view their relationship with the world. The lower the score, the more a person sees life events as internally controlled. The higher the score, the more an individual sees life events as externally controlled (Jacobson, 1989b; Johnson 1991).

Rotter (1966) described the I-E as a generalized measure of control orientation, meaning that the instrument's items are intended to sample I-E beliefs in a wide variety of life situations (e.g., school, work, politics, relationships)(Phares, 1976).

According to Anastasi (1988) the IE has respectable split-half and Kuder-Richardson reliabilities clustering around .70 .

Test-retest reliabilities as reported by Kiehlbauch in 1967 were acceptable at .75 after a 90 day interval (Phares, 1976).

The construct validity of the I-E has been widely studied and affirmed (Phares, 1976; Anastasi, 1988). Initially the I-E was thought to be measuring a unitary construct of locus of control, however, later factorial analysis has identified three dimensions within the IE. The first is a basic locus of control component that attributes causality to either internal or external factors; the second a stability dimension that distinguishes between enduring traits as causes (e.g., musical aptitude) and modifiable states as causes (e.g., moods); and the third, a controllability dimension which reflects the degree to which an individual feels a specific life area is under his/her control (Anastasi, 1988).

In LOC research on alcoholics, researchers initially expected to find a single LOC pattern for all alcoholics (eg. high externality) as part of the search for the mythical "alcoholic personality". It was assumed that problem drinkers would tend to see themselves as victims of external forces outside their control in order to justify their drinking. Studies of locus of control and alcoholic populations, however, have yielded somewhat mixed results.

Goss and Morosko (1970), expecting to find alcoholics to be more externally oriented than non-alcoholics, studied 262 problem drinkers enrolled in an outpatient recovery program (200 men and 62 women), and found that when compared to Rotter's college norms, the alcoholics were more internal. Several other studies in the early 1970s also found a correlation between internality and alcoholism, apparently supporting Goss and Morosko's findings (Gozall & Sloan, 1971; Costello & Manders, 1974).

In a later study, Butts and Chotlos (1973) criticized the work of Goss and Morosko, on the grounds that the latter had not accounted for the influence of SES and age. For their alcoholic population Butts and Chotlos used men in a VA inpatient treatment center, whom they matched by SES and age with a second group of non-alcoholic males. The results showed greater externality in the alcoholic group, and also

that internality in both groups was positively correlated with higher SES (Butts & Chotlos, 1973).

This suggests that when comparing two groups of subjects on the locus of control continuum, rough equivalency in terms of SES and age should be sought, a view reinforced by later reviews of the issue (Hinrichsen, 1976; Rohsenow, 1983).

Caster and Parsons (1977) investigated changes that might occur in locus of control during treatment in an inpatient setting. Using an all male population from a VA hospital, two groups of patients were followed during treatment in a pre-test post-test design, one group receiving insight oriented therapy, and the other behavioral oriented therapy. No significant change in locus of control was found, though the insight oriented group did appear to shift towards greater internality than the behavioral therapy group (Caster & Parsons, 1977).

In the mid-1980's Abbott (1984) studied changes in locus of control due to treatment effects in a sample of 106 patients in an inpatient treatment setting (32 females, 74 males). The I-E Scale was administered four times: early in treatment, at discharge, at three months, and at one year. Abbott found that high externals were likeliest to shift toward greater internality over the course of treatment, (probably due to a natural tendency of regression to the

mean), and that those with intermediate I-E scores obtained the most stability in their sobriety (Abbott, 1984).

Other studies that have taken age and SES into account have tended to find a positive correlation between alcoholism and externality. Naditch (1975) found among 517 male army recruits that problem drinkers had high rates of externality, indicating a link between severity of alcohol abuse and locus of control. Bridgman (1990), using a drinking specific LOC instrument, found a similar positive correlation between externality and severity of alcohol abuse in a college sample of 80 (16 females, 64 males).

Locus of control scales have been used extensively to try and chart the relationship between control orientation and drinking behavior (Rohsenow & O'Leary, 1978; Annis & Davis, 1983). Although many of the findings thus far have been mixed, a rough consensus exists that problem drinkers tend to be more externally oriented than their non-alcoholic counterparts in terms of generalized locus of control (Donovan & O'Leary, 1978; Butts & Chotlos, 1973; Rohsenow, 1983). At the same time, two things must be acknowledged as well: first, that many other sub-groups such as psychiatric patients and people suffering from depression also have correlations with externality, and second, the tendency toward externality is only a tendency, not an across the board reality (Errico, King, & Parsons, 1991). While problem

drinkers will tend to be more external than their non-alcoholic counterparts, this study is comparing alcoholics with alcoholics, not with non-alcoholic norms. Within the alcoholic population there is a significant range of LOC scores, and hypothesized differences between AA and RR members on that range is the focus of this study.

Drinking Specific LOC Measures

According to the learning theory underlying the locus of control construct, a distinction can be drawn between generalized control expectancies and situation specific control expectancies (Abbott, 1984). For example, an individual may generally believe that he/she has little control over the reinforcements they receive from their employer or family (high external locus of control), but have a lot of confidence in their ability to control their weight or health (high internal locus of control). This has led to the development of situation specific LOC instruments that target particular behaviors or life areas. In the case of alcoholism research, two instruments have been widely used to measure control expectations specifically related to drinking: the Drinking Related Internal-External scale (DRIE) and the Alcohol Responsibility Scale (ARS) (Rohsenow & O'Leary, 1978a; Rohsenow & O'Leary, 1978b; Donovan & O'Leary, 1978; 1983; Worell & Tumilty, 1981).

In this study, it was not believed necessary to use a drinking specific LOC measure for the following reasons. First, research has often found that drinking specific measures have similar results as the Rotter I-E in predicting treatment outcome and other variables. For example, in Abbott's 1984 study of 106 (32 female, 74 male) alcoholics being treated in an inpatient setting, he found that while the DRIE was more sensitive to changes in LOC orientation during treatment than the Rotter I-E, both instruments documented the same basic directional shift (Abbott, 1984). Along the same lines, Jones (1985) used the DRIE to predict which patients were most at risk for leaving an inpatient treatment program AMA (n=34 males), and found that those with a high external orientation were more likely to leave AMA than those with more internal scores, a finding that originated in a study using the Rotter I-E (Schofield, 1978). In another example, Johnson, Nora, Tan, and Bustos (1991) compared the Rotter I-E and the ARS for ability to predict relapse among 64 male alcoholics in a VA treatment program. The researchers found that the Rotter I-E was actually better at correlating externality and relapse than the ARS (Johnson et al., 1991). Mixed results such as these indicate that drinking specific measures of LOC are not clearly superior in all cases to the Rotter I-E in alcoholic populations. As one article has stated: "The use of drinking

-specific LOC measures has not adequately accounted for, or resolved, the confusion that exists in the research" (Bridgman & McQueen, 1987, p.127).

Secondly, to add a drinking related LOC measure along side of the Rotter I-E to the research materials, as some researchers have suggested, may have jeopardized subject cooperation, as the research packet already was 13 pages in length (Donovan & O'Leary, 1978).

Finally, the focus of this study was not on drinking related beliefs per se, but the generalized world view of involved members of AA and RR. A global measure of locus of control may be useful in matching research because sobriety teachings in AA and RR are only one aspect of a broad philosophy of recovery. Contrary to the theory of separate or compartmentalized loci of control used to justify drinking specific measures of LOC, (which may be valid for uninvolved members or nonmembers of AA or RR, or to measure drinking outcomes), attitudes about drinking in both groups are embedded in comprehensive life philosophies that extend beyond drinking behavior.

William Miller divides effective treatment methods into two types: alcohol-suppressing strategies, and broad spectrum strategies (Miller, 1990a). In the former, he includes aversion therapies, behavioral self-control training and use of Disulfiram. Miller's second category of

effective treatment methods, broad spectrum strategies, focus on helping the individual with life problems that interfere with recovery. Included in this category are social skills training, behavioral marital therapy, stress management training and community reinforcement approaches (Miller, 1990a). Alcoholics Anonymous and Rational Recovery appear to be broad spectrum strategies, because their recovery methodologies involve finding new ways to deal with life problems.

In the case of AA, recovery from problem drinking involves much more than merely ceasing to abuse alcohol. AA views recovery as "a way of life", an ongoing spiritual journey. Those who use AA merely to stop drinking, without the adoption of AA's comprehensive philosophy of life, are sometimes dubbed "dry drunks" or regarded as " two stepping " and pitied as short-sighted and vulnerable to relapse (Alcoholics Anonymous, 1952). This global world view of AA is encapsulated in the twelve steps, where the application of AA's principles is not limited to drinking problems, but assumed to be the key to a lifetime of spiritual evolution. Step twelve specifically states: "Having had a spiritual awakening as a result of these steps, we tried to carry this message to alcoholics, <u>and to practice these principles in all our affairs</u>" (Alcoholics Anonymous, 1976). (Emphasis added).

The principles that AA endorses are to be practiced in all areas of life, not just in the area of drinking behavior. In the Twelve Steps and Twelve Traditions (1952), an explanation of the meaning of this twelfth step is given: ". . . we often discover the greatest challenge in the lesser and more continuous problems in life. Our answer is still more spiritual development. Only by this can we improve our chances for really happy and useful living (p.114)."

Although AA's stated purpose is to help anyone with a sincere desire to stop drinking, its methodology for doing so involves the adoption of a general philosophy of living (Beutler, Jovanovic, & Williams, 1993). It would seem reasonable then, that a general measure of locus of control, such as the I-E, would be appropriate to assess locus of control in successful members of AA.

In the case of RR, its solution to problem drinking is more focused on addiction and less demanding of sweeping philosophical change than AA. Nevertheless, being grounded in Rational Emotive Therapy, a comprehensive therapy system whose principles are applicable to most any type of life problem, RR recognizes that addiction usually is indicative of general distortions in addict's view of the world in general. As Albert Ellis states in the introduction to The Small Book (Trimpey, 1992):

> Most books on alcoholism touch only on the problems of abstaining--how to get off and stay off the bottle. Good. But The Small Book, following the principles of RET, nicely helps alcoholics to get to their self-hatred about their alcoholism, to uproot their low frustration tolerance (LFT), which largely drives them to drink, and to tackle the original emotional problems that encouraged them to drink in the first place (p. xvi).

It is no accident that three of the eight books included in the reading list of The Small Book (1992) are books on handling life problems using RET, and not just addictions.

Both AA and RR recognize that unless problem drinkers learn how to handle stress, negative emotions, and life's difficulties in general, chances are that they will return to drinking. Both groups therefore, make an effort to promote attitudes and coping strategies which provide the basis for comprehensive life change. The use of generalized measures of locus of control in studying successful AA and RR members is appropriate because it acknowledges this generalized effect of recovery philosophies. It is an assumption of this study that a global measure of LOC such as the I-E will show significant inter-group differences between AA and RR members for the reasons outlined above.

Locus of Control and Matching

LOC orientation within the problem drinking population is a personality characteristic that adheres to what alcoholism researchers call Keller's Law: "... the investigation of any trait of alcoholics will show that they have either more or less of it..." (Keller, 1972 as cited by Glaser, 1993, p.380). The issue is, can locus of control be used to match problem drinkers more effectively with treatment options?

Among the socio-psychological characteristics of AA affiliates cited by Ogborne and Glaser (1981), locus of control was repeatedly mentioned as a personality trait likely impacting AA affiliation.

At that time Ogborne and Glaser could find no study that directly addressed the relationship between locus of control and AA affiliation. William Miller (1985) asserts that internally oriented clients may be more open to self-directed treatment approaches (such as RR) than highly structured and directive approaches (such as AA). Internally oriented alcohol abusers, according to Jacobson (1989) ". . . may be inappropriate candidates for activities that require a belief in personal powerlessness and inability to manage one's life" (Jacobson, 1989 B, p. 60).

AA, RR and Locus of Control

Locus of control orientation, while not a marker for alcoholism exactly, may be a valuable personality characteristic worth exploring for treatment matching. It is possible that a problem drinker with a more internal LOC orientation may be more motivated and helped by a recovery approach like Rational Recovery, which emphasizes personal responsibility and self-reliance, than a program such as AA, with its emphasis on surrender to an external Higher Power. Conversely, an individual who has a more external LOC orientation may be more successful in AA because surrender to a Higher Power is more compatible with her/his world view.

Referring to the overlap of spirituality and locus of control in AA, Nowinski (1993) notes that however one chooses to view AA, ultimately it must be admitted that it is founded on a belief in and a willingness to rely on an external power greater that the individual: "It is faith in this power, more than in science, that sustains the individual AA member. It is prayer, more that therapy that comforts him or her in times of trouble. It is God, not will, that is seen as the locus of control" (Nowinski, 1993; p.30).

In contrast, Rational Recovery rejects external Higher Power dependency with its own insistence on personal

responsibility and internal control, making it an ideal comparison group for locus of control purposes (Trimpey, 1992). Albert Ellis, whose cognitive therapy approach formed the basis for RR's treatment philosophy, sums up this contrast well:

> If you see yourself as having internal control, you assume responsibility for you behavior - good, bad, or indifferent. If you see yourself as being externally controlled, you find - yes, actively, find- something outside yourself to account for your behavior . . . the irrational Belief that something outside of you is responsible for your behavior encourages your natural tendency to addict yourself. It is STINKING THINKING in capital letters. (Ellis & Velten 1992, pp. 42-43).

The research reviewed above on locus of control and alcoholism, the promise that LOC research may have for treatment matching, and the clear philosophical differences that exist between AA and RR in terms of locus of control, demonstrate a sound basis for this study. A careful review of addiction literature has failed to turn up any prior research comparing the LOC orientation between AA and RR members.

Spirituality and Recovery

Spirituality can be defined as an individual's "direct, personal experience of the sacred, unmediated by particular belief systems prescribed by dogma or by hierarchical structures of priests, ministers, rabbis or gurus" (Berenson, 1990 as cited by Gorsuch, 1993; p. 304). The role of spirituality in recovery has long been a neglected area of scholarly inquiry (McCrady & Miller, 1993; Kurtz, 1993). This is particularly evident in the case of AA, where spiritual beliefs are viewed as central to the recovery process. Vaillant (1981) describes the prejudice which has led to this neglect. Referring to the 12-steps he comments:

> Any such rigid set of beliefs that are religiously adhered to but not scientifically proven (be it macrobiotics, fundamentalist Christianity, or insistence on daily jogging) tends to irritate the scientific community. . . . Researchers prefer to study variables that they can experimentally manipulate and observe without bias (p. 198).

Although neglected, the study of spirituality in recovery has made some progress over the years. For example, in the 1950's Maxwell investigated the impact of surrender to a higher power on 150 AA members with at least a year of sobriety and found that "peace of mind" was identified as one of spirituality's major benefits (Maxwell,

1962). Cohen (1962) found that degree of dependence on a Higher Power positively correlated among AA members with intrapsychic tranquility. In a study conducted by Roessler (1982) of 42 inpatient subjects, an experimental group which voluntarily participated in spirituality group therapy during treatment was found to have a trend toward longer periods of sobriety after discharge than a control group.

George Vaillant, in his longitudinal study of several hundred male alcoholics described in his book The Natural History of Alcoholism (1981), found that "a source of inspiration, hope, and enhanced self-esteem (such as religious activity)" was one of several major factors which correlated with stable recovery from problem drinking (Vaillant, 1981, p. 315).

Gorsuch and Butler (1976) in a review of 20 studies of drug abusers, found that severity of abuse was related to subjects identification of a religious preference (e.g., Protestant, Catholic, Jew or none). Those able to state a religious preference abused drugs less severely than those who had no religious preference (Gorsuch, 1993).

Spirituality Measures

Numerous instruments have been developed to study spirituality. For example, the Allport and Ross Intrinsic-Extrinsic Motivation scale was developed to determine the difference between involvement in religion for it's own sake

(intrinsic motivation) and involvement in religion for the sake of social relationships or personal comfort (Gorsuch, 1993). Researcher Ralph Hood has developed several scales to measure spiritual experiences. Hood's M-scale is a report measure to determine to what extent an individual has had mystical experiences, while the Religious Experience Episodes Measure (REEM) attempts to separate out theistic from non-theistic spiritual experiences (Gorsuch, 1993). The Spiritual Perspectives Scale (SPS), was developed by Reed (1986) to measure the relative importance of spiritual experiences and behaviors to the individual (Greer, 1992).

One of the most widely used scales that overlaps the measurement of spiritual beliefs and personal values is the Purpose In Life scale (PIL). The PIL was developed in the 1960's to measure purpose and meaning in life by Crumbaugh and Maholick (1964), and contains 20 likert type items (Carroll, 1989). These are examples of instruments that could be used to explore spirituality in alcoholic populations.

The difficulty with the above instruments is that few of them address belief in divine intervention in an unambiguous fashion. An individual may have had a mystical experience and not believe that God or a Higher Power is willing to intervene on her/his behalf on a regular basis (e.g., Hood's M-scale). In the case of the PIL, the

following item demonstrates the above point. Item 18 on the PIL appears to have a divine involvement or intervention concept underlying it:

My life is:

7	6	5	4	3	2	1
in my hands and assisted by a higher power				out of my hands and externally controlled		

The phrasing of the item appears to tell something about belief in divine intervention at first glance. Upon closer examination, however, it can be noted the item assumes that belief in a Higher Power is an indication of internality, an assumption that is unproven. In addition, the PIL item also assumes that to believe life is out of one's hands is to not believe in divine assistance, a notion that any good Presbyterian would find dubious.

As an alternative to the instruments cited above, the researcher developed a specific scale to measure the belief in divine intervention, for the following reasons:

First, a significant amount of the research on spirituality and addiction has used questions that ask for reported behaviors that do not include a wide spectrum of belief (e.g., questions about religious preference, worship attendance, formal membership). While such information is helpful, persons whose spiritual beliefs lie outside

organized religious practices may be missed (Gorsuch, 1993). In the development of a divine intervention measure for this study an effort was made to be as unambiguous and inclusive as possible in terms of item content.

Secondly, no instrument appears to be available that concentrates on the notion of divine intervention per se, and those that cover divine intervention in some form, such as the PIL mentioned earlier, do so in an inadequate fashion. As Gerstein (1993) has pointed out, many studies of spiritual belief ask naive questions such as "Do you believe in God?" without probing any deeper into what is the specific content and practical consequences of that belief for the individual. Thus, the individual who believes that God exists but is in no way interested in events on planet Earth, is placed in the same category as a fundamentalist faith healer who views divine intervention as a daily experience.

The Divine Intervention Scale (DIS) developed for this study, seeks to explore more precisely the expectations of individuals about the involvement of God or Higher Powers in their everyday lives.

A Divine Intervention Scale

The DIS consists of ten 5-point Likert scale items, each reflecting some aspect of belief in divine intervention. The scoring range of the DIS is 10-50, and it

is scored in the direction of positive belief in divine intervention. The higher the score, the stronger the belief in divine intervention.

Five aspects of divine intervention are covered in the DIS: 1) belief in God's personal concern 2) belief in miracles, 3) belief in prayer, 4) belief in God's willingness to intervene, and 5) belief in God's existence. Each aspect of divine intervention has two items on the scale so that inter-item reliability can be assessed. No test-retest reliability information is available on the DIS.

The validity of the DIS rests on the following grounds: 1) The face validity of the scale statements appears strong. 2) The author of the DIS has graduate degrees from Trinity Evangelical Divinity School (M.A.) and Princeton Theological Seminary (M.DIV.), indicating an adequate level of theological training for the development of a spirituality related scale such as the DIS. 3) A panel of 5 experts reviewed all items in the DIS to determine if scale items actually did reflect the concept of divine intervention. The panel consisted of a Roman catholic priest, an orthodox Rabbi, a Yoga instructor, and two protestant pastors. On a scale of 1-5, (with 5 being "very good" and 1 being "very poor") panelists rated each item as to how well it reflected some aspect of divine intervention. All items averaged scores between 4 and 4.8, indicating a high level of content

validity. It is hoped by the researcher that this scale will prove to be a useful tool in exploring aspects of spirituality not yet examined in alcoholic populations.

AA and Spirituality

Alcoholics Anonymous regards alcoholism as a spiritual problem, which requires in turn a spiritual solution: the restoration of a person's relationship with God or a Higher Power as fundamental to his/her recovery. As one writer has put it:

> AA views alcoholism as a spiritual illness, and drinking as a symptom of that illness. The central spiritual "defect" of alcoholics is described as an excessive preoccupation with self. Drinking is seen as leading to a physical and psychological illness. Treatment of the preoccupation with self is at the core of AA's approach" (McCrady & Irvine, 1989,p 154).

In AA, spirituality is often contrasted with religion, which is seen as institutionalized, creedal and superficial. As one brochure puts it: "AA is not a religious organization. All members are free to decide on their own personal ideas about the meaning of life" (Alcoholics Anonymous, 1972; p.10). At the same time AA clearly labels itself " a spiritual fellowship" and the 12-steps a "spiritual program of recovery". (Despite this distinction,

much of the language in AA publications appears to involve what have been traditionally understood as religious beliefs). Examples of AA's spiritual nature abound in AA literature. For example, in the Twelve Traditions, the organizational guidelines laid down for AA by Bill W., the statement is made: "For our group purpose there is but one ultimate authority - a loving God as He may express Himself in our group conscience. Our leaders are but trusted servants; they do not govern" (Alcoholics Anonymous, 1981). A glance at the 12-steps will also clearly illustrate the crucial role that faith in a benign Higher Power plays in AA's program of recovery.

The Twelve Steps of AA

1. We admitted we were powerless over alcohol--that our lives had become unmanageable.
2. Came to believe that a power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood Him.
4. Made a fearless and moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with 'God as we understood Him, praying only for knowledge of

His will for us and the power to carry that out.

12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to alcoholics and to practice these principles in all our affairs

(Alcoholics Anonymous, 1976).

Note that the words "God" or "God as we understood Him" are explicitly referred to in steps 3, 4, 5, 6, 7 and 11. In addition, step 2 speaks of belief in a "power greater than ourselves", step 11 mentions various spiritual practices such as prayer and meditation, and step 12 refers to the net effect of the steps as bringing about a "spiritual awakening" in AA members. Clearly the role of spirituality in AA is central to its program of recovery.

Most of the variance in the recovery process has remained unexplained by social science researchers. The study of spiritual variables is a largely unexplored measurement domain (Miller, 1990).

At a recent symposium on research on AA, one presenter summed up the importance of exploring the role of spirituality and recovery in this manner:

> . . . the spiritual aspects of life exercised through prayer, meditation, or some alternative form cannot be separated from AA. Often social science researchers are reluctant to study spirituality, but without research designed to explore the interplay between AA and spiritual

> dimensions, the essence of AA as a factor in recovery from alcohol and drug addiction will not be productive (Laundergan, 1993; p. 329).

William Miller (1990) attributes this exclusion of spirituality from scientific research in addictions to several factors, among which are increased specialization of professionals in the healing arts, fears of the oppression of science by religious authorities, and a false dichotomy drawn between scientific objectivity and faith.

The inclusion of a spiritual variable (belief in divine intervention) in this study is a response to a growing research interest in the role of spiritual beliefs in recovery.

Rational Recovery and Spirituality

Virtually no research has been published about spirituality in Rational Recovery. In contrast to AA's emphasis on spirituality, RR sees itself as a non-spiritual alternative to AA that does not ask it's members to adhere to any spiritual or religious principles in recovery, and likes to refer to it's approach to recovery as distinctively "NHP" or "Non-Higher Powered" (Trimpey, 1992). In 1990 Rational Recovery became an integrated auxiliary of the American Humanist Association (AHA), one of the most influential coalitions of atheists and agnostics in the U.S. (Trimpey, 1990). This formal connection with the AHA has

since been dropped as RR has matured, but the compatibility of RR with such a group indicates a the non-spiritual and sometimes anti-spiritual orientation of RR. RR's outlook on the notion of "Higher Powers" is aptly expressed the following statement from The Small Book (1992) by Jack Trimpey:

> Simply put there is not one shred of objective evidence for the existence of a sentient, supernatural being in the universe. If such evidence existed, there would be no need for religions to endlessly indoctrinate people into such an idea. People would have no trouble in comprehending the obvious, proven truth. Deities, gods and the like are imaginary...It is such a being, a benevolent, rescuing deity called "God," upon which AA rests (p. 37-38).

Instead of dependence on God or a Higher Power, RR suggests that it's members rely on "the awesome power of the human intellect" to combat the irrational thinking that feeds addictive behavior (Trimpey, 1993). To rely on any power outside oneself to maintain sobriety is thought to continue an unhealthy pattern of dependence, and any attempts to discuss spiritual experiences at RR meetings are therefore discouraged as unhelpful to the recovery process.

This rejection of spirituality is not a complete rejection of all forms of spiritual belief, however. RR members are free to believe what they wish about spiritual matters as long as they do not bring those beliefs into RR meetings. Hank Robb, writing in the Journal of Rational Recovery (1991) notes that:

> The God that seems to fit in well at RR meeting encourages self-reliance and emotional independence. In other words, the problem people often have with 12-step programs doesn't seem to be with God per se, but with a particular view of God. . . . Whether people do or don't believe in God is largely beside the point. The main point is they don't believe in the 12-step God. (p. 7,10)

Robb then posits that those whose belief system pictures God as uninvolved in day to day life or "too busy" to aid addicts, are likely to be open to RR's stress on self-reliance and independence as much as RR's core of atheists and agnostics (Robb, 1991). RR believes that spirituality is a matter of personal taste and irrelevant for those who choose RR as a path to recovery. Such philosophical differences in attitudes between AA and RR towards spirituality suggest that a comparison of AA and RR member's spiritual views might shed light on the kind of personal

beliefs that seem most compatible with successful group affiliation, particularly in reference to beliefs about divine intervention.

The Michigan Alcoholism Screening Test

The purpose of the MAST in the study is to verify that subjects genuinely manifested drinking problems prior to their current state of abstinence. In a recent review of research findings on AA, Emrick and his associates found that the great majority of studies did not even bother to define alcohol problems of their subjects beyond the simple designation "alcoholic" (Emrick, et al., 1993). "The scarcity of specific assessment of substance use disorders in this body of research is apparent" (Emrick, et al., 1993 p. 47). Marlatt, Miller, and Baer (1993) believe that the MAST may "confound" several factors (e.g., alcohol dependency symptoms and life problems) and that such dimensions could be more accurately explored as distinct dimensions. What Marlatt et al., (1993) overlook is that the MAST purposefully includes a variety of factors which taken together are a reasonable measure of drinking problem severity. No doubt greater amounts of specific information could be obtained about problem severity dimensions if one used five separate instruments for assessing AA exposure, prior treatment experience, life problems, medical problems associated with alcoholism and symptoms of alcohol

dependence. The necessity of so doing has not been demonstrated, however, if one's goal is to establish a simple global evaluation of problem drinking severity.

As a screening measure for identifying drinking problems, the Michigan Alcoholism Screening Test (MAST) is probably the most widely used tool in the field (Selzer, 1971; 1980; Jacobson, 1989). The MAST has been recommended as a simple but accurate measure with excellent psychometric properties for matching studies (Glaser & Skinner 1981). The instrument consists of 25 weighted items that describe typical alcoholic behaviors and symptoms. It can be self-administered within about 10 minutes.

The MAST possesses excellent reliability and validity ratings (Jacobson, 1989). In terms of discriminant and concurrent validity, studies have shown correlations in the range of r=.90 , while reliability has been shown to be as high as alpha=.95 (Jacobson, 1989). The main potential drawbacks of the MAST are that its high face validity makes it vulnerable to "faking good" responses, and that its traditional low cutoff score of 5 tends to make it over sensitive, resulting in too many false positives. The issue of "faking good" in order to avoid being labeled as a problem drinker is unlikely to be a difficulty in this study, since the MAST is being used on individuals who have already identified themselves as having a drinking problem

by virtue of their attendance at an recovery self-help group.

The danger of too many false positives can be overcome by simply raising the cut-off score to a level which reasonably balances false negatives and false positive. Jacobson (1989) suggests that the following continuum of scores be used, which this study has adapted: 0-4=no problem, 5-9=possible alcoholic, 10-11=probable alcoholic, 12+=very likely alcoholic. This study will employ this adapted continuum schema, using a cut-off score of 12. Subjects who score 12 and above will be regarded as having met the criterion of a history of serious drinking problems for inclusion in the study.

Defining "Successful Affiliation"

The three factors cited above (a measurable history of problem drinking, at least six months sobriety, and a substantial level of involvement in AA or RR) define successful affiliation/successful membership in this study. It should be noted that others have attempted to define involvement in AA or RR through a variety of approaches. Reinert (1992) developed the AAIS in order to separate out high involvement AA members (n=23) from low involvement AA members (n=22) for comparison on a surrender instrument and a narcissism measure. A small group of RR subjects was also included in the study for comparison (n=10), but no attempt

was made to separate high involvement RR members from low involvement RR members. He also included an alcohol dependence measure, the Alcohol Dependence Scale (ADS) to ascertain problem drinking severity within his three groups. His main finding was that high involvement AA members scored significantly higher on his surrender dimension than did low AA and the RR sample (Reinert, 1992).

The main drawbacks to Reinert's approach to establishing group involvement, from the point of view of this present study are:

1) It is not clear that Reinert's conception of high involvement in AA necessarily included the notion of sobriety. No range is reported for length of sobriety, only the group mean of 77.4 months. It seems possible that there are a sizable number of AA members who have been in and out of the program for years, and might therefore score high on involvement, but still not be sober. The usefulness of the notion of "involvement" in a group is questionable then, unless it is explicitly coupled with a successful outcome (ie. length of sobriety). In this study, length of sobriety has therefore been included as a component of "successful involvement" in AA or RR.

2) Reinert (1992) was primarily interested in comparing high and low AA subjects rather than AA subjects with RR subjects. His decision not to divide his RR sample into high

and low involvement subgroups, (understandable due to the small n of 10), made intergroup comparisons less valid. In order to avoid this, AA and RR subjects included in this study were required to meet the same or comparable criteria as "successful members" of their respective groups.

In 1993 Marc Galanter and his associates published a descriptive study of 433 RR members (Galanter, Egelko & Edwards, 1993). RR subjects in the study were surveyed concerning "demographics; substance abuse; adherence to RR protocol; and relationship to RR, AA and mental health care" (Galanter et al., 1993, p. 501). In addition, four brief scales were used to measure substance abuse severity, group cohesiveness, RR beliefs, and level of neurotic distress. Galanter and his associates divided their RR sample into two groups to analyze the data for membership effects. "Recruits" were defined as those with less than one month attendance at RR (n=110). "Engaged members" were defined as those who had been attending RR for three months or more (n=250) (Galanter et al., 1993).

In addition, Galanter reported four factors that he labeled as comprising "Current RR Involvement" within the survey data: number of meetings attended in the current month, cohesiveness to members, belief in RR score, and minutes per week in contact with other members (Galanter et al., 1993, p. 504). Statistically significant differences

were found in these involvement factors between recruits and engaged members, with the exception of RR beliefs. Engaged members were found to attend more meetings per current month, exhibit greater cohesiveness with the group, and spend more time with other members.

Galanter et al.,'s study provides a great deal of valuable demographic data about RR membership nation-wide. Some problems exist with the notions of "engagement" and "involvement" used in the study, however:

1) Recruits were defined in the study as having attended RR less than a month, engaged members as those who had attended RR for three or more months. What about those subjects who had been attending RR more than 30 days but less than 90? No explanation is given for their absence from the between group comparison.

2) The finding that recruits had lower attendance rates than engaged members is not surprising given the fact that recruits by definition had been in RR less than a month. It appears to be an artifact of time, and reveals little about membership effects. This points out the difficulty of using attendance as a criteria for involvement or engagement in research on RR. Unlike AA, RR does not encourage long term attendance at RR meetings, and in fact discourages it (Trimpey, 1992). Therefore, any attempt to measure engagement or involvement in RR by the number of meetings

attended runs the risk of excluding those members who have achieved sobriety and graduated from the program. In the development of an involvement measure for this study, a meeting attendance item was not included for this reason.

3) Group cohesion scores are similarly of little value when the criteria for group selection is length of attendance. Obviously those with more than three months attendance will have had a far greater opportunity to cohere than newcomers, and those who had low cohesiveness after three months attendance probably self-selected themselves out of the study by dropping out of RR earlier. In addition, the RR policy of discouraging members from depending on RR meetings for maintaining sobriety would seem to make measures of group cohesion less valid as a measure of involvement for RR affiliates (Trimpey, 1992). For these reasons a measure of group cohesion was not included in this study's definition of successful involvement in AA or RR.

4) Galanter et al's attendance definition of "engaged members" does not include any criterion for treatment success. As in the case with Reinert (1992) above, the notion of engagement or involvement without reference to treatment outcome (i.e., achievement of sobriety), is of limited usefulness.

In the light of the above discussion, the proposed three-fold criteria for subjects as successful AA or RR affiliates in this study appears to be well supported.

Summary

In the preceding review of literature, the writer has sought to establish the following: First, there does not appear to be a single alcohol treatment that is universally effective, but rather a number of treatment options that each have their strengths and weaknesses. In light of this, treatment matching is a significant area for research, to discover which treatment approach is likely to be most effective for the individual problem drinker.

Secondly, the literature on locus of control and spirituality in recovery indicate that these dimensions have promise as potential matching criteria. A case was made for using a generalized measure of LOC, (the Rotter I-E scale), as opposed to a drinking specific measure for the study. A case also was made for the development of a new spirituality instrument, (the Divine Intervention Scale), to explore expectations about Higher Power involvement in everyday life.

Thirdly, throughout the chapter the philosophical differences between AA and RR towards locus of control and spirituality were contrasted, to demonstrate the appropriateness as comparison groups in the study. The

literature on the Michigan Alcoholism Screening Test was reviewed, showing it's suitability as a global measure of problem drinking severity. Finally, definitions of "sucessful affiliation" were discussed and the three-fold criteria suggested for this study was found to be well supported. In the following chapter the research methodology of the study will be presented.

CHAPTER THREE:

METHODOLOGY

This chapter will discuss the research population, study variables, research design, data collection and data analysis in the study.

Research Population

The subjects for the study were volunteers who are active members of Alcoholics Anonymous or Rational Recovery, and who meet the following criteria:

1. A score on the Michigan Alcoholism Screening Test (MAST) that indicates a history of alcohol abuse.
2. At least 6 months of continuous sobriety as defined by consistent abstinence from alcohol.
3. A history of involvement in either AA or RR.

The above criteria are the operational definition for "successful AA members"/"successful RR members" in the study.

Sampling Design

As indicated by the mention of the use of volunteers above, the participants in this project were self-selected, and therefore represent a non-random sample. This is justifiable on the grounds that: 1) There is no other practical way to gain the cooperation of members of a voluntary organization other than to give them the option of

not participating, which in turn violates randomization, 2) The focus of the study is a specific subset of AA and RR membership, namely those who meet the above mentioned criteria, therefore a non-random sample serves the purpose of the study, 3) Multivariate analysis has helped reduce the need for random assignment as a control factor for extraneous variables and will be employed in this study (Ogborne, 1993).

Location of Sample

Participants in this study were derived from the following sources: 1) personal contacts of the author with individual members of AA or RR, 2) contacts of the author with AA and RR groups, 3) AA members attending an addictions conference in Tucson.

Rational Recovery participants were recruited from RR groups in Tucson, Arizona; Phoenix, Arizona; and San Diego, California. At the time of the study, approximately 7 RR groups were meeting in Tucson, 3 RR groups were meeting in Phoenix, and 10 RR groups were meeting in the San Diego area. Some groups were not included in the study because feedback from group coordinators indicated that such groups had few regular attenders, or had only newcomers. Data was collected from 3 groups in Tucson, 2 groups in Phoenix, and 8 groups in San Diego.

In Tucson it is often said "This is a very 12 step town". Consequently there are over 400 AA groups meeting weekly in Tucson, with a membership in the thousands. As it would be beyond the resources of this study to seek volunteers from all of these, some discussion of the selection process for AA subjects is appropriate.

In doing research on AA there can be a problem with access: due to AA's strong tradition of anonymity, and AA's spiritual emphasis, the researcher had difficulty gaining cooperation from AA leadership in Tucson. Through a personal contact one AA group in Tucson participated in the study, but did so minimally, yielding only 2 volunteers for the study out of a possible 15. The prevailing attitude at times appeared to be "Research on AA is unnecessary because it is a spiritual program of recovery". Consequently, the majority of the AA subjects of the study came from an addictions conference here in Tucson, most of whom were addiction professionals. It is acknowledged that this represents a biased sample, but the researcher believes that such a sample still fits the purposes of the study for two reasons: 1) The heuristic nature of this study justifies the exploration of any subgroup of AA membership in the areas of locus of control and spirituality; and 2) There is no clear reason to believe that involved members of AA who are employed in the addictions field will necessarily differ

from involved members who are not employed in the addictions field. Having dealt with the issue of this particular source of AA participants, further issues of sample selection are outlined below.

Sample Selection

Some recent writers have made the point that the degree of heterogeneity that may exist within the AA community has not been adequately addressed by past research (Montgomery, Miller, & Tonigan, 1993; Ogborne, 1993). Due to a paucity of literature on RR, the same issue has not surfaced yet in regards to RR, but it would appear to be of similar import.

Much of the literature researching the characteristics of AA affiliates has assumed that all AA groups are essentially alike. A brief glance at the AA directory for any large city will usually dispel this notion. For example, AA groups are often designated as open and closed, smoking and non-smoking, special needs groups such as native Americans, medical professionals, women only meetings, men only meetings, and gay/lesbian groups to name a few (Montgomery et al., 1993). RR groups do not appear to have reached the same degree of specialization as AA groups at this time.

For the purposes of this study the following assumptions were made or steps taken regarding the selection of subjects from AA and RR groups:

1. It is acknowledged that there may well be an interaction between group "personality" and individual personality characteristics (Nowinski, 1993; Montgomery et al., 1993). Indeed, the key idea of this study is that there are meaningful differences between those who chose to affiliate with AA and those who affiliate with RR, a parallel notion.

2. Research about differences between AA groups, however, appears to support more homogeneity than heterogeneity (Montgomery, et al., 1993). Therefore, an assumption of modest homogeneity is reasonable given the state of our knowledge at this time (Glaser, 1993).

3. The degree of homogeneity between individuals in this study is partially controlled for by including a measure of AA beliefs to insure that the AA subjects selected for comparison share a similar understanding and commitment to AA principles. The same control for homogeneity was carried out on RR members by including a measure of RR beliefs and practices. In both cases only those who evidence a solid understanding of their particular group idealogy and commitment to its principles were included in the study.

Number of Subjects

The design of this study called for two stages of subject selection. In stage one, potential AA and RR

volunteers filled out the research materials. In stage two, these research materials were evaluated in order to identify those individuals who qualified as "successful members" of AA or RR. These "successful members" then became the subjects of the study.

The appropriate number of participants in a study is one of the most vexing problems of sampling design (Rudestam and Newton, 1992). Too few subjects and the study may miss significant effects. Too many subjects and the study may run out of time and resources. Due to the specialized population of this project, and limitations of time and resources, a total N of approximately 50 was sought for the study.

Overview of Study Variables

All variables under scrutiny in this study are what Kerlinger (1986) refers to as "measured" or "attribute" types of variables, because they are measured, but not actively manipulated by the researcher. In addition to the independent and dependent variables, the study included standard demographic questions, questions about recovery history, and questions about spirituality, for both interpretive and heuristic purposes.

The <u>independent variables</u> in the study were:

1. successful involvement in AA
2. successful involvement in RR

These two variables are designated as "independent variables" because they are the variables which are being "predicted from" (Kerlinger, 1986). Each independent variable is a combination of 3 factors: a history of problem drinking, a current significant period of sobriety, and substantial involvement in AA or RR.

The dependent variables in the study are:

1. locus of control orientation
2. belief in divine intervention.

These two variables are designated as "dependent variables" because they are the variables being "predicted to" in the study (Kerlinger, 1986). Using both the independent and dependent variables cited above, the following hypotheses were tested in the study:

Hypothesis 1: Successful members of AA will be significantly more external in terms of locus of control than successful members of RR.

Hypothesis 2: Successful members of AA will have significantly stronger beliefs in divine intervention than successful members of RR.

Hypothesis 3: In all subjects, strong beliefs in divine intervention will positively correlate with a more external locus of control orientation.

Independent Variables

Successful Involvement in AA

For a subject to be regarded as having successful involvement in AA she/he must meet the following 3 criteria:

1) A history of problem drinking, as evidenced by a score of 10 or more on the Michigan Alcoholism Screening Test (MAST). The purpose of using the MAST is to establish that subjects have had a serious alcohol problem in the past, and are definitely part of the problem drinking population. The MAST consists of 25 weighted items that describe typical alcoholic behaviors and symptoms. It can be self-administered within about 10 minutes, and possesses excellent reliability and validity ratings (Jacobson, 1989a). In terms of discriminant and concurrent validity, studies have shown correlations in the range of r=.90 , while reliability has been shown to be as high as alpha=.95 (Jacobson, 1989a).

It should be noted that small changes were made in several MAST items in order to make the instrument more appropriate for this study. These changes were of two types: changing verb tenses from present to past tense on several items so that persons with a history of problem drinking but who are currently sober are clearly included, (eg. changing "Do you ever feel bad about your drinking?" to "Have you ever felt bad about your drinking?"), and changing gender specific language so that both women and men are included (e.g., replacing references to a subject's "wife" with the word "spouse"). It is not believed by the researcher that

these changes represent any serious threat to the reliability of the MAST, due to their minor nature.

Jacobson (1989a) suggests that the following continuum of scores be used, which this writer has adapted: 0-4=no problem, 5-9=possible alcoholic, 10-11=probable alcoholic, 12+=very likely alcoholic. This study will employ this adapted continuum schema, using a cut-off score of 10 and above to qualify subjects for the AA comparison group. Subjects scoring less than 10 on the MAST will be excluded from the AA comparison group.

2) A current significant period of sobriety, as evidenced by a self-report of at least 3 months of total abstinence from all illegal drugs and alcohol. This will be measured by the following items in the Alcoholism Recovery History section of the research materials:

Question #2:

"This study defines sobriety as total abstinence from illegal drugs, and alcohol. Right now, how many MONTHS of continuous sobriety do you have? (circle one)

1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24

If you have more than 24 months of current sobriety, please indicate how long you have been sober:_____Yrs and____Months."

Question #7:

"The date of my last drink or use of illegal drugs was:

day:_____month:_____year:_____."

The question of the reliability of a recovering alcoholic's self-report about her/his length of sobriety is partly controlled for by comparing a subject's answers to these 2 questions, so that a rough measure of internal consistency can be ascertained. In order for a subject to be included in the AA comparison group, she/he must consistently report at least 3 months of continuous sobriety. It should be noted that other research has upheld the general reliability of alcohol abusers' self-reports about drinking history (Sobell, Sobell, Riley, Schuller, Pavan, Cancilla, Klajner, & Leo, 1988).

3) Substantial involvement in AA, as evidenced by a score of 10 or above on the Alcoholics Anonymous Involvement Scale(AAIS). The AAIS was developed by Reinert (1992) to differentiate between high and low levels of involvement among AA members. Alan Ogborne comments on the importance of determining what exposure AA subjects have had to AA:

> Simple questions concerning AA effectiveness (e.g., Does it work?) ignore the inevitable and demonstratable variations in the experiences of those exposed to the movement. Also these variations will be masked by simple measures of AA involvement, such as the number of meetings attended. What actually happens to individuals attending these meetings is by no means

> guaranteed. Rather, it can be assumed that their experiences differ markedly (Ogborne, 1993, p. 340).

The same could be said of research on RR members as well. The purpose of the AAIS in this study was to establish that subjects in the AA comparison group had received adequate exposure to AA principles and practices, and were not casual attenders. The scale consists of 19 items that reflect either a 12 step principle or traditional AA practice indicative of involvement, plus a frequency of attendance component. One point is given for each statement affirmed, (up to 18 points), and attendance is weighted as follows: <1.5 meetings/wk=0 points, >1.5-2.0 meetings/wk=1 point, 3-4 meetings/wk=2 points, 5+ meetings/wk=3 points. The range of possible scores is 0 to 21 (Reinert, 1992). The higher the score, the greater the involvement in AA. Reinert has used a simple median split or a tripartite split to distinguish between high and low involvement in his studies (Reinert, Allen, Fenzel & Estadt, 1993; Reinert, Estadt, Fenzel, Allen, & Gilroy, 1994; D. Reinert, personal communication, April 12, 1994). At this stage of the development of the AAIS, no definitive cut-off score has been established. In order to qualify as "involved" in AA for this study, a cut-off score of 9 was set. Individuals scoring 0-8 on the AAIS were excluded from the study.

The AAIS has high face validity due to its close adherence to AA terminology and concepts. No formal investigation of it's construct validity has been done. The inter-item reliability of the instrument has established an alpha coefficient of .91 (Reinert, 1992).

Successful Involvement in RR

For a subject to be regarded as having successful involvement in RR she/he must meet the following 3 criteria:

1) A history of problem drinking, as evidenced by a score of 10 or more on the Michigan Alcoholism Screening Test (MAST). The purpose of using the MAST is to establish that subjects are definitely part of the problem drinking population. The psychometric properties and description of the MAST have been covered above.

2) A current significant period of sobriety, as evidenced by a self-report of at least 6 months of total abstinence from all illegal drugs and alcohol. This will be measured by two items in the Alcoholism Recovery History section of the research materials already discussed.

3) Substantial involvement in RR, as evidenced by a score of 6 or more on the Rational Recovery Involvement Scale (RRIS). The RRIS is an instrument developed for this study in order to determine how involved an individual has been in RR. It is a simple additive type scale, consisting of a 12 item checklist that reflects various aspects of

involvement in Rational Recovery. Scores range from 0 to 12. The higher the score, the greater the involvement in RR. The purpose of using the RRIS is to demonstrate that members of the RR comparison group have been substantially exposed to RR and are not casual attenders. In order for subjects to be considered "involved members" of RR in this study, they must have scored a minimum of 6 on the RRIS.

The validity of the RRIS rests on the following grounds:

1) The items on the scale have strong face validity. 2) The scale was based on extensive readings in RR publications, personal interviews with RR members, and concepts used in other involvement scales, such as the AAIS.

Furthermore, during scale development a panel of five experts reviewed 16 proposed scale items to evaluate content validity. The expert panelists had all been seriously involved in RR: one was a Certified RR Counselor (CRRC), two were Certified RR Specialists (CRRS) with graduate degrees in counseling, the remaining two were Dr. Joseph Gerstein MD, current president of the national board of the Rational Recovery Self-help Network (RRSN), and Jack Trimpey MSW, founder of Rational Recovery and author of The Small Book. On a scale of 1-5, (with 5 being "very good" and 1 being "very poor") panelists rated each item as to how well it reflected some aspect of involvement in RR. After the

evaluation instruments were analyzed, 4 items were dropped from the original 16 due to low inter-rater agreement. Of the 12 items retained for the final version of the RRIS, these items averaged scores between 4.2 and 4.8 (out of 5), indicating a strong level of content validity.
Reliability data on the RRIS is not available at this time.

Dependent Variables

Locus of Control

Hypothesized locus of control differences between AA and RR comparison groups will be ascertained by comparing the mean score of successful RR members with the mean score of successful AA members on Rotter's (1966) Locus of Control Scale (I-E). (In the research materials the I-E is labeled "World View Scale" in order to sound less esoteric). The I-E consists of 29 forced-choice items, of which 6 are filler items. The score range runs from 0 to 23, and the instrument is scored in the external direction, the higher the score, the more external the orientation. It is hypothesized that successful members of AA as a group will have significantly higher scores on the I-E Scale than successful members of RR.

The Rotter is an additive type of scale that attempts to sample LOC orientation as a generalized expectancy. The I-E has an internal consistency of .65 to .79 as reported by Rotter (1966). Test-retest reliability of the I-E has been

termed "adequate" with reliability coefficients ranging from .49 to .83 (Phares, 1976). Construct validity has been thoroughly established for this instrument as a generalized measure of locus of control.

Mean I-E scores vary somewhat between studies, making it difficult to cite a particular score as a universal average. In Rotter (1966) means varied from 5.48 to 10.00 depending on the subject population (Phares, 1976). The critical point for this study is that the expected mean for successful AA members on the I-E will be higher (more external) than that of successful RR members (more internal).

Belief in Divine Intervention

Belief in divine intervention was measured by the Divine Intervention Scale (DIS), an instrument developed by the researcher for this study. The scale consists of 10 Likert scale items each reflecting some aspect of belief in divine intervention.

The scoring range of the DIS is 10-50, and it is scored in the direction of positive belief in divine intervention. The higher the score, the stronger the belief in divine intervention.

It is hypothesized that the group mean of successful AA members on the DIS will be significantly higher than the group mean of successful RR members on the DIS.

Research Design

An ex post facto criterion-group design, using planned comparisons, will be employed in the study (Shavelson, 1981; Kerlinger, 1986). Studies on AA using experimental manipulation of research variables remain few and far between at this time. Emrick at al (1993) reported that of 102 studies of AA reviewed 84% were correlational relationships were evaluated retrospectively (Emrick et al, 1993). This present project, as a correlational study of measured variables, falls clearly into the mainstream of research on AA characteristics.

Data Collection

The research materials and study design employed in the project were evaluated by the office of the University of Arizona Human Subjects Committee, and judged to be of minimal risk to participants. All data was collected and analyzed during February and March, 1994.

AA Subjects

AA members recruited for the study came from several sources. The researcher approached the clinical director of the Tucson Council on Alcoholism and Drug Dependence (TCADD), Charles Scott MSW, about distributing research materials at an addictions conference for mental health professionals held in February, 1993. Mr. Scott was most helpful, and 32 qualified subjects came out of this source.

Research materials were offered conference attenders at registration, and several announcements were made during the conference urging interested parties to participate. A cover sheet explained the study's purpose and minimal risk nature, and also gave participants the option of requesting a summary of the results be mailed to them.

A second source of AA subjects was personal contacts of the researcher with AA members. The one Tucson AA group participating in this study contributed 2 usable volunteers.

RR Subjects

Twenty RR subjects in this study were recruited through formal channels in RR. A synopsis of the study was circulated among the national board members of Rational Recovery, and Jack Trimpey founder of RR called the researcher to voice his support for the project. The researcher met personally with Dr. Joseph Gerstein MD, the current President of the RR Self-help Network board (RRSN) and discussed the project. Dr. Gerstein's support for the study and suggestions about the DIS were much appreciated. Dr. Gerstein wrote a letter to the researcher expressing his endorsement of the study, and gave permission for his name to be used in order to encourage RR groups to participate (J. Gerstein, personal communication, January 27, 1994). During data collection the researcher also contacted RR group coordinators and advisors in Tucson, Phoenix and San

Diego to enlist support. For the most part, RR data in the study was collected at RR meetings attended by the researcher. A small number of RR subjects were contacted by third parties who sent materials directly to the researcher by mail.

In keeping with the recommendation of Montgomery et al (1993) concerning the need to document group characteristics of AA subjects, a brief description of the RR groups used as recruitment sources is as follows (attendance at time of data collection is in parenthesis). Data was collected from eight RR groups in the San Diego area: Wednesday night meeting at the Unitarian church (10), Thursday noon meeting at the Better World Galleria (a new age bookstore) (4), Thursday night meeting at the Neighborhood Recovery Center (all attenders court ordered) (5), Friday 5:45 PM meeting at the Counselor's Bookshelf (a new age bookstore)(2), Saturday morning meeting at the Midcoast Recovery Center (7), Sunday morning meeting at Villa View Hospital (10), Monday noon meeting at Better World Galleria (5), and a Monday evening meeting at the Macalester Institute (a neighborhood counseling and education center)(5). Only two RR groups in the San Diego area were not visited by the researcher for data collection.

In Phoenix, data was collected from two RR groups: Thursday evening meeting at the office of a psychologist who

is the official advisor for RR in Phoenix (5), and a Monday evening meeting in a guest house (12). In Tucson, data was gathered from three RR groups: Monday night meeting at University Medical Center (10), Wednesday night meeting at Palo Verde Hospital (a psychiatric facility) (6), and a Friday night meeting at Palo Verde Hospital (15).

The procedure for data collection at RR groups was as follows: First, the group coordinator introduced the researcher at the beginning of the meeting, as a doctoral student interested in RR, who would be asking for research volunteers after the meeting. Secondly, at the meeting's end the coordinator would turn the group over to the researcher who would distribute research materials to those interested in volunteering. A cover sheet on the materials explained the study's purpose and minimal risk nature, and also gave participants the option of requesting a summary of the results be mailed to them. Finally, completed data packets were collected. Those who were unable to complete the packet were provided large stamped envelopes and permitted to mail in their completed materials.

Data Analysis

All correlations relating to the study hypotheses were tested for significance using correlated t-test procedures. Correlations had to meet or exceed a $p<.05$ level for significance in order to be regarded as significant.

T-tests were selected as the basic procedure for data analysis because the purpose of t-tests are to help decide whether or not to reject the null hypothesis of no difference between the means of two groups (Shavelson, 1981). The design of this study meets the requirements for the use of t-tests presented by Shavelson (1981):

1. One independent variable with two levels (ie. groups). Each t-test in the study was run on only one variable at a time (e.g., locus of control), comparing two groups (AA subjects and RR subjects).

2. A subject must appear in only one of the two groups. All study subjects met this criteria.

3. Quantitative differences must exist between comparison groups. All study variables were operationalized with quantifiable measures.

The statistical assumptions required for t-tests were also met (Shavelson, 1981):

1. The scores from the two groups are randomly sampled from their populations. No study meets this criteria perfectly that uses volunteers, due to self-selection. The samples used in this study are assumed to be randomly selected from the population of successful AA and RR members in terms of locus of control and belief in divine intervention.

2. The scores in the respective populations are normally distributed. Frequency distributions indicate this assumption was met, as well as the f-tests of the statistical procedures.

3. Homogeneity of variance exists. F-tests run on the data confirmed the homogeneity of variance for subject scores.

Summary

This chapter has described the research population, the study variables and instrumentation, research design, data collection and data analysis procedures. In chapter 4 the results of the study will be presented.

CHAPTER 4

RESULTS

This chapter reports the statistical analysis of the collected data and is divided into three sections. In the first section subject data is presented, including demographics, alcohol recovery backgrounds, and spirituality backgrounds. Section two reports measured variables data, describing the results of the Michigan Alcoholism Screening Test, the Alcoholics Anonymous Involvement Scale, the Rational Recovery Involvement Scale, the Rotter I-E Scale, the Divine Intervention Scale, and the length of sobriety measure. The last section of the chapter presents the results of the research questions.

Subjects

Data was analyzed for 57 total subjects,(Alcoholics Anonymous (AA)=34, Rational Recovery (RR)=23), who met criteria for inclusion in the study. AA subjects were recruited from two sources: an addictions conference for treatment professionals held in March of 1994 in Tucson yielded 32 subjects, and a white collar Tucson AA group of about a dozen members, meeting in a home on Sunday evenings, yielded 2 subjects.

RR subjects were recruited from 8 RR groups in the San Diego, 2 RR groups in Phoenix and 3 RR groups in the Tucson

area. In addition, several individuals who had used RR to become sober but were no longer attending RR meetings also participated in the study.

Age

The mean age of all subjects was 45 years, with a standard deviation of ± 9.7 years, and a range of 28 to 69 years of age. The mean age of AA subjects was also 45 years, with a standard deviation of ± 9.6, and a range of 28 to 69 years of age. The mean age for RR subjects was 44 years, with a standard deviation of ± 10, and a range of 28 to 65 years of age.

Gender and Ethnicity

The sample consisted of 19 females and 37 males, plus one subject failing to report gender. The AA group had an almost even balance between males (16) and females (17). The RR sample was largely male (21), with only two (2) females represented in the study. The ethnic composition of the sample was entirely homogenous, all 57 subjects in the study identified themselves as "white/caucasian".

Education

Table 1 presents the percentage distribution of subject's levels of education. No subjects in the study had less than a High School education. On the whole, AA subjects had more education than RR subjects: 81.9% of the AA sample

Table 1

Level of Education of AA and RR Subjects by Frequency and Percent

	AA		RR	
Level	f	%	f	%
High School Graduate	1	3	4	17.4
Vocational/ some College	5	15.2	9	39.1
College Graduate	9	27.3	4	17.4
College Beyond BA/BS	6	18.2	1	4.3
Masters or Doctorate	12	36.4	5	21.7
	33*	100.0	23	100.0

*One AA subject did not complete this item.

had college degrees or above, compared to only 43.4% of the RR sample.

Current Marital Status

For all subjects, 14.3% reported never having been married, 48.2% reported being married or living with someone, 1.8% reported being separated, 30.4% reported being divorced, 3.6% identified themselves as widowed, and 1.8% described their marital status as "other".

Only 5.9% of AA members reported having never been married, and 52.9% reported being currently married or living with someone. About 32.4% of AA members reported being divorced, 2.9% identified themselves as widowed, and 1.8% described their marital status as "other".

RR members were more likely to have never been married (27.3%), and were less likely to be currently married or living with someone (40.9%) than their AA counterparts. About 27.3% of RR subjects reported being divorced and 4.5% identified themselves as widowed.

Current Employment

For all subjects, about 69.6% reported they were working full-time, 3.6% reported working part-time. Only 1.8% described themselves as housewives, 3.6% as full-time students, 7.1% as retired, 5.4% as unemployed and 1.8 as "other".

Among AA members a high percentage of subjects reported being employed full-time (82.4%), 5.9% were working part-time. About 2.9% identified themselves as housewives, 2.9% said they were retired and 5.9% described their employment as "other".

In the RR group only 50% of subjects reported full-time employment, and 9.1% worked part-time. A full 13.6% were unemployed at the time the data was gathered, and another 13.6 were retired. A single percent described themselves as "other" in terms of employment.

Gross Income

Overall, 21.5% of the combined sample earned less than $20,000 per year, 46.4% earned between $20,000 and $45,000 per year, and 32.1% had incomes in excess of $45,000.

In the AA group, 14.7% of subjects reported incomes of less than $20,000 per year, 50% had incomes between $20,000 and $45,000 per year and 35.3% reported annual earnings above $45,000.

RR members generally reported lower incomes than AA subjects: 31.8% reported gross incomes of less than $20,000 per year, 40% reported earnings in the $20,000-$45,000 range, and 27.2% reported incomes of $45,000 plus.

Alcoholism Recovery History

Drug of Choice

In the sample as a whole, 89.3% of the subjects indicated that alcohol was their drug of choice, 10.7% of subjects named other substances as their drug of choice. 93.9% of AA subjects named alcohol as their drug of choice, compared with 82.6% of RR subjects.

In terms of other drugs of choice and/or polysubstance abuse, a relatively small number of subjects named other substances either in addition to or instead of alcohol: cocaine (6), methamphetamine (3), heroin (1), and marijuana (1). Alcohol was clearly the most favored substance of abuse of both AA and RR subjects.

Onset of Sobriety and Group Affiliation

A one tailed t test was used to determine the relationship between onset of sobriety and first attendance at AA or RR. The correlation between first attendance at AA and onset of sobriety was statistically significant, $r=.94$, $p<.001$. The correlation between first attendance at RR and onset of sobriety was lower, but also statistically significant, $r=.51$, $p<.01$. In both groups first group attendance was correlated with initiating sobriety.

Group Membership Identification

Nearly all subjects in the study claimed membership in either AA or RR. All AA subjects identified themselves as

members of AA (n=34), 22 of the RR subjects (n=23) identified themselves as members of RR. A single subject responded "neither" to the membership item, but was included in the RR group on the basis of a high RRIS score.

Length of Sobriety

AA subjects on average had 10 years of sobriety, with a range of 1.7 years to 23.4 years. RR subjects tended to have a shorter length of sobriety compared to their AA counterparts, with an average of 2.8 years, and a range of 3 months to 10 years.

Spirituality Demographics

For heuristic purposes, data was also gathered and analyzed to shed light on the interaction of spirituality and substance abuse. Of particular interest was how spiritual group affiliation may have evolved.

Spiritual Group Affiliation

Table 2 presents the percentage distribution of childhood spiritual group affiliations. The group showing the largest percentage of affiliation was the Catholic church (AA=35.3%, RR=30.4%). Only 3 subjects designated "no religion" as their childhood affiliation, indicating that a large majority of the total sample (95%) had some of spiritual group affiliation during childhood.

Table 2

Childhood Spiritual Group Affiliation of AA and RR Subjects by Frequency and Percentage

Childhood Spiritual Group:	AA		RR	
	f	%	f	%
Baptist	4	11.8	1	4.3
Catholic	12	35.3	7	30.4
Buddhism	1	2.9	0	-
Unitarian	0	-	1	4.3
Episcopalian	6	17.6	1	4.3
Presbyterian	1	2.9	3	13.0
Lutheran	5	14.7	1	4.3
Methodist	1	2.9	3	13.0
Anglican	1	2.9	0	-
Mormon	1	2.9	0	-
Congregationalist	1	2.9	0	-
Church of Christ	0	-	1	4.3
Christian Science	0	-	2	8.7
Judaism	0	-	0	-
Native American	0	-	0	-
No religion	1	2.9	2	8.7
Failed to complete item	0	-	1	4.5
	34	100.0	23	100.0

Attendance

A majority of subjects in the study attended a spiritual group at least once per week during childhood (AA=63.6%, RR=59.1%). Table 3 presents the percentage distribution of the attendance patterns.

Table 3

Attendance of AA and RR Subjects at Childhood Spiritual Groups, by Frequency and Percentage

	AA		RR	
Attendance at Services	f	%	f	%
Rarely	8	24.2	7	31.8
1-4 per year	1	3.0	0	-
1 per month	3	9.1	2	9.1
1 per week	14	42.4	9	40.9
1+ per week	7	21.2	4	18.2
	33*	100.0	22*	100.0

*One subject in each group failed to complete this item.

Changes in Spiritual Group Affiliation

Table 4 shows changes in spiritual group affiliation of AA and RR subjects over time.

Both AA and RR subjects reported declines in affiliation with their childhood spiritual groups. Only 14% of the total sample were still involved in their childhood group, with 85.3% of AA subjects and 85.4% of RR subjects no longer involved. A two-tailed t-test was used to determine if a significant difference existed between the current levels of spiritual involvement of AA and RR subjects. This procedure yielded a t-value of .6 ($df=44$, $p<.554$), indicating that there was not a statistically significant difference between AA and RR members in terms of level of current spiritual affiliation.

Measured Variables

This section reports the results of the measured variables used in the study.

History of Problem Drinking

The Michigan Alcoholism Screening Test (MAST) was used in the study to establish that subjects had a history of problem drinking prior to their current sobriety. Before the study began, a cut off score of 12 was set in order to minimize false positives. Volunteers scoring below 12 wsere to be excluded from the study as not clearly having a history of problem drinking. All subjects included in the

Table 4

Comparison of Childhood and Current Spiritual Group Affiliation of AA and RR Subjects by Frequency and Percentage

	Childhood		Current	
	AA	RR	AA	RR
Group	%	%	%	%
Baptist	11.8	4.3	-	-
Catholic	35.3	30.4	17.6	8.7
Buddhism	2.9	-	-	8.7
Unitarian	-	4.3	14.7	8.7
Episcopalian	17.6	4.3	2.9	-
Presbyterian	2.9	13.0	2.9	4.3
Lutheran	14.7	4.3	5.9	-
Methodist	2.9	13.0	-	-
Anglican	2.9	-	2.9	-
Mormon	2.9	-	-	-
Congregationalist	2.9	-	-	-
Church of Christ	-	4.3	-	-
Christian Science	-	8.7	-	4.3
Judaism	-	-	-	4.3
Native American	-	-	5.9	-
No Religion	2.9	8.7	32.4	39.1
Failed to complete item	-	4.3	14.7	21.7
	100.0	100.0	100.0	100.0

study sample scored 14 or above, indicating a strong probability of alcoholism. The mean for the sample was 36, with a standard deviation of 9.5 and a range of 14-56. Among AA subjects the mean score on the MAST was 38, among RR members the mean was 34.5. A two tailed t-test was used to evaluate the difference between the these means, yielding a t-score of 1.38 (df=54, p<.172), indicating that no significant difference in problem drinking severity existed between the AA and RR subjects.

Length of Sobriety

Length of sobriety was measured in the study by a self-report question asking subjects to estimate how long they had been sober. Individuals who did not report at least 3 months of continuous sobriety were excluded from the study. For the sample as a whole, the mean length of sobriety was 7.13 years (SD=5.6, range=3 months to 23.6 years). AA subjects had more extensive average length of sobriety (10 years), than RR subjects (2.8 years).

In order to check the reliability of the length of sobriety self-reports, an additional question was included in the research materials, asking subjects to estimate the date of their last use of alcohol or drugs. A one-tailed t test was used to examine the correlation between the two items. A correlation of .99 (p<.001) was found, indicating

a strong degree of reliability for length of sobriety reports in the study.

Involvement in Alcoholics Anonymous

The Alcoholics Anonymous Involvement Scale (AAIS) was used to establish a minimal involvement level of subjects in Alcoholics Anonymous as a criteria for inclusion in the AA subject group. This involvement measure was used in order to insure that AA subjects had an acceptable level of exposure to AA. Individuals in AA who failed to demonstrate a score of at least 9 (out of 21) were excluded from the study. The mean for those subjects retained in the AA group was 16.2 (SD=3.4, range=9 to 21). Most RR subjects also indicated some past involvement in AA, but the RR mean on the AAIS was only 6.2, indicating a lower level of involvement in AA. Only two AA subjects scored below 11 on the AAIS, indicating that the AA group in the study have had a strong level of involvement in AA.

The research materials also included a separate question asking subjects to indicate to what degree they saw themselves as having been involved members of AA. A one-tailed t test found a correlation of .59 ($p<.001$) between AAIS scores and affirmative answers to this question, providing evidence for the validity of the AAIS as a measure of involvement in AA.

Involvement in Rational Recovery

The Rational Recovery Involvement Scale (RRIS) was used to establish the involvement level of subjects in Rational Recovery, as a criteria for inclusion in the RR subject group. Individuals in RR who failed to meet the cut-off score of 6, (out of a possible 12), were excluded from the study. The mean score of RR subjects on the RRIS was 10.2 (SD=1.8, range= 6-12), indicating a strong level of involvement in RR for the RR sample. No AA subjects reported any involvement in Rational Recovery.

The research materials also included a separate question asking subjects to indicate to what degree they saw themselves as having been involved members of RR. A one-tailed t test found a correlation of .48 ($p<.01$) between RRIS scores and affirmative answers to this question, providing evidence for the validity of the RRIS as a measure of involvement in RR.

Belief in Divine Intervention

The Divine Intervention Scale (DIS) was developed for this study to measure expectations of divine intervention. The range of the DIS is 10-50, the higher the score, the stronger the belief in divine intervention. Table 5 reports the results of the DIS in the study.

Table 5

Mean Scores on the Divine Intervention Scale for All Subjects, AA Group, and RR Group

	All subjects		AA group		RR group	
	mean	SD	mean	SD	mean	SD
DIS	36.9 (N=57)	11.7	43.3 (n=34)	4.1	27.6 (n=23)	3.7

The mean score on the DIS for all subjects was 36.9, (SD=11.7,range=10-50). As predicted, AA subjects evidenced a stronger belief in divine intervention (AA mean=43.3) than their RR counterparts (RR mean=27.6). A two-tailed t test of the pooled variance estimate was used to determine the significance of this inter-group difference. The difference between RR and AA subjects on the DIS was found to be strongly significant at the $p<.001$ level ($f=3.13$, $t=6.62$, $df=55$).

Additional data was also collected and analyzed as part of the scale development of the DIS. The scale content consists of 5 factors: God's concern, the possibility of miracles, the efficacy of prayer, God's willingness to intervene, and the existence of God. Two items address each

of these factors. Table 6 presents the results of a one-tailed t test used to establish the inter-item reliability within each factor.

Table 6

Inter-item Reliability within DIS Factors

Factor	r	Significance
God's Concern	.83	p<.001
Possibility of Miracles	.74	p<.001
Efficacy of Prayer	.73	p<.001
God's Willingness to Intervene	.73	p<.001
God's Existence	.95	p<.001

The results of the t tests reveal a strong degree of inter-item reliability for the DIS factors, all with a significance at the .001 level.

The concept of divine intervention as an aspect of spirituality found support in a one-tailed t test that compared subject's DIS scores with their response to a separate item assessing the perceived importance of spirituality to the individual. This procedure yielded a correlation of .73 (p<.001), validating a significant

relationship between belief in divine intervention and commitment to spirituality.

Locus of Control

The Rotter I-E scale was used to measure the direction of locus of control in subjects. Table 7 presents the results of the I-E scale and DIS for comparison.

Table 7

Mean Scores on the I-E Scale and the DIS of AA Subjects and RR Subjects

Comparison	AA subjects		RR subjects			
	mean	SD	mean	SD	t	significance
I-E	9.1 (n=33*)	4.1	6.4 (n=23)	3.7	2.49 (df=54)	p<.016
DIS	43.3 (n=34)	4.1	27.6 (n=23)	3.7	6.62 (df=55)	p<.001

*One AA subject did not complete the I-E scale.

AA subjects on average scored higher than RR subjects on the I-E, indicating that the AA subjects were more externally oriented than their RR counterparts. A two-tailed

t test (f=3.13, df=55) of the pooled variance estimate yielded a significance level of p<.016 for the difference between the two groups.

In order to evaluate the relationship between locus of control and belief in divine intervention, a one-tailed t test was used. For the total sample a correlation of .13 was obtained between the I-E and the DIS. For AA subjects, a correlation of -.35 was obtained between the I-E and the DIS. For RR subjects, a correlation of .11 was found. None of these correlations achieved statistical significance.

Research Questions

Locus of Control and Successful Involvement in AA and RR

What is the relationship between locus of control and successful involvement in Alcoholics Anonymous or Rational Recovery? The study sought to answer this question by testing Hypothesis 1: "Successful members of AA will be significantly more external in terms of locus of control than successful members of Rational Recovery." "Successful members" were defined in the study as individuals who met three criteria: a history of problem drinking, at least 3 months current sobriety, and substantial involvement in either AA or RR). The results of the locus of control measure showed that AA subjects had a higher mean score (9.1) on the Rotter I-E than RR subjects (6.4), indicating

as predicted that successful AA membersewere more external than successful RR members.

This finding was tested for significance by comparing the mean Rotter I-E score of AA subjects with the mean Rotter I-E score of RR subjects using a two-tailed t test. The results showed that the difference between groups was significant at the $p<.016$ level. Hypothesis 1 was therefore supported by the study results.

Belief in Divine Intervention and Sucessful Involvement in AA and RR

What is the relationship between belief in divine intervention and successful involvement in Alcoholics Anonymous or Rational Recovery?

The study sought to answer this question by testing Hypothesis 2:

Successful members of AA will have significantly stronger beliefs in divine intervention than successful members of RR. The results of the Divine Intervention Scale showed that AA subjects had a higher mean score (43.3) than RR subjects (27.6), indicating as predicted that successful AA members had stronger beliefs in divine intervention than their RR counterparts.

This finding was tested for significance by comparing the mean DIS score of AA subjects with the mean DIS score of RR subjects using a two-tailed t test. The results showed

that the difference between groups was significant at the $p<.001$ level. Hypothesis 2 was therefore supported by the study results.

Locus of Control and Belief in Divine Intervention

What relationship exists between locus of control orientation and belief in divine intervention?

This question was addressed by the study's third hypothesis: In all subjects, strong beliefs in divine intervention will positively correlate with a more external locus of control orientation.

This hypothesis was tested by using a one-tailed t-test to evaluate the correlation between I-E scores and DIS scores. This procedure yielded no correlations of statistical significance between locus of control and beliefs about divine intervention.

In addition, one tailed t-tests were used to determine if LOC correlated separately with any of the five factors within the DIS. No significant correlations were found. Hypothesis 3 therefore was not supported by the results of the study.

Summary

Chapter four presented the results of data collection and analysis. The first section of the chapter reviewed subject data such as demographics (age, gender, ethnicity,

educational and income level), alcoholism recovery backgrounds (drug of choice, onset of sobriety and group affiliation, and group membership claims) and spirituality data about subjects. The second section of the chapter presented data gathered on the measured variables of the study, including the MAST, length of sobriety, involvement in AA or RR, locus of control, and belief in divine intervention. The last section of the chapter examined the research questions in light of the data presented. Hypotheses 1 and 2 were supported by the results of data analysis. Hypothesis 3 was not supported.

The concluding chapter of the dissertation will discuss and interpret the results presented in chapter four.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

In this chapter the findings of the study in the following areas are discussed and interpreted: demographic characteristics of subjects, alcohol recovery backgrounds and spirituality backgrounds of subjects, characteristics of the measured variables, main research findings, recommendations for further research, and conclusions.

Demographic Characteristics of Subjects

This section will discuss age, gender and ethnicity, education, current marital and employment status, and gross income levels of study participants.

Age

Alcoholics Anonymous (AA) subjects in this study fell into what Emener and Dickman (1992) have labeled a "middle" age cohort of AA membership (age 33-45). In the present study, the average age was 45 for all AA participants, both male and female. In a survey of 229 AA members conducted by Emener and Dickman (1992) the average age of those surveyed was 40 (males= 42, females= 38). The 1992 triennial membership survey, conducted by the General Services Office of AA, found the average age of AA members to be 42 (AA, 1993). The slightly older make-up of the sample is reasonably attributed to two factors: 1) the recruitment of

AA members at an addictions conference where a majority of the subject pool were established professionals and therefore older, and 2) the dependent variable criteria "length of sobriety" and "substantial AA involvement" would tend to select out individuals who have been involved in AA for an extended period of time, and therefore might be expected to be somewhat older.

In the case of Rational Recovery (RR) subjects, the mean age of subjects was 44. According to data compiled by researchers at Massachusetts General Hospital and Harvard Medical School on RR between 1990 and 1992, the average age of the 223 respondents to the questionnaire in the back of The Small Book was 45. In a study conducted by Galanter, Egelko and Edwards (1993) of 433 RR members, a mean age of 45.1 was found. These findings indicate that in terms of age, the RR subjects in this present study were in line with prior research findings. (No separate means were provided for females v. males in the above cited studies).

Gender and Ethnicity

Past surveys of AA members have indicated that about 35% of AA membership is female and 65% male (AA, 1993). In the present study, the gender ratio was evenly balanced, with 17 females and 16 male AA subjects participating. The higher female proportion in this study may be attributed to the addictions conference setting of AA subject recruitment,

where it is supposed a greater number of conferees may have been female.

In the case of RR subjects, the sample was 91.3% male (21 of 23 subjects). The Massachusetts General Hospital study reported that 74% of their RR respondents were male, and Galanter et al., (1993) reported that 72% of their subjects were male, findings comparable to typical gender make-up in AA. It is not clear why the RR sample in this study had such a high proportion of males. This may be attributable to the existence of other alternatives to AA in the San Diego area that are specifically for women, such as Women for Sobriety, which may compete with RR for female members.

In terms of ethnicity, subjects in both AA and RR groups were 100% caucasian. This reinforces past research findings that AA is predominantly caucasian in racial make-up. For example, Emener and Dickman (1993) found that 93.9% of their AA sample was white. The AA subjects in this study thus appear to be representative of AA membership in terms of ethnicity and gender. Ethnic data from other studies of RR membership is not available.

Education

Compared to other surveys of AA demographics, the AA sample in this study was better educated. Emener and Dickman (1992) reported that only 32.6% of their general

survey of AA members in southern Florida had a college degree or more education. In the present study about 81.9% of AA subjects reported a college degree or more education. This is most likely explained by the addictions conference subject pool for AA participants, where the great majority of conferees were addiction professionals. An additional factor would be the specialized group which this study was singling out for research (successful AA members) who would be likely to have higher levels of education and income than the general AA membership.

The RR sample was less educated compared to the AA subjects. Only 43.4% of RR subjects reported college degrees or beyond. This difference is attributable to the addictions conference origin of most of the AA subjects. In comparison to other data on RR, this sample appears comparable. About 81% of RR subjects in Galanter et al (1993) had attended college. If college attenders are added to college graduates in this present study, a comparable figure of 82.6% is obtained. This indicates that the educational level of the RR sample was in line with norms found in other studies.

Current Marital Status

A higher percentage of AA subjects (52.9%) were married/living with someone than RR subjects (40.9%). The RR average in this regard is close to findings by other

surveys of RR membership, but the AA percentage is noticeably higher than that reported in the literature (Galanter et al., 1993; Emener & Dickman, 1992). The larger number of married AA subjects may reflect greater social stability due to higher socio-economic status.

Current Employment

The percentage of AA subjects who reported being employed full time (82.4%) was significantly higher than the percentage of RR subjects (50%). This percentage for AA subjects is also high compared to other surveys of AA membership. For example, Emener and Dickman (1992) found that about 59.5% of their Florida AA sample was employed full time. This is probably attributable to the source of AA subjects in the study, most of whom were attending a conference related to their employment. Galanter et al., (1993) found that about 60% of RR members surveyed were employed full time. The slightly lower employment rate for the RR sample in this study (50%) may be a reflection of poor economic conditions in the San Diego, (a key source for RR participants), due to defense spending cut backs in southern California.

Gross Income

About 85.3% of AA subjects had incomes above $20,000 per year. This is considerably higher than the 43% figure found by other researchers (Emener & Dickman, 1992). It is

explained by the addiction conference source of the AA sample, and the selection of successful AA members (versus general AA membership) in this study.

In the case of RR subjects, about 68% reported incomes of above $20,000 per year. No comparative statistics are available for RR subjects.

Other Comments

The sample used in the AA portion of the study had some demographic differences from the RR sample (e.g., higher income and education levels). The question could be raised whether or not these modest differences could have skewed the study results. Prior research on the effect of socio-economic status (SES) on locus of control has shown that individuals with higher incomes and education might be expected to be more internal in orientation, due to the additional resources and choices at their disposal (Butts & Chotlos, 1973). The modest educational and economic differences between the AA and RR samples therefore reinforces the already significant finding that successful AA subjects were found to be more external than successful RR members, inspite of their higher SES.

Alcoholism Recovery and Spirituality Backgrounds

In the first portion of this section, study data about the relationship between onset of sobriety and group affiliation are discussed. The second portion of this

section will discuss the implications of observed changes between childhood and current spiritual group affiliations among subjects.

Onset of Sobriety and Group Affiliation

Both groups of subjects indicated a significant positive correlation between group affiliation and initiation of sobriety, implying that group affiliation had a positive connection with sobriety ($r=.94$, $p<.001$ for AA subjects; $r=.50$, $p<.01$ for RR subjects). In the case of RR subjects, however, a larger percentage were already sober prior to attending RR, compared to AA subjects, who more commonly used AA to initiate sobriety. This suggests that a sizable number of successful RR subjects were attracted to RR for help with relapse prevention after having become sober through other means.

Several reasons may be offered to explain this difference. One explanation may be that the practices and structure of AA may be helpful in initiating sobriety, but for some individuals these same practices and structures become less helpful as sobriety progresses, causing them to seek out alternative methods of relapse prevention such as RR. It is conceivable that individuals who are highly motivated to deal with their drinking problems, but have strong beliefs that conflict with AA philosophy, may initially set aside their differences in order to get help.

After becoming sober, these philosophic differences may resurface, causing a great deal of frustration and cognitive dissonance. In line with this interpretation, Willis, Gastfriend, and Meyer (1993) found that 89% of RR members responding to the questionnaire included in the back of The Small Book, had attended AA prior to involvement in RR. Willis et al., (1993) also found that the five most often cited reasons for leaving AA were objections to the emphasis on spirituality (51%), feelings that AA couldn't help (18%), finding that AA was too unscientific or irrational (17%), not "fitting in" socially (16%), and finding AA meetings to be too boring, depressing or emotional (15%).

A further reason that may explain why more persons in the study became sober through AA than RR, is that individuals initially seeking help for drinking problems are more likely to be referred to AA than RR, due to the greater number of AA meetings and the greater influence of AA in the treatment community. This means that more persons who are in the early, non-sober stages of recovery attend AA, thus increasing the opportunity for AA to be influential in bringing them to sobriety.

The stage model of the therapeutic change process developed by Prochaska and DiClemente (1986), adapted by Miller (1989) for the alcohol recovery process, and later applied to addictive behaviors in general by Prochaska,

DiClemente, & Norcross (1992), helps clarify how the constituencies of AA and RR may differ in regards to stages of recovery and initiation of sobriety. This model describes the change process for individuals seeking help for problem drinking.

In the Precontemplation stage, a person is not considering change and may have little awareness that he/she even has a drinking problem. In the Contemplation stage, a person is aware that he/she might have a drinking problem, but remains torn and indecisive about changing. The Determination stage is the point at which the individual decides the status quo is no longer acceptable, and decides to stop drinking. In the Action stage, the person chooses a specific method to stop drinking and acts on it. During the Maintenance stage, the gains of sobriety are maintained as the individual works on "staying stopped". The Relapse stage is the point at which the individual drinks again and either loses his/her prior gains and reverts to one of the pre-sobriety stages, or shakes off the relapse and returns to the sobriety Maintenance stage (Miller, 1989).

AA, due to it's size and influence, probably receives the vast majority of referrals of persons in the Precontemplation, Contemplation, and Determination stages of recovery. RR on the other hand, probably receives more referrals of persons who are in the later stages of change

(Action, Maintenance, and Relapse stages), who have already tried AA but are dissatisfied. As RR grows in size and acceptance, it may be expected that the number of problem drinkers referred to RR in the early stages of change will increase, resulting in a stronger correlation between initiation of sobriety and RR affiliation.

Changes in Spiritual Group Affiliation

Subjects in both AA and RR indicated a major shift away from organized spiritual groups, such as the Catholic church, which in childhood was the most common spiritual group (35.3% for AA subjects, 30.4% for RR subjects). Current affiliation with the Catholic church declined dramatically to 17.6% for AA subjects and 8.7% for RR subjects. Most other denominations also declined in affiliation, with the exception of Unitarian and Native American groups who experienced modest increases.

Another trend revealed by the data was the growth of the "no religion" as the dominant current spiritual affiliation of both groups (32.4% of AA subjects, 39.1% of RR subjects). In addition, ten subjects failed to complete the question about current spiritual affiliation, (versus only one for the childhood spiritual group question) possibly indicating by their silence also a shift towards "no religion". When reporting childhood group affiliation, 97.1% of AA members and 87% of RR members were able to

identify a spiritual group they had been part of. When reporting current spiritual group affiliation, affiliation had declined to 52.8% of AA subjects and 39% of RR subjects.

This is particularly striking when one remembers the DIS scores of AA members were quite strong (AA mean= 43.3 out of a possible 50). This suggests that belief in divine intervention in AA populations is not strongly related to affiliation with traditional spiritual groups, and that questions about church attendance and membership in researching the role of spirituality in AA may not be related to the existence of spiritual beliefs.

Finally, it is apparent that AA subjects are currently more involved in spiritual groups (52.8%) than RR subjects (39%), which given RR's rejection of spirituality, is not surprising. It is noteworthy, however, that the data reveals RR is not composed entirely of atheists and agnostics: four out of every ten successful RR subjects had a current spiritual affiliation. This finding suggests that some individuals who have an active spiritual life may be successful in RR inspite of its agnostic bent, depending on the content of their spiritual beliefs. This bears out this study's premise that a measure of a specific spiritual variable (belief in divine intervention) would be superior to more general questions about spirituality as a predictor of successful group affiliation.

Characteristics of the Measured Variables

This section discusses the characteristics of the measured variables examined in the study: history of problem drinking, length of sobriety, level of involvement in AA, level of involvement in RR, locus of control, and belief in divine intervention.

History of Problem Drinking

The Michigan Alcoholism Screening Test (MAST) was used in the study to insure that all subjects had a history of severe drinking problems. Both the AA and RR averages on the MAST well exceeded the minimal cut-off score of 14 for probable alcoholism (AA mean=38, RR mean=34.5). There can be little question that all subjects in this study had a history of serious problem drinking.

Of further note is the relative closeness of the group means on the MAST. Past research on AA has suggested that it attracts those with more severe drinking problems (Emrick, 1989). Less is known about those using RR to achieve sobriety. Using the Alcohol Dependency Scale (ADS), Reinert (1992) reported that his RR subjects scored significantly lower on the ADS (RR mean =14.8) than his high involvement AA group (AA mean=26.3). As acknowledged by Reinert himself, this finding may be questionable due to the small number of RR subjects (n=10) included in his comparison group (Reinert, 1992). The high scores of the RR group on the MAST

indicates that RR also attracts and works for severe problem drinkers, a hitherto unreported finding.

Future studies of AA or RR should not judge their efficacy solely on its impact on the most severe alcoholics, however, since it is this group which is least likely to respond to any treatment (Glaser, 1993). By including a measure of problem drinking severity, researchers can sort out how problem severity affects successful group affiliation. More importantly, a measure of problem drinking severity verifies that research subjects have actually recovered from something, therefore making the notion of "treatment success" meaningful. As characteristics of successful AA and RR members are verified, AA's and RR's efficacy with individuals most likely to affiliate with them needs to be examined (Glaser, 1993).

Length of Sobriety

AA subjects in the study generally had greater mean length of sobriety (10 years) than RR subjects (2.8 years). Willis, Gastfriend, & Meyer (1993) found among sober RR respondents a mean length of sobriety of 2.4 years, a finding comparable to this study's. Reinert (1992) found that his "high involvement" AA group had a mean of 6.5 years of sobriety, compared to 1.4 years in his undifferentiated RR group. The greater length of sobriety for AA and RR subjects in this present study is probably attributable to

the use of a length of sobriety criterion as a condition for subject inclusion, and the fact that Reinert's RR sample was both small (n=10) and not divided into high/low involvement groups.

Future comparisons of length of sobriety in AA and RR members will probably continue to find AA members have significantly longer periods of sobriety for two reasons: First, RR's emergence as a recovery option is relatively recent (1986), compared to AA's (1935). This means that RR members are automatically at a disadvantage in comparisons of length of sobriety, since AA members length of sobriety has a possible range of 0-59 years, while RR members length of sobriety has a possible range of only 0-8 years. This was illustrated in the current study by the fact that the mean length of sobriety for AA members (10 years), was two years longer than RR has been in existence (8 years).

A second reason AA and RR members may be expected to differ in terms of lengths of sobriety is a methodological problem created by organizational differences relating to group involvement. AA encourages members to "keep coming back" and to use group involvement as a life-time strategy for relapse prevention.

For this reason, research on AA groups usually will find AA members present who have many years or even decades of sobriety. In contrast, RR actively discourages members

from life-time involvement in RR, and encourages members to depend upon themselves to prevent relapse (using RR cognitive tools), not group attendance. The result is that many individuals who have achieved sobriety through RR's teachings are no longer attending RR groups, and therefore not accessible to researchers. For these reasons researchers comparing AA and RR can be expected to find greater lengths of sobriety among AA members than RR members for some time to come.

Involvement in AA

The purpose of including an involvement measure for AA in this study was to establish that individuals included in the AA sample had been at least moderately involved in AA. The AA mean of 16.2 (out of a possible 21) on the Alcoholics Anonymous Involvement Scale (AAIS) indicates that all AA subjects in the study had extensive exposure to AA. This high mean on the AAIS validates the premise that the study's findings reflect characteristics of individuals who have been involved in AA.

The AAIS is a relatively new instrument, with limited data available on its psychometric characteristics (Reinert, 1992; Reinert, Allen, Fenzel, & Estadt, 1993; Reinert, Estadt, Fenzel, Allen, & Gilroy, 1994). This study contributed to the validation of the AAIS as a measurement of AA involvement. A correlation of .59 ($p<.001$) was

obtained between AAIS scores and a likert item measuring degree of involvement in AA, indicating strong construct validity (Anastasi, 1988). Discriminant validity of the AAIS was indicated by the low mean (6.2) found in the RR sample (Anastasi,1988). The AAIS appears to be a useful measure of involvement in AA for research on Alcoholics Anonymous.

Involvement in RR

The purpose of including an RR involvement measure in this study was to establish that individuals included in the RR sample had been at least moderately involved in RR. The RR mean of 10.2 (out of a possible 12) on the Rational Recovery Involvement Scale (RRIS) indicates that all RR subjects in the study had extensive exposure to RR. This high mean on the RRIS validates the premise that the study's findings reflect characteristics of individuals who have been involved in RR.

The RRIS is a new instrument specifically developed for this study. The content validity of the RRIS was established by a panel of experts which included the founder of RR, and the president of the board of the Rational Recovery Self-help Network (RRSN) among others. In the study, a correlation of .48 ($p<.01$) was found between RRIS scores and a question pertaining to degree of involvement in RR, further verifying it's construct validity. The discriminant validity of the instrument was demonstrated by the extremely

low mean (0) on the RRIS by the AA sample (Anastasi, 1988). The RRIS appears to have promise as a measure of involvement in future studies of Rational Recovery. No data was gathered in this study on the reliability of the RRIS.

Locus of Control

As already discussed in chapter three, alcoholism researchers have expressed skepticism about the usefulness of a generalized measure of locus of control, such as the Rotter I-E used in this study, to predict drinking behavior (Johnson et al., 1991; Rohsenow & O'Leary, 1978). According to LOC theory, situation specific measures of locus of control are thought to have greater predictive power than global measures (Lefcourt, 1982). The more novel a situation, the more likely an individual will depend on global expectations to interpret it. When dealing with a familiar experience (such as drinking behavior) a specific set of expectations may come into play. By using a situation specific measure of locus of control, therefore, prediction power may be improved. In line with this reasoning several drinking specific measures have been developed to measure LOC beliefs about drinking behaviors, most notably the Drinking Related I-E (DRIE) and the Alcoholic Responsibility Scale (ARS) (Johnson, et al., 1991).

A drinking specific measure of LOC was not used in this study for reasons already cited in the review of literature.

The finding of a significant difference in LOC orientation between AA and RR members using a generalized LOC measure seems to affirm this decision.

This point may hold important implications for research on LOC as a matching criteria, in that the compatibility of problem drinkers with AA or RR may rest more with the individual's global control orientation than his/her drinking specific expectations.If this is the case, then generalized LOC measures will be better predictors of successful affiliation than drinking specific measures.

Belief in Divine Intervention

The Divine Intervention Scale (DIS) was developed for this study, due to the inadequacy of other measures of spirituality for the study of the construct of divine intervention. The finding that successful AA members and RR members differed significantly ($p<.001$) in their beliefs about divine intervention is important, as it suggests that a hitherto unexamined spiritual variable with promise for treatment matching has been found.

The DIS appears to have reasonable construct validity, based on the inter-rater reliability of the expert panel who helped in it's development, and concurrent validity was demonstrated by the high correlation between DIS scores and a separate likert question on degree of importance of spirituality ($r= .73$, $p<.001$) (Anastasi, 1988). Content

validity is less clear. It is not known at this time to what extent the content of the DIS adequately samples the domain of belief in divine intervention.

Inter-item reliability was strongly indicated for the DIS, with questions within all five factors showing a correlation of $p<.001$.

Test-retest reliability remains to be established in future studies.

Main Research Findings

This section discusses and interprets the results of the three main hypotheses of the study.

Locus of Control and Successful Group Affiliation

Hypothesis 1: Successful members of AA will be significantly in terms of locus of control than successful members of Rational Recovery.

This study represents the first attempt to compare the locus of control construct between AA and RR members. As predicted in hypothesis 1, a significant relationship was found ($p<.016$) between locus of control orientation and successful affiliation with AA or RR. Subjects in the AA group were found to be significantly more external compared to the subjects in the RR group. This lends support to the notion that locus of control may be a useful matching criteria for referral of problem drinkers to the most appropriate sobriety maintenance group. It suggests that

individuals who are externally oriented may be more successful in AA, while individuals who are internally oriented may be more successful in RR. It also validates the use of a generalized locus of control measure in studying AA and RR.

Belief in Divine Intervention and Successful Group affiliation

Hypothesis 2: Successful members of AA will have significantly stronger beliefs in divine intervention than successful members of RR.

William Miller (1990) has lamented the lack of research on spirituality and alcoholism: "Biological, psychological, and social factors are all well represented in modern scientific theory and research on addictions, but the spiritual dimension has been curiously ignored" (p.3). This study sought to contribute to this neglected area of research by exploring a specific aspect of spirituality and addiction: the role of belief in divine intervention in recovery group affiliation.

A significant relationship ($p<.001$) was found between belief in divine intervention and successful affiliation in AA or RR. As hypothesized, subjects in the AA group were found to have much stronger beliefs in divine intervention than members of RR. This suggests that a measure of divine intervention may be a useful tool in making referrals for

problem drinkers to the most appropriate sobriety maintenance group. Individuals with a weak belief in divine intervention may be expected to be more successful in RR, while individuals with strong beliefs in divine intervention may be expected to be more successful in AA.

Theoretical Explanations for the Findings of Hypotheses 1 and 2

According to the literature in group psychology and interpersonal communication, human beings tend to be attracted to, and more easily influenced, by those with whom they share common characteristics (Ogborne & Glaser, 1981; Cialdini, 1984). Thus, the notion that a particular kind of group (Alcoholics Anonymous or Rational Recovery) would have a particular set of characteristics (e.g., strong belief in divine intervention v. less belief in divine intervention, greater externality v. greater internality) seems reasonable. By referring an alcohol abuser to a group that best matches some of his/her vital characteristics, it may be possible to increase motivation for treatment and therefore improve group affiliation and treatment effectiveness (Miller, 1985).

One theoretical framework for understanding this relationship between locus of control, belief in divine intervention and successful involvement in AA and RR is Leon Festinger's cognitive dissonance theory (Festinger, Riecken,

& Schacter, 1956; Festinger, 1957; Triandis, 1971; O'Keefe, 1990).

Festinger theorized that individuals seek a kind of cognitive equilibrium when processing information. The more congruent or consonant new information is with an individual's established belief system, the more easily accepted and assimilated it will be. On the other hand, when information is received that is incongruent with one's belief system, cognitive dissonance is created, an uncomfortable state that creates anxiety and emotional distress, (Festinger, 1957). When experiencing cognitive dissonance, an individual has several choices: either change his/her established belief system to assimilate the counter-attitudinal information, or retain the established belief system and reject or refute the new information (Festinger, 1957; O'Keefe, 1990). Another option is that an individual may avoid the source of the dissonance in order to maintain cognitive consistancy. Leon Festinger writes: " When dissonance is present, in addition to trying to reduce it, the person will actively avoid situations and information which would likely increase the dissonance" (Festinger, 1957, p.3).

An additional factor in dissonance processes is the magnitude of the dissonance:

> the magnitude of the dissonance will be a function of the importance of the [cognitive] elements. The more these [cognitive] elements are important to, or valued by, the person, the greater will be the magnitude of a dissonant relationship between them. (Festinger, 1957, p. 16)

If the conflicting cognitions concern strongly held beliefs, then cognitive dissonance effects can be expected to be significant.

Seen from an addictions perspective, locus of control expectancies and beliefs in divine intervention are part of the established belief systems of individuals seeking help for problem drinking. Spiritual beliefs in particular are often strongly held cognitive systems. Treatment philosophies that are more congruent with an individual's established LOC expectations and spiritual beliefs would be expected to create less cognitive dissonance and therefore promote assimilation of information and greater treatment compliance. Treatment philosophies that are less congruent with an individual's established beliefs would be expected to create more cognitive dissonance, resulting in more anxiety, resistance and poor treatment outcomes.

One of the most vexing problems in addiction treatment today is the high drop-out rate from AA (Miller & McCrady, 1993). Cognitive dissonance theory would suggest that one

reason for AA's high drop-out rate is that AA's treatment philosophy is not compatible with the established belief systems of many who are referred to it. The resulting cognitive dissonance may have a variety of outcomes. Many will simply drop-out of AA in order to maintain the integrity of their own belief system. Some will resolve the incongruence by altering their established beliefs and "converting" to the spiritual model of AA. Others may "grit their teeth" and unhappily live with the dissonance in order to gain some benefit from AA, eventually seeking a recovery approach more congruent with their beliefs such as Women for Sobriety, or RR.

Applied specifically to the focus of this study (and assuming all other factors being equal), problem drinkers with high potential for successful involvement in AA will be those whose LOC orientation and beliefs in divine intervention are most congruent with AA's philosophy of recovery. Since AA emphasizes such concepts as reliance on group involvement for sobriety, and spirituality, the results of this study suggest that the best candidates for AA will be external in orientation and have strong beliefs in divine intervention.

Problem drinkers with high potential for successful involvement in RR, (all other factors being equal), will be those whose LOC orientation and beliefs in divine

intervention are most congruent with RR's philosophy of recovery. Since RR emphasizes such concepts as self-reliance for sobriety, and rejects the need for a spiritual dimension in recovery, problem drinkers who have a more internal orientation and little belief in divine intervention will be more likely to maintain sobriety through RR than AA, because their established beliefs are more congruent.

In the late 1980's McCrady and Irvine (1989) wrote:

> If it were possible to determine what characteristics differentiated potential AA affiliates from non-affiliates, clinicians would be better able to match patients to the most appropriate treatment, thereby increasing their chances of successful recovery. (p. 154)

Some researchers, however, have expressed skepticism about the possibility of even finding predictable patterns of AA affiliation (Emrick, 1987). The findings of this study, understood in the framework of Festinger's cognitive dissonance theory, suggest that locus of control and belief in divine intervention are characteristics worth further investigation as matching criteria for improved affiliation.

Relationship of Belief in Divine Intervention and Locus of Control

Hypothesis 3: In all subjects, strong beliefs in divine intervention will positively correlate with a more external locus of control.

The hypothesis that a correlation would exist between strong belief in divine intervention and an external locus of control was not supported by study results. Although this finding negated a formal hypothesis of the study, it is of considerable heuristic value. This finding suggests that locus of control and belief in divine intervention are independent constructs.

In a 1992 study of 161 older adults using another instrument, the Spiritual Perspectives Scale (SPS), Barbara Greer also found no correlation between LOC scores and the importance of spirituality (Greer, 1992). Although not working with an alcoholic population and using a measure that is considerably different from the Divine Intervention Scale, her findings illustrate that spirituality may not have a necessary relationship with locus of control (Furnham, 1982).

This is conceptually significant in this current study, because it contradicts the common assumption that dependence on a higher power will manifest itself as an external locus

of control in members of Alcoholics Anonymous. Bridgman and McQueen (1987) represent a typical comment:

> This surrender [to a higher power] represents a shift in locus of control orientation from internal to external. . . . This development of an external LOC by surrendering of the will to a Higher Power is the principle mechanism behind most of the success of AA. (p.128)

The lack of correlation between locus of control and belief in divine intervention, (a construct arguably similar to dependence on a Higher Power), casts doubt on this assumption. This study suggests that the impetus towards externality among successful AA members may come from <u>non-spiritual</u> factors in AA ideology, such as the disease model of alcoholism, the emphasis on loss of control and powerlessness, stress on adherence to the 12 steps, or insistence on a lifetime of AA attendance.

Recommendations for Future Research

Based on the findings of this study, the following research recommendations can be made:

1. The results of this study need to be replicated with larger numbers of subjects in both AA and RR. Both locus of control and belief show promise as matching criteria. If possible, AA groups should be used as the source for AA subjects in order to eliminate the questions raised by the

addictions conference source for the AA sample in this study. There has been too much attention given to who attends AA, and not enough given to who it works for. The use of a clearly operationalized definition of "successful involvement" in AA and RR, similar to the one employed in this study, therefore is recommended.

2. This study looked at the characteristics of individuals who had already affiliated with either AA or RR. Research needs to be done on locus of control expectations and belief in divine intervention in pre-affiliates of AA and RR, in order to determine how affiliation affects locus of control and spiritual beliefs, and confirm the utility of these factors as matching criteria. In such experiments the constructs of divine intervention and locus of control would operate as moderator variables that predict successful group affiliation. William Miller (1990) describes a moderator or predictor variable as

> one on which the client's status alters the relationship between dependent and independent variables. In addictions research this is now discussed in terms of client/treatment matching. The relative effectiveness of two different treatments for alcoholism, for example, may depend upon where a client stands along a predictor dimension. (p.8)

Experimental research needs to be done using locus of control and belief in divine intervention as predictor variables of successful AA and RR affiliation.

3. The findings of this study that link externality to successful AA membership may indicate that certain other characteristics related to externality may also be useful for matching purposes. For example, if externality has a connection to a more social orientation, then research on perceived needs for social interaction among successful AA members and RR members might explore sociability in combination with locus of control as matching factors. In summing up a number of studies concerning influence and locus of control, Lefcourt (1982) has stated:

> The overall evidence, then, consistently suggests that externals are more attentive, positively responsive, and facilitated in their task performances by the presence of social cues. Internals, on the other hand, seem to be more resistant to social influences. (p.54)

Ogborne (1989) cites a 1984 study by Hurlburt, Gode and Fugua, which found that sober AA members scored high on extroversion measures, a sociability related factor. A possible hypothesis might be that successful AA affiliates would have greater social needs and would be more external than successful RR affiliates. Such a study would also

provide evidence for convergent validity of the generalized locus of control construct in AA and RR members (Anastasi, 1988).

4. The majority of both AA and RR subjects in the study initiated sobriety after group affiliation. A sizable percentage of RR members, however, were sober prior to their RR affiliation. This may indicate that RR is especially attractive to those looking for relapse prevention. Future research would do well to monitor this variable, to see if this difference between successful RR members and successful AA members remains constant over time, or shifts as RR becomes more widely accepted and utilized by the treatment community.

5. Many researchers have assumed that AA members will tend to be externally oriented because of AA's emphasis on surrender to a Higher Power. This assumption was called into question by the lack of correlation between locus of control and belief in divine intervention found by this study. This suggests that AA's spirituality may not be the main influence in promoting a more external LOC orientation. Future studies of LOC orientation among AA members need to investigate the role of non-theological aspects of AA ideology conducive to a more external locus of control. Possible factors that could be examined for their impact on LOC are: the disease model, the necessity of labeling

oneself as an "alcoholic", the stress on powerlessness and loss of control, insistence on adherence to the 12 steps as the only path to sobriety, or insistence on a lifetime of AA involvement in order to remain sober.

6. The use of multidimensional measures of locus of control, such as Levenson's I, P, C Scales (1981) in future research on AA and RR populations, may help distinguish which aspect of locus of control is strongest in AA or RR (eg. personal control, powerful others, or chance). This also could help clarify the relationship between LOC and the factors in the Divine Intervention Scale.

7. The Rational Recovery Involvement Scale (RRIS) has shown promise in this study as a measure of involvement in RR. Future studies of RR would be greatly enhanced by the development of a reliable and valid measure of RR involvement. Further work needs to be done to establish the reliability of the instrument, and evaluate it's psychometric properties.

8. The Divine Intervention Scale (DIS) proved itself a useful measure of a spiritual variable in the study. Further scale development and the confirmation of it's reliability could help establish the DIS as an important research tool in the study of spirituality and addiction.

Conclusions

The following conclusions were found in this study:

1. Locus of control was found to be significantly differentiated in successful AA members and successful RR members ($p<.016$). AA subjects were more externally oriented, RR subjects were more internally oriented. Locus of control may therefore be a useful matching criteria for problem drinkers.

2. The Rotter-IE was successfully used to differentiate AA and RR subjects on the LOC dimension. This indicates that generalized measures of locus of control may be useful in studying control orientation in AA and RR groups.

3. Belief in divine intervention was found to be significantly differentiated in successful AA members and RR members. AA members had significantly stronger beliefs in divine intervention than RR members ($p<.001$). Belief in divine intervention was therefore found to be a valuable new spiritual variable that could be used for treatment matching.

4. No significant correlation was found between locus of control and belief in divine intervention among AA subjects in the study. These two constructs appear to reflect two separate domains in AA members. This indicates the externality prevalent in AA subjects is not the result

of dependence on a higher power as has been assumed in the past.

In closing, Ogborne (1989) made the following comment on the importance of respecting individual differences among individuals seeking help for their drinking problems:

> People who come to health professionals with alcohol-related problems are extremely heterogeneous . . . it is unrealistic to expect that [all] alcohol abusers can be treated by any single method. Rather such help as is to be provided must be geared to the needs and circumstances of individuals. (p. 62)

It is hoped that the findings of this study may contribute to that end.

APPENDIX A

PERMISSION TO USE THE AAIS

Duane F. Reinert, Ph.D.
745 Tennesse Street
Lawrence, KS 66044

January 10, 1994

Mr. John Auxier
401 S. Marango Lane
Tuscon, AZ 85748

Dear John,

In response to your request, I am pleased to give you permission to use the "AA Involvement Scale."

Wishing you success in your dissertation research.

Sincerely,

Duane F. Reinert, Ph.D.

APPENDIX B

HUMAN SUBJECTS APPROVAL

Human Subjects Committee

THE UNIVERSITY OF
ARIZONA
HEALTH SCIENCES CENTER

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February 23, 1994

John W. Auxier, M.A., M.Div.
c/o Amos Sales, Ph.D.
Department of Speech Education/Rehabilitation
Education
Main Campus

RE: A PRELUDE TO MATCHING: LOCUS OF CONTROL AND SPIRITUALITY AMONG MEMBERS OF ALCOHOLICS ANONYMOUS AND RATIONAL RECOVERY

Dear Mr. Auxier:

We have received documents concerning your above cited project. Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.101(b) (2) exempt this type of research from review by our Committee.

Thank you for informing us of your work. If you have any questions concerning the above, please contact this office.

Sincerely yours,

WF Denny

William F. Denny, M.D.
Chairman
Human Subjects Committee

WFD:js

cc: Departmental/College Review Committee

APPENDIX C

COVER LETTER TO STUDY PARTICIPANTS

ABOUT THE STUDY...

Dear Participant:

The study you are about to participate in is aimed at helping people better appreciate the role of spirituality in recovery, and how different persons in recovery see the world in different ways. It is hoped that the results will give alcoholism counselors new insight into how to help their clients more effectively.

ALL ANSWERS ARE TO BE ANONYMOUS-NO NAMES PLEASE!!

This study is being conducted by John Auxier, a Doctoral candidate in the department of Special Education and Rehabilitation, at the University of Arizona. This project has been approved by the Human Subjects Committee of the University of Arizona, and has been classified as posing minimal risk to participants. If you have any questions, you are free to call the University of Arizona's Human Subjects committee at (602) 626-6721.

Please remember that your participation is entirely voluntary, and ANONYMOUS. If at any time you wish to stop filling out the materials, you are free to do so. (However, the more complete the information you provide, the more helpful your participation will be!)

The materials will take about 20-25 minutes to complete. Thanks for your kind participation.

P.S.

If you would like to receive a copy of the study results, please write your first name and address on a <u>separate</u> piece of paper (or detach this sheet from your packet and use it), and I will be happy to send you a summary.

APPENDIX D

DEMOGRAPHIC QUESTIONAIRE

Demographic Data

Please check or write in the appropriate answer.

1. Your current age: _____years.

2. Sex: 1.Female___ 2.Male____

3. Ethnicity
   ___ 1. White/Caucasian
   ___ 2. Black/African-American
   ___ 3. Chicano/Mexican-American
   ___ 4. Latino/Other Latin-American
   ___ 5. Asian
   ___ 6. Other, please specify:_____

4. Education: (check highest level achieved)
   ___ 1. Grade 8 or less
   ___ 2. Some high school
   ___ 3. High school graduate
   ___ 4. Vocational or some college
   ___ 5. College graduate Major:_____
   ___ 6. College past BA or BS, no degree
   ___ 7. Masters or doctorate Major:_____

5. Current Marital Status
   ___ 1. Never married
   ___ 2. Married/living with someone as married
   ___ 3. Separated
   ___ 4. Divorced
   ___ 5. Widowed
   ___ 6. Other, please specify:_____

6. Current employment: (check one)
   ___ 1. Employed full-time Occupation:_____
   ___ 2. Employed part-time Occupation:_____
   ___ 3. Housewife, full-time
   ___ 4. Full-time student
   ___ 5. Unemployed
   ___ 6. Retired. Former occupation:_____
   ___ 7. Other, please specify: _____

7. Gross family income: (last year)
   ___ 1. $2,500 or under
   ___ 2. $2,501 to 12,000
   ___ 3. $12,001 to 20,000
   ___ 4. $20,001 to 25,000
   ___ 5. $25,001 to 35,000
   ___ 6. $35,001 to 45,000
   ___ 7. $45,001 to 55,000
   ___ 8. over $55,000

APPENDIX E

ROTTER I-E SCALE

Out of each pair of statements select the one you agree with the most and mark your choice.

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 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/she 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. a. Heredity plays the major role in determining one's personality.
   b. It is one's experiences in life which determine what they are 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 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 upon ability: luck has little or nothing to do with it.

17. a. As far as world affairs ar 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 can'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 his/her 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 upon 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 enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave they 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.

30. My race is:
    a. white b. native american c. asian d. other

APPENDIX F

MICHIGAN ALCOHOLISM SCREENING TEST

(Revised for the study)

Michigan Alcoholism Screening Test

Please circle either YES or NO for each item as it applies to you.

yes no 1. Do you feel you are a normal drinker?

yes no 2. Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening before?

yes no 3. Has your spouse (or your parents) ever worried or complained about your drinking?

yes no 4. Can you stop drinking without a struggle after one or two drinks?

yes no 5. Have you ever felt bad about your drinking?

yes no 6. Do friends or relatives think you are a normal drinker?

yes no 7. Have you ever tried to limit your drinking to certain times of the day or the certain places?

yes no 8. Are you always able to stop drinking when you want to?

yes no 9. Have you ever attended a meeting of Alcoholics Anonymous (AA)?

yes no 10. Have you gotten into fights when drinking?

yes no 11. Has drinking ever created problems with you and your spouse?

yes no 12. Has your spouse (or family member) ever gone to anyone for help about your drinking?

yes no 13. Have you ever lost friends or girlfriends/ boyfriends because of drinking?

yes no 14. Have you ever gotten into trouble at work because of drinking?

yes no 15. Have you ever lost a job because of drinking?

yes no 16. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?

yes no 17. Have you ever drank before noon?

yes no 18. Have you ever been told you have liver trouble? Cirrhosis?

yes no 19. Have you ever had delirium tremens (DTs), severe shaking, heard voices, or seen things that weren't there after heavy drinking?

yes no 20. Have you ever gone to anyone for help about your drinking?

yes no 21. Have you ever been in a hospital because of drinking?

yes no 22. Have you ever been a patient in a psychiatric hospital or one in a psychiatric ward of a general hospital where drinking was part of the problem?

yes no 23. Have you ever seen a psychiatrist or been at a mental health clinic or gone to a doctor, social worker, or clergyperson for help with an emotional problem in which drinking played a part?

yes no 24. Have you ever been arrested, even for a few hours, because of drunk behavior?

yes no 25. Have you ever been arrested for drunk driving after drinking?

APPENDIX G

ALCOHOLISM RECOVERY HISTORY QUESTIONAIRE

Alcoholism Recovery History

1. My drug of choice is alcohol.
   ___ yes ___no
   If no, what is your drug of choice?_____

2. This study defines sobriety as total abstinence from illegal drugs, and alcohol. Right now, how many MONTHS of continuous sobriety do you have? (circle one)

   1 or less 2 3 4 5 6 7 8 9 10

   11 12 13 14 15 16 17 18 19 20 21 22

   23 24

   If you currently have more than 24 months of continuous sobriety, how many years has it been since your last use of alcohol and/or illegal drugs? _____YEARS _____MONTHS

3. To what extent do you agree with the following statement:
   " I have been an involved member of Alcoholics Anonymous."

   Strongly disagree (CIRCLE A NUMBER) Strongly agree
   1 2 3 4 5 6 7

4. To what extent do you agree with the following statement:
   " I have been an involved member of Rational Recovery."

   Strongly disagree (CIRCLE A NUMBER) Strongly agree
   1 2 3 4 5 6 7

5. The date of my first attendance at an AA meeting was:
   ___/_____/____ ___ Does not apply
   day month year

6. The date of my first attendance at an RR meeting was:
   ___/_____/____ ___ Does not apply
   day month year

7. The date of my last drink or use of illegal drugs was:
   Day:_____ Month:_____ Year:_____

8. Circle the type of alcohol-related self-help meeting(s) you currently attend:
   AA RR Other, specify_____

9. Please circle the group(s) you consider yourself to be a member of:
   AA RR Both groups Neither group

10. How many times have you gone through an inpatient treatment program for problem drinking? _____

11. Over the past 3 months, the average number of meetings I have attended per week was AA: _____ RR:____

APPENDIX H

ALCOHOLICS ANONYMOUS INVOLVEMENT SCALE

AA Involvement Scale
If you have ever attended AA, even 1 time,
Check any of the following statements that apply to you.

____ 1. I have reached out for help from another member of the group.

____ 2. I have recruited another person to the group which I attend.

____ 3. I am currently a sponsor for another person.

____ 4. I have held a leadership position in my local or regional group.

____ 5. I have been in charge of leading an AA meeting.

____ 6. I asked a person to be my sponsor and that person agreed to be my sponsor.

____ 7. I participate in the discussions at group meetings.

____ 8. I have made a list of the people I have harmed.

____ 9. I have made my peace with the people I harmed.

____10. I have provided another member transportation to a meeting.

____11. I usually come early to a meeting, or stay late, to socialize.

____12. Nearly every day, I spend some time in either meditation or prayer.

____13. I have sought advice from my sponsor.

____14. I attend one group frequently enough that others would say I am a member of that group.

____15. I have had more than one AA sponsor.

____16. I have spent some time helping alcoholics, outside the context of group meetings.

____17. I have written down a list of my faults and defects.

____18. I have allowed at least one other person to get to know me well, and have admitted to that person my strengths, weaknesses and mistakes.

19. In the past 30 days, the number of AA meetings I have attended is _____.

APPENDIX I

RATIONAL RECOVERY INVOLVEMENT SCALE

Rational Recovery Involvement Scale (RRIS)

If you have never attended an RR meeting check here ___,
AND SKIP THIS PAGE.

If you have ever attended RR, even 1 time,
Check (X) any of the following statements that apply to you.

____ 1. I own a copy of The Small Book.

____ 2. I have talked about my irrational beliefs at an RR meeting.

____ 3. I have run an RR meeting.

____ 4. I use the BEAST concept regularly to help me remain sober.

____ 5. I have read The Small Book.

____ 6. I regard myself as a member of RR.

____ 7. I have given RR literature to interested friends/relatives.

____ 8. I have recruited another person to the group I attend.

___ 9. I have written down at least three of my irrational beliefs and I know how to refute them.

____10. RR has given me the most helpful recovery tools I have found.

____11. I have used the sobriety spreadsheet, outside of RR meetings, to help me stop drinking.

____12. I have applied for certification as an RR coordinator, RR counselor, RR specialist, or RR therapist.

____13. In the past 30 days the number of RR meetings I have attended is:_____.

APPENDIX J

DIVINE INTERVENTION SCALE

DIVINE INTERVENTION SCALE (DIS)

Please place an "X" under the word(s) that most accurately represents your reaction to the following statements. Please avoid marking "don't know" unless absolutely necessary.

EXAMPLE: "Most things in life happen to us for a purpose".

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

****

1. God or some Higher Power is very concerned about people's everyday problems.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

2. Miracles happen only in stories, not in real life.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

3. "I believe that God or some Higher Power hears and answers prayer."

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

4. It is extremely unlikely that God or some Higher Power would ever intervene in human affairs.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

5. In all probability, God or some kind of Higher Power exists.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

6. Neither God or some Higher Power is really interested in people's everyday problems.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

7. Miracles still happen today.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

8. Appeals to God or some Higher Power are basically a waste of time.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

9. God or some kind of Higher Power often intervenes in human affairs.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

10. It is unlikely that God or some Higher Power exists.

disagree strongly	disagree	don't know	agree	agree strongly
I	I	I	I	I

APPENDIX K

SPIRITUALITY DEMOGRAPHICS QUESTIONAIRE

Spirituality Demographics

1. Prior to age 18, what spiritual group or denomination did you have the most involvement in? Please be as specific as possible, eg. Reformed Judaism, Southern Baptist, etc.:

_____

2. How often did you attend services at the above group or denomination?

___ 1. Rarely
___ 2. 1-4 times per year
___ 3. 1 time per month
___ 4. 1 time per week
___ 5. More than 1 time per week

3. Did the above group or denomination teach that all drinking of alcohol was a sin, except for religious ceremonies?

___ Yes ___ No ___ Unsure

4. Are you involved currently in the group or denomination of your childhood?

___ No ___ Yes

5. Which of the following best describes your current feelings about your childhood spiritual group or denomination?

___ 1. Very Negative
___ 2. Negative
___ 3. Neutral
___ 4. Positive
___ 5. Very Positive

6. Based on your answer to question 5, briefly state why you currently feel positive or negative towards your childhood spiritual group or denomination.

_____

_____

7. What spiritual group or denomination (apart from 12 step fellowships) are you currently most involved in? Please be as specific as possible, eg. Reformed Judaism, Southern Baptist, etc. (If you are most involved in a humanist or explicitly atheistic group please note that):

_____

8. How often do you attend services or meetings with your current spiritual group or denomination?

___ 1. Rarely
___ 2. 1-4 times per year
___ 3. 1 time per month
___ 4. 1 time per week
___ 5. More than 1 time per week

9. How involved are you in your current spiritual group or denomination? (check one):
   ___ 1. Not involved
   ___ 2. Little involved
   ___ 3. Somewhat involved
   ___ 4. Very involved
   ___ 5. Extremely involved

10. What spiritual leader/teacher (living or dead) do you most admire?_____

11. Please complete this sentence: "My current concept of 'God' or a 'Higher Power' can be best described by the following Name or phrase:
    _____".

12. Do you believe in God? (circle one):
    Yes No Agnostic

Please indicate what level of agreement you have with the following statements:

12. The Bible is the sole authority for spiritual truth.
    Disagree strongly Agree Strongly
    1 2 3 4 5

13. Reincarnation makes a lot of sense to me.
    Disagree strongly Agree Strongly
    1 2 3 4 5

14. Spirituality is an important part of my life.
    Disagree strongly Agree Strongly
    1 2 3 4 5

15. "I have sought help for drug or alcohol problems sometime in my life."
    Disagree strongly Agree Strongly
    1 2 3 4 5

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