

## ABSTRACT

Title of Dissertation: ADDICTION BELIEFS OF TREATMENT  
PROVIDERS: FACTORS EXPLAINING  
VARIANCE

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This study investigated factors accounting for variance in beliefs among addiction-treatment providers regarding the etiology of addiction ( $N=295$ ). A survey was mailed to members of three national treatment-provider organizations. The 18-item Addiction Belief Scale (ABS) assessed strength of belief in the disease versus free-will model of addiction ( $\alpha=.91$ ). Scores on an eight-item Spiritual Belief Scale assessing spiritual thinking based on Alcoholics Anonymous (AA) philosophy ( $\alpha=.92$ ), the Multidimensional Health Locus of Control scales, and demographic questions were used to predict scores on the ABS.

These variables together accounted for 62 percent of the variance in addiction beliefs, ( $p<.001$ ). Spiritual thinking explained 42 percent of the variance, ( $p<.001$ ).

The findings support the idea that spiritual thinking, health locus-of-control orientation, professional-group affiliation, gender, and the

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number of alcoholic drinks and/or mood-altering drugs consumed, are each significant in their ability to explain variance in addiction beliefs.

Treatment providers who believed in a metaphysical power that can influence personal experience, and those who attributed responsibility for their experience of health and illness to powerful others, believed in the disease model of addiction, as did females. Treatment providers not inclined to be spiritual thinkers, and not inclined to attribute responsibility for health and illness to powerful others, believed in the free-will model of addiction, as did males. The more drinks and/or drugs consumed per week, the more likely the treatment provider believed in the free-will model of addiction. The less drinks/drugs consumed, the stronger the belief in the disease model.

Addiction beliefs also varied significantly by religious affiliation. Catholics were more likely to believe in the disease model of addiction, followed by Protestants and then Jews. Atheists believed more strongly in the free-will model, followed by agnostics.

Factor analysis of the ABS showed that beliefs regarding personal power, dichotomous-thinking, and beliefs regarding addiction as a way of coping with life are core issues in what has come to be known as "the disease-model controversy."

Implications for clinical and public policy are discussed.

ADDICTION BELIEFS OF TREATMENT PROVIDERS:  
FACTORS EXPLAINING VARIANCE

by

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## PREFACE

It is related of a peasant who came [barefooted] to the Capital, and had made so much money that he could buy himself a pair of shoes and stockings and still had enough left over to get drunk on—it is related that as he was trying in his drunken state to find his way home he lay down in the middle of the highway and fell asleep. Then along came a wagon, and the driver shouted to him to move or he would run over his legs. Then the drunken peasant awoke, looked at his legs, and since by reason of the shoes and stockings he didn't recognize them, he said to the driver, 'Drive on, they are not my legs.'

—Soren Kierkegaard  
in *The sickness unto death* <sup>1</sup>

**Doublethink** means the power of holding two contradictory beliefs in one's mind simultaneously, and accepting both of them....These contradictions are not accidental, nor do they result from ordinary hypocrisy: they are deliberate exercises in doublethink. For it is only by reconciling contradictions that power can be retained indefinitely....If human equality is to be forever averted—if the High, as we have called them, are to keep their places permanently—then the prevailing mental condition must be controlled insanity.

—George Orwell  
in *1984* <sup>2</sup>

DEDICATION

To

my daughter

Magda Elise Schaler,

my parents

Sarah Elizabeth Schiltz and Otto-Gerhard Julius Schäler,

and

the memory of Joel M. Cantor

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CHAPTER I  
INTRODUCTION

I never saw a man so distressed as you were by my will; unless it were...at...my scientific heresies....It can make no change. You do not understand my position....I am painfully situated....[M]y position is a very strange—a very strange one. It is one of those affairs that cannot be mended by talking....[I]ndeed it isn't what you fancy; it is not as bad as that; and just to put your good heart at rest, I will tell you one thing: the moment I choose, I can be rid of Mr. Hyde. I give you my hand upon that; and I thank you again and again....<sup>3</sup>

Thus wrote Robert Louis Stevenson in his classic novel *Dr. Jekyll and Mr. Hyde*. It is the story of a doctor, a scientist, transformed in character by a drug that he drank—a drug that created a metamorphosis, changing him from one person into another.

Of course, Jekyll and Hyde were literally one person. Stevenson's story is a metaphor. Jekyll used the drug to create the illusion of two people, not only to himself, but also to those who knew him. The illusion was a belief. The drug was used to create a belief about self. Moreover, the self created a belief about the drug too. Jekyll believed the drug could transform him into another person—Hyde, a crass and violent persona.

The Stevenson excerpt above appears to show that Jekyll knew he and Hyde were the same person. Jekyll chose to "become" Hyde. In so doing, he exercised his will to become Hyde.

Stevenson's story is rich in symbolism. Perhaps few have attempted to interpret it as having anything to do with taking a drug to transform the

experience of self, (R. Roizen, personal communication, 1992). Surely Jekyll is not weak-willed regarding his addiction. Quite to the contrary, he seems "iron-willed" in the sense that he ingests his drug of choice to transform himself at any cost, or so it appears, (A. Gunsberg, personal communication, 1993).

There are at least two points worth noting regarding this interpretation of Stevenson's novel: (a) Jekyll is describing a sense of control he believes he has. He chooses to transform himself into Hyde, through the use of a drug, as irrational as this may seem. (b) This is precisely the nature of a contemporary controversy regarding scientific and lay views on the role of willful control in addictive behavior today: Is drug use a choice or a disease? Stevenson's metaphor applies to conflicting perspectives on drug addiction and self-deception. The resemblance is uncanny.

For example, while the physical-health risks of mood-altering drug use, i.e., what these drugs do to the physical body, are relatively well known, heated controversy currently exists within the alcohol/drug research field concerning the relationship between cognitive, behavioral, and physiological processes and what motivates or governs addiction, (e.g., Szasz, 1989; Cooper et al., 1985; Fingarette, 1989, 1985a, 1985b; Glaser, 1985; Pomeroy, 1985; Room, 1985; Takamine, 1985; Keller, 1976; Vatz & Weinberg, 1989; Madsen, 1989, 1988, 1985; Madsen et al., 1990; Maltzman, 1991; Peele, 1988a, 1992; Wallace, 1989a; Alexander, 1990a; Schaler, 1990a, 1990b, 1989a, 1989c, 1988; Goodwin et al., 1988; etc.). Is drug addiction strictly a function of physiology, free will, a combination of the two, or simply "moral turpitude?"

The debate is commonly known as “the disease-model controversy.” Those who subscribe to the idea that addiction is a disease independent of primarily volitional components are known as disease modelists. Those who subscribe to the opposite perspective, i.e, drug addiction is a choice, not a disease, are known as free-will modelists.

Researchers from biomedical and psychosocial disciplines define two sides of this controversy, expressing concern that scientists tend to report their findings as a single body of explanation. One result of these ethnoscientific reports is that the competition for explanatory ascendancy...has become so fierce between the two broad disciplinary approaches that it has often precluded genuine attempts to develop and test truly competing hypotheses by those representing either broad disciplinary approach or interdisciplinary development and testing of interactive hypotheses (e.g. interactions between biological factors and environmental factors). (Fillmore & Sigvardsson, 1988, p. 609)

The disparity in scientific opinion regarding addiction, with its focus on beliefs regarding personal control, forms the basis for this inquiry into beliefs of addiction-treatment providers and factors that may explain variation in their beliefs regarding the etiology of drug addiction.

This inquiry into the beliefs of addiction-treatment providers proceeds in the following way: The purpose of the study is presented, followed by a statement of the importance of studying beliefs of treatment providers. An explanation of the rationale for the independent variables and population selected follows, along with conceptual definitions of key terms used in the study. After a recapitulation of the research interest, a methods section explains how the study was conducted, including

operational definitions of the variables, and a discussion of statistical methods used for data analysis. Results and a discussion of findings follows. The appendix contains a sample of the instrument used to assess beliefs, additional descriptions of the sample studied, along with a compilation of comments made by the subjects regarding the study in general, and specific beliefs regarding addiction.

#### Purpose

The purpose of this study was to investigate factors that may account for variance in beliefs regarding the etiology of drug addiction among addiction-treatment providers, i.e., the extent to which they believe addiction is a disease, devoid of volitional components and dependent primarily on physiological factors; or strictly a behavioral phenomenon correlated with expectancy and other psychological and self environmental factors, in essence, a function of free will.

The research question this inquiry sought to answer was this: What are some of the factors that explain beliefs among addiction treatment providers about the etiology of drug addiction?

Most addiction treatment providers have had experience in Alcoholics Anonymous (AA) and related "12-step" programs, (Schaler, 1991a). AA stresses the importance of a religious or spiritual-conversion experience as a way of controlling alcohol intake, in addition to advocating strong beliefs regarding locus-of-control orientation, (Alcoholics Anonymous World Services, 1976). Three sub-questions follow the main research question to further specify these factors: (a) Do spiritual beliefs of treatment providers explain variance in beliefs regarding the etiology of addiction among treatment providers? And, (b) does the health locus-of-control orientation of treatment providers explain variation in beliefs

regarding the etiology of addiction? Additionally, the research interest includes (c) whether the following demographic characteristics of addiction treatment providers are able to account for variance in beliefs regarding addiction: Do their age, gender, race/ethnicity, educational status, marital status, religious affiliation, certification-as-treatment-provider status, alcoholic/addict in recovery status, past and present experience in 12-step and/or other treatment programs, plus length of time in these programs, as well as their current drinking or drug-taking status, i.e., whether they are abstinent or not, and their professional-group affiliation explain variation in beliefs regarding the etiology of addiction?

#### The Importance of Studying Beliefs of Addiction-Treatment Providers

In 1979, in response to being asked "what he would most like to know," Don Cahalan, an international leader in alcoholism research, wrote an opinion piece entitled "Why Does the Alcoholism Field Act Like a Ship of Fools?" In it he stated the following:

Strange behaviors and contradictions of purpose abound...in the field of alcohol problems. In part this stems from the differences in conceptions of alcoholism, held by different people at the same time and by the same people at different times, whereby some consider it primarily a genetic or functionally-based disease, some consider it a bad habit of the individual, and some consider it the fault of the environment. These alternative definitions are invoked depending upon the type of alcoholic behaviour involved and the function of the belief....I contend that unless we understand a great deal more about what makes organizations tick, we will have continuous strife and gross inefficiency in the getting and spending of public funds on the prevention and treatment of alcohol problems. (pps. 235-236)

By studying the beliefs of addiction-treatment providers perhaps we may gain some insight into how the organization “ticks,” i.e., their beliefs. Perhaps this information will assist in decreasing the “strife and gross inefficiency” described by Cahalan.

Reviewing a psychoanalytic critique of substance-abuse treatment approaches and the cultural beliefs that sustain them, (Berger, 1991), a reviewer for *The New England Journal of Medicine* seemed to agree that addiction-treatment providers who did not engage in

the kind of personal self-examination through psychotherapy or psychoanalysis that is mandatory in psychoanalytic training and is undertaken by other serious therapists on their own initiative,... poorly trained ‘drug counselors’...are therefore in a self-interested position to maintain a belief in a psychologically unsophisticated model of disease. (Dodes, 1992, p. 1369)

Thus, an examination, (or lack thereof), of the personal beliefs of addiction-treatment providers, is hereby postulated as related to a specific model of addiction, and treatment efficacy.

An editorial in the *British Journal of Addiction* addressed the ethical ramifications of studying beliefs about the etiology of addiction among addiction-treatment providers, (Bergmakr & Oscarsson, 1991):

If we as researchers can make plausible that the therapeutically active features of a treatment program are not the ones the practitioners themselves believe in, and if this weakens the therapeutic effect of these features, should we still do this in the name of science and progress?...An example of such a ‘hidden’ therapeutic feature could be the belief [emphasis in original] among personnel and clients that alcoholism is a disease involving ‘loss of’

or 'impaired control' over the intake of alcohol (and this irrespective of the actual existence of such a phenomenon). (p. 141)

The therapeutically active features of addiction-treatment programs may not be the ones the practitioners themselves believe in, and their personal beliefs may weaken the therapeutic effect of these features. An examination of the relationship between personal beliefs, and beliefs about the etiology of addiction, is necessary to understand and investigate these possible effects.

The AA and medically-oriented approach to treating the claimed disease of alcoholism/addiction may, in the long run, lower self-efficacy for managing drinking and addiction among those in treatment, and in turn, reinforce, i.e., perpetuate, drug addiction as a result. For example, the disease of addiction is said, according to those who believe in its existence, to reside within the physiology of the individual, beyond volitional control, triggered by alcohol and/or an addictive drug. This is a maturationist and pre-determinist perspective of addiction. Addiction is here considered an intrinsic disability, fixed and unchangeable. Regardless of how much or sincerely an alcoholic or drug addict may attempt to control drug ingestion, they are labeled by addiction-treatment providers as incapable of overcoming or managing drinking or addiction on their own. They are instructed to rely on an external force outside of self, an external locus-of-control orientation is encouraged, if not demanded. They are encouraged to "admit" that the task of managing their life is too difficult. They are told that in order to get better they must turn their life over to "God" or a "Higher Power." Since the recognition of their disease state is said to be an integral part of recovery, clients in treatment for drug and

alcohol addiction must change their concept of self from a healthy person to that of being a sick person in order to be "treated" successfully.

There is an obvious contradiction in this approach, (Fingarette, 1988, 1985a). Alcoholics and addicts must effort to achieve abstinence, a volitional act. They must do this, according to adherents of the disease-model perspective, even though they are also told to believe that they will never be cured of their addiction, i.e., they will remain in a state of chronic "recovery."

It is important to study the beliefs of addiction treatment providers because their beliefs could have some effect on their clients, stem from their own experience of recovery, detract from the empirical validity of addiction theory, and avoid the importance of building behavioral self-efficacy in clients treated for addiction problems.

This final point may be addressed by learning more about the health locus-of-control orientation of addiction-treatment providers. Health locus-of-control orientation may assist in predicting behavior capability for both provider and client regarding addiction management. It seems reasonable to expect that the more internal the health locus-of-control orientation, the more likely both are to believe they are in control of their own behavior, the more likely both are to believe their behavior can influence their experience of health and illness, the higher the probability of addiction management. In other words, the more people believe they can engage in health-promoting behaviors, the more it is likely they will. The less they believe they can engage in health-promoting behaviors, the less it is likely they will.

Understanding these issues may prove useful in the enhancement of treatment efficacy, (Clifford, 1983). By investigating the beliefs of



treatment providers the usefulness of specific addiction theories may be increased. New areas of research may be stimulated as a result, e.g., the effect of a treatment provider's recovery status on the recovery status of patients. Moreover, conflicting theories regarding the etiology of addiction may become more extensive, encompassing or eliminating one or the other. The disease model of addiction may become more parsimonious if it can be shown to be grounded in the subjective experience of the treatment provider, rather than objective and empirical findings.

Current approaches to addiction treatment may stem from the practitioner's experience of treatment and recovery and lower treatment success rates as a result. Approaches based on the free-will perspective may increase treatment success rates. Consequently, governmental, legal, and medical-policy decisions regarding addiction may stem more from the subjective experience of treatment providers and their own recovery process instead of from scientific findings. This may provide needed evidence to change ineffective policies as a result. Additionally, treatment policy may be rooted in spiritual thinking and as a result of this First Amendment rights issues may be effected as government entangles itself in religious belief systems under the guise of engaging in strictly clinical efforts. An example of this final point may be found government supported and court-ordered treatment programs, (Weisner, 1990; Fillmore & Kelso 1987c; Luff, 1989; Dolan, 1988; see also Ditman et al., 1967; and Swenson et al., 1981).

#### Rationale for Independent Variables

In order to investigate the factors which may explain variance in beliefs about the etiology of addiction a discussion of the independent variables listed in the research question is now presented. These variables

have to do with (1) spiritual thinking, (2) health locus-of-control orientation, and (3) the demographic characteristics of addiction treatment providers.

### Spiritual-Thinking Variable

#### Rationale

Many addiction treatment providers are addicts in recovery and have been in AA, (Schaler, 1991a). These individuals have strong beliefs regarding the etiology of addiction. Since a spiritual conversion experience is an integral part of the AA experience, spiritual thinking may be related to beliefs about addiction, (Rice, 1944; Sessions, 1957; Klausner, 1964; Jones, 1970; Horton, 1973; Leach & Norris, 1977; Whitley, 1977; Rippere, 1980; Greil & Rudy, 1983; Antze, 1987; Wilson & Jung, 1987; Kurtz, 1988; Dolan, 1988; Luff, 1989; Brown & Peterson, 1991; O'Connell, 1991).

"The major force dealing with alcoholism today is Alcoholics Anonymous. All good treatment facilities and treatment programs aim at getting the patient into AA," (Madsen, 1988, p. 26). AA has been described as a religious conversion experience by anthropologists (Antze, 1987) as well as by the courts (Luff, 1989; Dolan, 1988). AA literature counsels participants to "turn their lives over to a Higher Power." This "Higher Power" can be anything, as long as it is not the self. Behavior change in AA and similar 12-step programs is contingent upon a change in identity and attribution. For example, as McClelland (1972) wrote,

[t]o join it [AA], an alcoholic must admit his complete weakness and inadequacy and accept wholeheartedly the belief that to live a normal life he must be utterly dependent on a power greater than himself. In other words, he must accept the power of God as a substitute for the power of the bottle to enhance his sense of potency.

God 'inspirits' him, strengthening him in place of liquor. (p. 301-302)

Or as Thune (1977) describes it, "A.A.'s 'treatment,' then, involves the systematic manipulation of symbolic elements within an individual's life to provide a new vision of that life, and of his world. This provides new coherence, meaning and implications for behaviors," (p. 88).

And according to Vaillant (1983),

[AA]...effectively mobilizes the poorly understood ingredients present in increased religious involvement. AA...'converts' individuals from one belief system to another. It is a paradox that a major goal of AA—a strictly moral and religious system - has been to view alcohol abuse as a medical illness, not a moral failing. (p. 194)

#### Characteristics of Spiritual Thinking in AA

"Spiritual thinking" is a broad term. Its use as an independent variable in this study was defined in terms of how it occurs in the philosophy of AA, and is thereby related to beliefs regarding addiction, (Bales, 1944; Tiebout, 1953; Stewart, 1955; Trice, 1957, 1959; Cohen, 1962; Eckhardt, 1967; Donovan, 1984;). There are four characteristics of spiritual thinking in AA philosophy.

Kurtz studied AA (1988) and traced the "evolution of AA spirituality back to a set of four discoveries made by the first members," (O'Connell, 1991). He asserts that:

The spiritual is essential to being fully human but the spiritual is different[;] Spirituality involves mystery and miracle rather than magic[;] The spiritual spirituality include[s] an emphasis on being

teachable and a willingness to admit that one does not have all the answers[;] Spirituality is pervasive. (O'Connell, 1991, p. 2)

Kurtz further describes four elements in the stories told by AA members which are "the primary way in which sobriety, or spirituality, is not only transmitted but grown into [in AA]," (O'Connell, 1991). These spiritual elements are termed "release," "gratitude," "humility" and "tolerance," (O'Connell, 1991; E. Kurtz, personal communication, January 2, 1992; Kurtz & Ketcham, 1992). "Release" pertains to truth-telling. "Gratitude" refers to the unearned "gift" from God of release from alcoholism. "Tolerance" refers to the appreciation of individual differences among AA group members. "Humility" refers to the telling of one's story or experience of trouble in life, particularly with alcohol.

According to Kurtz,

[m]ore than any other person, the alcoholic has come close to discovering magic. For the alcoholic, alcohol is [emphasis in original] magic. In recovery, once the person ceases to realize that recovery is miracle and there is an air of mystery to it, and starts seeking the magic, almost certainly such a person will go back to the booze because nothing is as magical as alcohol is to the alcoholic.

(O'Connell, 1991, p. 2)

#### Evidence of Spiritual Thinking in AA

Three popular books used in AA that are "approved literature" by Alcoholics Anonymous General Service Conference - "the big book," (Alcoholics Anonymous World Services, 1976), "As Bill Sees It," (Alcoholics Anonymous World Services, 1967), and "Came to Believe," (Alcoholics Anonymous World Services, 1973), a collection of anecdotes describing "the spiritual adventure of A.A. as experienced by individual

members," express the spiritual thinking of AA members as characterized by Kurtz. As further evidence of spiritual thinking found in AA the following passages are presented, excerpted from "the big book," as it is called in AA, the "bible" of AA, (Alcoholics Anonymous World Services, 1976). Note not only the relationship with God but also the relationship advocated towards self:

The central factor of our lives today is the absolute certainty that our Creator has entered into our hearts and lives in a way which is indeed miraculous. He has commenced to accomplish those things for us which we could never do by ourselves....The delusion that we are like other people, or presently may be, has to be smashed....Whether such a person [those who are unable to drink moderately] can quit upon a non-spiritual basis depends upon the extent to which he has already lost the power to choose whether he will drink or not....Lack of power, that was our dilemma. We had to find a power by which we could live, and it had to be a **Power greater than ourselves** [emphasis in original]....[the big book's]...main object is to enable you to find a Power greater than yourself which will solve your problem....We agnostics and atheists were sticking to the idea that self-sufficiency would solve our problems....Our ideas did not work. But the God idea did....When we became alcoholics, crushed by a self-imposed crisis we could not postpone or evade, we had to fearlessly face the proposition that either God is everything or else He is nothing. God either is, or He isn't. What was our choice to be?...The first requirement is that we be convinced that any life run on self-will can hardly be a success....The alcoholic is an extreme example of self-will run riot....Relieve me of the bondage of

self....Being convinced that self, manifested in various ways, was what had defeated us....[W]e have been not only mentally and physically ill, we have been spiritually sick. When the spiritual malady is overcome, we straighten out mentally and physically....We trust infinite God rather than our finite selves... Faith did for us what we could not do for ourselves....We hope that you are convinced now that God can remove whatever self-will has blocked you off from Him....We ask ourselves for freedom from self-will, and are careful to make no requests for ourselves only....**The main thing is that he be willing to believe in a Power greater than himself and that he live by spiritual principles** [emphasis in original]. (Alcoholics Anonymous World Services, 1976, pps. 25, 30, 34, 45, 52, 53, 60, 62, 63, 64, 65, 68, 70, 71, 87, 93)

#### Examples of the Four Characteristics of Spiritual Thinking in AA.

Each of the following examples contain a reference to "God" or the "Higher Power," as God is often referred to in AA. They are characterized by the general qualities of "miracle" and "mystery," and the four categories of "release," "humility," "gratitude," and "tolerance." These statements have been slightly modified from AA literature to improve clarity, (adapted from Alcoholics Anonymous World Services, 1967, 1973, 1976; Kurtz, 1988).

Gratitude. Two examples of spiritual beliefs found in these books and characterized by **gratitude** are the following: "The central factor of my life today is the absolute certainty that my Creator has entered into my heart and life in a way which is indeed miraculous." "When I make right decisions in my life I believe it is important to thank God for giving me the courage and the grace to act in this way."

Tolerance. Two examples of spiritual beliefs found in these books and characterized by tolerance are the following: "I believe that people who have done wrong to me are perhaps spiritually sick. I think it is best to ask God to help me show them the same tolerance, pity, and patience that I should give to a sick friend." "I have no desire to convince anyone that there is only one way by which faith can be acquired. All of us, whatever our race, creed, color, or beliefs, are the children of a living Creator, with whom we may form a simple, understandable relationship, as soon as we are willing enough to try."

Humility. Two examples of spiritual beliefs found in these books and characterized by humility are the following: "First of all, in order to begin solving my problems, I had to quit playing God. I had to realize that I was not God." (According to Kurtz, the idea that the alcoholic is not God pervades all AA philosophy and literature.) "I seek through prayer and meditation to improve my conscious contact with God as I understand Him, praying only for knowledge of His will and the power to carry that out."

Release. Finally, two examples of spiritual beliefs found in these books and characterized by release are the following: "My 'Higher Power' has mysteriously accomplished those things in my life which I could never do by myself." "I got positive results in my life when I laid aside prejudice and expressed a willingness to believe in a Power greater than myself, even though it is impossible for me to fully define or comprehend that Power, which is God."

To summarize the rationale for using spiritual thinking as an independent variable in this study, it is important to consider the following: Drug addicts who have been in AA appear to attribute their

recovery from addiction to a "Higher Power," a "power greater than themselves," "God," or anything other than self. Many addiction treatment providers are addicts in recovery who have had experience in AA. Experience in AA has been shown to explain variance in beliefs regarding addiction, (Schaler, 1991a). The extent to which addiction treatment providers engage in spiritual thinking may explain variance in belief regarding the etiology of addiction because the disease-model perspective strongly advocates the attribution of addictive behavior to a factor other than self too, i.e., the disease process, (Bailey, 1970; Christiansen et al., 1980). Addiction treatment providers who attribute their recovery from addiction to a spiritual "Higher Power" may attribute the inability to control addiction to a non-self factor such as a physiological disease. The specific characteristics of spiritual thinking as it occurs in AA needs to be taken into account when measuring spiritual thinking among addiction-treatment providers in order to assess its influence accurately.

#### Implications of Spiritual Thinking for Explaining Beliefs About Addiction

The implications for understanding the role of spiritual thinking in explaining variation in beliefs regarding the etiology of addiction are wide-ranging. Results may suggest that one perspective on the etiology of addiction is rooted in spiritual experience rather than empirical findings. This approach to treating addiction may be inappropriate for many clients who do not share these spiritual beliefs. Medical health-insurance coverage for spiritual conversion and reinforcement may not be warranted. Governmental involvement in treatment as well as involvement by the courts, e.g., court-ordered attendance in AA for driving-while-intoxicated offenses, may be a violation of First Amendment rights. Secular alternatives to AA may be given more



opportunity to exist within the addiction-treatment domain, (Trimpey, 1989; Christopher, 1988). Spiritual thinking may lower self-efficacy, (Bandura, 1986; Wallston, 1992).

### The Multidimensional Health Locus-of-Control Scales Variable

#### Rationale

The Multidimensional Health Locus of Control scales (MHLC) were used in this study to assess the extent to which subjects believe they are responsible for, or in control of, their own personal state of health and illness, or attribute this experience of health and illness to chance factors or people outside of themselves, (Wallston et al, 1978). The MHLC consists of three independent scales. They each measure beliefs along three dimensions: The Internal Health Locus of Control dimension (IHLC) measures the extent to which people believe their behavior alone can determine their state of health or illness. People scoring high as internals on this scale believe their own behavior is responsible for their health or sickness. The Powerful Others Health Locus of Control dimension (PHLC) measures the extent to which people attribute external control for health or illness to powerful others, e.g., medical doctors. The Chance Locus of Control dimension (CHLC) measures the extent to which people attribute external control for health or illness to chance, fate, or luck.

People who believe that recovery from addiction is only possible by calling it an uncontrollable disease are expected to score high on the CHLC scale. If they believe that a doctor or medical treatment is necessary for recovery from addiction they are expected to score high on the PHLC scale. If they tend to believe that addiction is within their personal control, they are expected to score low on the IHLC scale. In turn, their relative scores on the MHLC scales are expected to predict their beliefs about the etiology

of addiction. This is because what they tend to believe to be true about themselves is likely extend to what they tend to believe is true for others. In other words, they may “preach what they practice.” Table 1 illustrates this relationship.

Thus, as Table 1 shows, those treatment providers who believe in the free-will model of addiction see addiction as a volitional event while those who believe in the disease model of addiction see addiction as devoid of volition, i.e., they believe in the loss-of-control theory regarding addiction. The free-will modelist tends to view addiction as an internal locus-of-control phenomenon, i.e., volition is an act of self. The disease modelist tends to view addiction as an external locus-of-control phenomenon, i.e, the drug or the physiological disease or dependency controls drug ingestion, not the will.

Along these same lines, the free-will modelist attributes the addiction to self factors, and the disease modelist attributes both the cause and the cure to factors external to self, i.e, the disease, “higher power, and/or doctors. The dimensions of the MHLC scales that are likely to confirm these dichotomies would be the IHLC scale for the free-will modelist, i.e, free-will modelists are likely to score high on this dimension. The CHLC and the PHLC dimensions of the MHLC scales are likely to be telling for the disease modelist, i.e, they are likely to score high on these dimensions. Finally, we see the relationship between these models, beliefs and attributions in light of the different treatment providers’ hypothesized beliefs about addiction for self and others, i.e, what they tend to believe as true for themselves is likely to be what they believe to be true for others.

Table 1.  
Addiction Models, Beliefs, and Attributions of Treatment Providers

		<u>Free Will Model</u>	<u>Disease Model</u>
		↓	↓
Belief about addiction	⇒	Addiction is volitional	Addiction is loss of volitional control
Locus of control	⇒	Internal	External
Addiction attribution	⇒	Self and personal values	Disease and/or drug fate/chance &/or doctors
Relevant MHLC scales	⇒	IHLC (high scores)	PHLC & CHLC (high scores)
Personal beliefs about addiction for others?	⇒	"I can control my addiction. Therefore, addicts can control their addiction."	"I cannot control my addiction. Therefore, addicts cannot control their addiction."

In Table 1 we see this displayed as a statement for free-will modelists in the following way: "I can control my addiction, therefore, addicts can control their addiction." For the disease modelists the statement reads: "I cannot control my addiction, therefore, addicts cannot control their addiction."

#### Relationship of the MHLC to the Concept of Self-Efficacy

It is reasonable to assume that what one believes to be true about one's own ability is likely to be related to one's beliefs about the abilities of others. Self-efficacy research (Bandura, 1977) has shown that what people believe to be true about their ability to perform a specific behavior is related

to whether the behavior will actually be performed or not. Treatment providers who subscribe to the free-will perspective of addiction may have high self-efficacy in relation to addiction, be more internal in their health locus-of-control orientation and believe that what is true for themselves is true for others.

Addicts are viewed by free-will modelists as using drugs to cope with environmental or psychological experience, (Schaler, 1991b). Addicts can engage in other behaviors to deal with the stressful event facilitating drug use, e.g., find new coping skills, change social context, change self-talk, exercise, relax, etc. Since most treatment providers are addicts in recovery, theoretically they have learned to cope with stressful events in new ways, i.e., drug-free or moderated drug use. Moreover, expectancy, or beliefs regarding alcohol presence in beverages has been shown to be related to alcohol consumption among alcoholics even when the beverages contained no alcohol, (Marlatt et al., 1973; Collins et al., 1990). The MHLC scales may allow for the assessment of differences between those treatment providers who are in recovery versus those who are not along diverse dimensions.

These ideas appear to support findings by those who have challenged the loss-of-control theory of alcoholism. The apparent helplessness of chronic drunkenness and drug addiction can be viewed as learned behaviors, a function of expectancy and belief. If people believe they are helpless or powerless with regard to their behavioral capabilities, chances are they will then act this way. If treatment providers attribute their state of health or illness to powerful others and/or God as in the "higher power" of AA, they probably will encourage their clients to do the

same, which may reinforce pre-existing irrational beliefs in the client regarding his or her own sense of powerlessness or learned helplessness.

Seligman (1975) believes that helplessness is a learned behavior caused by learning that responding is independent of reinforcement; so the model suggests that the cause of depression is the belief that action is futile....[T]he depressed patient believes or has learned that he cannot control those elements of his life that relieve suffering, bring gratification, or provide nurture - in short, he believes that he is helpless. (p. 93)

When people believe that effort and reward are unrelated, helplessness and depression may result. If effort towards a specific goal creates an experience that people seek to avoid, they stop efforting. They believe that their effort is a futile one.

This theory has been reformulated to transfer attribution of helplessness to futility of effort experience to "beliefs that one cannot produce the required performances," (Bandura, 1986, p. 447; see also Hill & Larson, 1992). Applied to theories of loss-of-control and addiction, if a person believes he or she cannot control addiction—then he or she won't. The AA approach to alcoholism/addiction recovery not only stresses the development of spiritual thinking, herewith defined as the attribution of personal experience to a metaphysical, non-self power. It also stresses the idea that self effort can never be successful in the achievement of recovery. This idea would appear to lower feelings of self-efficacy.

Bandura (1977) has found that self-efficacy expectation is related to outcome: "An outcome expectancy is defined here as a person's estimate that a given behavior will lead to certain outcomes. An efficacy expectation is the conviction that one can successfully execute the behavior

required to produce the outcomes," (p. 79). Seligman (1975) has found that there is relationship between the futility of well-meaning effort that fails and depression, which he calls "learned helplessness."

Locus-of-control orientation, self-efficacy, outcome expectancy, and attribution are related concepts. Outcome expectancies are a *a priori* expectations about behavioral outcome, e.g., expectation of success or failure. Attribution theory has focused on a *posteriori* attributions for outcome, i.e., reasons for success or failure.

Table 2 shows an attribution matrix that includes locus-of-control orientation and self-efficacy/outcome-expectancy attributions. These relationships are important and relevant to the research question asked in this study because the relationship between attributions in the form of spiritual thinking and health locus-of-control orientation are being studied in light of their ability to predict beliefs about addiction.

Ability and effort are internal factors. They refer to the belief that a person possesses both the ability and effort (or lack thereof) to achieve a specific goal. Examples of this belief are found in the following statements: "I have the ability to moderate my addiction. All I need to do is put in the effort to do so." Or: "No matter how hard I may try (effort), I am unable to moderate my addiction to alcohol because I have a genetically-determined inability to control my drinking." Ability is more or less a stable phenomenon, i.e., it is hard to change. Effort can vary and change depending on a person's interest and motivation.

Difficulty of a task and fate or chance factors are viewed as external to the experience of self. Examples of these beliefs or attributions are found in the following statements: "Responsible drinking is too difficult a task

Table 2.

The Relationship Between Self-Efficacy Expectation, Locus of Control Orientation, and Outcome-Expectancy Attribution

A priori (Outcome expectancies) ↓		Locus of Control Dimension ↓		A posteriori (Attributions for success or failure) ↓	
High	is	Internal	is	Ability	Effort
Self- ⇔	related ⇔	Locus of ⇔	related ⇔	stable	unstable
Efficacy	to	Control	to	<b>factor</b>	<b>factor</b>
MHLC scale ⇔		IHLC	⇔	Self	Self
Low	is	External	is	Difficulty	Fate/
	related		related		Chance
Self- ⇔	to	Locus of ⇔	to	stable	unstable
Efficacy	⇔	Control	⇔	<b>factor</b>	<b>factors</b>
MHLC scale ⇔		CHLC & PHLC ⇔		Non self	Non self

for me to engage in because I lack the ability and/or effort to do so. I must turn my life over to God or my Higher Power in order to achieve sobriety. I cannot do it on my own."

Difficulty is a relatively stable attributional factor beyond an individual's control. God is an unstable attributional factor in the sense that God does not always effect a person's experience in the way he or she may expect. For example, a person may turn his or her life over to God or the Higher Power and theoretically succeed or fail at achieving sobriety because God or the Higher Power "wants" the person to fail or succeed at the task.

The matrix in Table 2 may be applied to beliefs about the etiology of addiction in the following way: People who attribute addiction to ability and effort may see it as a phenomenon within the domain of volition or willfulness. These are internal locus-of-control beliefs because ability and effort are within the domain of self. People believing they can overcome addiction through their own efforts are expressing a high self-efficacy expectancy, i.e., they believe they have the ability to change behavior. Whether they believe they actually will change the behavior or not is an outcome expectancy.

Believing that addicts cannot moderate or change addiction behavior on their own, i.e., they believe addiction is a disease independent of volition, a disease that only God or the Higher Power of AA can help them with, is an external locus-of-control orientation along PHLC and CHLC dimensions, expressing low self-efficacy. Ability factors into the belief in that they may attribute addiction to a lack of ability to engage in moderate drug-taking behavior. The more outcome expectancy is attributed to disease, i.e., difficulty, and God, it appears the less it would be attributed to ability and effort. Outcome expectancy could be high in this case. For example, some people are more likely to achieve sobriety if they "turn their life over to a Higher Power," as in AA. This is an external locus-of-control orientation with high-outcome expectancy and low self-efficacy. A person can believe in God and have high self-efficacy, as in the statement "I believe God gives me the strength to help myself."

### Implications

Addicts are people who may have learned to become helpless in life, they may have low feelings of self-efficacy, and they may tend to rely on the use of drugs to create (and avoid) certain experiences undoubtedly



associated with helplessness. The addict may believe he or she lacks the ability to overcome a certain experience (the difficulty is too great), effort decreases (learned helplessness) and the drug is relied on to create an experience the addict believes he or she could not create on his or her own, i.e., to avoid one experience and create another more pleasurable one. Disease-model approaches to treatment, such as are practiced in AA, may reinforce this sense of powerlessness or low self-efficacy in relation to addiction. The beliefs regarding self-efficacy may be “preached” to the client in treatment for addiction. Thus, they may constitute beliefs about addiction.

The most pronounced implication of investigating this relationship is that if health locus-of-control orientation is related to beliefs about addiction, and these beliefs about addiction lack empirical validity, we may understand more about why the theories are perpetuated and recognize a need to change them. Moreover, beliefs about the etiology of addiction may signal the health locus-of-control orientation of the treatment provider and allow for provider-training programs to address and influence this orientation, thereby helping both provider and client.

### Demographic Variables

#### Rationale

Age. The rationale for using the demographic independent variables was as follows: The age of subjects could influence their beliefs about the etiology of addiction, (Stall, 1986). Many addicts appear to “mature out” of their addictions, (Fillmore, 1987a; Biernacki, 1986; Erickson et al., 1987; Tuchfield, 1981; Öjesjö, 1984). Older treatment providers may understand this phenomenon better than younger ones, i.e., they can “look back” and see how they’ve changed. Moreover, dif-

ferent stages in human development may accompany differing perspectives on addiction. For example, a middle-aged treatment provider has a different perspective on life in general than a provider in his or her twenties, and likewise may have a different belief about addiction and its causes.

Gender. The gender of the subjects being studied could also account for variance in beliefs regarding addiction. Males and females appear to differ in genetic susceptibility to alcoholism according to some researchers, in addition to their metabolism of alcohol, (Fillmore, 1987a, 1987b; Fillmore & Midanik, 1984; Kendler, 1992; McGue et al, 1992; Pickens, 1991; Wanberg, 1970). Providers may have varying understandings and beliefs about these differences accordingly. Moreover, psychosocial theorists postulate developmental differences according to gender. The political environment of women differs from that of men, which may be correlated with addiction frequency and account for differing perspectives on addiction. For example, a self-help, alternative offshoot of AA has been established throughout the U.S. recently to address the addiction problems of women, e.g., Women for Sobriety, (Kirkpatrick, 1986; Gelman et al., 1991). Furthermore, higher numbers of women are certified as addiction-treatment providers than men, (Schaler, 1991a).

Race/Ethnicity. Race/ethnicity variables were explored because beliefs about addiction may vary by race/ethnicity, (Barnett, 1955; Caetano, 1989; Herd, 1989). For example, African-American treatment providers may feel less powerful in the world than white treatment providers based on their experience of racism, (Schaler, 1989d). This sense of powerlessness may be related to their beliefs about the etiology of addiction as well as a general sense of powerlessness in the world and their own personal health.

Many people believe that addiction problems are more prevalent in lower socio-economic level black populations than white. These differences may influence the beliefs of treatment providers regarding the etiology of addiction, whether the rates of addiction are different or not because the belief is that the rates of addiction are different.

Marital and Educational Status. The marital and educational status of subjects could bear on beliefs regarding addiction for several reasons: If treatment providers are happily married they may have a different world view than those who are single, divorced or widowed. They may have had different reasons for using drugs and alcohol themselves, reasons related to their experience of marriage, which may lend to a happier or dissatisfied outlook on life, and bear on the perception of others, i.e., empathy, notably in relation to those in treatment with a similar or different marital status. Their associations and memories regarding drug use and marriage may vary according to their own family experiences, e.g., they may be adult children of alcoholic parents.

Those with higher levels of education may be more exposed to and cognizant of scientific theories and beliefs regarding the etiology of addiction than those with lower levels of education who may base their beliefs more on anecdotal evidence, i.e., subjective stories about addiction and recovery versus objective research, (Fingarette, 1988). Many addiction treatment providers move into their profession based on their own experience of recovery and not necessarily as a result of higher education. Moreover, many treatment clinics place a higher value on providers who are in recovery rather than educational status when hiring. Their level of education may thus account for variation in beliefs about the etiology of addiction.

Religious Affiliation. Religious affiliation is a relevant demographic variable because different religions advocate differing beliefs regarding the proper role of alcohol and drugs in a person's life, as well as the abuse of drugs, (Skolnick, 1958; Glassner & Berg, 1980, 1984; Barnett, 1955; Mirels & Garrett, 1971). Skolnick (1958) tested the hypothesis that different religious ideas are more influential in an individual's drinking practices than others. He found that "[t]he development of drinking behaviors is differentiated along religious lines," (Skolnick, 1958, p. 466).

Some religions insist on abstinence, e.g., Muslim. Some view the use of psychedelic drugs, e.g., peyote, as an essential part of religious practice and experience. Jewish and Black Muslim groups regard alcoholism and drug addiction as decidedly willful behaviors and urge recovery through mental discipline and moderation of intake, (Szasz, 1985). Many people in these two groups oppose the disease model of addiction because they believe it diminishes self-efficacy. Irish Catholics, having been exposed to a multitude of people with similar ethnic and religious backgrounds, may tend to view addiction, especially alcoholism, from a decidedly genetic-predisposition perspective, (Vaillant, 1983). Treatment providers may vary by religious affiliation in terms of how they view the etiology of addiction based on their own religious upbringing as well as their current religious identifications. Moreover, scores on a Protestant Ethic Scale (Mirels & Garrett, 1971) were found to be associated with authoritarianism and an internal locus-of-control orientation. Religious factors are related to health, (Levin & Tobin, 1992; Levin & Vanderpool, 1991; Vanderpool & Levin, 1990; Levin et al., 1988; Levin & Vanderpool, 1989; Schiller & Levin, 1988; Levin & Schiller, 1987).

Certification, AA Status, Recovery Status, AA Experience.

Treatment provider certification and past experience in AA alone and together have explained variance in beliefs regarding addiction, (Schaler, 1991a). Factors such as current alcoholic/drug addict-in-recovery status, experience in AA and related groups like Narcotics Anonymous (NA), as well as treatment programs in general, plus length of time in these programs, may be able to explain variance in beliefs about the etiology of addiction in ways not previously discovered. Those who have been in AA for longer periods of time may have stronger beliefs about addiction as a disease characterized by loss of control than those who have been in treatment for shorter periods of time. Also, the type of treatment recovering addicts received may have influenced their beliefs about addiction in general. Those who gave up alcohol or drug addiction on their own, without treatment, or those who learned either on their own, or from a controlled-drinking oriented treatment program, may have learned to moderate their drug ingestion, and this in turn may be related to their beliefs about the etiology of addiction, especially when compared to those in recovery who have been through abstinence-oriented treatment programs, or who believe those treatment programs oriented from a disease-model perspective "saved their life."

Abstinence Status and Number of Drinks/Drugs Ingested/Week.

The drinking/drug-taking status variable is used because those providers who believe in the disease concept of addiction tend to believe that abstinence is the best preventive treatment program for addicts. McBride (1991) found that length of AA attendance and abstinence among alcoholics was related.

Those who believe in the “free-will model of addiction” tend to believe that controlled-drinking and drug-taking is not only possible but therapeutically feasible. Thus, their beliefs about the etiology of addiction may vary accordingly.

A request for amount of alcohol and drugs consumed may predict beliefs regarding addiction. Heavy drinkers and drug users may believe they can control their drug use more than those who are abstinent can.

Professional-Group Affiliation. Various professional treatment-provider organizations appear to have been established along specific philosophical lines regarding the etiology of addiction. For example, Rational Recovery Systems has explicitly separated itself from disease-model approaches and 12-step programs, making a point to define its philosophy as secular in nature. Beliefs of the National Association of Alcoholism and Drug Abuse Counselors appear to be more in line with the disease model of addiction. The philosophical orientation of members of the Society of Psychologists in Addictive Behaviors is unknown. Since at least two of these groups are explicit in their identification with specific beliefs regarding the etiology of addiction, it seems reasonable to conclude that membership in these organizations may predict a significant amount of variance in beliefs regarding addiction.

By examining these various factors with regard to their ability to explain beliefs about the etiology of addiction we may be in a better position to examine the efficacy of treatment policy in general. The training of treatment providers could be modified, both generally and specifically. Related as well are new areas of research that may open up as a result for further investigation.

## Recovery Beliefs

There exist today discrepancies regarding addiction-treatment efficacy, i.e., what constitutes proper treatment, success and failure, (Chick et al., 1988; Edwards, et al., 1977). For example, from the disease-model perspective an addict is never cured but in a state of perpetual recovery. From a free-will perspective, achieving a state of controlled drinking is a sign of treatment success. The former is more absolute in defining treatment success. Any return to drug use is considered treatment failure. The latter utilizes more flexible measures of treatment success. Therefore, it may be useful to know just how efficacious addiction treatment is according to treatment providers. These beliefs about treatment success can be compared with empirical findings and stimulate further investigations into reasons for possible discrepancies.

## Rationale for Population

Addiction-treatment providers are an appropriate population to study regarding variance in beliefs about the etiology of addiction because they are often considered "experts" on addiction. Their beliefs influence the beliefs of their patients. "Matching" between treatment providers and patients has been shown to predict treatment outcome (Glaser, 1980; Glaser et al., 1981; Sells, 1981). Drug policy is influenced by treatment-provider beliefs regarding the etiology of addiction because their opinion as experts is sought after by policy-makers. Additionally, treatment providers base their beliefs on their work with patients, as well as their own experience of recovery. The implication of examining the beliefs of treatment providers is that their beliefs regarding the etiology of addiction may not match empirical findings regarding addiction. Treatment policy may need to be

changed because the influence of treatment provider beliefs may stem from subjective rather than objective experience.

The present study concerns factors that may explain beliefs regarding the etiology addiction. Investigations of this sort among addiction-treatment providers appears rare. Moreover, experts in the field have decried the lack of research attention given to those who allegedly know addicts best, namely, addiction-treatment providers.

For example, responding to critics of the disease model of alcoholism, Vaillant (1990) wrote:

[T]he philosopher Herbert Fingarette, the psychoanalyst Thomas Szasz, the sociologist and theoretician Robin Room, and provocative, thoughtful psychologists like Stanton Peele and Nicholas Heather have every qualification but one for explaining why alcoholism is not a disease - they have never worked in an alcoholic clinic. Why...do experienced alcohol workers and recovering alcoholics...accept the view that alcoholism is a disease? Why is it mainly less competent people, the active alcoholics, who agree with Professor Fingarette that they are just 'heavy drinkers'?  
(p. 4)

Treatment providers are slightly internal in personal and ideological locus-of-control orientation and tend to believe, as Vaillant asserts, that alcoholism is beyond the volitional control of the alcoholic, i.e., the loss-of-control theory of the disease concept of alcoholism, (Schaler 1991a). Many treatment providers are alcoholics-in-recovery and these findings replicate those of locus-of-control studies on alcoholics and drug addicts in general, (Butts & Chotlos, 1973; Berzins & Ross, 1973; Calicchia, 1974; Christiansen et al., 1980; Distefano et al., 1972; Donovan & O'Leary, 1978; Goss &



Morosko, 1970; Gozali & Sloan, 1971; Gross & Nerviano, 1972; Nowicki & Hopper, 1974; Rohsenow & O'Leary, 1978; Worell & Tumilty, 1981).

Schaler (1991a) found that whether alcoholism-treatment providers have been in AA in the past or not explains variance in their beliefs about alcoholics' ability to control drinking, as does their certification status. Together, these two factors appear related to beliefs about alcoholics' ability to control their drinking. Treatment providers who have had past experience in AA tend to believe in the disease model of alcoholism, as do those who are certified. Treatment providers who have not been in AA in the past tend to view alcoholism more as a volitional behavior, as do those who have not been certified.

Alcoholism counselors in recovery themselves may well perpetuate the loss-of-control theory of alcoholism because they have been taught to believe through their experience in AA that their sobriety is dependent upon this belief. They may have a strong ideological/emotional investment in this particular point of view. Treatment providers who have achieved certification status may have been pressured into believing in the disease model of alcoholism and/or addiction in order to pass the certification examination.

#### Conceptual Definitions

In light of the research question, several terms used throughout this inquiry require conceptual definition because these terms vary in meaning according to beliefs about the etiology of addiction. They are clarified and defined here for the purposes of this study. The terms include "the disease model of addiction," "the free-will model of addiction," "spiritual thinking," "self-efficacy," "addiction," "recovery," "disease," "behavior," "health locus of control," and "attribution."

### The Disease Model of Addiction

The disease model of addiction refers to the idea that addiction is an involuntary behavior characterized by "loss of control," (Jellinek, 1960).

### The Free-Will Model of Addiction

The free-will model of addiction refers to the idea that addiction is a voluntary behavior characterized by choice and responsibility.

### Spiritual Thinking

Spiritual thinking refers to any belief in a metaphysical power said to influence personal experience characterized by feelings of release, gratitude, tolerance and humility. In this study, with regard to spiritual beliefs, the terms "Higher Power" and "God" are used synonymously.

### Self-Efficacy

Self-efficacy refers to the behavioral capability people believe they possess to effect a specific behavior. "Perceived self-efficacy is a judgment of one's capability to accomplish a certain level of performance, whereas an outcome expectation is a judgment of the likely consequence such behavior will produce," (Bandura, 1986, p. 391).

It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses....Perceived self-efficacy is a judgment of one's capability to accomplish a certain level of performance, whereas an outcome expectation is a judgment of the likely consequence such behavior will produce. For example, the belief that one can high jump six feet is an efficacy judgment; the anticipated social recognition, applause, trophies, and self-satisfactions for such a performance constitute the outcome expectations....Strength of self-efficacy is not necessarily linearly related to choice behavior. (Bandura, 1977, p. 193)

"Perceived self-efficacy is concerned with generative capabilities not with component acts," (Bandura, 1986).

Strecher et al. (1986) have pointed out that it is important to understand that the concept of self-efficacy relates to beliefs about capabilities of performing **specific behaviors in particular situations**; self-efficacy does not refer to a personality characteristic or a global trait that operates independently of contextual factors. An individual's efficacy expectations will vary greatly depending on the particular task and context which confronts him/her. It is therefore inappropriate to characterize a person as having 'high' or 'low' self-efficacy without reference to the specific behavior and circumstance with which the efficacy judgment is associated [emphasis in original]. (p. 74)

#### Addiction

The word "addiction" comes from the Latin "dicere" (infinitive form) and, combined with the preposition "ad," means "to say yes to," "consent." Consent implies voluntary acceptance, (Schaler, 1991b; 1989a).

#### Drug Addict

Within the context of this study, an individual referred to as an alcoholic or drug addict is one whose drug "consumption consistently has a negative influence on important components of his daily life," (Miller & Mastria, 1977; Donovan & Marlatt, 1980).

#### Recovery

Recovery refers to that state in which an alcoholic or drug addict is either abstinent or has achieved a state of moderate or controlled drinking or drug taking.

### Disease and Behavior

The terms "disease" and "behavior" are often used together in discussions of addiction. For this reason the two will be clarified under the same sub-heading.

A disease process involves a pathological lesion of the physical body and is generally considered to be outside of a person's control, (Gerhardt, 1989; Reznek, 1987). Stedman's Medical Dictionary (1976) defines disease as "1. Morbus; illness; sickness; an interruption, cessation, or disorder of body functions, systems, or organs." There is no reference to behavior as a disease process, apparently the definition being strictly limited to a phenomena of the body. Behavior, according to Webster's, refers to deportment, or mode of conduct, (New World Dictionaries, 1983).

According to psychiatrist Thomas Szasz (1987):

[B]y behavior we mean the person's 'mode of conducting himself' or his 'deportment'.. the name we attach to a living being's conduct in the daily pursuit of life....[B]odily movements that are the products of neurophysiological discharges or reflexes are not behavior....The point is that behavior implies action, and action implies conduct pursued by an agent seeking to attain a goal. (p. 343)

And philosopher Herbert Fingarette echoes the sentiment:

A pattern of conduct must be distinguished from a mere sequence of reflex-like reactions. A reflex knee jerk is not conduct. If we regard something as a pattern of conduct...we assume that it is mediated by the mind, that it reflects consideration of reasons and preferences, the election of a preferred means to the end, and the election of the end itself from among alternatives. The complex, purposeful, and often ingenious projects with which many an addict may be

occupied in his daily hustling to maintain his drug supply are examples of conduct, not automatic reflex reactions to a singly biological cause. (Fingarette, 1975, p. 435)

In order to further clarify the differences between a behavior and a disease the following example is given: Smoking is a behavior that may lead to the disease called cancer. Smoking is within volitional control, cancer is not. Heavy drinking of beverage alcohol is a behavior that may lead to the disease called cirrhosis of the liver. Drinking is the behavior, cirrhosis the disease. Cirrhosis, that is, the actual physiological pathology, cannot be controlled through an act of will.

#### Health Locus of Control

Health locus of control refers to the belief or expectancy a person has with regard to health and illness attribution, i.e., factors outside or external to personal control versus those causally within the domain of volition or willfulness. These attributions include expectancies regarding behavior-reinforcement contingencies, the extent to which a particular reinforcement is valued by the individual, and the context within which reinforcement is likely to occur, (Rotter, 1966). "[T]he meaning of locus of control for the alcoholic is primarily associated with his attitudes toward his drinking rather than his general sense of control over his life," (Worell & Tumilty, 1981, p. 331).

#### Attribution

Attribution theorists address the various attributions that people make with regard to explaining why they either succeeded or failed at specific tasks. "As in attribution theory proper, there is no one complete and systematic attributional theory," (Antaki & Brewin, 1982, p. 14). People tend to make attributions in four areas: ability, effort, difficulty of the task,

and fate, (chance, or luck). Ability and effort are attributions of personal cause and lie within the domain of self, or volitional control. Difficulty and chance or fate are attributions based on environmental cause, external to the domain of self, and thereby outside of direct volitional control.

Ability is viewed as a fixed, or stable domain that is relatively unchangeable. Effort refers to the effort a person is willing to engage in, in order to succeed at a particular goal. It is considered a changeable, or unstable factor, i.e., a function of will.

Some tasks are so difficult that regardless of ability and effort a person cannot succeed at them simply because they are too difficult. Likewise some tasks are so easy that success is attributed by an individual to lack of difficulty or ease. Difficulty is a fixed, stable domain. The individual cannot change it.

The attributional domain of fate, chance, or luck, has to do with factors that are completely outside of the individual's control, ability, effort. This domain is unpredictable and therefore highly unstable. Because this study is concerned with spiritual thinking in terms of an attributional relationship with God or the "Higher Power," as it is referred to in AA, the domain will be referred to as "God." Referring to God as an "unstable domain" does not mean that God is stable or unstable. It means that God effect, as an expectancy or attribution, varies, e.g., "God often does not affect my life in the way I expect."

#### Recapitulation of Research Interest

Vaillant's question and concern (1990) suggested the population for the present study: Addiction-treatment providers. Those who have worked with addicts in a treatment clinic undoubtedly have strong beliefs regarding addiction and control. The question this inquiry sought to

answer was this: What are the factors that account for variation in beliefs among addiction treatment providers about the etiology of addiction?

AA stresses a religious conversion experience, in addition to advocating strong beliefs regarding locus of control orientation. Three sub-questions followed to specify these factors: (a) Do spiritual beliefs of treatment providers explain variance in beliefs regarding the etiology of addiction among treatment providers? And, (b) does the health locus-of-control orientation of treatment providers explain variation in beliefs regarding the etiology of addiction? Additionally, the research interest includes (c) whether the following demographic characteristics of addiction treatment providers are able to account for variance in beliefs regarding addiction: Do their age, gender, race/ethnicity, educational status, marital status, religious affiliation, certification-as-treatment-provider status, alcoholic/addict in recovery status, past and present experience in 12-step and/or other treatment programs, plus length of time in these programs, as well as their current drinking or drug-taking status, i.e., whether they are abstinent or not, and their professional-group affiliation explain variation in beliefs regarding the etiology of addiction?

## CHAPTER II

### REVIEW OF THE LITERATURE

This study investigates the beliefs of addiction-treatment providers. This section of the study traces the history of beliefs regarding addiction in America, and discusses various paradigms used to explain addiction since colonial times.

The section begins by identifying three models of addiction attribution. These are the "maturationist model of addiction," (also known as "the medical model" and "the disease model"); the "behaviorist model of addiction," (also known as "the moralistic model" and "the criminal model"), (Schaler, 1991b; Alexander, 1987); and the "interactionist model of addiction," (also known as "the free-will model" and "the adaptive model"), (Schaler, 1991b; Alexander, 1987).

Each of these models flourished during certain historical periods. A review of these periods in light of the beliefs about addiction follows a discussion of the models. Finally, a review of health locus-of-control research is presented.

#### Three Models of Addiction Beliefs

It is not the intent of this review to summarize and comment on each of the extensive writings concerning models of addiction and their relation to behavior change. Models of alcoholism and addiction have been studied and debated for some time now. The summary and distillation of beliefs regarding addiction that follows are interpretations of selected writings on the topic, (Jessor, 1958; MacAndrew & Garfinkel, 1962; Mulford & Miller, 1964; Pattison, 1966; Siegler et al., 1968; Verden et al., 1969; Bateson, 1971; Robinson, 1972; Overton & Reese, 1973; Szasz, 1973; Hershon, 1974; Kjølstad, 1974; Engel, 1977; Keller, 1976; Pattison, 1976;



Kendell, 1979; Peele, 1981; Keller, 1982; Marlatt & Gordon, 1985; Fingarette, 1985c; Prochaska & DiClemente, 1986; Peele, 1986; Caetano, 1987; Alexander, 1987; Fillmore & Kelso, 1987; Musto, 1987; Segal, 1987; Alexander & Schweighofer, 1988; Peele, 1988a, 1988b, 1988c; Fillmore, 1988; Beasley, 1988; Fingarette, 1988; Bennett, 1988; Faulkner et al., 1988; Room, 1988, 1989; Gerhardt, 1989; Heather & Robertson, 1989; Peele, 1989; Brisbane, 1989; Wallace, 1989a, 1989b; Gorman, 1989; Goodyear, 1989; Siegel, 1989; Gorman, 1989, 1990; Cohen, 1990; Miller & Gold, 1990; Vatz & Weinberg, 1990; Erickson, 1990; Alexander, 1990a, 1990b; Lieber, 1990; Siegel, 1990; Harcum, 1991; Peele, 1990a, 1991; Szasz, 1991; Rather, 1991; Akers, 1991; Maltzman, 1991; Musto, 1991; Schaler, 1991b; Peele, 1992; Morgenstern & McCrady, 1992; Davidson, 1992a, 1992b; Prochaska et al., 1992; Heather, 1992; Orford, 1992; Stockwell, 1992).

Past, current, and conflicting perspectives on addiction can be distilled and organized into three explanatory paradigms, herewith termed the "maturationist," (medical or disease), "behaviorist," (moralistic or criminal) and the "interactionist," (free-will or adaptive) models. People use these models to express specific beliefs regarding addiction, specifically in terms of the relationship of self to its environment. Metaphors are used to describe this relationship.

The models can also be interpreted as explaining addiction according to different understandings of the nature-nurture controversy of human development. Maturationists tend to favor the "nature" side. Behaviorists explain development from the "nurture" side. Interactionists encompass a more equitable combination of the forces.

Interactionists differ from maturationists and behaviorists in two important ways: The roles of volition and self-determination are a central

component of human development according to the interactionist. Maturationists and behaviorists place little emphasis on volition and self-determination. They tend to be deterministic and mechanistic in their thinking, (Barrett, 1979).

### The Maturationist Paradigm

From the maturationist perspective, the propensity for, and engagement in, addiction evolves through a centrifugal process of psychological and/or physiological maturation. A "pre-programmed" movement of human development occurs from "within" the organism "out." The capacity for addiction is preformed in a Platonic sense, (Room, 1983). It lies dormant within the organismic self. Environmental conditions are either favorable or unfavorable to the maturation of this potential.

According to this perspective, the predetermined addiction is either psychological or physiological in nature. Psychologically-based addiction is secondary to a primary physiological process. The reverse is true too.

According to a Gallup poll taken in 1987, close to 90 percent of the American public believe that alcoholism is a disease, a sign of the maturationist point of view, (Peele, 1989). According to a poll of 601 residents financed by the U.S. federal government in 1990, conducted by the District of Columbia's Office of Criminal Justice Plans and Analysis "in conjunction with similar polls in five states, as part of a national effort to monitor and evaluate drug control strategies,...66 percent of residents polled say addiction should be viewed as an illness," (Wheeler, 1990).

Advocates of the maturationist model use the metaphor of an unfolding flower to explain addiction. They are likely to agree with the following statements: The oak tree resides in the acorn. It cannot be

otherwise. The acorn cannot produce a maple or a pine. The acorn may grow to be strong or weak as a tree—oak is its destiny. The shape or form it assumes is a function of the environment. The quality of its being as a species is predetermined. It lies mysteriously within the acorn as potential.

Similarly, drug addicts are, according to the maturationist's belief, psychologically or physiologically destined to become drug addicts. The metaphorical "soil" and "climate," "water" and "light conditions," affect maturation towards addiction accordingly. Addiction is prevented and controlled through abstinence—an environmental constraint. Yet, the addict is still considered an addict, even when deprived of the drug that is said to overtly define the addiction, (Peele et al., 1991). Addiction is a primary psychological or physiological fault manifested through the use of the drug.

Volition is an insignificant part of this model. Choice has little to do with addiction. A contradiction here is that abstinence is a volitional act, (Fingarette, 1985a).

A psychoanalytic perspective on addiction, which may view addiction as an underlying symptom of "psychopathology," is an example of a maturationist perspective. Here, psychological functions are the primary origins of addictive behavior, (Berger, 1991). Unresolved intrapsychic conflicts, originating for example in "pre-oedipal experiences," are manifestations of substance abuse and/or addiction.

From the psychoanalytic point of view, addiction may not be a strictly medical phenomenon. It also may not embody the disease-model notion of "loss of control." However, from a psychoanalytic perspective, addiction is predetermined in a psychological sense. Addiction is an acting out of early, unresolved intrapsychic conflict.

Minimal interaction with the environment catalyzes this acting out. The addiction functions in a centrifugal manner, from within the "unconscious" domain of the individual's psyche. Eventually it becomes expressed through some sort of interaction with the environment. So powerful is the preprogrammed-psychic influence that the "patient" is often considered incapable of resolving the intrapsychic conflict, despite his or her best intentions to do so. Moreover, some psychoanalytic therapists believe that addiction should never be the reason for going through psychoanalytic treatment, (L. Berger, personal communication, November 11, 1992).

The medical model of addiction is also maturationist. From this point of view, the potential for addiction is a physiological phenomenon, often genetically determined. Some proponents of this model adamantly assert that physiological defects always precede psychological components of the addiction and never vice-versa, (Milam & Ketcham, 1983).

The genetic theories of alcoholism are clearly maturationist models. Often the belief here is that a defective gene causes neurological disability. This disability may involve a malabsorption of essential neurotransmitters at the synaptic gap. As a result, abnormally-low levels of a specific neurotransmitter are absorbed, e.g., dopamine or serotonin, which may cause an experience of depression. Alcohol alleviates the depression, (Ballenger et al., 1979; Goodwin, 1988; Blum et al., 1990).

The problem with the genetically-determined neurotransmitter malabsorption "matures out" of the individual at a particular age, or through a minimal interaction with the environment. In the latter case, the ingestion of a minimal quantity of mood-altering drugs could trigger a dormant problem, or exacerbate a currently active one. Here, the disease

concept of loss-of-control applies. Since the problem with neurotransmitter absorption is a function of the autonomic nervous system, it is beyond the volitional control of the individual. Therefore, the person is counseled towards abstinence.

The maturationist perspective based on a physiological theory of etiology, often referred to as the "disease model," does not necessarily have to be grounded in genetic theory. Some researchers believe the interaction of the person's physiology with the chemicals of the mood-altering drug produces a biologically-driven addiction that is independent of anything predetermined. Once this interaction occurs, the motivation for addiction becomes a primary and biological force, driven by the addict's physiology, not will. Thus, the addiction attribution is ironically "inside" the individual, yet beyond his or her control, and centrifugal in nature, i.e., it "moves from inside out."

When addiction is attributed to physiological processes, be these genetic or otherwise, the model is medical or disease in nature. Thus, we have the "disease model of addiction," based on the maturationist perspective. Yet, we must also include the psychoanalytic point of view, even though it is psychological, not physiological. It still offers a predetermined, maturationist explanation for addiction, not necessarily characterized by loss-of-control.

Clearly, the maturationist model of addiction represents the nature side of the nature-nurture controversy. The development of addiction occurs through a "biological clock of maturation." Heredity is responsible for well over 50 percent of the interaction between the individual and his or her environment. Once set into motion, the addiction is generally viewed as beyond the volitional control of the person.

### The Behaviorist Paradigm

The second model often used to explain addiction is the behaviorist model, (e.g., Blakey & Baker, 1980). Here, addiction is a learned behavior. This behavior occurs through a passive relationship of the organism to its environment. The environment accounts for well over 50 percent of addiction.

From the behaviorist perspective, addiction is the acquisition of specific standards of behavior. The behaviorist and moralistic models are similar in the sense that advocates for both view the environment as the primary cause of addictive behavior. The behaviorist explains addiction in terms of an active-environment (stimulus)—passive-organism (response) relationship. The moralist sees the environment as causing the addiction through the individual's ingestion of a universally-addicting substance, i.e., alcohol or "addictive" drugs. The moralist also believes that a lack of "proper" values causes the ingestion of drugs. People in the environment should instill their "good" values into the drug addict, or potential drug addict.

From a strictly behaviorist point of view, the passive relationship with a stimulus-environment motivates the organism to learn addiction. Environment shapes behavior. Drug experience is self-rewarding. Reinforcement is the foundation for continued use, i.e., the addiction. Drug euphoria reduces a painful experience. It is rewarding and reinforcing in its "power" to remove noxious stimuli, i.e., negative reinforcement. The drug and the environment are "the power."

According to the opponent-process theory, drug addiction exists as a combination of mechanized polar experiences reinforcing one another,

(Solomon & Corbit, 1974). The drug experience is self-reinforcing. It is deterministic, producing two opposing experiences.

For example, cocaine produces an experience of euphoria. In the early stages of cocaine use, a relatively small amount of the drug produces a strong feeling of euphoria. Soon thereafter, drug tolerance develops. Increasing amounts of cocaine are required to produce the previous experience of euphoria.

This tolerance is psychological or physiological. Physiological tolerance means that increasing amounts of the drug are ingested to create an earlier physiological reaction. Psychologically, the euphoria may become "normalized." It loses its novel nature. The amount of drug needed to produce euphoria increases as the experience of euphoria decreases. The decrease in euphoria motivates the individual to use more of the drug. As tolerance develops, individuals "need" more of the drug to produce euphoria. Psychologically or physiologically, the addiction cycle is established.

This psychological opponent-process exists in an "addiction" to non-drug activities too. Sky diving is an example. A person experiences anxiety before jumping from the plane. An experience of euphoria follows the anxiety upon descent. The feeling of euphoria motivates the attempt to try it again. The anxiety before the jump decreases, as the euphoria during the jump and descent increases, (Feldman, 1990).

In the sky-diving example, the anxiety decreases as the euphoria increases. In the cocaine example, tolerance and quantity of cocaine increase as the euphoria or quality of the drug experience decreases. In both cases, one experience, be it psychological or physiological, conditions

an opposing experience. The reduction of one type of experience creates an increase in the opposing one. This establishes the addiction.

Behaviorists use the "black box" and the "potter's clay" metaphors. The person is like a black box. There is nothing "inside." Performed behaviors define the person. There is no mind, no self-directed sense of will or meaning. Cognitive-behaviorists condition thoughts like behaviors, (Marlatt & Gordon, 1985). The environment is the primary executor of acquired behavior. The environment "shapes" the addictive behavior the way a potter fashions a lump of clay.

In the maturationist model the environment is passive and the self is active. In the behaviorist model the environment is active and the organism is passive. Behaviorists use aversion training and punishment to treat addiction. They manipulate changes in reinforcement-contingency schedules too, (Cohen et al., 1971a; Cohen et al, 1971b).

Classical and operant conditioning principles apply here. The addict pairs drug use and reward. The addict creates reward through drug ingestion. Drugs cause reward. Repetition reinforces reward. Repetition establishes the addiction. Environmental factors create the addiction. The "nurture" side of the nature-nurture controversy reigns in this perspective.

#### The Interactionist Paradigm

In the interactionist model, the interaction between self and environment creates the addiction. "Why" the individual interacts with the environment in a particular way concerns the maturationist. "How" the individual interacts with environment concerns the interactionist. The meaning of the contact between individual and environment plays a key role in determining the potential for addictive behavior.



Addiction is a dynamic process, according to the interactionist. It is not static, predetermined or dependent on optimal environmental conditions to unfold. Volition and "meaning-making" play a central role, (Fingarette, 1985a; Schaler, 1991b; Kegan, 1982). Addiction is a choice, not a disease, (Schaler, 1989c). The interactionist attends to individual differences in cognitive ability as well as environmental conditions that provoke meaningful interaction with self. Some interactionists question the very existence of an entity called addiction, (Szasz, 1989). Some appear to combine elements of spiritualism, "systemic determinism," and stoicism, (Bateson, 1971; Brundage, 1985).

The "camera-lens metaphor" is a way of understanding the interactionist's beliefs about addiction. The nervous system of the body is like a lens, modulating experience as self and environment interact. The self is like the film in a camera. The self organizes experience here and creates meaning. The self is not the brain. The self defines experience as "I am."

Individual physiological differences affect the experience of self. They do not create it. The quality of a camera lens affects the image of the environment transposed to the film. When the image is unpleasant, the self uses drugs to modify the lens.

The self is the executor of experience in this model, not the nervous system. Drug use may or may not be an effective way to modify the lens. The assessment of drug effectiveness and the price of drug use are moral, not medical, judgments.

The recommended therapy for the person who uses drugs is: (1) A matter of choice; 2) concerned with awareness and responsibility; 3) a process of values clarification; 4) a means of support to achieve specific

behavior goals; and 5) an educational process that involves the learning of coping strategies, (Schaler, 1991b).

Psychotherapeutic models employing the interactionist perspective include those based in existential phenomenology, e.g., gestalt therapy, (Perls, 1947; Perls et al., 1951), and other forms of therapy that eschew the medical and behaviorist models, (Szasz, 1965). Therapy is not a form of "treatment," where one party does something to the other. It is a contractual, not a medical, relationship, (Szasz, 1965).

From the interactionist perspective, the self strives to attain valued levels of cognitive development. These values are a function of self-environment interaction. A pre-set standard that mechanistically matures according to individual age with minimal environmental involvement does not determine the addiction. People create addiction. They do not release it. An active environment does not shape a passive organism into creating addiction.

From the interactionist perspective, drug addiction is not a disease defined by a physical lesion of the body. It is a behavior and as such a willful act based on the drug user's personal values. Thus, from this perspective, it does not make sense to speak of "treating" individuals because they are addicts, or, to treat them for their addiction, since drug addiction is a behavior based on moral choices. "Bad values" do not need medicine, according to the interactionist, (Szasz, 1972; Schaler, 1991b).

Drugs given to an addict to inhibit euphoria from an opiate, (e.g., naloxone HCL), or to make them feel nauseated when they drink alcohol, (e.g., disulfiram), influence and control behavior, but do not cure it. The interactionist differentiates between what a drug does to the body and how the drug gets into the body, (Szasz, 1989).

Heroin addicts, maturationists often claim, are like diabetics. Medical modelists give methadone, a synthetic opioid, to heroin addicts on this basis, (despite the fact that heroin addicts do not suffer from an inability to produce methadone). The interactionist says the analogy is not reciprocal, (Schaler, 1989a). Diabetics are not like drug addicts.

It may be useful to imagine the following scenario to appreciate this important distinction between maturationist and interactionist: A drug addict is in one jail cell and a diabetic in another. Deprive the heroin addict of his heroin. Deprive the diabetic of his insulin. The diabetic gets sicker and eventually dies. The drug addict gets better and lives. Insulin helps the diabetic. Lack of methadone or heroin helps the heroin addict, (N. Borelli, personal communication, 1989).

In the interactionist model, nature and nurture are mutually inclusive. Self is the executor of experience. A hierarchical system of values formed through a reciprocal relationship of self and environment creates addiction.

The interactionist model of addiction is perhaps the least popular of the three. The focus on personal responsibility for the addiction may account for this.

### Summary

In summary, the three models of addiction differ according to how the individual interacts with the environment. In the maturationist model, self and its cognitive components emerge from a mysterious and unconscious "within," maturing in a centrifugal manner, nurtured by environmental situations and conditions that enhance or restrict maturation. The environment plays a minimal yet critical role in development. Addiction "unfolds," psychologically or physiologically.

The behaviorist model sees addiction as an outcome of self in passive, yet direct, relationship with environmental stimuli. Addiction is a function of a centripetal relationship with the environment, the opposite of the maturationist perspective. Environment acts on the self.

Free will and self determination concern the interactionist. The self chooses to engage in addictive behavior to either adapt to environmental experience, or because drugs enhance a sense of meaning in the world. Addiction is not a treatable entity. Rather, addiction is a moral choice individuals make based on multitudinous existential factors.

The next section of this review focuses on how Americans have viewed addiction over the past 200 years. The three models of addiction are used to organize shifts in beliefs regarding addiction.

#### A Historical Trace of Beliefs Regarding the Etiology of Addiction

Public attitudes towards alcoholism and drug addiction have gone through several radical changes in America over the past two hundred years. The attributions regarding addiction problems, as well as beliefs regarding etiology, took three directions: (a) Interaction with the social environment, (the interactionist paradigm), caused the problems related to addiction; (b) The drug itself, (the behaviorist or moralist paradigm) caused the problem; (c) The physiology or the "unconscious" mind of the drug user, (the maturationist or medical paradigm), caused the problem.

This section will describe the various beliefs regarding addiction, which has primarily concerned alcohol use, along these three attributional dimensions, from a historical context. This review does not discuss a fourth and relatively recent model, the biopsychosocial model, (Engle, 1977). It is a combination of the three models addressed in detail.

### Overview

According to Levine (1978),

[t]he idea that alcoholism is a progressive disease—the chief symptom of which is loss of control over drinking behavior, and whose only remedy is abstinence from all alcoholic beverages—is now about 175 or 200 years old, but no older. (p. 143)

The concept of and belief in alcohol addiction continued and extended to opium addiction. Proponents of the medical model of addiction, while appearing to have distanced themselves from the moralistic stance of temperance days, are similar in their views of the teetotaler philosophy of that period.

For example, the medical modelists of today counsel addicts to be abstinent to prevent and treat problems with alcohol and other drugs. Temperance advocates counseled alcoholics and non-alcoholics alike to do the same. This belief is contrary to findings that controlled-drinking and moderate drug ingestion are equally if not at times more effective in controlling the problems associated with addiction, (Pattison, 1966, 1976; Miller & Caddy, 1977; Miller, 1983; Marlatt, 1983; Sanchez-Craig, 1984; Erickson et al., 1987; Roizen 1987; Peele, 1992).

As Levine (1978) has pointed out,

[t]he most important difference between temperance thought and the 'new disease conception' is the location of the source of addiction. The Temperance Movement found the source of addiction in the drug itself—alcohol was viewed as an inherently addicting substance, much as heroin is today. Post-Prohibition thought locates the source of addiction in the individual body—only

some people, it is argued, for reasons yet unknown, become addicted to alcohol. (p. 144)

The medical modelists of today attributes addiction problems to the physiology of the addict. They assert that addiction has nothing to do with morality or personal values. Both the medical and moralistic modelist of temperance days believe in the concept of loss of control, a concept that developed as a result of the repeal of Prohibition laws and the founding of Alcoholics Anonymous during the mid 1930s. These are the two models that have dominated beliefs regarding alcoholism and addiction since the early part of the 19th century.

#### Colonial Period

During colonial times in America there was no such phenomena as alcoholism, alcoholics, or drug addicts. "Addicted' meant habituated, and one was habituated to drunkenness, not to liquor," (Levine, 1978, p. 147). The Puritan Cotton Mather called alcohol the "good creature of God." Ministers and physicians alike encouraged people to use it. People of the time considered alcohol a general panacea for psychological and physical ailments. "New England's Puritan ministers praised alcohol but denounced drunkenness as a sinful and wilful (sic) misuse of the 'Good Creature,'" (Levine, 1984, p. 110). Drinkers and their drink did not cause the problems associated with drunkenness. Bad company and social interaction caused them, (Levine, 1978; Fingarette, 1988).

When a person had a problem with alcohol, people of colonial times considered this to be a function of the particular crowd the individual socialized with. They blamed the tavern he or she frequented and the social interaction that occurred there.

Gradually, a moralistic stance regarding habitual drunkenness, based in religious dogma, developed. The writings of Puritans around the end of the 17th century and the beginning of the 18th century ushered in a new era regarding drunkenness. Cotton Mather began to change his views, and called drunkenness "this engine of the Devil," (Levine, 1978). Increase Mather, his father, attributed the difficulty in giving up the habit of drunkenness to "sin," (Levine, 1978).

Terms such as "craving" and "overwhelming desire to drink," as an inner experience that drove the drunkard to drink, terms clearly related to the 19th and 20th century concept of "loss of control," were not used to explain the colonial drunkard's "sinful" habit. The "sin" in this case, was the drunkard's "love of 'excess' drink to the point of drunkenness....Drunkenness was a choice, albeit a sinful one, which some individuals make," (Levine, 1978, pp. 148-149). Desire and will were synonymous. This idea regarding the role of will in explaining drunkenness is in sharp contrast to the 20th century notion of the disease of alcoholism as characterized by "loss of control" or will.

The interactionist and moralistic views of drunkenness during colonial times, uniting the ideas of "desire" and "will," viewed drunkenness as a natural behavior, as natural as any sinful pursuit of pleasure. This interactionist and moralistic model appear to have prevailed until the mid-18th century when physicians began to look for distinctions between "desire" and "will" as explanations for deviant behavior, behavior they considered unnatural, (Levine, 1978; Grob, 1981).

Benjamin Rush and the Medicalization of Socially-Deviant Behavior

Benjamin Rush (1746-1813), a physician and signer of the Declaration of Independence, and a man generally known today as the

"father of American psychiatry," solidified this new way of defining drunken deviance in 1784 and declared that alcoholism was a "disease," and a disease of the will at that. As Levine (1978) writes,

Rush's contribution to a new model of habitual drunkenness was fourfold: First, he identified the causal agent—spirituous liquors; second, he clearly described the drunkard's condition as loss of control over drinking behavior—as compulsive activity; third, he declared the condition to be a disease; and fourth, he prescribed total abstinence as the only way to cure the drunkard. (p. 152)

Writings by Rush marked a shift in beliefs about drunkenness, (Rush, 1981). Similar writings appeared around the same time in England by Thomas Trotter, a physician in Edinburgh, where Rush received his medical degree: "In medical language, I consider drunkenness, strictly speaking, to be a disease; produced by a remote cause, and giving birth to actions and movements in the living body, that disorder the functions of health," (Trotter, 1813, p. B2).

The categorization of alcoholism as a disease by Rush heralded a new era in the medicalizing of social deviance, (Szasz, 1970). While he had no scientific evidence to support his claim that alcoholism was a disease, Rush was a powerful rhetorician and managed to influence public opinion, (Szasz, 1970; Levine, 1978; Fingarette, 1988). Chronic drunkards allegedly had an unknown, physiological disease that made them drink. The "good creature of God" had clearly become the "demon rum," (Levine, 1978; Szasz, 1970; Fingarette, 1988; Blumberg & Pittman, 1991; Blumberg, 1978).

Yet, a curious union of moralism and medicine occurred simultaneously. "Health and wealth" were synonymous with temperance,



and disease with intemperance, according to Rush's "moral and physical thermometer," (Rush, 1981). The "thermometer," a figure in Rush's original text, was "a scale of the progress of Temperance and Intemperance—Liquors with effects in their usual order (sic)." Water was at the "highest temperature," followed by milk, water and "small" beer, associated with "serenity of mind, reputation, long life, & happiness." Cider, "perry," wine, "porter," and strong beer flowed down the thermometer to increasingly "cold" temperatures and caused "cheerfulness, strength, and nourishment, when taken only in small quantities, and at meals." Finally, a variety of hard liquors of the time described "below zero," and caused various vices, diseases, and punishments, (Rush, 1981).

As Blumberg and Pittman (1991) point out, Rush believed that because spirits were no longer primarily used medicinally by physicians, but had become a beverage used by the general population, new diseases had appeared as well as new symptoms of old diseases....Rush had come to the conclusion that, in general, spirituous liquors are not necessary nor useful under any circumstances. He saw spirituous liquors as undesirable to human society not only in a general way, but also as a threat to the Republic....He argued that 'a people corrupted with strong drink cannot long be a free people (his emphasis), for the use of spirituous liquors will corrupt the rules of the community and so corrupt the laws that they make.' (pp. 31-32)

None of these descriptions had anything to do with empirical medicine. They were moral judgments disguised as medical ones. Szasz

(1970) explains that "...Rush did not **recognize** that drinking was a medical problem; he **defined** it as one," [emphasis in original] (p. 141).

An interesting example of Rush's tendency to medicalize socially deviant behavior was his "discovery" in 1792 of a disease he called "negritude," (Rush, 1799). A black slave by the name of Henry Moss had consulted him for white spots that appeared on his arm, a condition known today as vitiligo, which involves a loss of pigmentation in the skin. Rush diagnosed the man as experiencing a spontaneous cure of his "blackness." He claimed that white skin was the natural state of skin color for people and that blacks were suffering from a congenital form of leprosy called negritude, which caused their skin to be dark in color.

What is particularly fascinating about this "diagnosis" is that Rush professed great compassion towards blacks. He said "I love even the name 'Africa'", (Corner, 1948). However, he argued that blacks and white should not intermarry because negritude would spread hereditarily, (Szasz, 1970).

#### The Temperance Movement

From Rush's time onward, alcohol gradually became regarded as a universally-addicting substance capable of corrupting and thereby "diseasing" any person, regardless of moral standing. Thus, the blame for alcohol-related problems shifted from "bad company" to a mysterious diseased state within the individual, to the beverage itself. Rush asserted that abstinence was the only way to treat the disease of alcoholism.

These ideas gathered momentum among members of the temperance movement. The idea of temperance was in the early days of the movement was ambiguous. Temperance referred to moderation, or control in relation to drinking beer and wine, and abstinence in relation to

distilled liquors, (Levine, 1984). Rush advocated abstinence, and leaders in the Temperance Movement claimed him as their founder:

His writings on the relationship between intemperance and ardent spirits, his descriptions of the individual and social consequences of the use of liquor, as well as his recommendation of total abstinence, formed part of the essential core of temperance ideology throughout the 19th century. (Levine, 1978, p. 153)

The idea that drunkards could not control their drinking began to spread through public testimonials. "By about the mid-1830s, certain assumptions about the inner experience of the drunkard had become central to temperance thought. The desire for alcohol was seen as 'overpowering,' and frequently labeled a disease," (Levine, 1978, p. 154).

The notion that drunkenness was a hereditary disease also emerged. Nineteenth-century Americans believed in a particular version of the heritability of acquired characteristics. The disease of the parents would be passed on to later generations, but it was thought the traits could be unacquired as well, over several more generations. Thus liquor could be viewed as the cause of habitual drunkenness because any individual may have been weakened by his or her ancestors' drinking habits. (Levine, 1978, pp. 156-157)

The truth, in terms of the Temperance Movement's perception of drunkenness was this: Drunkenness was a sin and a disease—a sin first, then a disease, (Levine, 1978, p. 157). Good morals, which equaled abstinence, protected individuals from getting the disease and cured them if they had succumbed to the disease. Drunkenness was a disease caused and perpetuated by bad morals. Good morals maintained sobriety and temperance.

Interestingly, Temperance leaders despised moderate drinkers more than habitual drunkards, who were more the object of pity. Clearly, moderate drinkers exercised discretion and autonomy. They could control their drinking through will power and in so doing may have discredited the claims of the Temperance leaders to the contrary.

The attitude of those members of the Temperance Movement is an example of the behaviorist and moralist paradigm. They based their goal to change the drinking behavior of people solely on the belief that alcohol, a purely environmental agent, and "wrong morals" were the cause of drunkenness. They had the "right" values and were out to impose their values on the individual. The link with the disease-model perspective is curious. The movement admitted its roots in the writings and beliefs of Benjamin Rush. It viewed drunkenness as a disease, second to it being a sin.

Since alcohol was the source of all sorts of domestic problems, the focus of members of the Temperance Movement shifted towards the end of the 19th century. Prior to this time, the focus of the group was on "affiliative reform." This interest became secondary to one of "coercive reform," and the eventual establishment of Prohibition. In other words, the motivation to change behavior was first to absorb sinners into the "sanctuary of the flock." Then, it became a campaign against evil.

According to Gusfield, (1963):

The champion of assimilative reform viewed the drinker as part of a social system in which the reformer's culture was dominant. On this assumption his invitation to the drinker to reform made sense. The champion of coercive reform cannot make this assumption. He sees the object of reform as someone who rejects the social

dominance of the reformer and denies the legitimacy of his life style. Since the dominance of his culture and the social status of his group are denied, the coercive reformer turns to law and force as ways to affirm it. (p. 7)

Medical rhetoric was often used to achieve these ends. According to Bakalar and Grinspoon (1984),

[t]he campaign against alcohol, like other antidrug campaigns, was also a movement for public health reform. Often parallels were drawn between drunkenness and cholera, the most terrifying epidemic disease of the nineteenth century; like cholera, alcohol abuse was regarded as a symptom of social disorder as well as a disease—something that required indirect solutions. The teaching of physiology and hygiene in public schools was promoted mainly by temperance reformers and prohibitionists; much more space in school textbooks was devoted to the dangers of alcohol in the 1880s than in the 1930s. (Sometimes lurid misinformation was introduced into this educational material—for example, the assertion that alcohol, could burn the throat or cause spontaneous combustion in a drunkard. Parallels with more recent antidrug campaigns are evident.) (p. 83)

#### Prohibition, Repeal, and the Birth of Alcoholics Anonymous

The culmination of Temperance Movement political lobbying resulted in the establishment of Prohibition in 1919. The Volstead Act (1920) gave Congress and the states the power to enforce the 18th Amendment, which prohibited the manufacture and sale of alcoholic beverages, (Mitchell & Stein, 1983).

The rationale for Prohibition appears based in the belief that all drinkers would eventually drink uncontrollably. Drinking led to drunkenness, a state of "moral turpitude." Abstinence for all was the cure for alcohol addiction. Again, there was no scientific evidence to support this belief. This was the result of a moralistic, not a scientific, campaign.

The incidents of and problems associated with heavy drinking decreased during Prohibition, (Musto, 1987; Bakalar & Grinspoon, 1984), but not necessarily as a because of it, (Levine, 1984). The law against the sale and possession of alcoholic beverages became impossible to enforce. Crime rates associated with illegal distribution rose dramatically and public demand increased such that the will of the people demanded a change in the law. Big business gave generous amounts of money to support the cause for repeal for two reasons: (a) Wealthy business people believed that repeal would facilitate liquor tax increases and thereby reduce personal income tax; and (b) the corporate rich believed and feared that "disrespect for prohibition was producing widespread disrespect for all law including property law," (Levine, 1984, 115). Prohibition was repealed in 1933. Repeal decriminalized alcoholism through its subsequent medicalization, (Cahalan, 1988).

Once again, public beliefs and attitudes about alcohol and drinking changed. Most people did not seem to subscribe to the Temperance belief that alcohol was a universally-addicting substance. Many people clearly drank without problems, including heavy drinkers. Additionally, people believed they had a right to drink without governmental interference. The idea of free will in relation to alcohol emerged.

One present day erroneous view of the 19th century temperance is that it was condemnatory and unsympathetic to the inebriate. In

fact, the opposite was true: temperance supporters were the most sympathetic and helpful and are the true forerunners of both Alcoholics Anonymous and of most contemporary forms of alcoholism treatment. (Levine, 1984, p. 112)

Temperance beliefs about alcohol lost their popularity, (Fingarette, 1988; Peele, 1989). A new way of viewing alcoholism appeared by 1935 with the founding of Alcoholics Anonymous (AA), a self-help spiritual fellowship of recovering alcoholics committed to helping one another maintain sobriety, (Ritchie, 1948; W., 1949; Thompson, 1952; Ripley & Jackson, 1959; Tiebout, 1961; C., 1965; Leach & Norris, 1977; Kurtz, 1988; Mäkelä, 1991).

Following the teachings of Dr. William Silkworth, Wilson and Smith [the founders of AA] maintained that people who became alcoholics had a disease—they had something wrong with their bodies which eventually made them unable to control their drinking....

The brilliantly original contribution of the founders of Alcoholics Anonymous was to marry this 'new disease conception' to a remarkable organizational form: a self-help network of 'recovered' alcoholics who frankly discussed their drinking and their lives, who helped each other to stay off alcohol, who went to other alcoholics offering help and a program that worked to maintain sobriety, and improve one's life, and who did this 'anonymously'. (Levine, 1984, p. 116)

AA became "a power greater than self," (Donovan, 1984), and united with professional forms of treatment for alcoholism, (Miller & Mahler, 1991). Members believed then, (and today), that alcohol was addicting to

only a small part of the general population. This figure is estimated to be approximately 10 percent today, (Cahalan, 1970). Most people, they believed, could drink without problems. Physiological differences shared by alcoholics allegedly prevented them from being able to drink in a responsible manner. For them, "Prohibition" in the form of complete abstinence from alcoholic beverages was the only way of controlling their drinking behavior. The maturationist perspective was reborn.

AA has been analyzed by sociologists as a cult, based on its ideology and methodology. Alexander & Rollins (1984) analyzed it as such in light of Lifton's eight brainwashing techniques used by the communist Chinese in their "thought reform" campaigns. These include "milieu control, mystical manipulation, demand for purity, cult of confession, sacred science, loading the language, doctrine over person, and dispensing of existence," (Lifton, 1961; Alexander & Rollins, 1984). All of these techniques seemed to be operating in the AA experience of treatment for alcoholism, according to the authors. However, Sadler (1977) qualifies the description of AA as a cult by focusing on such elements as voluntarism, powerlessness, the interactional context of the AA meeting, and the egalitarian nature of the group. She cautions against applying "anthropological labels such as 'crisis cult' that were devised to categorize specific nonwestern phenomena" to urban, western peoples in groups such as AA, (Sadler, 1977, p. 210).

#### Loss-of-Control Theory and the Disease Concept of Alcoholism

This etiological paradigm found new support in E.M. Jellinek's work at Yale University, (Jellinek, 1946; 1952). He described behavioral patterns of drinking similar to those proposed by AA. He wrote of specific stages in the development of drinking which he characterized by Greek letters,



(1960). He named one group of alcoholics "gamma" types and claimed they manifested a drinking behavior referred to as loss-of-control, again an idea that originated in AA.

Loss-of-control refers to the tendency for one drink of alcohol to set into motion a physiological chain reaction among alcoholics allegedly making it impossible for them to exercise volitional control over drinking. This concept proved to be the cornerstone upon which the disease concept of alcoholism and addiction rest, (see also Keller, 1972, 1976, 1982; Ludwig & Wikler, 1974).

Recovered alcoholics in Alcoholics Anonymous speak of 'loss of control' to denote that stage in the development of their drinking history when the ingestion of one alcoholic drink sets up a chain reaction so that they are unable to adhere to their intention to 'have one or two drinks only' but continue to ingest more and more—often with quite some difficulty and disgust—contrary to their volition. (Jellinek, 1960, p. 41)

Rush's Thermometer...[was] strikingly similar in purpose and form to such later illustrations as E.M. Jellinek's graph...of the phases of alcohol addiction....The illustrations from both eras explained alcoholism as a progressive and cumulative process, through which alcoholics passed in a generally predictable sequence of steps. In all these illustrations, clearly defined stages of problem drinking had corresponding social and physical consequences. (Lender & Karnchanapee, 1977, p. 1354-1360)

Through intense public relation campaigns initiated by members of AA, Marty Mann, an early member of AA and founder of the National Council on Alcoholism, and the Yale Center established by Jellinek, Mark

Keller, editor of the *Quarterly Journal of Studies on Alcohol*, and Selden Bacon, a director of the Yale center, the "alcoholism movement" was established, (Levine, 1984). Alcoholism was finally accepted as a disease characterized by loss-of-control behavior by the American Medical Association in 1954, (Cahalan, 1988; see also Criteria Committee, National Council on Alcoholism, 1972; American Medical Association, 1967). By 1964 there was "little solid evidence of the degree of public acceptance of the illness concept, or of its attitudinal and behavioral correlates," (Mulford & Miller, 1964; Verden et al., 1969). The American Medical Association issued the following statement (1967):

Alcoholism is an illness characterized by preoccupation with alcohol and loss of control over its consumptions such as to lead usually to intoxication if drinking is begun; by chronicity; by progression; and by tendency toward relapse. It is typically associated with physical disability and impaired emotional, occupational, and/or social adjustments as a direct consequence of persistent and excessive use.  
(p. 6)

Numerous medical and psychiatric associations adopted the disease model of alcoholism world-wide. The model covers numerous "addictions" including drug addiction, (Peele, 1989).

Caetano (1987) studied public opinion and beliefs "about alcoholism, treatment and stigma surrounding the alcoholic." Approximately 90 percent of those studied believed that alcoholism was a disease, and [c]onceptions about alcoholism [were]...not entirely consistent in the public's mind; the disease concept may be contradicted and supported at the same time. With regard to alcoholism this contradiction is most often represented by the public's under-

standing of alcoholism as a disease and as a sign of moral weakness.  
(p. 158)

An example of this latter point is evident when Congress passed a law, following the Supreme Court's ruling in *Traynor v. Turnage* (1988), prohibiting the alcoholism of a veteran seeking education benefits from being labeled "willful misconduct," yet would not allow this prohibition to apply to drug addiction because Congress construed this as rewarding the addict for his or her illegal drug use, (Schaler, 1989b).

### Genetic Studies

Belief in the disease model of alcoholism and drug addiction has been bolstered by studies on adopted twins of alcoholic parents, and recently through investigations concerning linkage and association of the D2 allele of the dopamine receptor gene among alcoholic populations, although the findings yield opposite results, (Gordis et al., 1990; Blum et al., 1990; Bolos et al., 1990; Gelernter et al., 1991; Parsian et al., 1991; Conneally, 1991; Cloninger, 1991; Comings et al., 1991; Noble et al., 1991; Brown, 1991). Some researchers assert there are metabolic differences between alcoholics and normal drinkers, brain wave differences between these two groups, and serological markers for alcoholism, etc., (Goodwin, 1988; Kissin, 1983; Milam & Ketcham, 1983; Vaillant, 1983; Cloninger et al., 1981; Hill et al., 1975).

Genetic theories of alcoholism have focused on adoption (Cloninger et al., 1981; Cadoret & Gath, 1978; Schuckit et al., 1972) and twin studies, (Heath et al., 1991a, 1991b; Pickens, et al., 1991; McGue et al., 1992). In the adoption studies, sons whose biological fathers were classified as alcoholic were put up for adoption and incidents of alcoholism in this group were

compared with sons whose biological fathers were not alcoholic. A representative study of this sort is discussed by Fingarette (1988).

Goodwin et al. (1973) found that approximately 18 percent of the sons whose biological fathers were alcoholic became alcoholics themselves, while only five percent of the adopted sons whose biological fathers were not alcoholic became alcoholics. Thus, sons of alcoholics were 3.6 times more likely to become alcoholics than sons whose fathers were not alcoholics. This difference was found to be statistically significant and many people use this as evidence to assert that alcoholism is a genetic disease.

As Fingarette points out (1988), this conclusion depends on how one interprets the numbers. If 18 percent of the adoptees became alcoholic, 82 percent of the sons whose biological fathers were alcoholic did *not* become alcoholics. In other words, four out of five sons of alcoholic fathers do not become alcoholic. Either the genes are not always transmitted, or if they are, environmental factors can override the influence of the genes. The difficulty with such studies is explaining how genetics can account for the fact that sons of alcoholic fathers don't become alcoholic themselves, and sons of non-alcoholic fathers do.

A study by Blum et al. (1990) set off a wave of controversy regarding the genetic basis of alcoholism that is still unresolved. Blum et al. (1990) probed nine different genes hypothesized to be linked to alcoholism and found that the A1 allele of the dopamine D2 was significantly related to alcoholism, while the eight other genes were found to be unrelated. They studied the DNA of brain tissue taken from 70 unrelated cadavers and found that the allele of the dopamine receptor gene predicted 69 percent of the alcoholics and 20 percent of the non-alcoholic controls. The difference

was statistically significant. The authors concluded that the dopamine D2 receptor gene is strongly associated with alcoholism.

Peele (1990b) asserted that Blum et al.'s study is more disconfirming than confirming, i.e., eight genes were disconfirmed. Bolos et al. (1990) attempted to replicate the finding by Blum et al. and used a more scientifically-rigorous methodology, i.e., living subjects with pedigree and higher reliability of alcoholism diagnoses. Not only did they fail to replicate the finding by Blum, but they found a higher incidence of the dopamine receptor gene in the control group!

The allele of the dopamine gene seems distantly related, or associated, but not linked. Moreover, the gene is equally associated with many other forms of deviant behavior and disorders, not just alcoholism. This being the case, and the other genes hypothesized as involved eliminated through the Blum study, there is no direct evidence to implicate gene linkage.

However, the twin studies do continue to suggest involvement between genes and alcoholism, in the minds of many researchers. For example, Kendler et al. (1992) recently reported "that at least half of the total liability to alcoholism is a result of genetic factors." They asserted that 53 to 61 percent of the variance in alcohol-dependency status is explained by "additive genetic factors" among monozygotic and dizygotic twins.

Controversy continues regarding these conclusions, (see also Vatz & Weinberg, 1988). For example, authors of a recent study assert that additive genetic factors are responsible for alcoholism among female, monozygotic twins, (Kendler et al., 1992).

Alcohol-dependency status was operationally defined using the *Diagnostic and Statistical Manual of Mental Disorders, Third*

*Edition, Revised* (DSM-III-R) diagnosis of alcohol dependency. Yet, according to the DSM-III-R, "[t]here are three main patterns of chronic Alcohol... Dependence [and]...[i]t is a mistake to associate one of these particular patterns exclusively with 'alcoholism.'"

Alcoholism is defined there in terms of "impaired control," a concept stemming from the "loss of control" theory. This theory was disproven years ago. Moreover, tolerance varies, i.e., some heavy drinkers do not develop it, just as some do not crave alcohol and experience withdrawal.

The definitions of alcoholism created by the authors on the basis of DSM-III-R and "impaired control," namely, "(1) narrow—only alcoholism with dependence-tolerance; (2) intermediate—alcoholism with or without dependence-tolerance...; and (3) broad—alcoholism with or without dependence-tolerance or problem drinking," are so vague they are meaningless. Thus, their conclusions regarding a prediction is not one of genetics and alcoholism but a measure of correlation between female twins and the beliefs of researchers assigning them to capricious "alcoholisms," which appear to have virtually nothing in common.

To make matters even worse, this conceptualization of alcoholism includes "anti-alcoholism," or, the putative "correlation of liability...or vulnerability to alcoholism." This concept seems especially far-fetched in relation to drinking behavior, which by definition is volitional, and thereby based on moral and environmental factors.

On the one hand, the authors' classifications of alcoholism are based on alcohol dependence (which, insofar as "dependence" rests

on loss-of-control, does not exist), “non-dependence” and “non-tolerance,” (whatever they are), and problem drinking, a subjective and arbitrary assessment. On the other hand these variables are tested as part of an imaginary continuum of liability to vulnerability to alcoholism. The model simply doesn’t make sense.

The fact that correlation does not equal causation, that mechanisms by which biology translates into behavior are unknown, that the putative gene(s) allegedly responsible for alcoholism is not always transmitted, (39 to 47 percent of the time according to the present study), that the effect of an alcoholism gene can be overridden by environmental factors, and that just because something is genetic does not mean that it is a disease, e.g., skin color, all notwithstanding — *JAMA* readers are presented with the findings of a study in which the only reliable and constant variable, twin status, is allegedly correlated with a non-existent entity called “liability to vulnerability” for varying degrees of alcohol dependency...., (Schaler, in press).

(The lead author of this twin study was asked to respond to these criticisms by the editors of the *Journal of the American Medical Association*.)

I agree with you that there remains no broad consensus in the research community about the proper definition for alcoholism. It is in fact not clear that there is on unambiguous manner in which to discriminate the broad spectrum of drinking problems into those with and without “alcoholism.” However, we dealt with this problem in our study by examining three divergent definitions of alcoholism. The fact that the results of our twin modeling were

consistent across these widely differing definitions led us to have more confidence in the overall results.

You are correct that our conclusions about the role played by genetic factors in "alcoholism" derive from our observation in identical and fraternal twins. We and others in the literature have extensively examined the strengths and limitations of twin research. While obviously not approaching laboratory-based research in the kind of experimental control that is possible, twin studies remain one of the most valuable methods in human research for quantitating (sic) the role of genetic and environmental factors. Previous studies of potential problems with the twin method (especially the equal environment assumption) in our hands have suggested that, at least as a first approximation, twin studies are likely to provide valid estimates of the importance of genetic factors in human traits.

The liability threshold model that you criticize has been widely used in genetic epidemiology. Again, there are limitations; but these have been relatively well understood. I think the evidence strongly suggests that, although this may not be precisely correct, it is nonetheless a reasonable approximation toward reality for complex multifactorial traits like alcoholism. I disagree with you that looking at the resemblance for lack of alcoholism is improper. In fact, that is one great strength of a population-based twin study, which can examine all four cells of a 2X2 table. Your understand of heritability statistics is incomplete. It is not that the putative genes are not always transmitted. All genes except those that are sex linked are transmitted from parents to offspring at meiosis with a



probability of 50%. What heritability means is the total variance in this putative liability that is due to additive genetic factors. I certainly agree that correlation does not equal causation, but other hypotheses to explain the excess similarity in MZ versus DZ twins in our twin study and other are much less plausible than that genetic factors are so involved. (K. Kendler, personal communication, January 7, 1993).

At least two additional points should be understood in the evaluation and interpretation of genetic studies on alcoholism involving twins (a) Identical twins elicit similar responses from their environments, which may account for personality similarities not attributable to genetic factors; and (b) these studies are always environmentally dependent in the sense that both twins are living in similar environments. For example, if one of the monozygotic twins discussed by Kendler above lived in an Islamic country, where alcohol was prohibited, the alcoholism would not be concordant, (H. Fingarette, personal communication, January, 1993).

#### Current Beliefs and Controversy

Alcohol addiction is called a disease by the federal government, characterized by loss-of-control behavior with a physiological etiology independent of volition. According to Otis R. Bowen, a former Secretary of Health and Human Services,

millions of children have a genetic predisposition to alcoholism[,]...alcohol use by young people has been found to be a 'gateway' drug preceding other drug use...[and] about 1 out of every 15 kids will eventually become an alcoholic...[A]lcoholism is a disease, and this disease is highly treatable. (Bowen, 1988, pp. 559, 563)

For people with this disease called addiction, the only treatment is abstinence. If they drink or ingest an addictive drug, a physiological reaction with alcohol or the drug occurs, rendering them incapable of controlling their drug-taking behavior.

Today, biomedical and psychosocial scientists define two sides of a controversy centered around loss-of-control theory and addiction, (Fillmore & Sigvardsson, 1988). The former assert that genetics and physiological differences account for a disease called alcohol addiction, (e.g., Goodwin, 1988; Blum et al., 1990; Tabakoff & Hoffman, 1988; etc.). The latter reject the idea that addicts constitute a homogeneous group. They hold that expectancy, individual differences, personal values, and environmental factors are the key correlates to heavy drinking and drug taking, (e.g., Merry, 1966; Marlatt, 1973; Paredes, 1973; Tuchfield, 1981). Biomedical researchers reject the genetic claims, (Lester, 1989; Bolos et al., 1990; Billings, 1990). Social scientists and psychiatrists reject strictly psychological theories, (Maltzman, 1991; Madsen, 1988; Vaillant, 1983; Milam & Ketcham, 1983; Prince et al., 1966).

While the genetic theories are often invoked to defend the disease concept of alcoholism, the findings currently suggest association only, and no linkage. Moreover, that alcoholism or addiction for that matter may have a genetic association does not necessarily mean that the addiction is a disease, (Friedman et al., 1989; Maltzman, 1991). For example, skin color is genetically determined. It is not a disease. The issue at stake as to whether alcoholism or drug addiction is a disease or not has to do with the accuracy of the loss-of-control theory. Will theory and disease-model theory appear to be mutually exclusive.

Sociologists regard the disease of alcoholism as a human construction based on desire for social control, (Room, 1983; Fillmore, 1988). Disease modelists counter by saying that while alcoholism may not be a real disease, utility warrants labeling it as such, (Kissin, 1983; Vaillant, 1990). Others believe this does more harm than good (Szasz, 1972; Fingarette, 1988; Alexander, 1990a, 1990b; Peele et al., 1991; Crawford et al., 1989; Fillmore & Kelso, 1987; Heather et al., 1982).

#### Evidence Against the Loss-of-Control Theory

Researchers have challenged the lack of volition or willfulness theory. Davies (1962) published results of a long-term follow-up study of patients treated for alcoholism. The findings were confirmed and extended, (Kendell, 1965). Abstinence, long considered the only cure for alcoholism, was questioned as the only form of treatment when seven out of ninety-three male alcoholics studied exhibited a pattern of normal drinking. Physiological differences purported present in alcoholics did not seem to affect their ability to control drinking. The fact that alcoholics returned to moderate drinking suggested that loss-of-control was not operational. The finding was criticized on the basis that the individuals who returned to drinking were not really alcoholics, (Roizen, 1987).

Four years later a study by Merry (1966) supported Davies's findings. Alcoholics who were unaware they were drinking alcohol did not develop an uncontrollable desire to drink more, undermining the assertion by supporters of the disease model that a small amount of alcohol triggers uncontrollable craving. If alcoholics truly experience loss-of-control then the subjects of the study should have reported higher craving whether they believed their beverages contained alcohol or not.

Cohen et al. (1971) tested health chronic alcoholics who "were hospitalized and given access to substantial quantities of alcohol in an effort to limit their drinking by the application of contingency management procedures," (p. 434).

Whereas addiction is usually considered in such terms as craving and loss of control, these are concepts which can neither be defined operationally nor manipulated experimentally....The results...in this paper provide an experimental analysis of schedule-controlled drinking. They indicate that, despite its physiological determinants, excessive drinking can be governed by reinforcement contingencies, variables which can be manipulated more readily than craving and anxiety. (Cohen et al., 1971, p. 442)

Gottheil et al. (1972, 1973a, 1973b) tested alcoholics' ability to resist available alcohol and found that many alcoholics did not drink all available alcohol when given ample opportunity to do so.

The data are not consistent with the theoretical position that drinking by the alcoholic necessarily results in irresistible craving, more drinking, and loss of control. Some of the patients did not drink at all, some drank heavily and then stopped, and some were able to drink moderately and also stop. Even among heavy drinkers, the alcohol intake varied from day to day, drinks could be resisted after large amounts had been ingested, and abstinent days alternated with drinking days.

The patients who stopped drinking appeared to tolerate this rather well and did not express any strong craving for alcohol. Moreover, while resisting further alcohol, they slept better than they had while drinking, their self-esteem increased, they tended to

experience less discomfort, and there was no significant change in withdrawal or socialization. (p. 421)

Sobell et al. (1972) found that the loss-of-control theory was based more on belief in the theory by alcoholics who had been taught to believe the theory was true, than in evidence that alcoholics would actually drink out of control. They asserted that belief in the dictum can become a self-fulfilling prophecy.

Engle and Williams (1972) found that the desire for alcohol increased when alcoholics had been informed that they had been given alcohol when in fact they had not.

The increased desire for alcohol was evidently based on the information provided or knowledge of its presence rather than on an actual physical presence and chemical effect upon the organism. No evidence was found for a physiological relation between one drink of alcohol and an increased desire for alcohol in the alcoholic. (Engle & Williams, 1972, p. 1103)

Faillace et al. (1972) found no difference in giving alcohol in progressively reduced amounts for up to 32 days to alcoholics compared with giving no alcohol to alcoholics after six months. As the authors wrote,

[d]ata indicate that in a controlled drinking environment, administering alcohol to alcoholics does not have a detrimental effect: in fact the findings suggest that such patients fare at least as well, if not better, than other alcoholics who do not receive the beverage. (p. 89)

According to the loss-of-control theory, those with the disease of

alcoholism cannot plan their drinking especially when going through a period of excessive craving. Yet, leading alcoholism researchers found alcoholics bought and stockpiled alcohol to be able to get as drunk as they wanted even while undergoing withdrawal from previous binges. In other words, they could control their drinking for psychological reasons; their drinking behavior was not determined by a physiologically uncontrollable force, sparked by the use of alcohol, (Mello & Mendelson, 1972):

It is important to emphasize that even in the unrestricted alcohol-access situation, no subject drank all the alcohol available or tried to 'drink to oblivion.' These data are inconsistent with predictions from the craving hypothesis so often invoked to account for an alcoholic's perpetuation of drinking. No empirical support has been provided for the notion of craving by directly observing alcoholic subjects in a situation where they can choose to drink alcohol in any volume at any time by working at a simple task. There has been no confirmation of the notion that once drinking starts, it proceeds autonomously. (pp. 159-160)

A significant experiment in 1973 supported these findings by showing that alcoholics' drinking is correlated with their beliefs about alcohol and drinking. Marlatt et al. (1973) successfully disguised beverages containing and not containing alcohol among a randomly assigned group of sixty-four alcoholic and social drinkers (the control group) asked to participate in a "taste-rating task." One group of subjects was given a beverage with alcohol but was told that although it tasted like alcohol it actually contained none. Subjects in another group were given a beverage with no alcohol (tonic) but were told that it did contain alcohol. "[T]he

consumption rates were higher in those conditions in which subjects were led to believe that they would consume alcohol, regardless of the actual beverage administered," (Marlatt et al., 1973, p. 240). The finding was obtained among both alcoholic and social drinker subjects. Marlatt's experiment suggests that according to their findings the ability of alcoholics to stop drinking alcohol is not determined by a physiological reaction to alcohol. A psychological fact - the belief that they were drinking alcohol - was operationally significant, not alcohol itself, (Schaler, 1991b).

Similar findings have been reported in studies of cocaine addiction, (Erickson et al., 1987; Erickson & Alexander, 1989). Erickson et al. (1987) concluded after reviewing many studies on cocaine that most social-recreational users are able to maintain a low-to-moderate use pattern without escalating to dependency and that users can essentially "treat themselves." They state "[m]any users particularly appreciated that they could benefit from the various appealing effects of cocaine without a feeling of loss-of-control," (p. 81).

They cite in support a study by Spotts and Shontz (1980) that provides "the most in-depth profile of intravenous cocaine users to date." Furthermore, "[m]ost users felt a powerful attachment to cocaine, but not to the extent of absolute necessity. [A]ll agreed that cocaine is not physically addicting...[and] many reported temporary tolerance," (Erickson, et al., 1987, p. 53).

In a study by Siegel (1984) of 118 users, 99 of whom were social-recreational users, described by Erickson et al. as the only longitudinal study of cocaine users in North America, "all users reported episodes of cocaine abstinence." Similar findings are increasingly being published in reputable journals.

These results thus further support the hypothesis that drug use is a function of psychological, not physiological, variables. Even the use of heroin, long considered "the hardest drug," can be controlled for psychological and environmental reasons that are important to heroin addicts.

A notable study of 943 randomly selected Vietnam veterans, 495 of whom "represented a 'drug-positive' sample whose urine samples had been positive for opiates at the time of departure" from Vietnam, was commissioned by the U.S. Department of Defense and led by Robins and colleagues (1975; Robins, 1978). The study shows that only 14 percent of those who used heroin in Vietnam became re-addicted after returning to the United States. Robins's findings support the theory that drug use is a function of environmental stress, which in this example ceased when the veterans left Vietnam. Veterans said they used heroin to cope with the harrowing experience of war:

[I]t does seem clear that the opiates are not so addictive that use is necessarily followed by addiction nor that once addicted, an individual is necessarily addicted permanently. At least in certain circumstances, individuals can use narcotics regularly and even become addicted to them but yet be able to avoid use in other social circumstances....How generalizable these results are is currently unknown. No previous study has had so large and so unbiased a sample of heroin users. (p. 961)

The role of environment in explaining addiction has also been supported by Alexander et al. (1980) who studied the differences in morphine consumption among rats in two different environments, (see also Chein et al., 1964; Zinberg et al., 1978; Biernacki, 1986). Caged rats



consumed a significantly greater amount of morphine solution than rats in an open environment, "rat park," where rats were free to be themselves.

These studies support the idea that drug-taking behavior is a function of expectancy and environment, not physiology, i.e., the interactionist model of addiction. For if loss-of-control theory is true, alcoholics should have responded consistently to beverages containing alcohol, regardless of what they were told. Heroin addicts should not have given up their addiction so easily through change of an environment. And cocaine addicts should not be able to moderate their addiction. Moreover, that alcoholics have been shown to moderate or control their drinking undermines the theory that abstinence is the only way of treating alcoholism, (Institute of Medicine, 1990; Roizen, 1987; Marlatt & Gordon, 1985; Miller, 1983; Heather & Robertson, 1981; Pattison et al., 1977; Miller & Caddy, 1977; Edwards et al., 1977; Bigelow et al., 1972; Pattison, 1976, 1966; Sobell et al., 1972). Additionally, studies on spontaneous remission among alcoholics report that alcoholics choose to give up drinking based on significant life events, (Tuchfield, 1981; Roizen et al, 1978).

These studies and experiments, stemming from the original cases published by Davies, have formed the basis of a psycho-social explanatory model for alcoholism called the free-will model or adaptive model (Schaler, 1991b; Alexander, 1990a, 1990b, 1987). Unlike the disease model, wherein physiological processes are seen as governing cognitive processes, the free-will model views cognitive processes as governing factors in the decision to drink or not. This role of the volitional element as absent in drinking behavior is an important factor in categorizing alcoholism as a disease. Beliefs regarding addiction are viewed as more potent in explaining addiction than the drug itself.

Regardless of whether drug addiction is explained as a medical disease, moral problem or volitional event, most would agree that addiction affects cognitive functioning and behavior in general. Controversy regarding explanatory models for understanding addiction concerns a drug's relationship to cognitive processes, specifically volition, not the effect of the drug on the body per se. That alcohol affects cognitive processes is without controversy, or so it appears. The extent to which it affects these processes is another matter.

#### Learning Theory Perspectives on Addiction

Keller, a leading defender of the disease model of alcoholism, amended the loss-of-control theory (1972), after experiments like Davies's, Merry's and Mello and Mendelson's emerged. He defined alcoholism as a "learned addiction," addiction as a "learned or conditioned response," and loss-of-control as a "conditional symptom, arising because alcoholism is a learned process." He termed the alcoholic a person who has

become disabled from choosing invariably whether he will drink....His learning to become an alcoholic was almost certainly unconscious....(T)he fact that he sometimes can choose not to drink, or that he sometimes can drink moderately, does not alter the fact that he is an alcohol addict; that he has the disease we conveniently call alcoholism. (Keller, 1972, pp. 160-165)

The fact that alcohol and other mood-altering drugs affect a change in cognitive and/or behavioral processes through the experience of intoxication begs the following questions: (1) What is the behavior, cognitive state or process that a person seeks to change or cease through mood altering drugs?; and, (2) what is the behavior, cognitive state or

process that a person experiences or seeks to create or experience through intoxication?

Learning theorists addressed alcoholism in the 1950s, (Shoben, 1956; Conger, 1956; Kingham, 1958). Kepner (1964) examined the application of learning theory then to the treatment of alcoholism. Alcoholism was then viewed by treatment professionals as "primarily functional, i.e., a product of experience rather than of organic or inherited factors" (Kepner, 1964, p. 279), and alcohol seen as offering two sources of reward: (1) creation of pleasure and (2) escape from discomfort. Problems-in-living resulting from prolonged and heavy drinking were explained in terms of gradient-of-reinforcement principle. The belief was that "immediate rewards are stronger reinforcing agents than delayed rewards," (Kepner, 1964, p. 281). Successful treatment of heavy drinkers involved learning new responses, in addition to that of sobriety, to increase self-knowledge, (Kepner, 1964). Reference to self-concept emerged, (Vanderpool, 1969; Berg, 1971). Along with it, researchers appeared to focus on the role of experience attribution in attempts to further understand and help the heavy drinker and/or drug addict, (Donovan & Marlatt, 1980).

Locus-of-control (LOC) refers to the belief or expectancy a person has with regard to reinforcement and experience attribution, i.e., factors outside or external to personal control versus those causally within the domain of volition or willfulness. These attributions include expectancies regarding behavior reinforcement contingencies, the extent to which a particular reinforcement is valued by the individual, and the context within which reinforcement is likely to occur, (Rotter, 1966).

LOC theory developed through Rotter's (1966) social learning theory and has been applied to the study of alcoholism and addiction in general:

In social learning theory, a reinforcement acts to strengthen an **expectancy** [emphasis in original] that a particular behavior or event will be followed by that reinforcement in the future. Once an expectancy for such a behavior-reinforcement sequence is built up the failure of the reinforcement to occur will reduce or extinguish the expectancy. (Rotter, 1966, p. 2)

When social learning theory is applied to the study of drug addiction we may find that the expectancy regarding reinforcement through the drug experience is more important than the physiological effects of the drugs themselves.

As Wallston has recently written (1992), Rotter's social learning theory is an expectancy-value theory, not simply a theory about expectancies....The basic proposition behind Rotter's (1954) version of SLT is that the potential for a person to engage in a set of functionally related behaviors in a given psychological situation is a joint function of (1) the person's expectancy that the behaviors will lead to a particular outcome in that situation and (2) the value of the outcome to the person in that situation. The language in that formulation is context-specific, but Rotter believed the theory could operate on at least two levels, only one of which was specific to a given situation. The other, broader level was one that could be generalized across situations, and contained such constructs as 'need potential,' 'freedom of movement,' and need value.' It was the introduction of LOC as a **generalized expectancy** [emphasis in the original] that captured the imagination of researchers around the world. A generalized expectancy is something the person carries from one situation to the next. It is more trait-like than state-like

and is therefore akin to a 'personality' dimension. (Wallston, 1992, p. 184)

Some researchers seem to disagree with this latter statement by Wallston and view locus-of-control orientation as a flexible personality dimension:

[L]ocus of control as a personality characteristic is in part actively organized by the individual, not passively accrued....In short, to study and understand a person, we need to know the situation,...dispositional characteristics,...how he/she views his/her potential impact on the particular situational-dispositional choices...faced. It is this latter 'choice of an illusion' role which is embodied in a constructed cognitive view of internality-externality attributions. (Tyler et al., 1979, p. 34)

Wallston (1992) has recently asserted that too much focus in locus-of-control research has been directed towards the "locus" of control and not enough emphasis has been placed on the context within which a particular behavior is being studied, as well as the value of the behavior, e.g., health behavior:

The construct of LOC plays a far less significant role in predicting health-directed behavior than does either health value by itself or other control-related expectancy constructs, such as self-efficacy..., mastery..., or perceived competence.... (Wallston, 1992, p. 185)

The more a health outcome or experience is valued, the more likely an individual will engage in a health behavior to create the valued outcome, the more likely the outcome is to occur. Just because a person engages in a health-enhancing behavior does not necessarily mean that the person values that behavior or experience (outcome), (Smith & Wallston,

1992; see Harrison et al., 1992 for meta-analysis of studies of the Health Belief Model).

Rotter's I-E Scale measured locus-of-control along a single dimension. Individuals who scored high on this scale were considered external in locus-of-control orientation, i.e., they attribute responsibility for their experience to factors outside of their personal control. There appear to be at least two ways an awareness of locus-of-control orientation can be utilized from a therapeutic point of view: (1) An external locus-of-control orientation can be changed to an internal one, thereby assisting in the development of personal empowerment to change behavior; (2) Locus-of-control orientation, be it external or internal, can be matched with a similar behavioral-treatment orientation in order to assist with behavior change (*similia similibus curentur*, a dictum of homeopathic medicine meaning "let likes be cured by likes).

The study of LOC orientation in health and illness settings appears to have developed out of work conducted by Seeman and Evans (1962). They examined the LOC orientation of hospitalized tuberculosis patients before Rotter's I-E Scale was published and found that

patients who held internal locus-of-control beliefs knew more about their own condition, questioned doctors and nurses more, and expressed less satisfaction with the amount of feedback or information they were getting about their condition from the hospital personnel than did external patients. (Wallston & Wallston, 1981, p. 190)

Other studies confirmed the finding that "internals" were more knowledgeable about their illness than were externals, (Wallston & Wallston, 1981). The individualizing of patient treatment based on LOC

beliefs was considered a potentially important utilization of the concept by 1973, (Wallston & Wallston, 1973). Wallston and Wallston (1981) believed that insufficient attention had been paid to interaction of specific treatment and locus-of-control beliefs in health care settings and initiated a great deal of research in this area.

Twenty-four studies were published on LOC research on alcoholic populations between 1970 and 1975 and only one prior to 1970. Conclusions regarding control orientation among alcoholic populations remain unclear, (Rohsenow & O'Leary, 1978). Moreover, as Worell & Tumilty (1981) stated: "Rotter's I-E Scale...is predicated on the assumption that I-E derives from social reinforcement, [and thus] may be of questionable relevance in populations defined as dependent on addictive substances," (p. 322).

At first glance, it appears that alcoholics and other drug addicts would be external in their LOC orientation because of their alleged dependent relationship on a substance external to self. Contrary to researchers' expectations, alcoholics tended to score in the internal direction on Rotter's I-E Scale, (Goss & Morosko, 1970; Gozali & Sloan, 1971; Distefano et al., 1972; Gross & Nerviano, 1972; Costello & Manders, 1974). Moreover, Chess et al. (1971) found that increased field independence in an alcoholic group was accompanied by an increase in internal locus-of-control orientation and not associated with increased arousal.

Similar findings have been reported in studies on the LOC orientation of opiate addicts, (Berzins & Ross, 1973; Calicchia, 1979). Strassberg & Robinson (1974) found that LOC was not significantly related with either age or length of drug use among drug users. A recent study by

Haynes & Ayliffe (1991) of substance "misusers" compared this group with "non-misusers." Substance misusers scored significantly higher on external LOC than non-misusers.

According to a review of the literature on LOC research on alcoholic populations by Rohsenow and O'Leary (1978),

better designed studies...find no difference or externality in alcoholics. Some studies show alcoholics to become more internal in locus of control over treatment while others show no significant change. It is not known whether change toward internality is related to treatment success.... (p. 73)

Goss & Morosko (1970) explained the internality orientation among alcoholics this way:

Perhaps it is possible that alcoholic patients do understand the contingency between their behavior and what for them is a preferred source of reinforcement - alcohol. Chotlos and Deiter (1959) have pointed out that alcohol may become the instrument to modify unpleasant feeling states....Past experience provides the problem drinker with the knowledge necessary to regulate the way he feels at any moment....This sense of personal control may in part account for the guilt and self-blame that many alcoholics engage in. (pp. 190, 191)

Berzins & Ross (1973) echo the opinion:

[T]he crucial ingredient that differentiates the reinforcement histories of addicts from those of nonaddicts obviously refers to the drug experience itself. Opiate addicts have extensive experience with 'self-control' via opiates; each administration of the drug enables the addict to achieve control over anxieties, conflicts,



impulses, moods, bodily states, and so on....In other words, repeated experiences with drugs not only may lead to physiological dependency but also can plausibly produce in the addict a generalized belief that he controls the reinforcements important to him. This belief need have no intrinsic basis in the person's social reinforcement history. (p. 92)

Marshall (1991) suggested that self-blame is positively related to internality. And Amos Gunsberg, a psychotherapist, has this to say about drug addicts with an internal LOC orientation:

They are endeavoring to maintain that simply by fantasizing they create their own reality, and it is this so-called 'reality' that everyone else is supposed to recognize about them. Their use of the drug is not to change the internal sensation they are providing for themselves, but to blank out any information to the contrary. The usual fantasy is they are some kind of god. (A. Gunsberg, personal communication, July 4, 1992)

Wallston (1992) seems to hold a similar point of view when he suggests that an "overinflated sense of self-mastery" could lead to a greater internal LOC.

Nowicki & Hopper (1974) challenged the internality-orientation findings on alcoholics and drug addicts for failing to account for sex, age and population differences and they reported higher externality among female alcoholics needing inpatient treatment.

Other studies found no significant differences in orientation between alcoholic and control groups, or higher externality among alcoholics, (Butts & Chotlos, 1973). Problems encountered in the study of alcoholics continue to include the difficulty of defining alcoholism.

Alcoholics are a heterogeneous group and the criteria for deciding who fits the category varies.

Worell & Tumilty (1981) developed the Alcoholic Responsibility Scale (ARS) as a situation-specific LOC scale for alcoholic populations. The scale is similar to the Rotter I-E Scale in design, i.e., the higher the score, the more external the subject is, the more drinking is attributed to external forces such as fate, luck, powerful others, etc., instead of self. Administered in conjunction with a biographical information sheet, the Personality Research Form AA (Jackson, 1967), the Shipley Institute of Living Scale (1940), a Parent Behavior Form (Worell & Worell, 1972), the Multiple Affect Adjective Check List (Zuckerman & Lubin, 1965), and the Rotter I-E Scale to 79 consecutive male admissions to the Alcohol Treatment Program at the Veterans Medical Center in Lexington, Kentucky, Worell & Tumilty (1981) found that

[t]he relatively more external alcoholic (as measured by the ARS) tended to be taller, to have had a father with a drinking problem, to be a spree rather than an everyday drinker, to have been treated more often for alcoholism, to have experienced hostile paternal control and lax maternal control, to score higher on the personality trait of autonomy but lower on sentience, to be experiencing higher levels of depression and hostility, and to do more poorly on his job performance. It would appear that a fuller description of the more external alcoholic is provided by the ARS than by the Rotter I-E Scale....The superior construct validity of the ARS, as compared with the Rotter I-E Scale, suggests that the meaning of locus-of-control for the alcoholic is primarily associated with his attitudes toward his

drinking rather than his general sense of control over his life. (pp. 329-331)

These results appear to coincide with those of O'Leary et al. (1974) who "found that alcoholics having an external locus-of-control are more depressed, anxious and socially introverted according to the Minnesota Multiphasic Personality Inventory (MMPI) than are alcoholics having an internal locus-of-control," (O'Leary et al., 1978, p. 1500).

The finding by Worell & Tumilty (1981) that external locus-of-control orientation is associated with a father who had a drinking problem does not appear to be confirmed in a recent study by Churchill et al. (1990). They studied 497 students in introductory psychology classes and found no "significant relationship between parental alcoholism and either locus-of-control or self-esteem," (Churchill et al., 1990, p. 375).

Donovan & O'Leary (1978) developed a drinking-related locus-of-control scale (DRIE) and discovered a significant difference between alcoholics and nonalcoholics using this new scale while Rotter's I-E Scale demonstrated no such difference. They found that

[a]lcoholics have an external locus-of-control concerning their drinking that corresponds closely with that of individuals who have an external locus-of-control according to the I-E scale. Alcoholics having an external locus-of-control according to the DRIE scale appear to perceive that significant events in life are beyond their control, determined more by chance than by personal initiative or the influence of significant others....[T]hey feel they have minimal control over internal (intrapersonal) and external (interpersonal) sources of stress[,]...appear to experience a greater degree of depression[,]...tend to report more psychophysiological

manifestations related to depression, and are more self-critical, more pessimistic - with periodic thoughts of suicide - and more indecisive and behaviorally inhibited. (Donovan & O'Leary (1978, pp. 776, 777)

As O'Leary et al. (1978) wrote:

It appears that alcoholics' locus-of-control is related to the perceived benefits of drinking. Alcoholics having an external locus-of-control appear to have developed a dependence on alcohol to enhance their perception of control in interpersonal function. This finding is consistent with McClelland et al.'s (1972) proposition that alcohol tends to increase personal feelings of power and control. (p. 1504)

Wallston & Wallston (1981) are clear to point out that motivation to control one's behavior "should not be confused with locus-of-control, the expectancy that one's behavior is or is not directly related to one's outcome, (i.e., reinforcements)," (p. 191). Citing a study by Kirscht (1972), they clarify this distinction: "[M]otivation for control tend[s] to account for relationship to perception of vulnerability to specific diseases whereas expectancy [i]s more related to a belief that health can be determined by personal actions," (Wallston & Wallston, 1981, p. 191).

Wallston & Wallston's interest in relating LOC to health-care situations appears to have developed after observations they made of classes for newly diagnosed diabetic patients and their families. They interpreted the efforts of teachers in these classes as attempts to teach an internal LOC to patients. In 1973, they conceptualized the intent of many health education efforts as internality training programs, (Wallston & Wallston, 1981). Additionally, they rationalized the use of locus-of-control in a health care context on the basis of Rotter's recommendation that

situation or context be taken into account when devising measures of expectancy, (Rotter, 1960; 1966).

Wallston, Wallston et al. (1976) developed “[t]he original health-related locus-of-control scale (the HLC Scale),...a generalized expectancy measure, cutting across many health-related settings and behaviors, consist[ing] of 11 items in a 6-point Likert format,” (Wallston & Wallston, 1981, p. 192-193). High scores on this scale indicate highly external beliefs: Individuals with scores above the median...[are] labeled ‘health-externals’; they...[are] presumed to have generalized expectancies that the factors that determine their health are ones over which they have little control (i.e., external factors such as luck, fate, chance, or powerful others). At the other end of the dimension, scoring below the median,...[are] the ‘health-internals,’ who believe that locus-of-control for health is internal and that one stays or becomes healthy or sick as a result of his or her own behavior. The mean score for the original developmental sample was 35.57, with a standard deviation of 6.22. The alpha...of the scale (.72) appeared respectable and the HLC Scales did not reflect a social desirability bias, as evidenced by a -.01 correlation with the Marlowe-Crowne Social Desirability Scale. (Wallston & Wallston, 1981, p. 192-193)

Subsequent reliability calculations of the HLC dropped from the original alpha of .72 to .30-.59 and Wallston & Wallston began to reconsider LOC as a multidimensional concept as were others with regard to the I-E scale, (e.g., Gurin et al., 1969).

Levenson (1973; 1974; 1975) questioned the unidimensional nature of LOC and proposed studying externality by examining “fate and chance expectations separately from external control by powerful others,”

(Wallston & Wallston, 1981). She developed the first multidimensional LOC scale with these ideas in mind. It consisted of "three 8-item Likert Scales (Internal, Powerful others, and Chance - the I, P, & C Scales) to measure generalized locus-of-control beliefs and demonstrated initial evidence of their discriminant validity," (Wallston & Wallston, 1981, p. 194). This scale was a multidimensional locus-of-control scale but did not include health-specific items.

An example of the use of Levenson's HLC scale was reported by Sherman et al., (1973). Here, "[t]he relationship between Dogmatism and three subscales of Levenson's Locus-of-control measure was examined with 36 female undergraduates as subjects," (p. 749). The authors attempted to replicate a study conducted by Clouser and Hjelle (1970) who argued "that a closed belief system and externality are both associated with anxiety and susceptibility to influence by external sources of power," (Sherman et al., 1973, p. 749).

Clouser and Hjelle used Rotter's I-E scale and found a small positive relationship between the dogmatism scale and Rotter's scale. Sherman et al. (1973), based on Levenson's argument that LOC orientation was a multidimensional concept, sought to replicate Clouser and Hjelle findings using the multidimensional scale proposed by Levenson. They believed the multidimensional LOC construct developed by Levenson might provide "a more precise understanding of the relationship between the variables....[T]he results indicate some support for the view that internals are people who assess and evaluate information independently of a variety of external sources of influence," (Sherman et al., 1973, pp. 749, 750).

The Wallston et al. (1978) Multidimensional Health Locus-of-control Scales (MHLC) was based on Levenson's scale - applied to health-

related expectancies. Items from the original HLC were used and fit into the three dimensions developed by Levenson, i.e., internal, powerful others, and chance, (see Wallston & Wallston, 1981, for detailed description of the transformation of the original HLC to MHLC).

The MHLC uses a total of 18 personally-worded items "to reflect beliefs about 'self,'" along three separate dimensions: Internality (IHLC); Chance Externality (CHLC); and Powerful Others Externality (PHLC). Two equivalent forms of the MHLC were developed, Form A and B, and both use a 6-point Likert format, (Wallston & Wallston, 1981; Wallston et al., 1978).

The sample used for the original MHLC study was persons over 16 years of age waiting at gates in a metropolitan airport (N=115):

Alpha reliabilities for the MLHC scales (six-item forms) ranged from .673 to .767 and, when Forms A & B were combined into 12-item scales, the alpha reliabilities increased (.830 to .854). These figures compared quite favorably to Levenson's 8-item I, P, & C scales (alpha reliabilities = .508 to .733)...[T]he mean scores of Form A and Form B of each MHLC scale were nearly identical. (Wallston et al., 1978, p. 163)

The PHLC scale correlated with Levenson's P scale and the CHLC scale correlated with Levenson's C scale. The IHLC likewise correlated with the I scale and the CHLC correlated significantly with the P scale and negatively with the I scale. Factor analysis confirmed the three dimensions without error, (Wallston et al., 1978).

The MHLC was deemed a useful measure, however, the external classification now became meaningless as it had been transformed into two

distinct dimensions — the powerful others and the chance locus-of-control orientations, (Wallston & Wallston, 1981).

The mean scores for MHLC scales summarized across types of subjects as of 1981 were as follows: Healthy adults ( $N=1287$ ), scored 25.55 on the IHLC scale, 16.21 on the CHLC scale, and 19.16 on the PHLC scale. Persons engaged in preventive health behaviors ( $N=720$ ) scored 27.38 on the IHLC scale, 15.52 on the CHLC scale, and 18.44 on the PHLC scale, (Wallston & Wallston, 1981, p. 204.) The MHLC scales produced no significant correlations with gender and “only one scale, Form A of the PHLC, correlated significantly with age ( $r=.198, p<.05$ ) or educational level ( $r=-.222, p<.05$ ),” (Wallston et al., 1978, pp., 165,167).

The overwhelming preponderance of predictions in the right direction strongly supports the idea that negative experiences over which there is little control are conducive to the development of high beliefs in external control (both chance and powerful others) and low belief in internal control (health-specific and general)...[T]hese findings are not to be taken lightly. (Wallston & Wallston, 1981, p. 211)

Suggested use of the MHLC Scale is as an independent variable predicting health behavior, alone or in combination with other related variables, or as a dependent variable measuring treatment outcomes. Wallston, Maides, & Wallston, (1976), assert “there is no theoretical reason to expect locus-of-control to predict to health behavior, unless it is used in combination with a measure of health value,” and “[i]n general, health locus-of-control beliefs should predict to health behavior only under high-health-value conditions,” (Wallston & Wallston, 1981, p 206). The MHLC may be used as three separate scales, singularly, or in combination with



one another. "It is inappropriate to use IHLC, CHLC, and PHLC scores to produce a single overall score," (Wallston & Wallston, 1981, p. 207).

Joe et al., (1979) used the MHLC to test the hypothesis that externals would report more life changes that required adjustment and more perceived as being uncontrollable, i.e., person *not* being able to influence, direct, command, etc., than internals, and uncontrollable life changes and not controllable events would be associated with psychiatric symptoms. (p. 333)

They found that

external subjects did not report a significantly greater number of life changes than internal subjects. They did, however, report more life changes as uncontrollable than did internal subjects....[U]ncontrollable, not controllable life changes...were associated with psychiatric symptoms. (p. 334).

These authors interpreted their findings as suggesting that not high levels of change *per se* [emphasis in original] but life changes perceived as uncontrollable brought on the psychiatric symptoms...[and] that the external individual will interpret more life changes as being uncontrollable and thus be more susceptible to the negative effects of these changes. (p. 334)

Hartke & Kunce (1982) investigated the statistical independence of the three subscales in a validity generalization sample. Their results supported the multi-dimensionality of the locus-of-control concept and "a hypothesis that one's educational level may play a significant role in reducing one's dependency on powerful others or fate," (p. 595).

Wallston et al. (1983) investigated the extent that individuals' expectancies about their control over their health relates to their preference

to get actively involved in their own health care. They did this by studying the inter-relationship between the MHLC and the Krantz Health Opinion Survey (KHOS). While the former is purportedly a measure of beliefs and expectancies about control over one's health (an outcome), the latter is designed to measure attitudes or preferences relating to health care delivery, which is a process, not an outcome.

They found that

persons who believe their health is controlled by powerful others are less likely to agree with items advocating self-treatment or with the active behavioral involvement of patients in medical care.

Similarly, persons who believe that their own behavior affects their health, (internal locus-of-control) have more positive attitudes toward self-treatment and active involvement in their own care....[T]his study suggests that individuals' expectations about control over their health are related to their preferences for control over their health care. (Wallston et al., 1983, pp. 381, 383)

Ludenia and Russell (1983) studied the relationship between health locus-of-control beliefs and the MMPI with an alcoholic population. No other studies of health locus-of-control orientations of alcoholics had been conducted prior to their work.

Alcoholics scored significantly higher on the IHLC and PHLC scales than a normative sample of health adults and significant correlations were found between dimensions of perceived locus-of-control and various personality characteristics. The CHLC was most strongly related to the MMPI subscales.

Their results support previous studies of alcoholics with Rotter's I-E scale showing that alcoholics were more internal in their LOC orientation,

however Ludenia and Russell also found that alcoholics “were also more prone to attribute responsibility for personal health to the influence of power others,” (p. 627).

Dimensions of perceived health locus-of-control were found to be related to the following personality characteristics: Those alcoholics who are high on internality manifest fewer somatic complaints and focus less attention on bodily function, are more active and energetic. The PHLC dimension had fewer MMPI correlates, however,

persons who believe that health is determined largely by powerful others appear to be more conforming and tolerant of authority....[A]lcoholics who are defined as relatively high on the chance dimension are characterized as exhibiting more somatic concern, anxiety, suspiciousness, social alienation, and generally more clinical pathology. (Ludenia & Russell, 1983, p. 627)

In a study of religion and the MHLC Scale, Levin and Schiller (1986) reported that

from a sample of adults ( $N=909$ )...nonchurch-affiliated had a higher mean score than church people on the baseline ‘chance’ scale (17.3 vs 16.0)...[and] analyses of variance gave differences...across denominations on baseline ‘internal’ and ‘powerful others’ scales. The highest internal scores were among Mormons (29.5), Episcopalians (29.3), and Catholics (28.4)...The highest powerful-others score was among Presbyterians (22.7), adherents to a tradition founded in reverence to ‘presbyters’ or powerful church elders...Subjects reporting no affiliation had the lowest powerful-others scores (16.5)...[T]raining in self-care skills both increased the internal score...and decreased the powerful others score...but only for

subjects reporting a religious affiliation. (Levin & Schiller, 1986, p. 26)

The authors concluded that a relationship exists between health locus-of-control orientation and religious attachments which also modifies health education.

Cooper and Fraboni (1988) found some problems with the MHLC when a factor analysis failed to replicate the original multidimensional construct and suggested that a return be made to the earlier internal/external model and additional alternate forms be added to increase reliability. The PHLC and CHLC scales lacked distinctiveness and the authors suggested combining the two dimensions as one external dimension and combining Forms A and B to increase reliability. They particularly cautioned against the use of a multidimensional concept over a simpler dichotomous one when applied to a homogeneous population.

The psychometric characteristics of the MHLC scales among psychiatric patients were assessed by Wall et al. (1989). The alpha reliabilities and intercorrelations originally reported by Wallston et al. (1978) were confirmed in a sample study of 60 psychiatric patients recently discharged from inpatient or day hospital psychiatric facilities. The MHLC scales were used because, according to the authors of the study,

[u]nlike symptoms of medical illness, psychiatric symptoms may be misperceived by both patients and their families as characterological failings....The MHLC scales may be a useful research tool for better delineating psychiatric patients' attributions about the contribution of self and other to their psychiatric health. (Wall et al., 1989, p. 94)

Because these authors found that the combined forms (A and B) [of the MHLC Scale] yielded a clearer separation of the scales, as

well as more robust alpha reliabilities than the separate forms...[they] recommend use of the combined form in a psychiatric population. (p. 97)

Marshall et al. (1990) compared two forms of multidimensional health locus-of-control instruments - the MHLC by Wallston et al. (1978) and one by Lau, (1982; Lau & Ware, 1981), by examining their internal consistency reliability and factor structures, as well as by evaluating the convergence and divergence of the constructs assessed by the two instruments, in a study of Veterans Administration medical outpatients ( $N=181$ ). The Lau-Ware HLC scale is a

20-item version of the complete 27-item instrument...composed of subscales assessing the degree to which individuals attribute health outcomes to Self-Control (7 items), Provider Control (6 items), and Chance (3 items). The instrument also includes a 4-item scale assessing General Health Threat, the extent to which individuals regard health outcomes as threatening. (Marshall et al., 1990, p. 183)

Their results supported the multidimensionality of the MHLC as developed by Wallston et al. (1978) and found "little support for the a priori typology proposed by Lau (Lau, 1982; Lau & Ware, 1981)," (Marshall et al., 1990, p. 186). The authors assert that the Wallston and Lau-Ware MHLC scales

are not interchangeable measures of HLC beliefs. Correlations between relevant subscales of the two measures, although statistically significant, were not robust...[F]ailure to find strong evidence of convergent validity appears attributable to the low internal consistency of the Lau-Ware subscales. (p. 188)

The authors also found that the PHLC of the Wallston et al. MHLC is not an undifferentiated dimensions: "[B]eliefs regarding professional and nonprofessional control over health outcomes are empirically distinct," (p. 188), e.g., professional caregivers versus nonprofessionals such as family and friends.

The independence of the three dimensions of Wallston et al.'s (1978) MHLC was supported in a study of multidimensional health locus-of-control of health professionals by Eachus, (1990). Most MHLC orientation studies have focused on the locus-of-control orientation of patients. This study differed by focusing on the health locus control orientation of health professionals. MHLC scores for 169 health professionals composed of student physiotherapists, chartered physiotherapists, and nurses were compared with UK norms (N=1400). The independence of the multidimensional scales was supported. MHLC "beliefs in health professionals does appear to differ from those of their prospective clients," (Eachus, 1990,p. 762).

Recently, Wallston (1992) has de-emphasized the utility of relying on the MHLC to predict health behaviors. He suggests that more research focus be directed on the extent to which an individual values a particular health experience. To this end we need to assess the individual's perceived competence and self-efficacy with regard to achieving health behavior change rather than simply the locus-of-control.

Self-efficacy refers to the belief a person has with regard to his or her ability to perform a specific behavior. The concept was developed by Bandura (1977; 1978; 1983; 1984; 1986), based on Rotter's social learning theory (1966), has been examined and tested in diverse ways (Wilson, 1978; Kazdin, 1978; Weinberg et al., 1979; Donovan & Marlatt, 1980;

DiClemente, 1981; Maddux et al., 1982; Goldfried & Robins, 1982; Davis & Yates, 1982; Strecher et al., 1986; Solomon & Annis, 1989; Sexton et al., 1992), challenged as inconsistent (Kirsch, 1985) and “unacceptably flawed,” (Wolpe, 1978), considered “conceptually problematic” despite the fact that these same researchers concede that “self-efficacy ratings on specific behavioral tasks are accurate predictors of subsequent behavioral performance on those tasks,” (Eastman & Marzillier, 1984), applied to theories of treatment for alcoholism (Clifford, 1983), applied to human psychopharmacology and alcohol research (Maisto et al., 1981) and health generally, including the Health Belief Model, (Rosenstock et al., 1988; O’Leary, 1992).

Referring to Bandura’s self-efficacy and other “newer scales” such as indices of “perceived competence” (Smith et al., 1991), Wallston (1992) writes that

when...[he is] asked for advice by other researchers as to which measure they should employ to assess health control expectancies,...[he] advise[s] them to use one of these newer scales rather than the MHLC. LOC is *part* of the larger, more important, construct, perceived control, but only a small part. (p. 194)

Wallston appears to be referring these scales in terms of their relative abilities to predict behaviors. The ability of a self-efficacy scale compared to the MHLC scale in terms of their relative abilities to predict general health-related beliefs may indicate that the MHLC scale is in fact superior in this regard. The key here is differentiating between behavior and beliefs as dependent variables.

### Summary

Three models of addiction have been extracted from the various writings on addiction paradigms. These are the maturationist, behaviorist, and the interactionist models. Each model is defined in terms of the organism's relationship with his or her environment, and as such, is linked to the nature-nurture controversy of human development.

The history of beliefs regarding alcoholism and addiction were traced over the past two hundred years in America. Shifts in public and professional perceptions of addiction have occurred and can be grouped according to the three models described. In colonial times, the interactionist view seemed to prevail. Benjamin Rush marked the beginning of the medicalization of social deviation when he announced that alcoholism was a disease. Rush's ideas fueled the development of the Temperance Movement, which combined a medical and moralistic perspective on alcoholism and addiction. The idea that alcohol and other drugs were universally-addicting substances lend support to the idea that environment was solely responsible for addiction, i.e., a behaviorist approach.

The repeal of alcohol prohibition ushered in a new era in terms of beliefs that alcoholism and subsequently other addictions were diseases. The disease model gathered new momentum with the work of Alcoholics Anonymous, a spiritual self-help fellowship, and the work of E.M. Jellinek. The disease model and the moralistic model are strongly intertwined. The disease concept strengthened genetic research on alcoholism and the maturationist perspective was given new credibility. The loss-of-control theory was integrally bound to the maturationist/medical model of addiction and behaviorists challenged the loss-of control theory. These



experiments showed no evidence to support the loss-of control theory. Addiction was found to be correlated with environmental and expectancy factors. Behaviorists seized on the expectancy findings, along with findings that alcoholics were able to return to moderate drinking. Controlled-drinking programs emerged and struck a great deal of controversy among abstinence-oriented medical modelists and members of AA. These findings were also seized upon by a new school of interactionists who shifted away from a strictly behaviorist point of view addiction and have written extensively in terms of existential factors related to addiction, in addition to focusing on the role of will, self-determination, and the creation of meaning through drug experience.

Cognitive behaviorists focused on applying locus-of-control principles to addictive behavior. A review of locus-of-control research and its evolution into health-locus-of-control studies was traced and applied to addiction research.

There appears to be a relationship between historical and contemporary views of alcoholism and addiction and individual attributions regarding the etiology of addiction. Interactionists appear to attribute drunkenness and addiction to social interaction and internal-self factors. Behaviorists and moralists tend to attribute drunkenness and addiction to expectancy and environment in the first case, and lack of spiritually-correct values in the second. In the latter case, there appears to be a link between sinfulness and addiction as a disease. Finally, maturationists seem to maintain the idea that addiction is a disease characterized by loss-of-control, physiological and genetic factors. This belief, as well as the behaviorist/moralistic beliefs, tend to dominate the beliefs about addiction today.

Levine (1978) found a relationship between moralistic views on addiction during the Temperance era and disease-model perspectives on alcoholism and addiction that resurfaced immediately following the Repeal of Prohibition in the 1930s. Since religious thinking was an integral part of Temperance thinking, and Temperance philosophy grew out of the medical model of alcoholism espoused by Benjamin Rush, and into the medical model renewed by E.M. Jellinek, it may be interesting to investigate whether or not those people who subscribe to the disease model of addiction also tend to be spiritual thinkers. Since interactionists tend to shun both Temperance and medical explanations for addiction, it might also be interesting to investigate whether or not those who disagree with these two approaches also tend to be more secular in their thinking in general.

## CHAPTER III

### METHOD

This study investigates the beliefs of addiction-treatment providers regarding the etiology of addiction. This section of the study describes the procedures used to investigate these beliefs.

The first part of the section details the scales used in this survey. These include the Addiction Belief Scale (ABS), the Multi-dimensional Health Locus of Control Scale (MHLC), and the Spiritual Belief Scale (SBS). The reliability statistics for these instruments are provided in this section. Demographic characteristics of respondents are also provided here. Finally, the statistical methods used to answer the research questions are described at the end of this section.

#### Procedure

The research questions were investigated through the use of a survey sent to addiction-treatment providers around the United States, Canada, and Australia. A total of 511 seven-page surveys (Appendix A) with cover letter (Appendix B) were mailed to addiction-treatment providers in the U.S., Canada and Australia. Table 3 lists the distribution of surveys by professional-group affiliation and return rate.

Two hundred instruments were distributed to a random sample of members of the National Association of Alcoholism and Drug Abuse Counselors (NAADAC), the largest association of alcoholism counselors in the United States.

One hundred forty-four instruments were mailed to the complete list of treatment providers serving as supervisors for Rational Recovery Systems (RRS) groups, a national, secular-based alternative to AA groups currently undergoing rapid growth and expansion throughout the U.S.

Table 3.

Distribution of the Addiction Belief Study Survey by Professional Groups

	Mailed	Returned
NAADAC	200	104
SPAB	167	98
RRS	144	91
Total	511	327 <sup>1,2</sup>
Total Surveys Used for Addiction Belief Study		295 <sup>3</sup>

Note. <sup>1</sup>64 percent return rate. <sup>2</sup>Two respondents cut off the group-identifying number, therefore, it was impossible to determine which group they belonged to. <sup>3</sup>32 respondents indicated they were not addiction-treatment providers, therefore their surveys were discarded.

One hundred sixty-seven instruments were mailed to addiction-treatment providers who are members of the Society for Psychologists in Addictive Behaviors (SPAB), a national organization. The secretary/treasurer of SPAB hand-picked these members on the basis of their having listed themselves as treatment providers.

Each participant received a letter introducing the study, the instrument and instructions. A self-addressed stamped envelope was included along with a request that participants return the instrument as soon as possible. Confidentiality was guaranteed in the introductory letter. Subjects were instructed not to write their name anywhere on the survey. Each survey sent out had a handwritten number in the upper-right hand corner of the first page corresponding to a number on the mailing list of

participants. As surveys were returned, this number was cut off and discarded, and the name of the participant was crossed off the mailing list. Those remaining names not crossed off after two weeks were sent reminder postcards (Appendix C).

Completed and returned surveys totaled 327 and were received by mail within two months of the initial mailing, constituting a 64 percent return rate. Of these, 32 respondents indicated they were not addiction-treatment providers, therefore, 295 addiction-treatment providers established the primary sample studied, ( $N=295$ ).

#### Description of Scales Used in the Survey

This next part of the section describes the instruments used to assess beliefs of addiction-treatment providers. These instruments include the Addiction Belief Scale (ABS), the Multi-dimensional Health Locus of Control scales (MHLC), the Spiritual Belief Scale (SBS), a request for demographic information, a fifth question requesting the percentage of drug addicts respondents believed got over their addiction without any form of medical or 12-step type treatment, and an invitation for comments on the survey.

The method for establishing validity of the ABS and the SBS is described here, as well as the reliability statistics for the ABS, MHLC and the SBS. Finally, a description of statistical procedures used to analyze the data in light of the research questions is presented at the end of the method section.

### The Addiction Belief Scale (ABS)

The first part of the instrument was composed of 18 statements representing beliefs regarding the etiology of drug addiction and addicts' ability to control their addiction, (Table 4). Eighteen items were devised and served as the criterion measure. These items were based in part on a chart in a book by Peele et al. (1991), a section entitled "Ten Assumptions that Distinguish the Life Process Program from the Disease Model." They represent the beliefs of two sides of the controversy concerning the etiology of addiction, i.e., it is primarily a volitional behavior that people develop as a way of coping with their life, or, it is a primary and uncontrollable disease from which other problems-in-living stem.

Nine items were statements characterizing a belief in the disease model of addiction. Nine items were statements characterizing belief in the free-will model of addiction. The statements representing the two perspectives are marked by brackets in Table 4.

The 18 items were presented in random order to avoid a patterned response. Subjects were asked to mark the extent to which they agreed or disagreed with each statement along a five-point Likert scale ranging from "strongly disagree," "disagree," and "uncertain," to "agree," and "strongly agree." The stronger the belief in a disease-model item, the higher the score for that item. The stronger the belief in a free-will item, the lower the score for that item. Thus, disease-model items were scored "five" for "strongly agree" and "one" for "strongly disagree." Free-will model items were scored "one" for "strongly agree" and "five" for "strongly disagree." The higher the degree of belief in the disease model of addiction, the higher their total score.

Table 4.  
The Addiction Belief Scale (ABS)

- [A1] Most addicts don't know they have a problem and must be forced to recognize they are addicts. [Disease model]
- [A2] Addicts cannot control themselves when they drink or take drugs. [Disease model]
- [A3] The only solution to drug addiction and/or alcoholism is treatment. [Disease model]
- [A4] The best way to overcome addiction is by relying on your own willpower. [Free-will model]
- [A5] Addiction is an all-or-nothing disease: A person cannot be a temporary drug addict with a mild drinking or drug problem. [Disease model]
- [A6] People can stop relying on drugs or alcohol as they develop new ways to deal with life. [Free-will model]
- [A7] Addiction has more to do with the environments people live in, than the drugs they are addicted to. [Free-will model]
- [A8] People often outgrow drug and alcohol addiction. [Free-will model]
- [A9] The most important step in overcoming an addiction is to acknowledge that you are powerless and can't control it. [Disease model]
- [A10] Abstinence is the only way to control alcoholism/drug addiction. [Disease model]
- [A11] Physiology, not psychology, determines whether one drinker will become addicted to alcohol and another will not. [Disease model]
- [A12] Alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use. [Free-will model]
- [A13] People become addicted to drugs/alcohol when life is going badly for them. [Free-will model]
- [A14] The fact that alcoholism runs in families means that it is a genetic disease. [Disease model]
- [A15] You have to rely on yourself to overcome an addiction such as alcoholism. [Free-will model]
- [A16] Drug addicts and alcoholics can find their own ways out of addiction, without outside help, given the opportunity. [Free-will model]
- [A17] People who are drug addicted can never outgrow addiction and are always in danger of relapsing. [Disease model]
- [A18] Drug addiction is a way of life people rely on to cope with the world. [Free-will model]

Note.  $\alpha=.91$ , (standardized item  $\alpha=.91$ ,  $n=266$ ), mean=54.12, ( $SD=13.55$ ,  $n=295$ ).

The highest possible score for each item was five and for the 18 items, 90. The median score was 45. Scores above the median suggested a stronger belief in the disease model of addiction. Those scores below the median suggested a stronger belief in the free-will model of addiction.

The Addiction Belief Scale (ABS) was examined by two scholars who have written extensively on issues involving the disease model of addiction controversy and are widely-recognized experts in the field of alcohol and drug research for content validity—Dr. Kaye Fillmore, sociologist, of the University of California—San Francisco, (see Fillmore & Sigvardsson, 1988), and Dr. Stanton Peele, a social-clinical psychologist from Morristown, New Jersey, (see Peele et al., 1991). Their criticism, comments, and suggestions were incorporated in the development of the ABS.

Cronbach's alpha was calculated for the ABS and  $\alpha=.91$ , (standardized item  $\alpha=.91$ ,  $n=266$ ). The reliability statistics for the ABS, SBS, and MHLC scales are listed in Table 5.

#### The Spiritual Belief Scale (SBS)

The second part of the survey instrument included eight items measuring spiritual thinking, the Spiritual Belief Scale (SBS), shown in Table 6. These items were adapted from the examples listed in the "spiritual-thinking variable" section and are characterized by humility, tolerance, release, and gratitude. Each contained a reference to God or "spiritual health." Each of these qualities or characteristics were expressed in two statements in the questionnaire. The beliefs from AA were operationalized so that while they are characteristic of AA philosophy they are also representative of spiritual thinking for people who are not associated with AA.



Table 5.

Reliabilities and Means for the ABS, SBS, and MHLC Scales

	$\alpha$	$n$	Mean	SD
ABS	.91	266	54.12 <sup>1</sup>	13.55 <sup>1</sup>
SBS	.92	280	24.27 <sup>2</sup>	8.55 <sup>2</sup>
MHLC Scales				
IHLC	.66	284	20.76 <sup>2</sup>	3.14 <sup>2</sup>
PHLC	.57	284	14.84 <sup>1</sup>	3.14 <sup>1</sup>
CHLC	.63	282	13.02 <sup>1</sup>	2.96 <sup>1</sup>

Note. <sup>1</sup>N=295, <sup>2</sup>N=294.

Items 1 and 2 in Table 6 express the release element: The original representative-belief statements extracted from Alcoholics Anonymous literature were: "My 'Higher Power' has mysteriously accomplished those things in my life which I could never do by myself." "I got positive results in my life when I laid aside prejudice and expressed a willingness to believe in a Power greater than myself, even though it is impossible for me to fully define or comprehend that Power, which is God." The SBS statements were: "I feel that in many ways turning my life over to God has actually set me free." "I know that all the best things in my life have come to me through God."

Items 3 and 4 in Table 6 express the gratitude element. The original representative-belief statements extracted from Alcoholics Anonymous literature were: "The central factor of my life today is the absolute certainty that my Creator has entered into my heart and life in a way which is

Table 6.

The Spiritual Belief Scale (SBS)

- S1. I feel that in many ways turning my life over to God has actually set me free. [Release]
- S2. I know that all the best things in my life have come to me through God. [Release]
- S3. I believe I am blessed by God with many gifts I do not deserve. [Gratitude]
- S4. I feel it is important to thank God when I manage to do the right thing. [Gratitude]
- S5. It's only when I stop trying to play God that I can begin to learn what God wants for me. [Humility]
- S6. I know I am able to meet life's challenges only with God's help. [Humility]
- S7. I know that forgiving those who have hurt me is important for my spiritual health. [Tolerance]
- S8. I believe there are many ways to know God and that my way is not the only way. [Tolerance]

Note.  $\alpha=.92$ , (standardized item  $\alpha=.91$ ,  $n=280$ ), mean=24.27, ( $SD=8.55$ ,  $n=294$ ).

indeed miraculous." "When I make right decisions in my life I believe it is important to thank God for giving me the courage and the grace to act in this way." The SBS statements were: "I believe I am blessed by God with many gifts I do not deserve." "I feel it is important to thank God when I manage to do the right thing."

Items 5 and 6 in Table 6 express the humility element. The original representative-belief statements extracted from AA literature were: "First of all, in order to begin solving my problems, I had to quit playing God. I had to realize that I was not God." "I seek through prayer and meditation to improve my conscious contact with God as I understand Him, praying only for knowledge of His will and the power to carry that out." The SBS statements are: "It's only when I stop trying to play God that I can begin to learn what God wants for me." "I know I am able to meet life's challenges only with God's help."

Items 7 and 8 in Table 6 express the tolerance element. The original representative-belief statements extracted from AA literature were: "I believe that people who have done wrong to me are perhaps spiritually sick. I think it is best to ask God to help me show them the same tolerance, pity, and patience that I should give to a sick friend." "I have no desire to convince anyone that there is only one way by which faith can be acquired. All of us, whatever our race, creed, color, or beliefs, are the children of a living Creator, with whom we may form a simple, understandable relationship, as soon as we are willing enough to try." The SBS statements are: "I know that forgiving those who have hurt me is important for my spiritual health." "I believe there are many ways to know God and that my way is not the only way."

Subjects were asked to mark the extent to which they agreed or disagreed with the statements along a five-point Likert scale ranging from "strongly disagree," "disagree," and "uncertain," to "agree," and "strongly agree." The SBS was scored in the direction of high spiritual belief, i.e., the higher the score, the more the subject tends to engage in spiritual thinking along the dimensions described. The items were included in the survey in the order listed in Table 6.

The SBS was examined by two scholars on Alcoholics Anonymous for content validity—AA historian Dr. Ernest Kurtz, affiliated with the University of Michigan, Ann Arbor, Michigan, (see Kurtz, 1988), and anthropologist Dr. Paul Antze, of York University, Toronto, (see Antze, 1987). Their criticism, comments, and suggestions were incorporated in the development of the SBS inventory.

Cronbach's alpha was calculated for the SBS and  $\alpha=.92$ , (standardized item  $\alpha=.91$ ,  $n=280$ ). These statistics are listed in Table 5.

#### The Multi-Dimensional Health Locus of Control Scales (MHLC)

The third part of the instrument contained the Multidimensional Health Locus of Control Scales (MHLC) developed by Wallston et al. (1978) and was used to assess health locus-of-control orientation. Two versions of this scale have been used in the past, "Form A" and "Form B." The scale consists of three independent dimensions, the Internal Health Locus of Control scale (IHLC), the Powerful Others Locus of Control scale (PHLC), and the Chance Health Locus of Control scale (CHLC). For this study, items were selected from Form A and Form B based on previously established alpha reliabilities (Wallston et al., 1978) for each dimension, and alpha reliability exhibited through a pilot study conducted by the author of this present study.

There are two forms of the three dimensions of the MHLC scales, Form A and Form B. The rationale for selecting which form was used now follows. The form which had a higher reliability as presented by Wallston et al. (1978) was selected for this study with the following exception: Form A of the IHLC scale in the Wallston et al. (1978) study gave a reliability of .77 compared to .71 for Form B. However, when Form A was used in a pilot version of this present study it had a low reliability (.47), so the six items from Form B were used in the present study. Form B of the PHLC in the Wallston et al. study had a reliability of .72 compared to .67 for Form A, so six items from Form B were used. Form A of the CHLC in the Wallston et al. study showed a reliability of .75 compared to .69 for Form B, so six items from Form A were used in the present study. Table 7 shows the three scales of six items each with the locus-of-control dimension in brackets.

Subjects were asked to mark the extent to which they agreed or disagreed with the statement along a five-point Likert scale ranging from "strongly disagree," "disagree," and "uncertain," to "agree," and "strongly agree." (The original Wallston study used a six-point Likert scale. A five-point Likert scale was used in this present study to maintain uniformity throughout the survey.) Each dimension of the MHLC was scored independently. The Internal Health Locus of Control scale was scored in the direction of "internality." The Powerful Others Health Locus of Control scale was scored in the direction of "powerful others" attribution. The Chance Health Locus of Control scale was scored in the direction of "chance" attribution.

The reliability findings for the present study are presented in Table 5 and are as follows: Cronbach's alpha was calculated for the Internal Health

Table 7.  
The Multidimensional Health Locus of Control Scales (MHLC),  
(Wallston et al., 1978)

- I1. If I become sick, I have the power to make myself well again. [IHLC]
- I2. I am directly responsible for my health. [IHLC]
- I3. Whatever goes wrong with my health is my own fault. [IHLC]
- I4. My physical well-being depends on how well I take care of myself. [IHLC]
- I5. When I feel ill, I know it is because I have not been taking care of myself properly. [IHLC]
- I6. I can pretty much stay healthy by taking good care of myself. [IHLC]
- P7. If I see an excellent doctor regularly, I am less likely to have health problems. [PHLC]
- P8. I can only maintain my health by consulting health professionals. [PHLC]
- P9. Other people play a big part in whether I stay healthy or become sick. [PHLC]
- P10. Health professionals keep me healthy. [PHLC]
- P11. The type of care I receive from other people is what is responsible for how well I recover from an illness. [PHLC]
- P12. Following doctor's orders to the letter is the best way for me to stay healthy. [PHLC]
- C13. No matter what I do, if I am going to get sick, I will get sick. [CHLC]
- C14. Most things that affect my health happen to me by accident. [CHLC]
- C15. Luck plays a big part in determining how soon I will recover from an illness. [CHLC]
- C16. My good health is largely a matter of good fortune. [CHLC]
- C17. No matter what I do, I'm likely to get sick. [CHLC]
- C18. If it's meant to be, I will stay healthy. [CHLC]

Note. IHLC scale  $\alpha=.64$ , (standardized item  $\alpha=.66$ ,  $n=284$ ), mean=20.76, ( $SD=3.14$ ,  $n=294$ ); PHLC scale  $\alpha=.57$ , (standardized item  $\alpha=.58$ ,  $n=284$ ), mean=14.84, ( $SD=3.14$ ,  $n=295$ ); CHLC scale and  $\alpha=.63$ , (standardized item  $\alpha=.63$ ,  $n=282$ ), mean=13.02, ( $SD=2.96$ ,  $n=295$ ).

Locus of Control (IHLC) scale and  $\alpha=.64$ , (standardized item  $\alpha=.66$ ,  $n=284$ ). The maximum possible score on the IHLC scale was 30. The higher the score, the more respondents believed their behavior alone determines their state of health or illness.

Cronbach's alpha was calculated for the Powerful Others Health Locus of Control (PHLC) scale and  $\alpha=.57$ , (standardized item  $\alpha=.58$ ,  $n=284$ ). The maximum possible score on the PHLC scale was 30. The higher the score, the more the respondent believed that control over health or illness is external to self and lies in the hands of powerful others, e.g., medical doctors.

Cronbach's alpha was calculated for the Chance Health Locus of Control (CHLC) scale and  $\alpha=.63$ , (standardized item  $\alpha=.63$ ,  $n=282$ ). The maximum possible score on the CHLC scale was 30. The higher the score, the more the respondent believed that control over health or illness is a result of chance, fate, or luck.

#### Demographic Questions

The fourth part of the survey instrument requested demographic information from the respondents. Subjects were asked to indicate their age at last birthday; gender; race/ethnic background; marital status; education status (highest); religious affiliation; whether they were an addiction-treatment provider or not; whether they were certified as an alcohol or addiction counselor or not; whether they considered themselves to be an alcoholic or addict in recovery or not; whether they currently attended AA or any other 12-step program or not; how long they had been in AA or any other 12-step program; whether they had attended AA or any other 12-step program in the past or not; whether they were currently abstinent from alcohol and/or mood-altering drugs or not; and

Table 8.  
Demographic Characteristics of the Sample

	Mean	(SD)	n	(%)
Age (at last birthday)	44.04	(9.68)	293	
"How long have you been in AA or any other 12-step program?"				
Years in AA	5.04	6.89	224	
"If you do drink alcohol and/or use mood-altering drugs, please enter the average number of drinks/times you use drugs per week."				
Number of alcoholic drinks/drugs/week	1.82	3.21	130	
Gender				
Male			186	(63.10)
Female			109	(36.90)
Race/Ethnic Background				
White			208	(94.90)
Black			7	( 2.40)
Hispanic			4	( 1.00)
American Indian/ Alaskan Native			3	( 1.00)
Asian			1	( 0.30)
Marital Status				
Never married			41	(13.90)
Married			187	(63.40)
Widowed			6	( 2.00)
Separated/Divorced			59	(20.00)
Educational Status (check highest)				
Some college			28	( 9.50)
Bachelor Degree			39	(13.20)
Graduate Degree			218	(73.90)
Medical Degree			6	( 2.00)
Other			3	( 1.00)



Table 8. (continued)

	<i>n</i>	(%)
Religious Affiliation		
Protestant	81	(27.50)
Catholic	46	(15.60)
Jewish	42	(14.20)
Atheist	22	( 7.50)
Agnostic	30	(10.20)
Other	64	(21.70)
Are you a Certified Alcohol or Addiction Counselor?		
Yes	153	(51.90)
No	142	(48.10)
Do you consider yourself to be an alcoholic or addict in recovery?		
Yes	100	(33.90)
No	193	(65.40)
Do you currently attend Alcoholics Anonymous?		
Yes	101	(34.20)
No	194	(65.80)
Have you attended AA or any other 12-step programs in the past?		
Yes	206	(69.80)
No	80	(31.00)
Are you currently abstinent from alcohol and/or mood-altering drugs?		
Yes	187	(61.70)
No	111	(37.60)

the number of drinks/drugs they used per week. Table 8 contains a summary of this demographic information on the sample.

#### Addiction Recovery Without Treatment Beliefs

The fifth part of the inventory requested the percentage of drug addicts respondents believed got over their addiction without any form of medical or 12-step type treatment. Percentage figures from 0 to 100 were listed in intervals of ten and subjects were asked to circle the appropriate percentage figure. The question was asked in the following way: "What percentage of drug addicts do you believe get over their addiction *without* any form of medical or 12-step type treatment? (Please circle one)"

#### Comments

The last item on the survey welcomed comments on the instrument or the topics addressed. The item was phrased in the following way: "You are welcome to write any comments on this instrument or the topics addressed in the space below."

#### Treatment-Provider Groups

Each survey was coded in order to determine whether the person on the various mailing lists had responded. If they had not returned the survey they were sent a reminder card based on the number in the upper right-hand corner of the survey form. The subjects were informed of this coding procedure and confidentiality was guaranteed. The numbers were cut off upon return of the survey form.

Numbers coded from 1-167 indicated the respondent was from the Society of Psychologists in Addictive Behaviors (SPAB). Those numbers from 168-311 were from Rational Recovery Systems (RRS) and those from 312-511 were from the National Association of Alcoholism and Addiction Counselors (NAADAC).

### Sample Characteristics

Tables 8 and 9 give a breakdown description of characteristics of the sample. Treatment-provider group membership included 98 (33.2%) from SPAB, 63 (64%) males and 35 (36%) females; 91 (30.8%) from RRS, 69 (76%) males and 22 (24%) females; and 104 (35.3%) from NAADAC, 53 (51%) males and 51 (49%) females. Table 9 reflects the sample characteristics by treatment-provider group. A breakdown of groups by significant-group compositions is presented in Appendix J.

Respondents were from the three groups, SPAB, RRS, and NAADAC, and these groups varied significantly by gender in terms of expected and observed frequencies, ( $\chi^2=12.97, df=2, p<.001$ ). Appendix J lists the groups that varied significantly in terms of expected and observed group frequencies.

### Statistical Procedures

In order to answer the primary research question, "what are some of the factors that explain beliefs among addiction-treatment providers about the etiology of drug addiction?," multiple-regression analyses were conducted using the Statistical Package for the Social Sciences (SPSS) computer program on an IBM mainframe computer at the University of Maryland Computer Science Center. First, Pearson's Product Moment Correlations were calculated to assess the strength and direction of correlation between all variables. Scores on the SBS were entered at step one, scores for the MHLC scales were entered together at step two, and scores on all the remaining demographic variables were entered at step three. The incremental increase in  $R^2$  was calculated for significance at

Table 9.  
Sample Characteristics by Treatment-Provider Groups\*

	SPAB	RRS	NAADAC
<i>n</i>	98 (33.2)	91 (30.8)	104 (35.3)
<b>Gender</b>			
Male	63 (64.0)	69 (76.0)	53 (51.0)
Female	35 (36.0)	22 (24.0)	51 (49.0)
<b>Recovery Status</b>			
In recovery	19 (19.0)	15 (15.0)	65 (65.0)
Not in rec.	79 (41.0)	74 (38.0)	39 (20.0)
<b>AA Status</b>			
In AA now	20 (20.0)	8 ( 8.0)	73 (73.0)
Not in AA now	78 (40.0)	83 (43.0)	31 (16.0)
In AA past	57 (28.0)	55 (27.0)	93 (45.0)
Not in AA past	38 (48.0)	31 (39.0)	10 (13.0)
<b>Abstinence Status</b>			
Abstinent	45 (46.0)	46 (51.0)	90 (87.0)
Not abstinent	52 (54.0)	44 (49.0)	14 (13.0)

\*(percentage)

each step. Scores on the ABS were used as the criterion.

The partial contribution for each variable was calculated over and above all the other variables, with scores on the ABS as the criterion. All variables were entered together into the regression equation at step one with the exception of the one being investigated. The variable investigated was then entered at step two. The incremental contribution of this partialled-out variable was calculated for significance in ability to explain variance in the criterion.

## CHAPTER IV

### RESULTS

The purpose of this study was to investigate factors that account for variance in beliefs among treatment providers about the etiology of drug addiction. This section of the study presents the findings from the statistical analyses performed on the data collected from the survey. Prior to presenting findings related to each research question, means and standard deviations of variables are presented. Results from the various scales are presented first. Descriptive data is presented second, showing the various correlations between variables.

The results of the statistical procedures as they relate to the research questions are then presented here, along with tables to further illustrate the findings. Scores on the ABS, SBS, and MHLC, broken down by demographic variables of gender, certification status, addict-in-recovery status, AA status, abstinence status, and professional-group affiliation are presented in Appendices D, E, and F. Prior to presenting findings related to each research question, means and standard deviations of variables are presented.

A complete text of comments by respondents is presented in Appendix G. The comments from respondents suggest that researcher bias was well-protected. Respondents who believed in the disease model of addiction accused the investigator of bias in favor of the free-will model. Those critical of the disease model accused the investigator of bias in favor of the disease model.

A correlation matrix for all variables is presented in Appendix H. A complete matrix of individual item-by-item intercorrelations for the ABS

and SBS is presented in Appendix I. Factor analyses of the SBS and ABS and discussion of these findings appear in Appendix K.

#### Results for the ABS

The mean score on the ABS was 54.12, ( $SD=13.55$ ,  $n=295$ ). Statistically-significant differences in scores on the ABS by gender, certification status, addict-in-recovery status, AA status, abstinence status, and treatment-provider group membership are presented in Appendix D.

#### Results for the SBS

The mean score on the SBS was 24.27, ( $SD=8.55$ ,  $n=294$ ). Statistically-significant differences in scores on the SBS by gender, certification status, addict-in-recovery status, AA status, abstinence status, and treatment-provider group membership are presented in Appendix E.

#### Results for the MHLC Scales

##### Results for the IHLC Scale

The mean score on the IHLC scale was 20.76, ( $SD=3.14$ ,  $n=294$ ). Statistically-significant differences in scores on the IHLC scale occurred by treatment-provider group membership. These findings are presented in Appendix F. Scores by gender are also presented in Appendix F.

##### Results for the PHLC Scale

The mean score on the PHLC scale was 14.84, ( $SD=3.14$ ,  $n=295$ ). Statistically-significant differences in scores on the PHLC scale occurred by treatment-provider group membership. These findings are presented in Appendix F. Scores by gender are also presented in Appendix F.

##### Results for the CHLC Scale

The mean score on the CHLC scale was 13.02, ( $SD=2.96$ ,  $n=295$ ). Statistically-significant differences in scores on the PHLC scale occurred by

treatment-provider group membership. These findings are presented in Appendix F. Scores by gender are also presented in Appendix F.

#### Recovery Beliefs Without Treatment

When asked what percentage of drug addicts respondents believed got over their addiction without any form of medical or 12-step type treatment, the mean percentage indicated was 25.07, ( $SD=24.42$ ,  $n=293$ ), and ranged from zero to 100 percent.

#### Findings Related to the Research Questions

Table 10 lists all of the findings relevant to each of the research questions. In order to answer the research question, "do spiritual beliefs (SBS) of treatment providers explain variance in beliefs regarding the etiology of addiction among treatment providers?," the correlation ( $r$ ) for scores with the SBS and ABS was calculated. The significance for this correlation was calculated as well.

Next, all of the variables were entered into the regression equation at step one, with the exception of scores for the SBS variable. The incremental  $R^2$  and beta for this variable entered at step two were calculated. As Table 10 shows, SBS explains 42 percent of the variance in ABS and gives an incremental increase in  $R^2$  of .03, over and above all others variables, a finding that is significant at  $p<.001$  level.

In order to answer the research question, "does the health locus-of-control orientation of treatment providers explain variation in beliefs regarding the etiology of addiction?," all scores for the three dimensions of the MHLC scales were entered at step two in the regression equation, with scores for the SBS in the equation at step one. The incremental increase in variance explained by health locus-of-control orientation was then calculated. The contribution of MHLC scores was tested for significance.



Table 10.  
Factors Explaining Variation in Addiction Beliefs

Do spiritual beliefs (SBS) of treatment providers explain variance in beliefs regarding the etiology of addiction among treatment providers?

Variable	<i>r</i>	<i>r</i> <sup>2</sup>	<i>p</i>	<i>Incremental R</i> <sup>2+</sup>	<i>Beta</i> <sup>+</sup>	<i>p</i> <sup>+</sup>
SBS	.63	.42	<.001	.03	.28	<.001

Does the health locus-of-control orientation (MHLC) of treatment providers explain variation in beliefs regarding the etiology of addiction?

Order	Variable	<i>R</i> <sup>2</sup>	<i>Incremental R</i> <sup>2</sup>	<i>F</i>	<i>df</i>	<i>p</i>
Step One	SBS	.42				
Step Two	MHLC	.43	.01	4.66	22,190	<.0001

Variable	<i>r</i>	<i>P</i>	<i>Incremental R</i> <sup>2+</sup>	<i>Beta</i> <sup>+</sup>	<i>p</i> <sup>+</sup>	
PHLC	.18	<.0001	.02	.14	<.01	
IHLC	-.13	.02	<.00	.01	.90	
CHLC	.09	.11	<.00	.07	.18	
MHLC			.02	<i>F</i> 12.21	<i>df</i> 1,190	<.0001

Table 10. (continued)

Does the age, gender, race/ethnicity<sup>1</sup>, educational status, marital status, religious affiliation, certification-as-treatment-provider status, alcoholic/addict in recovery status, past and present experience in 12-step and/or other treatment programs, plus length of time in these programs, as well as their current drinking or drug-taking status, i.e., whether they are abstinent or not, and their professional-group affiliation explain variation in beliefs regarding the etiology of addiction?

Order	Variable	$R^2$	Incremental			$p$
			$R^2$	$F$	$df$	
Step One	SBS	.42				
Step Two	MHLC	.43	.01	4.66	22,190	<.0001
Step Three	Group* <sup>2</sup>					
	Gender					
	Drug freq.					
	AA now					
	AA past					
	Cert.					
	Education					
	Religious					
	Affiliation* <sup>3</sup>					
	Rec. addict.					
	Marital					
	Status* <sup>4</sup>					
	Age					
	AA time					
	(All at step					
	three)	.62	.19	13.49	19,190	<.0001

Table 10. (continued)

Variable	<i>r</i>	<i>p</i>	Incremental <i>R</i> <sup>2+</sup>	Beta <sup>+</sup>	<i>p</i> <sup>+</sup>
Group <sup>2</sup>			.07		<.0001
SPAB				-.02	.7508
NAADAC				.31	<.0001
Gender	.31	<.0001	.02	.15	.0042
Drug freq.	-.35	<.0001	.01	-.12	.0323
AA now	-.55	<.0001	.01	-.15	.0614
Religious <sup>3</sup> Affiliation			.01		
Protestant				-.03	.5560
Catholic				-.04	.4330
Jewish				.07	.1748
Agnostic				-.01	.8350
Marital <sup>4</sup> Status			.01		
Married				.04	.5016
Widowed				.05	.2924
Sep/Div.				.01	.8476
AA past Certification			<.00	-.01	.8716
Education			<.00	-.06	.2392
Abstinence	-.37	<.0001	<.00	.02	.7809
Rec. addict	-.40	<.0001	<.00	.01	.8498
Age	<-.01	.99	<.00	-.01	.9277
AA Time	.45	<.0001	<.00	.08	.1666
				-.07	.3407

Note: <sup>+</sup>After controlling for all other variables at Step 1 of the regression equation. <sup>\*</sup>Series of dichotomies created when the nominal variables were dummy coded. <sup>1</sup>Significance of *F* for race/ethnicity = .10 so this variable was not entered into the regression equation. <sup>2</sup>Compared to members of Rational Recovery Systems,  $F=33.81$ ,  $df=1,190$ ,  $p<.0001$ . <sup>3</sup>Compared to those respondents who identified themselves as atheists,  $F=2.64$ ,  $df=1,190$ ,  $p>.05$ . <sup>4</sup>Compared to those respondents who identified themselves as unmarried,  $F=3.27$ ,  $df=1,190$ ,  $p>.05$ .

In order to assess for the ability of MHLC scores to explain variance in the ABS over and above all other variables, all of the variables were entered into the regression equation at step one, with the exception of scores for all three of the MHLC scale scores, which were then entered at step two. The incremental contribution for MHLC scale scores was then calculated in this manner.

As Table 10 shows, SBS scores and MHLC scale scores together explain 43 percent of variance in the ABS. The incremental increase in  $R^2$  is one percent after SBS scores were entered into the equation. The additional increment for MHLC scores is significant at the  $p < .0001$  level.

When controlling for all other variables, MHLC scale scores together explain two percent incremental increase in  $R^2$  scores, ( $F=12.21$ ,  $df=1,190$ ,  $p < .0001$ ). (The difference of one percent in ability to explain variance in the ABS is attributed to shared variance with other variables.) A similar procedure was used to assess which of the three MHLC scales was the best predictor. PHLC gives an incremental increase in  $R^2$  of .02, over and above all others variables, a finding that is significant at the  $p < .0001$  level.

In order to answer the research question, "does the age of addiction-treatment providers, as well as their gender, race/ethnicity, educational status, marital status, religious affiliation, certification-as-treatment-provider status, alcoholic/addict in recovery status, past and present experience in 12-step and/or other treatment programs, plus length of time in these programs, as well as their current drinking or drug-taking status, i.e., whether they are abstinent or not, and their professional-group affiliation explain variation in beliefs regarding the etiology of addiction?," all of the demographic variables were entered into the regression equation at step three of the regression equation, with scores for SBS and scores for

the MHLC scales in the equation at steps one and two. All of the variables together explain 62 percent of the variance in ABS scores. The demographic variables explain 19 percent of the variance in addiction beliefs over and above SBS and MHLC scale scores. This incremental ability in  $R^2$  for the demographic variables to explain scores in the ABS is significant at the  $p < .0001$  level, ( $F = 13.49$ ,  $df = 23$ ).

In order to explore the ability of each demographic variable to explain variance in the ABS over and above all other variables, each demographic variable was entered into the regression equation at step two with all other variables entered at step one, with the exception of the variable being tested. The incremental  $R^2$  and beta for each of these individual demographic variables entered at step two was calculated. Table 10 shows the incremental  $R^2$  for each of these variables, the significance of the increment, the beta statistic for each variable, with ABS scores as the criterion. Three of these demographic variable are statistically-significant in their ability to explain variance in the ABS: Group, gender, and drug frequency.

The professional-group affiliation variable was dummy coded and when the status for each of the three groups was entered into the regression equation together explained .07 percent increase in addiction beliefs, over and above all the other variables entered at step one. The incremental increase for the three groups is significant at  $p < .0001$ , where  $F = 33.81$ ,  $df = 1, 190$ . The mean scores for the ABS by professional-group affiliation are listed in Appendix D. Members of NAADAC scored highest on the ABS, followed by those from SPAB. Members of RRS scored lowest on the ABS.

Gender contributed a two percent increase in the total  $R^2$  when partialled out and is positively correlated with the ABS ( $r=.31, p<.0001$ ), (value for males=1, value for females=2), i.e., females tended to score high on ABS and males tended to score low. This finding is significant at the  $p=.0042$  level.

Drug frequency contributed an incremental increase in  $R^2$  of slightly less than one percent over and above the other variables. This increase is significant at the  $p=.03$  level. Drug frequency is negatively correlated with addiction beliefs ( $r=-.35, p<.0001$ ). This means that the amount of alcoholic drinks and/or mood-altering drugs consumed per week explains variance in addiction beliefs. The less drugs consumed the more likely the treatment providers are to believe in the disease model of addiction. The more drugs they consume, the more likely they are to believe in the free-will model.

None of the other variables contributed a significant amount of increase in  $R^2$  at  $p=.05$ .

These findings relate to the main research question: What are some of the factors that explain beliefs among addiction treatment providers about the etiology of addiction? The findings presented in Table 10 show that five factors explain variance in beliefs regarding addiction: Scores on the Spiritual Belief Scale, health locus-of-control orientation, professional treatment-provider group membership, gender, and the number of alcoholic drinks and/or mood-altering drugs consumed per week. The PHLC dimension of the MHLC scales is significant in its ability to predict scores on the ABS.

Therefore, the answer to the main research question—"What are some of the factors that explain beliefs among addiction-treatment

providers about the etiology of drug addiction?"—is that spiritual thinking, as measured by the SBS, health locus-of-control orientation, specifically the extent to which subjects attribute responsibility for health and illness to powerful others, as measured by the PHLC scale of the MHLC scales, their professional group-membership, i.e., whether subjects are members or affiliated with RRS, SPAB or NAADAC, gender, and how many alcoholic drinks or mood-altering drugs they consume per week are factors that can explain a statistically significant amount of variance in beliefs about addiction, as measured by the ABS.

### Some Additional Findings

#### Correlation Coefficients for Spiritual Beliefs

Since spiritual thinking as measured by the SBS explained the largest amount of variance in addiction beliefs over and above all other factors, the correlations between scores on the SBS and other variables were of interest to this researcher. Table 11 lists the correlations for nine variables that were significant at the .01 level. Whether or not respondents were in AA now was most strongly correlated with spiritual beliefs, followed by the number of years they had been in AA, whether they considered themselves to be addicts in recovery, whether they had been in AA in the past, whether they were abstinent from alcohol and/or mood-altering drugs, their educational status, their scores on the PHLC dimension of the MHLC, and whether they were certified as addiction/alcoholism counselors. The direction of these correlations is listed in Table 11.

Table 11.  
Correlation Coefficients for Spiritual Beliefs (SBS)

	<i>r</i>
In AA now?*	-.53
Years in AA	.44
Addict in recovery?*	-.37
In AA in the past?	-.36
Abstinent?	-.33
Drink/drug frequency/week	-.28
Educational status	-.25
PHLC	.21
Gender**	.18
Certified?*	-.16

Note.  $p=.01$ . \*1=yes, 2=no. \*\*1=male, 2=female.



## CHAPTER V

### CONCLUSIONS, DISCUSSION, AND IMPLICATIONS

This section contains a recapitulation of the research interest, a summary of the methods used to investigate the research questions, conclusions, discussion, and recommendations based on findings.

#### Recapitulation of the Research Interest

A heated controversy exists in the addiction-research and treatment field regarding the extent to which addiction is a choice or a disease. Beliefs regarding addiction appear to vary a great deal among addiction-treatment providers. The purpose of this study was to investigate factors that may explain variation in beliefs among addiction-treatment providers regarding the etiology of addiction. Four research questions were generated to explore these factors. The primary research question asked in this study was the following: What are some of the factors that explain beliefs among addiction-treatment providers about the etiology of drug addiction?

Three sub-questions followed the main research question to further specify these factors: (a) Do spiritual beliefs of treatment providers explain variance in beliefs regarding the etiology of addiction among treatment providers? And, (b) does the health locus-of-control orientation of treatment providers explain variation in beliefs regarding the etiology of addiction? Additionally, the research interest includes (c) whether the following demographic characteristics of addiction-treatment providers are able to account for variance in beliefs regarding addiction: Do their age, gender, race/ethnicity, educational status, marital status, religious affiliation, certification-as-treatment-provider status, alcoholic/addict in recovery status, past and present experience in 12-step and/or other

treatment programs, plus length of time in these programs, as well as their current drinking or drug-taking status, i.e., whether they are abstinent or not, plus the frequency of alcoholic drinks and/or mood-altering drugs consumed per week, and their professional-group affiliation explain variation in beliefs regarding the etiology of addiction?

#### Summary of Method

The Addiction Belief Scale (ABS) was created to assess beliefs about addiction along the disease model and free-will model dimensions. The ABS was checked for validity by two experts in the addiction field. Agreement on content validity was achieved. The instrument shows high reliability.

The Spiritual Belief Scale (SBS) was created to assess beliefs about spirituality. The SBS was checked for validity by two experts on spirituality in AA. Agreement on content validity was achieved. The instrument shows high reliability.

The Multidimensional Health Locus of Control scales were used to assess attributions for health and illness. The reliability statistics for this instrument are fair.

An eleven-page survey form was assembled and included requests for demographic information. The survey form and accompanying letter were mailed to 511 addiction-treatment providers nation-wide. They included a random sample of addiction-treatment providers from the National Association of Alcoholism and Drug Abuse Counselors, all of the supervisors of Rational Recovery Systems groups, and all psychologists who identified themselves as treatment providers and members of the Society for Psychologists in Addictive Behaviors.

Completed and returned surveys totaled 327 and constituted a 64 percent return rate. Of these, 32 treatment providers indicated they were not addiction-treatment providers, therefore, 295 addiction-treatment providers established the primary sample studied.

The results were tallied and analyzed using SPSS on an IBM-mainframe computer at the University of Maryland in College Park. The statistical procedures used included multiple regression analyses to assess the extent to which the various factors predict variance in the criterion measure (ABS), over and above other variables.

### Conclusions

The findings support the idea that five factors explain variance in beliefs of addiction-treatment providers regarding the etiology of addiction: Spiritual thinking, health locus-of-control orientation, professional-group affiliation, gender, and the frequency of alcoholic drinks and/or mood-altering drugs ingested per week each explain variance in beliefs of addiction-treatment providers regarding the etiology of addiction.

#### Spiritual Thinking and Addiction Beliefs

The findings support the idea that the spiritual thinking explains beliefs regarding the etiology of addiction among treatment providers. Spiritual thinking explained 42 percent of the variance in addiction beliefs. The incremental  $R^2$  contribution of scores on the SBS, over and above all other variables entered at step one of the regression equation, is significant at the  $p < .001$  level. Since the simple  $r$  for SBS is positively correlated with the ABS, scores on the SBS increase as scores on the ABS increase.

An increase in scores on the ABS indicates a stronger belief in the disease model of addiction. An increase in scores on the SBS indicates a stronger belief in a metaphysical power that can influence experience.

Therefore, the findings support the idea that the extent to which treatment providers believe that a metaphysical power can influence their personal experience is positively correlated with the strength of their belief in the disease model of addiction. The stronger the spiritual belief, the stronger the belief in the disease model. Treatment providers who disagree with statements suggesting that a metaphysical power can influence personal experience are likely to believe in the free-will model of addiction.

#### Health Locus-of-Control Orientation and Addiction Beliefs

The findings support the idea that health locus-of-control orientation of treatment providers explains variation in beliefs regarding the etiology of addiction. Spiritual thinking and health locus-of-control orientation together explained 43 percent of the variance in addiction beliefs. The incremental contribution of MHLC scores over and above spiritual thinking was significant at the  $p < .0001$  level. The incremental  $R^2$  contribution of scores on the PHLC dimension of the MHLC, over and above all other variables entered at step one of the regression equation, is significant at the  $p = .01$  level. Since the simple  $r$  for PHLC is positively correlated with the ABS, scores on the PHLC increase as scores on the ABS increase.

An increase in scores on the ABS indicates a stronger belief in the disease model of addiction. An increase in scores on the PHLC indicates a stronger belief in the idea that powerful others are responsible for one's experience of health and illness.

Health locus-of-control orientation explains minimal yet statistically-significant amount of variance in addiction beliefs over and above spiritual thinking, and all other demographic variables. Moreover, treatment providers who tend to attribute responsibility for their

experience of health and illness to powerful others are likely to believe in the disease model of addiction. Treatment providers who disagree with statements attributing responsibility for their experience of health and illness to powerful others tend to believe in the free-will model of addiction.

#### Demographic Characteristics and Addiction Beliefs

The findings support the idea that for treatment providers, their age, gender, race/ethnicity, educational status, marital status, religious affiliation, certification-as-treatment-provider status, alcoholic/addict in recovery status, past and present experience in 12-step and/or other treatment programs, plus length of time in these programs, as well as their current drinking or drug-taking status, i.e., whether they are abstinent or not, plus the frequency of alcoholic drinks and/or mood-altering drugs consumed per week, and their professional-group affiliation together explain variation in beliefs regarding the etiology of addiction. These variables together with spiritual thinking and health locus-of-control orientation explained 62 percent of variance in addiction beliefs.

The demographic variables explain 19 percent of the variance in addiction beliefs over and above scores for spiritual thinking and health locus-of-control orientation. This finding is significant at the  $p < .0001$  level.

The findings support the idea that three demographic characteristics of addiction-treatment providers are able to account for variance in beliefs regarding addiction: Professional-group affiliation, gender, and the frequency of alcoholic drinks and/or mood-altering drugs consumed per week each explain variance in addiction beliefs.

### Professional-Group Affiliation and Addiction Beliefs

The findings support the idea that the professional-group affiliation of treatment providers explains variance in beliefs regarding addiction. Since there were three groups, NAADAC, SPAB, and RRS, the group variable was dummy-coded and entered into the regression equation as three dichotomous variables. These three dummy-coded variables were entered into the regression equation together at step two. The incremental  $R^2$  contribution of scores for this group variable, over and above all other variables entered at step one of the regression equation, is statistically significant at the  $p < .0001$  level.

The highest possible score on the ABS was 90. Therefore, a score of 45 divided the scale in half. Scores above 45 suggested a stronger belief in the disease model of addiction. Scores below 45 suggested a stronger belief in the free-will model of addiction.

The mean score on the ABS for members of NAADAC was 64.97, for members of SPAB was 52.88, and for members of RRS was 42.89. Members of NAADAC tend to believe in the disease model of addiction, as do members of SPAB, but to a lesser extent. Members of RRS tend to believe in the free-will model of addiction.

### Gender and Addiction Beliefs

The findings support the idea that the gender status of treatment providers explains variance in beliefs about addiction. The incremental  $R^2$  contribution of gender status, over and above all other variables entered at step one of the regression equation, is significant at the  $p = .0042$  level. Since the simple  $r$  for gender is positively correlated with the ABS, and males were scored as "1" and females as "2," scores on the gender variable increase as scores on the ABS increase.

An increase in scores on the ABS indicates a stronger belief in the disease model of addiction. An increase in scores on the gender variable indicates the respondent is female.

Therefore, the findings support the idea that gender status is positively related with the strength of belief in the disease model of addiction. Female treatment providers are likely to believe in the disease model of addiction. Male treatment providers are likely to believe in the free-will model of addiction.

#### Frequency of Alcoholic Drinks and Mood-Altering Drug Use/Week and Addiction Beliefs

The findings support the idea that the number of alcoholic drinks and/or mood-altering drugs ingested per week by treatment providers can explain variance in beliefs about addiction. The incremental  $R^2$  contribution of the number of alcoholic drinks and/or mood-altering drugs ingested per week, over and above all other variables entered at step one of the regression equation, is significant at the  $p=.03$  level. The simple  $r$  is negative for drug frequency and ABS scores.

The lower the number of alcoholic drinks and/or mood-altering drugs ingested by treatment providers per week, the more likely these treatment providers are to believe in the disease model of addiction. The higher the number of alcoholic drinks and/or mood-altering drugs ingested by treatment providers per week, the more likely they are to believe in the free-will model of addiction.

### Discussion

#### Discussion of the Findings in Light of the Research Questions

Sixty-two percent of the variance in addiction beliefs was explained by the variables used in this study. There is clearly a strong relationship

between several of the individual variables used to explore addiction beliefs, as well as a combination of these variables. The demographic variables independent of scores on spiritual thinking and health locus-of-control orientation explained 18 percent of variance in addiction beliefs, which is a significant amount. In other words, we can ascertain with a fair degree of confidence what addiction-treatment providers are likely to believe about the etiology of addiction based on their experience with AA, their certification, abstinence, education, and marital status, their age, their religious affiliation, and the number of alcoholic drinks and/or mood-altering drugs they consume per week, all examined together.

One explanation for this finding is that addiction-treatment providers who believe in the disease model of addiction tend to share certain characteristics. They tend to be abstinent or drink very little. They are likely to be certified as treatment providers, where they undoubtedly receive indoctrination in the disease model of addiction. They are likely to be lower educated, and have strong religious beliefs. Most importantly, they are likely to have had a great deal of experience with AA, compared to those treatment providers who believe in the free-will model. Treatment providers who believe in the disease model of addiction are more likely to be members of NAADAC and to a lesser extent SPAB. Members of RRS are more inclined to believe in the free-will model of addiction.

The findings of this study support the idea that five specific factors explain variance in addiction beliefs among treatment providers: Spiritual thinking, health locus-of-control orientation, professional-group affiliation, gender, and the frequency of alcoholic drinks and/or mood-altering drugs ingested per week.



Three of these factors, spiritual thinking, health locus-of-control orientation, and gender, appear to share certain characteristics. For example, spiritual thinking is defined in this study as belief in a metaphysical power that can affect personal experience. The power could be anything, as long as it is metaphysical and not "self."

One possible explanation for the relationship between spiritual thinking and belief in the disease model of addiction is that both involve the attribution of power and responsibility for experience to some alien factor external to self. The disease-model belief attributes responsibility for addiction to either the "addictive drug," or physiological differences addicts share as compared to normal people, or a combination of the two. Belief in loss-of-control theory involves the attribution of responsibility for addiction to factors other than self. The disease is a fixed, external power.

Similarly, spiritual thinking appears to be an attribution of release from the problems associated with addiction to a metaphysical power external to self. This spiritual power appears to both a stable and unstable force in the mind of the spiritual thinker. For example, the power is believed to be a stable force in the universe in the sense that it is always present, and unstable in the sense that the true believer never really knows when the metaphysical force is going to affect his or her life.

"Good" experiences seem generally attributed to the spiritual force and "bad" ones to the disease of addiction. In either case, the attribution for experience is to an external factor.

Thus, it makes sense that spiritual thinking explains belief in the disease model. Both systems of belief are external in locus-of-control orientation.

Concurrently, low scores on the SBS predict belief in the free-will model of addiction. The less the belief in an external metaphysical power that can affect personal experience, the more the treatment provider is likely to attribute responsibility for addiction to willful, or self processes.

This appears to be, more or less, a dichotomous issue regarding beliefs of this nature. Self attribution and spiritual attribution are mutually exclusive. The same dichotomy appears to hold true for beliefs about addiction. One is either in the disease model or the free-will model camp, never both. The former attributes experience to external factors, the latter to internal ones. The power for experience, be it the power of the addiction as a disease, the power of self to control the addiction, or the power of a metaphysical force to release the individual from the "grip" of the addiction is either external or internal.

In this context, we may be in a better position to understand how health locus-of-control orientation explains beliefs about addiction. The PHLC dimension of the MHLC scales is similar to spiritual-thinking processes. The difference is that instead of attributing responsibility for "health" to a metaphysical power, it is attributed to powerful others, such as doctors. Powerful others attribution is an external locus-of-control orientation. It is similar to attributing responsibility for the addiction to the disease and release from the addiction to the metaphysical power.

Disease, metaphysical power, and doctors are all believed in as external sources of power. Low scores on the PHLC dimension predict belief in the free-will model of addiction. This is consistent with low scores on spiritual thinking. The less treatment providers attribute responsibility for their health and illness to powerful others, i.e., doctors,

the more likely they are to believe that addiction is a willful self process. The findings are conceptually consistent.

What is especially curious is the role of gender in explaining variance in beliefs regarding addiction. Why might women be more inclined to believe in the disease model of addiction, whereas men are more inclined to believe in the free-will model? Perhaps it is because the sense of personal empowerment in the world is much less for women than it is for men, as many feminist writers have asserted. Women have been psychologically oppressed, the result of living in a patriarchal society.

Women may have been forced to attribute good and bad experience to an alien power—a male dominated socio-political environment. Perhaps this is the equivalent of a metaphysical force. Sexual discrimination may have lowered feelings of self-efficacy for women in relation to their own personal problems and experience with addiction, as well as their beliefs about the ability of others to manage their own lives in the face of addiction. They may project this sense of disempowerment and alienation onto others and say that “they” can’t control their addiction. Women may be more inclined to use drugs to cope with life experience, and resort to treatment programs that reinforce this generalized sense of disempowerment thorough disease and spiritual attributions. This is one of the reasons that Kirkpatrick (1986) founded Women for Sobriety. They have been taught to attribute experience to external factors because they have been coerced into doing so, i.e., women live in a male-dominated society.

In any event, there seems to be this theme of alienated power that runs through these three factors, spiritual thinking, powerful others health locus-of-control orientation, and being a woman in society today. These

three factors explain variance in addiction beliefs. The more inclined treatment providers appear to attribute power for their experience to factors outside of themselves, the more inclined they appear to believe in the disease model of addiction. The less inclined they appear to attribute power for their experience to factors outside of themselves, the more inclined they appear to believe in the free-will model of addiction.

That professional-group affiliation explains variance in addiction appears to be a plausible and consistent finding. Members of NAADAC believe quite strongly in the disease model of addiction, as evidenced by their mean scores on the ABS. They also score highest on spiritual beliefs. RRS was founded in opposition to the spiritual character of AA. Members of RRS are explicitly secular in their beliefs. They also seem to hold strong beliefs regarding personal power and self-efficacy. Their literature shows that they tend to favor abstinence approaches over controlled-drinking ones.

However, the emphasis in RRS is explicitly on self-empowerment and rejection of spiritual force. Therefore, it makes sense that whether treatment providers are in NAADAC or RRS will tell us something about their addiction beliefs. Members of NAADAC are likely to believe in the disease model of addiction and members of RRS are likely to believe in the free-will model.

Perhaps members of SPAB fall somewhere in the middle because they are more behaviorist in their orientation to addiction. They may not believe strongly in the idea of a disease or spiritual force as being responsible for addiction, yet, at the same time, do not believe that addiction is as volitional as free-will modelists believe it to be. Behaviorists attribute responsibility to environmental factors, i.e.,

stimulus and reinforcement. Learned behaviors, such as addiction, are the result of environmental shaping, not self-determination.

Finally, that drug frequency ingestion explains addiction beliefs seems consistent with these other findings. Those treatment providers who are less inclined to use drugs believe more in the disease-model of addiction, perhaps because they believe they are incapable of controlling drug use responsibly, or that the power of the addiction may take over their lives. It is interesting that abstinence status did not explain addiction beliefs in this regard.

Moreover, that increased frequency of drug ingestion predicts belief in the free-will model is consistent with the idea that people who are drinking alcohol and/or using drugs believe they can control their usage. Therefore, it seems reasonable that they are more inclined to believe that others can do so as well, i.e, the free-will model.

The findings from this study appear to support Levine's (1978) assertion that religious elements associated with the temperance era are closely related to the disease concept of addiction. Historically, the disease concept of alcoholism has its roots in the temperance movement, which was primarily a religious crusade. This current study supports the association between spiritual thinking and the disease concept of addiction.

It is interesting to note that Catholics tend to believe most strongly in the disease model of addiction and atheists least of all. This finding appears to lend further support to the relationship of spiritual thinking with the disease model and secular thinking with the free-will model.

Treatment providers who are more secular in their thinking and appear to take greater responsibility for their experience of health and illness, and are male tend to believe in the free-will model of addiction.

They are also more inclined to belong to Rational Recovery Systems, an organization that was founded in opposition to Alcoholics Anonymous. Its founders objected to the spiritual nature of AA, (Trimpey, 1989).

Treatment providers who are more spiritual in their thinking, attribute greater responsibility for their experience of health and illness to powerful others, and are female, are more inclined to believe in the disease model of addiction. They are also more inclined to belong to NAADAC, and to a lesser extent, SPAB.

### Implications

#### Implications for Theory

The relationship of spiritual thinking to belief in the disease model of addiction should tend to discredit the disease model from a scientific point of view. The theory that addiction is a disease is not substantiated by scientific research contesting the loss-of-control theory. Yet, treatment providers persist in believing that the chemicals of alcohol and other drugs can interact with physiological elements to produce a non-volitional behavior called addiction. This is the putative "power" of addiction and the drug.

Since the theory is not grounded in empirical research, and is so closely related to spiritual thinking, external health locus-of-control orientation, and being female, a reconsideration of both the motive for using this theory to explain addiction, as well as the consequences to doing so seems warranted. The motive for believing in the disease model may have to do more with personal and existential beliefs about the self than anything else.

To return to Cahalan (1979), these personal issues and beliefs may explain how the various treatment organizations "tick." As Bergmakr &

Oscarsson (1991) have suggested, these issues may be the "hidden" belief among treatment providers.

In other words, the therapeutically active features of addiction-treatment programs may not be the ones the practitioners themselves believe in. A disease called addiction doesn't actually exist, people just believe it does. A higher power doesn't actually heal, people just believe it does.

Moreover, their personal beliefs may actually weaken the therapeutic effect of these features. The attribution of power to an external agent, be it to explain addiction, i.e., the disease, cure of the addiction, i.e., a higher power, or excessive reliance on powerful others, i.e., doctors, may ultimately weaken self-efficacy for the client. In this sense, the reinforcement of low self-efficacy may likely create more of the problems treatment is theoretically designed to solve.

The implications of the findings from this study for theory involve a reassessment of both the motivation for and possible consequences of, varying beliefs about addiction. Spiritual thinking, health locus-of-control, gender status, professional-group affiliation, and frequency of drug ingestion, all tell us something about beliefs regarding addiction. Belief in the disease model of addiction is explained by an external locus-of-control orientation that may unite these five factors. Belief in the free-will model of addiction is explained by an internal locus-of control orientation. Personal beliefs may influence beliefs regarding addiction for others in both cases, however, the free-will model appears to be more grounded in empirical research. Moreover, the internal locus-of-control is more closely related to higher self-efficacy than external locus of control. Perhaps

theories regarding addiction should be re-examined with these findings in mind.

The disease and drugs don't actually cause the addict to become addicted and the "higher power" doesn't actually heal addicts of their disease. These are metaphorical phenomena, not literal ones. As such, it appears they have no place in a scientific theory.

#### Implications for Practice

Addiction-treatment providers who believe in the disease model of addiction undoubtedly integrate spiritual thinking in their clinical practice. Moreover, they appear to be committed to an external locus of control orientation. These findings should be of concern to those who study and implement treatment policy, those who study the effects of different treatment programs on self-efficacy, and those interested in women's studies regarding empowerment.

Medical health insurance companies, state-supported addiction-treatment programs, and courts should be cognizant of several facts that are evident from this study: (a) Spiritual philosophy is not medicine. It is strongly associated with medicine, however, in the minds of addiction-treatment providers. Undoubtedly, spiritual thinking plays a major role in treatment practice based on the disease model of addiction. (b) Some addiction-treatment providers believe in the free-will model of addiction, a belief that is diametrically opposed to the disease model. (c) Treatment providers who subscribe to the free-will model tend not to be spiritual thinkers advancing a spiritual philosophy, and are more likely to be secular in their thinking, which is related to their addiction beliefs, and undoubtedly their treatment practices.



Medical health insurance companies should be cognizant of these facts because it may be ill-advised to support treatment programs that are based in spiritual and moral management techniques, instead of medically-based ones. Moreover, higher premium rates are passed on to subscribers who may not want to support the establishment of a particular spiritual philosophy in drug addicts, in order to pay for disease-model treatment.

Public-support treatment programs based on the disease model of addiction, as well coerced-treatment practices conducted by the courts, may be in violation of the First Amendment of the U.S. Constitution, (Luff, 1989). Disease-model based treatment programs involved with the state may constitute the state's entanglement with religion, the establishment of a state religion based on AA spiritual philosophy, and prohibit the free-exercise of a citizen's religion or spiritual philosophy of choice, which includes atheism and/or agnosticism.

From a strictly psychological point of view, disease model approaches to addiction would appear to lower feelings of self-efficacy and reinforce an external locus of control orientation, (Schaler, 1992), as evidenced by the theme of self-deception and alienation of power. Thus, these programs may be creating more of the problems they are attempting to solve, i.e., disempowering individuals in the name of empowering them.

A further study based on these findings might inquire as to the relative effects of disease-model versus free-will model treatment programs on general feelings of self-efficacy. Moreover, research has shown that gender is related to health-care practices, utilization of health-care services, reasons for seeking-health care assistance, etc., (Verbrugge, 1985; Travis, 1988; McGrath et al., 1990; R. Royak-Schaler, personal

communication, 1992). The relationship between gender, self-efficacy, addiction beliefs, spiritual beliefs, and health-care outcomes may prove to be an interesting course of study.

#### Implications for Further Research

Several directions may be pursued in light of the findings from this study. First of all, the ABS appears to be a reliable instrument for assessing addiction beliefs. It should have wide applicability in any study that seeks to assess contemporary beliefs regarding addiction.

The ABS could be used as either an independent or dependent measure. Moreover, the ABS could be shortened based on the most representative items as revealed through a factor analysis of the instrument, (Appendix K).

Secondly, the SBS also appears to be a reliable instrument for assessing spiritual thinking. It should have wide applicability in any study that seeks to assess contemporary beliefs regarding a metaphysical power that can influence personal experience. The SBS could be used as either an independent or dependent measure.

The SBS could be shortened based on the most representative items as revealed in the factor analysis, (Appendix K). For example, S4, "I feel it is important to thank God when I manage to do the right thing," and S8, "I believe there are many ways to know God and that my way is not the only way," may be as effective in measuring spiritual beliefs as the whole scale, (Appendix K, Table 12).

A refined study of the relationship between spiritual thinking and beliefs about addiction could investigate the item by item correlation of the SBS and the ABS, to further specify which beliefs seems to go together and which do not. One approach to further study might involve factors that

explain each of the three dimensions on the ABS. The SBS could be used as a dependent measure to investigate factors that might explain spiritual beliefs.

Refined measures assessing levels of self-efficacy could be explored in terms of their relationship to spiritual and addiction beliefs. A possible relationship between addiction beliefs and tolerance for ambiguity could be explored using the ABS and the SBS. The possibilities for further research appear diverse and potentially fruitful. Both measures could be used as either independent or dependent measures to explore multitudinous relationships.

APPENDIX A  
ABS SURVEY INSTRUMENT

# ABS

## addiction belief study

Please do not write your name anywhere on this instrument. The instrument will take about 8 minutes to complete. Your responses will be held in the strictest confidence. Answer each request for information as honestly and accurately as you can. The number in the upper-right corner of this page will be cut off and discarded on return of the instrument.

Please return the instrument as soon as possible. A pre-addressed, postage-paid return envelope is provided.

If you would like to receive the results of this study, send a request on a separate postcard along with your name and address to: ABS Results, 1001 Spring Street, Suite 104, Silver Spring, Maryland, 20910-4022.

Thank you very much for participating in this study.

Directions: Circle the appropriate response based on the degree to which you agree or disagree with it. This is a measure of your beliefs. There are no right or wrong answers.

1. Most addicts don't know they have a problem and must be forced to recognize they are addicts.
 

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
-------------------	----------	-----------	-------	----------------
  
2. Addicts cannot control themselves when they drink or take drugs.
 

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
-------------------	----------	-----------	-------	----------------
  
3. The only solution to drug addiction and/or alcoholism is treatment.
 

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
-------------------	----------	-----------	-------	----------------
  
4. The best way to overcome addiction is by relying on your own willpower.
 

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
-------------------	----------	-----------	-------	----------------
  
5. Addiction is an all-or-nothing disease: A person cannot be a temporary drug addict with a mild drinking or drug problem.
 

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
-------------------	----------	-----------	-------	----------------

6. People can stop relying on drugs or alcohol as they develop new ways to deal with life.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
7. Addiction has more to do with the environments people live in, than the drugs they are addicted to.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
8. People often outgrow drug and alcohol addiction.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
9. The most important step in overcoming an addiction is to acknowledge that you are powerless and can't control it.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
10. Abstinence is the only way to control alcoholism/drug addiction.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
11. Physiology, not psychology, determines whether one drinker will become addicted to alcohol and another will not.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
12. Alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
13. People become addicted to drugs/alcohol when life is going badly for them.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
14. The fact that alcoholism runs in families means that it is a genetic disease.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree

15. You have to rely on yourself to overcome an addiction such as alcoholism.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
16. Drug addicts and alcoholics can find their own ways out of addiction, without outside help, given the opportunity.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
17. People who are drug addicted can never outgrow addiction and are always in danger of relapsing.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
18. Drug addiction is a way of life people rely on to cope with the world.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
19. If I become sick, I have the power to make myself well again.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
20. No matter what I do, if I am going to get sick, I will get sick.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
21. If I see an excellent doctor regularly, I am less likely to have health problems.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
22. Most things that affect my health happen to me by accident.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
23. I can only maintain my health by consulting health professionals.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
24. I am directly responsible for my health.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree

25. Other people play a big part in whether I stay healthy or become sick.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
26. Whatever goes wrong with my health is my own fault.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
27. Luck plays a big part in determining how soon I will recover from an illness.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
28. Health professionals keep me healthy.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
29. My good health is largely a matter of good fortune.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
30. My physical well-being depends on how well I take care of myself.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
31. When I feel ill, I know it is because I have not been taking care of myself properly.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
32. The type of care I receive from other people is what is responsible for how well I recover from an illness.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
33. No matter what I do, I'm likely to get sick.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
34. If it's meant to be, I will stay healthy.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
35. I can pretty much stay healthy by taking good care of myself.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree

36. Following doctor's orders to the letter is the best way for me to stay healthy.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
37. I feel that in many ways turning my life over to God has actually set me free.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
38. I know that all the best things in my life have come to me through God.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
39. I believe I am blessed by God with many gifts I do not deserve.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
40. I feel it is important to thank God when I manage to do the right thing.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
41. It's only when I stop trying to play God that I can begin to learn what God wants for me.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
42. I know I am able to meet life's challenges only with God's help.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
43. I know that forgiving those who have hurt me is important for my spiritual health.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
44. I believe there are many ways to know God and that my way is not the only way.
- Strongly disagree      Disagree      Uncertain      Agree      Strongly agree
45. Age (at last birthday): \_\_\_\_\_
46. Gender: \_\_\_\_\_ Male  
 \_\_\_\_\_ Female



47. Race or ethnic background:
- White, not of Hispanic origin
- Black/African American, not of Hispanic origin
- Hispanic
- American Indian/Alaskan Native
- Asian
- Pacific Islander
48. Marital status:
- Never married
- Married
- Widowed
- Separated/Divorced
49. Educational status (check highest):
- Not high school graduate
- High school graduate
- Some college
- Bachelor's degree
- Graduate degree
- Medical degree
- Other (please specify) \_\_\_\_\_
50. Religious affiliation:
- Protestant
- Catholic
- Jewish
- Muslim
- Atheist
- Agnostic
- Other (please specify) \_\_\_\_\_
51. Are you an addiction treatment provider?  Yes  No
52. Are you a Certified Alcohol or Addiction Counselor?  Yes  No
53. Do you consider yourself to be an alcoholic or addict in recovery?  Yes  No
54. Do you currently attend Alcoholics Anonymous or any other 12-step program?  Yes  No

55. How long have you been in AA or any other 12-step program? \_\_\_\_\_ years
56. Have you attended AA or any other 12-step programs in the past? \_\_\_\_\_ Yes \_\_\_\_\_ No
57. Are you currently abstinent from alcohol and/or mood-altering drugs? \_\_\_\_\_ Yes \_\_\_\_\_ No
58. If you do drink alcohol and/or use mood-altering drugs, please enter the average number of drinks/times you use drugs per week:
- |  |                              |
|--|------------------------------|
| _____ Bottles/cans of beer/week                | _____ Marijuana use/week     |
| _____ Glasses of wine/week                     | _____ Tranquilizers use/week |
| _____ Mixed drinks or shots of liquor/<br>week | _____ Stimulants use/week    |
|  | _____ Other (specify) _____  |
|  | _____                        |
59. What percentage of drug addicts do you believe get over their addiction **without** any form of medical or 12-step type treatment?  
(Please circle one)
- |    |    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|----|-----|----|
| 0  | 5  | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45  | 50 |
| 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |    |
60. You are welcome to write any comments on this instrument or the topics addressed in the space below.

## APPENDIX B

## LETTER ACCOMPANYING SURVEY INSTRUMENT

**ABS**

addiction belief study

May 18, 1992

Dear Colleague:

I am a doctoral candidate doing research in the area of social policy and addiction at the Department of Human Development, University of Maryland, and am asking for your help. As an addiction treatment provider I suspect you know more about drug addiction than most people in the research field.

Your name has been selected from a sample of members of several professional treatment organizations nationwide. In order to improve the quality of addiction treatment, the enclosed instrument was devised to assess the beliefs and characteristics of care providers.

Please take a few minutes to complete the enclosed inventory and return it to me as soon as possible. For your convenience, a pre-addressed, postage-paid return envelope is provided.

The handwritten number in the upper-right corner on the first page of the instrument is used to identify participants who have not returned the instrument. They will be sent a reminder card. Once recorded, the number will be removed to protect the identity of those who have returned the instrument. Your responses will be held in the strictest confidence.

Thank you very much for your time, cooperation, and help. If you have any questions or concerns please feel free to write or call me.

Sincerely yours,

Jeffrey A. Schaler  
Principal Investigator1001 Spring Street, Suite 104  
Silver Spring, Maryland 20910-4022  
Telephone: (301) 585-5664

APPENDIX C  
REMINDER POSTCARD

**ABS**

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**addiction belief study**

June 1, 1992

Dear Colleague:

The results from the Addiction Belief Study are pouring in from across the country and I still haven't heard from you yet! Won't you please take a few moments to complete the inventory I sent on May 18th and return it as soon as possible in the self-addressed stamped envelope I provided? Your input is important in order to account for the many conflicting perspectives on addiction among treatment providers.

If you've already completed the survey and sent it back - thanks very much!

Sincerely,

Jeffrey A. Schaler  
Principal Investigator

APPENDIX D  
MEAN SCORES FOR THE ADDICTION BELIEF SCALE<sup>1</sup>

	Mean	SD	n	p
ABS	54.12	13.55	295	
Gender <sup>2</sup>				<.001
Males	50.91	13.69	186	
Females	59.60	11.43	109	
Professional Group				<.001
NAADAC	64.97	08.81	104	
SPAB	52.88	10.95	98	
RRS	42.89	10.71	91	
Religious affiliation				<.001
Protestant	57.94	12.91	81	
Catholic	58.70	11.51	46	
Jewish	54.98	10.04	42	
Atheist	38.64	10.39	22	
Agnostic	45.73	12.48	30	
Other	54.63	13.76	64	
Certified? <sup>2</sup>				<.001
Yes	57.44	13.10	153	
No	50.54	13.15	142	
In recovery? <sup>2</sup>				<.001
Yes	61.71	11.87	100	
No	50.36	12.70	193	
In AA now? <sup>2</sup>				<.001
Yes	64.43	09.37	101	
No	48.75	12.23	194	

MEAN SCORES FOR THE ADDICTION BELIEF SCALE  
(Appendix D continued)

	Mean	SD	n	p
In AA in the past? <sup>2</sup>				<.001
Yes	56.47	13.61	206	
No	48.08	11.57	80	
Abstinent? <sup>2</sup>				<.001
Yes	58.00	12.90	182	
No	47.74	12.02	111	

Note. <sup>1</sup>Highest possible score is 90. <sup>2</sup>Two-tailed, separate variance estimate.

APPENDIX E  
MEAN SCORES FOR THE SPIRITUAL BELIEF SCALE (SBS)<sup>1</sup>

	Mean	SD	n	p
SBS	24.27	8.55	294	
Gender <sup>2</sup>				.002
Males	23.11	8.84	185	
Females	26.24	7.67	109	
Professional Group				<.001
SPAB	23.93	7.07	97	
RRS	17.75	7.23	91	
NAADAC	30.37	6.32	104	
Religious affiliation				<.001
Catholic	29.02	6.83	46	
Protestant	28.91	6.63	81	
Jewish	21.93	6.34	42	
Agnostic	17.60	4.99	30	
Atheist	11.27	2.62	22	
Other	24.64	8.49	64	
Certified? <sup>2</sup>				.007
Yes	25.55	8.81	153	
No	22.89	8.05	141	
In recovery?				<.001
Yes	28.70	7.21	100	
No	22.04	8.31	192	
In AA now? <sup>2</sup>				<.001
Yes	30.48	5.82	101	
No	21.03	7.94	193	
In AA in the past? <sup>2</sup>				<.001
Yes	26.15	8.33	206	
No	19.25	7.01	79	
Abstinent? <sup>2</sup>				<.001
Yes	26.49	8.42	181	
No	20.65	7.55	111	

Note. <sup>1</sup>Highest possible score is 48. <sup>2</sup>Two-tailed sep. variance estimate.

APPENDIX F  
MEAN SCORES FOR THE MHLC SCALES

	Mean	SD	n	p
IHLC Scale	20.76	3.15	292	
Gender <sup>1</sup>				.44
Male	20.88	2.93	185	
Female	20.57	3.47	109	
Professional Group				.03
SPAB	20.79	2.92	97	
RRS	21.37	3.42	91	
NAADAC	20.20	3.02	104	
PHLC Scale	14.84	3.15	293	
Gender <sup>1</sup>				.14
Male	15.04	3.27	186	
Female	14.51	2.89	109	
Professional Group				.01
SPAB	15.32	3.07	98	
RRS	14.10	3.42	91	
NAADAC	15.03	2.87	104	
CHLC Scale	13.02	2.96	293	
Gender <sup>1</sup>				.65
Male	13.08	3.13	186	
Female	12.93	2.65	109	
Professional Group				.48
SPAB	13.09	3.10	98	
RRS	12.75	3.08	91	
NAADAC	13.18	2.73	104	

Note. Highest possible score on each dimension is 30. <sup>1</sup>Two-tailed, separate variance estimate.



## APPENDIX G

## COMMENTS BY SUBJECTS (sic)

002 (Case ID): #6: People can stop relying on drugs or alcohol as they develop new ways to deal with life - "after becoming abstinent." "Other" under educational status means registered nurse and certified in chemical dependency. Objection to "I do not deserve" on item #39. Suggestion = "I feel we all deserve good things in our life. We are not undeserving."

003: I'm puzzled by so many questions relating to "God." These are personal beliefs and really an invasion on my personal rights. I felt the questions were an invasion of my belief system. I answered only because I value research and my identity will not be known.

006: As I completed the questionnaire I was struck by the design of the instrument as inadequate to respond to the stated agenda. The biased nature of the questions re. health care providers + the forced choice strategy nature of the questions re. the nature of addiction & recovery leave little room for response to the complexity of the constellation of problems that an addict in active disease model brings into treatment. Also - emotional disorders were not mentioned or implied. Finally, only a rather simplistic uninformed respondent could complete this survey without discomfort. I hope the data will not be used to justify something more than Mr. Schaler's somewhat whimsical attempt to quantify attitudes. At this point I see no way that this instrument could be used to justify improvement in addiction treatment of much of anything else. I hope no tax dollars contributed to this effort.

011: I applaud your efforts to conduct this survey - I have thought of doing research like this myself. As someone who had a serious alcohol

problem and got sober in AA, I appreciate the AA experience and value some of the paradoxical wisdom it embraces (empowerment through "surrender" and non-attachment - ideals in many religions). At the same time, as a social scientist, I know that AA and the chemical dependency field has embraced its own set of pseudoscientific myths - i.e. the disease concept (especially the notions of 1) inevitable progression 2) absolute loss of control 3) and the sobriety or [couldn't read handwriting] - death - jail dichotomy.). I know that alcoholism and substance abuse is variable in its course and has a multidimensional etiology. Sorry that I was kibitzing so much in my answers - its just that these forced-choice surveys pressure simplistic beliefs/prejudices. Unfortunately there are far too many chemical dependency professionals who have embraced certain beliefs as quasi-religious dogma dressed up as "facts". Good luck! Yours truly, a recovering, science-minded ( but God embracing), skeptical, mystical, AA-ambivalent, post-modern friend of Bill Wilson's....

013: As with any Likert scale it forces choice. I would say those who recover without intervention, probably were not actually addicts, but were abusing. Good luck!

016: My clinical experience over the years and knowledge of research has lead me to conclude that "addiction" is a complex, very individual phenomena for which simplistic models and rigid ideas about recovery cause as much harm as good to patients. Abstinence is the safest position to take with patients, however, anyone in the addictions field can give you examples of "addicts" who returned to non-abusive usage. Others remain abstinent without treatment, AA or spirituality. Much of what we think is necessary in treating addiction is one step above superstition. Your questionnaire has one primary weakness: What professionals say

they believe in often has little relationship to how they do treatment. Asking clinicians about their doubts, their everyday observations of behavior, and what works - if anything might yield more useful information. Just sitting in a rap session with a group of clinicians in the addictions field who are being frank with each other and not talking the party line, would probably give you a very different impression from the one this survey will yield.

017: The "God" questions did not cover the wide range of spirituality different people have - only the stereotypical infantile Judeo-Christian babble. You could have added more general questions about spirituality.

023: You seem to be assessing belief in the disease model of alcohol/drug addiction. I am an addiction researcher and the research does not support such a mode! Nor does the research show 12-step programs to be any more effective than numerous other forms of treatment.

024: A. In general, my responses to Qs 1-18 reflect my strong belief that addicts can overcome their problem on their own. Some do it completely on their own. Others, require outside help and information, but essentially do the work themselves. I strongly disagree with the disease model and the 12 Step (AA) model of addiction. I consider abstinence to be the best goal. The benefits of moderation/cutting down are far outweighed by the risks of returning to problematic usage. B. Qs 19-36. A person's health is a result of genetics, environment and behavior. I am convinced that behavior can strongly influence health despite other influences (diet/exercise vs genetic tendency toward heart disease), my answers reflect internal locus of control.

Qs 23 + 36 I answered these the way I did because the wording implies that the doctor and not I am responsible for my health. Q 53. I am not in recovery! I have recovered! As I have had no alcohol/drugs for over 8 years, I do not consider addiction to be a problem for me. 56. I did attend AA and other programs. At first it was under coercion as a condition of treatment. I continued to attend as a result of intensive, fear based indoctrination by addiction counselors and AA members. I was told repeatedly that I would relapse and die if I didn't go to AA. I was also told that my dislike for AA meant I was resisting treatment. Now, I have nothing at all to do with any 12 Step program and am by far a happier person. I consider the 12 Step treatment I received to be unprofessional, philosophically repugnant and dehumanizing. (Hospital + halfway house settings) I consider the 12 Step programs (AA etc.) to be fear based, superstitious nonsense.

025: There may appear to be some inconsistencies in my responses. I come from a theoretical base that is partly biopsychosocial and partly 12 step. I believe in assistance from a higher power (God) as well as self-responsibility. It is a delicate balance that has taken myself (& others) years to achieve. Good luck on your endeavor!

027: I'm really glad to see God in some of the questions. I only wish I worked for some that believed in A God in treatment plans even though they profess they are ....

028: This questionnaire is certainly not geared to professional - though that may be compatible with your research design. Have fun.

031: On question 59 - those who do it this way [recover without treatment] have little quality of life - just abstinent.

038: I feel the problem with dysfunctional families "addicted or not" are such a problem it will have a major impact in the future of America. I don't see things getting better but, worse and I fear a great disintegration of not only America but, a stable, health and happy people. I know this is bleak but, a reversal in the hearts of men and women must come to make changes.

044: Alcoholics and addicts need help medically, AA, special treatment and god in there life. This is my opinion only. Thank you.

045: Many of my answers were "uncertain" because the question gave me no option. I'm sure I'll get "sick," e.g. a cold or allergy reaction, no matter what I do and since most people in my family die of cancer my chances for that, regardless of what I do appear good - nonetheless there are probably many things I can do to help myself out, e.g., not smoke - so the situation is not as cut and dried as the questions imply.

049: I have a real problem with the A.A. philosophy of power; particularly in regards to women who are survivors of any form of abuse.

054: Thank you for what appears to be very useful and informative research. As an advisor to RR and an advocate of alternative treatments for people with emotional and substance related problems, I am very concerned about what Stanton Peele, Stan J. Katz, Albert Ellis and others have noted about the out-of-control state of addiction treatment and the deleterious effects and coercive methods of the 12-step/faith healers. Thank God for skeptical and inquiring minds who can say no to absolutism and the blind temperance hysteria now plaguing our country.

061: This questionnaire is geared, it seems, toward 12-step models of intervention. How about considering alternatives, such as 'Rational Recovery'?

064: I have no problem with individuals having and maintaining religious beliefs or affiliations only with its dogmatism interfering with the individual self reliance and individuality and behavior.

068: I don't feel the questionnaire was well constructed, many ambiguous questions/statements.

092: Several study questions vague, ex. 3 & 8; addiction/use/abuse used interchangeable but not so; Questions presume that person with drinking and using problems are alcoholics and addicts. See R.E.T. and expanded concept as possible narrative for study review of literature. Good luck.

093: As always I hate the forced choice aspect of these questions. The world is not an either/or place but rather a both/and reality. Dualistic thought is a half-truth, and research psychology is guilty of promoting a lot of half-truths.

095: This questionnaire is heavily 12 step oriented and does not take into account other successful programs such as Rational Recovery, SOS and individual therapy. I would like to have seen more questions that allowed for individuality etc. instead of "pigeon-holing."

097: Dear Jeffrey: The ABS sounds as if it was prepared by a person(s) who believe in the disease model, 12 step approaches to treatment and a limited view of the field of "additions". The work of Peele, Washton, Ellis, Trimpey, Marlatt, Miller, Hester must be considered and included in this instrument, the flavor of which implies or assumes that the respondent(s) are in recovery, actively dependent or abusive. There's a continuum from no use, experimental, use, abuse, dependence, pathological intoxication.

098: On questions 19-36 I had difficulty choosing the answers. A person can engage in exercise, refrain from tobacco and alcohol use and etc and this generally will result in improved health. However, many health problems come from things beyond one's control such as genetic influences and random events in ones life. Also, a person can be physically fit and still not be healthy, e.g., Jim Fixx. Seeing a doctor on a regular basis improves the odds for staying healthy but it is no guarantee of good health. Re: the God questions: I believe we live in a natural universe. I see no evidence of a supernatural realm beyond ours.

099: Your question phraseology has a built in bias - an assumptive bias (e.g. "Do you still beat your wife?"), making it easy to read into the question for those of us who use the non-12 step model. "Addict" and "alcoholic" are lay terms and not part of DSM-III terminology. We use "dependence" or "abuse." Addict=drug dependent person. "Alcoholic" is virtually meaningless. The person is either alcohol dependent, abusive or non-problematic. I have tried to avoid reading into the question. My point is - you may not know whether I am responding to your intended question, or to the built in bias. As an example: "Most people who are dependent upon drugs don't know they have a problem, and must be forced to recognize they have a problem" (then I would agree). Confusing? Well, it gets worse when dealing with all the non-proven dribble in this field. As a former grad student at U of M, and graduate, I wish you well.

101: I believe that the distinction between drugs, alcohol, nicotine, caffeine and perhaps even fatty sweets is false and pernicious; as is the idea that 12 step programs stand alone as the best way of maintaining sobriety, and perhaps the whole God thing as well.

107: Please bear in mind that AA and the other spiritual approaches are offensive to some clients.

110: Some of the questions are not good questions for me because I do believe in the reality of addiction, i.e., there is no such thing as going back to drinking if a person has crossed the line between abuse and addiction. I do not believe addicts of any kind are "diseased" or genetically predisposed. While I believe addiction is overcome by making rational decisions which keep the person abstinent I think it is an oversimplification to suggest its simply "willpower." And finally, within the objective world of real illness, we much acknowledge that genetics plays a real role in what illnesses ultimately "get" us; I believe that using "disease" and "illness" as a metaphor for social deviance is making us all a little crazy.

112: AA is not the only treatment of choice although its value as a group support is unquestioned. AA may be the first step but character, temperament, luck, economics are variables that have to be mapped to affect a treatment plan.

116: I think the locus of control paradigm is too black and white to be applied to a clinical perspective on addictions.

118: My daughter is a recovered opiate addict. she is almost 37 years old and finally recovered with Rational Recovery. I attended many NA, AA meetings with her and went to Al-Anon as a "co-dependent." 12 step never felt right for me, but I never said that to my daughter because there was no alternative. I am in favor of whatever works. For me, and subsequently for my daughter a cognitive approach was more appropriate.

121: I feel it is a flawed dichotomy between the humanistic (i.e., the power is in me) and the spiritual approach (i.e., power came from a higher



power). Both approaches can work i.e. an addicted person should take responsibility for own health/recovery, but appealing to deity is one way to do this. I like lots of the ideas as suggested by Stanton Peele (my basic assumption rests on social learning theory) but the blatant humanism seems naive. He should read The Arrogance of Humanism by (illegible). One does not need to destroy a system of recovery that is beautiful to hundreds of thousands in order to make his own (basically sound) points.

126: Sounds like Seligman's attribution theory to me. It might make an interesting study to see if different attribution styles render a patient more or less amenable to different styles of treatment. e.g. AA and other 12 step patients might do better with a style of attribution that puts responsibility outside themselves, like onto God or genetic endowment. Dynamic approaches might be more syntonetic to people who believe themselves to be responsible for the ills and good fortune that comes this way. Good luck.

139: It's hard to answer these questions because they are very categorical. There isn't any question that asks about the interaction between the physiological and environmental components of health or addiction. Thus, I disagreed with most of the questions because the wording is so absolute.

144: Sometimes you asked for "absolute" answers to questions such as #3. The only solution which is never true. In other words there is never an "only" solution to any human problem. How do I know? (20+ years experience in the field! Best of luck.

147: This is exactly one of those kind of "instruments" I find most annoying. It has the feel of being the wet stone on which an axe is ground. The creators biases and opinions restrict a real exchange of information.

Addiction is a human condition and therefore has few absolutes. This is especially true a one practices therapy in a more global way and over time with clients. Your instrument could be improved by asking therapists their beliefs rather than creating a forced choice questionnaire based on a narrow perception of addiction treatment.

148: I believe chemical dependency is a complex biological psychological social and spiritual disorder brought on by a multiplicity of factors unique to the individual, that there is no single aetiological (sic) pathway nor universal outcome, and no a priori set of conditions which are necessary nor sufficient for the emergence of the disorder. Since my thinking is nondeterministic and nonreductionist, I found responding to dichotomies confusing because I can agree with the potentiality of presumptively mutually exclusive alternatives. Good luck in your study. I would indeed like a copy of your results and will send you a postcard. Thank you for the opportunity to be a part of your study.

150: Slanted re 12-step programs-There are others such as Rational Recovery which do not in any way deal with 'higher power' whatever that is.

153: What is annoying is the dogmatic, rigid use of never, always, best, only adjectives in your statements. Nothing is 100%! So I have to disagree even though the statement may well be 95% correct. Only a rigid, pompass ass would agree with most of the statements, so what will that tell you. For example, I could agree with #1 if you said "many" instead of "most" and you eliminated the bit about force. It is more accurate to say they have to get badly hurt before they come to be aware they are hooked.

154: This instrument is too simplistic to capture my beliefs.

158: Jeff Schaler's work is commendable. The medical-model of addiction treatment exists to exploit "patients" for their insurance coverage. The best predictor of diagnosis of "addict" among self-referred people at treatment centers is whether the person has health insurance that covers addiction treatment.

163: I found the response options vague, unclear + unrepresentative of my opinion. Also terms need to be defined. does drug addiction include drug abuse or is it a separate phenomena? What is "health"? Does it include broken bones, colds, flus, congenital heart problems, cancer?

167: My views on recovery have changed. In the past, I believed that AA was the "only" way. As I have progressed through my own recovery process I have come to value personal empowerment as a means to a healthier existence. I'm uncertain if personal empowerment is the paradox of Step One or was the ability to initiate recovery innate. For the past several years I have struggled with the confines of a 12-step model. I question if group norms, pressure, etc. do not have more to do with maintenance than one might think (or question if they are part of such a group). My experience has been that it is necessary to conform to the group to be received by the group. I did this for probably 5 years. But now I question things. So, where does someone like me fit? I'm certain of what a sponsor would say or group members when I choose not to regularly attend meetings. When I recently did attend I was encouraged to come back so I could "get my ass kicked." Now, why would anyone (I) want to do that? My recovering friends maintain I might drink if I don't do recovery like them. So if I did relapse, it would logically follow that that happened because I didn't attend meetings. Why do they relapse then when they do attend? Something is working quite well for me considering it has been 9

years since I have found it necessary to use alcohol. My life feels fairly manageable and as stable as anyone else's. I might also add, that I feel much more at peace with myself since I no longer feel "shamed" about never doing enough or as prescribed by the Steps, endlessly striving to do more for my recover. Ugh - maybe they're right, I am headed for relapse. And that very question illustrates the level of my earlier indoctrination into AA. The bottom line is, I believe there are many roads to living a healthier life. I also believe that if you don't choose to do that you are never going to get there! I won't go as far as saying an addict can safely use but I don't know that for sure. I am curious about your research. What are you trying to understand? I would welcome a response to this if that is feasible for you. Good luck! (#409).

172: Too Long!!!

175: (1) Assumed religious (God) references were offensive and should have been in a separate section of form for only those interested in that area to answer. (2) #55 is poorly worded.

176: Questions were much too confining for anyone adhering to a multivariate or biopsychosocial model of addiction.

185: As a treatment provider, I use many individualized treatment methods. The questions were hard to answer because I had to generalize. While some people respond to 12-step/AA - it does not fit everyone.

A person who is spiritually oriented will generally respond to AA. One who is not spiritually oriented will often be resistant to the "loss of control/higher power" concepts - with that person I generally use more of a "rational recovery" model, turning his need for control into a positive force in treatment. Most of my "uncertain" responses were due to the fact

that the statements would or would not apply - depending on the individual.

210: You may want to consider inclusion of life experience with alcoholics/drug abusers as a question in this survey. Many clinicians/nurses/and physicians are Adult Children of Alcoholics and /or are members of SA (Sexaholics Anon.) GA (Gamblers Anon.), WA (Workaholics Anon.) etc. and are therefore practicing 12 step practice within their work.

212: Due to the system you offered for answering these questions, some of the answers I gave appear to be definite opinions, however, if there was room for explanations, my reasoning would be more clear.

213: These are rather simplistic statements, which make them difficult to endorse or refute. When you correlate the different domains related to beliefs about addiction, disease and a higher power, I'm not sure you'll be able to understand why you got what you got. But good luck!

217: Interesting questionnaire. Strongly suggest you look at diagnostic criteria issues in discussing your results. How, exactly, are you defining terms such as "addiction," "alcoholism," etc. My responses on many items would differ depending on such definitions. For example, I do see people "outgrowing" adolescent/early adult alcohol/drug abuse (DSM-III-R criteria), but do not see people "outgrowing" physical dependence on alcohol or other physically-addicting chemicals.

220: 12 steps ain't the only way to go!

222: I found many of the questions very ambiguous and impossible for me to answer accurately and realistically. Also, as I note on the questionnaire, I do not relate to some of the terminology used, e.g., Alcoholism, in my opinion refers to the Philosophy of AA - a philosophy I

Personally find to be irrational for the most part. Although I am aware that many find 12 steps - helpful to a professional I refer clients when it seems appropriate for them. "Alcoholic" - is another word coined by AA - An adjective used as a noun. In my opinion individual people can and do abuse and become dependent on Alcohol & other drugs, including nicotine and Prescription Drugs. It has not been scientifically proven that Substance Abuse is a disease. Personally I believe there is a "Genetic" Connection plus other factors. Stating Alcohol & Drug Abuse for example leaves many people confused e.g. Many people do not realize Alcohol & Nicotine are Actually Drugs - in fact the # 1 Nicotine & #2 Alcohol Drug problems in this Country. Nicotine is responsible for more Illness & Death than All other Drugs combined e.g. 5000,000 Deaths per year due to Nicotine related causes. Alcohol 100,000 deaths per year. Cocaine 8,000 deaths per year. Personally I can relate to RRS. Are you familiar with Rational Recovery Systems? If not I've enclosed some information for you. Finally, I'd just like to say that as a professional counselor I am ethically obligated to be aware of available treatment programs and other resources to the best of my ability and to provide each client with information that seems to be the most appropriate for them. Therefore I refer clients to AA RRS (Rational Recovery Systems) SOS (Secular Organization for Sobriety), Women for Sobriety etc. I look forward to reviewing the results of your study.

224: The structure of your questions suggests to me that your hypothesis is something like "Therapist beliefs about themselves are highly correlated with their beliefs about clients, and about what constitutes effective treatment." I think this is true, although I hope there are those who know that "my way" is not the only (or best) way. Questions about working with others beliefs would be helpful, esp. differing beliefs

than one's own. (Beliefs about beliefs?) Best wishes and hopes for a fruitful study!

225: Re: those questions using the word "God" - I understand "God" to mean a power higher than myself. Therefore, my understanding of God does not come through, nor has been defined through, a religious affiliation.

226: #51 and #52: I used to work in addictions which seems to be an important piece of info not addressed. Although not certified, I received a master's in rehab in the addictions. The only thing that kept me from being certified was leaving the field too soon to meet the employment criteria. #49 - Shouldn't the degree & major be included? The specialty area (Rehab, med, social work, psychology) I would think would affect answers. #48 - Living with someone.

228: Comments per items - item #11. Most addicts do know they have a problem, but deny it. 2. Some addicts can control their use, but most cannot. There are several stages of addiction. Control is maintained in the early "honeymoon" stage. 3. Some addicts quit on own without treatment, especially in the early stages of addiction. 4. Internal motivation and willpower is very important to recovery, but it is often not sufficient by itself. #15. Yes you have to rely on yourself ... and on others. I wish you had qualified your statements with words such as "most" (addicts.). Your sentences imply that all addicts are the same. I was tempted to disagree with all of the statements because I could always think of an exception. However, I imagine you did intend to describe most addicts, or addiction in general and I answered with this in mind.

230: I'm curious as to all the health questions. Are you conducting a study from a medical perspective? My health - emotional, spiritual, and

physical are all in God's plan. I believe I can take care of myself and if I get sick; by following suggestions of professionals, I will get better. I don't believe that I planned to grow up to become an addict with the disease or dis-ease of addiction. Accepting that I have a disease - addiction or medical enables me to do whatever is necessary to become well.

233: Many of my responses would be different if the questionnaire indicated alcohol abuse vs. alcohol dependence. The words addict/addiction mean alcohol/drug dependence for me, hence my answers. Also, I support the disease concept of addiction, but view addiction as a complex disorder involving psychological aspects as well. good luck with study!

234: Phrases like addict + alcoholic are folk/common language phrases. As we (society, or part of it) are trying to "put the person first" (i.e. "persons w/ disabilities" not "the disabled") the phrase "people dependent on alcohol/drugs" is more appropriate, accurate, less stigmatized etc. - it describes the person, not label him/her. -Also, the DSM-III-R diagnoses on the basis of behavior therefore "alcohol dependence" not "alcoholism." Furthermore, "isms" are philosophies + ways of thought (Marxism, Catholicism, Romanticism, stoicism...) Medical conditions (not necessarily diseases) are not "isms" even rheumatism is a folk expression for rheumatoid arthritis). These, obviously, were hard to answer w/in the confines of a likert-scale because beliefs (for me) are more complex than a one sentence construct. Additional background/explanations help "fill out" the belief.

244: It is obvious from the slant of the questionnaire that you are addicted to AA and the 12 step program. It is not God that makes a person drink it is not God who will stop it. In my psychiatric psychotherapeutic



work I find it important to enhance and empower the feeling of self control of the individual. We are in the final analysis responsible to and for ourselves. The Devil made me do it is not a valid excuse.

246: Get with what is going on - Check into Rational Recovery, Women for Sobriety, SOS, etc!! Your "research" reflects too strong a personal bias!!!

250: The questions were black + white, making them difficult to answer, many were only partly true or partly false, since other factors are also important.

251: Dear Jeffrey, I have problems with the instrument as there is, to my way of thinking, a built in bias. The questions are too black and white. Right from Q1 ... Some addicts MAY benefit from forced education in relation to their condition. I was uncomfortable answering most of the questions as the result of my answers creates a picture of my opinion that is incorrect. Because each individual is different in many ways, one would use different approaches to help them. Because of the layout of the instrument and the wording used answers become inaccurate. A summary will result in a weighted indication (in my opinion). I have chose to make those questions that I felt did not give me room to answer accurately; I hope I haven't spoilt my contribution. Thank you for the opportunity to participate, I wish you well ....

252: 1. Trying to respond to your addiction belief study. Understand your position as a researcher, and the systemic requirements of a study. Still, have great difficulty as a respondent. 2. I see early addictive behavior as willful, deliberate behavior on the part of the individual. Once physical addiction has set in (withdrawal risk, etc.) then the behavior is less deliberate though still controllable by the addict. 3. I have seen addicts go

15 months without drugs (as measured by frequent urine testing), only to use again within 30 minutes of release. I consider such use a deliberate choice, involving drug seeking etc. 4. Understand your research need for absolutes, but I don't practice that way; item 9 on your questionnaire; it depends on the person. For someone with strong dependency needs who is going to remain dependent that may be true. For a person who will heal by asserting themselves and taking responsibility for their behavior, that is not true. 5. Item 14; analogy; I inherited a genetic predisposition to diabetes. However, my need for insulin depends almost 1:1 on my food/exercise balance. Question, if I don't need insulin am I diabetic? If someone doesn't drink/shoot up, and doesn't need to, are they addicted????? How much is genetic? How much is internal? How much is situational? 6. Item 15: Ultimately, whether you rely on Jesus, good 'ole doc Bobby, voodoo, or whatever, it is your hand that lifts the substance off the table. 7. I have seen addicts who turned themselves around. Others have been able to maintain only with chemical antagonistic help. My belief is that whatever works is right. When we know more about people and addiction we may be more effective, but right now we are deep in highly computerized ignorance, publishing statistically accurate tables of garbage.

257: Enclosed is a pamphlet about Rational Recovery. Hope you enjoy! Good luck with your study. I bet if you do it again in 10 years, you'll see a big difference - I hope!

259: The 12-step approach is a cult supported by testimonials only. The "Disease Theory" is a marketing device. I'm familiar with "Rational Recovery" - is based on science and research.

261: I cannot complete the questionnaire. Questions are way too over simplified & do not leave room for the many, many factors that can contribute to a health or alcohol problem. The questionnaire feels like it is designed to get counselors to agree or disagree with dogmatic statements - 12 step programs can be approached as a dogma but do not have to be.

263: The last question is ambiguous. Do you mean "What percentage of drug addicts who get over their addiction do so without medical or 12-step treatment?" (That's how I interpreted it.) Or do you mean "of all those addicted to drugs what percentage get over their addiction without ... etc.?" Obviously a great number never get over their addiction by any means.

264: This was a very difficult survey to respond to. The questions were very black & white with words such as: only, cannot, best, worst, etc. I believe in the line between abusers & addicts and that addicts do need some type of help outside of themselves, whether that be 12 step programs ( which isn't for everyone, therapy, etc.). I also believe that alcoholism is an illness (disease) but can involve psychological characteristics as well that must be treated. I believe I have issues with food and have attended OA in the past, but have chosen to attend therapy instead as I found it more applicable to me at this time. I believe the addictions field is going through yet another change. We started out believing addictions were solely caused by mental problems and lack of personal willpower. Then we swung to the opposite extreme of believing that it was only a disease & could be helped only by admitting powerlessness & attending 12-step meetings. We now seem to be heading toward the medium perspective which takes individual differences & different therapeutic approaches into account. I

am supportive of anything that works for an individual, given that it is not a harmful substitute.

265: Bad questions! Uninformed person wrote this questionnaire. Lowest level AA thinking?

268: It seemed to me that the five choices of answers/responses to the questions often did not offer satisfactory choices. Example - #11 - It is clear to anyone in the field that both likely play a role in addiction. In #59 when you use the phrase "get over their addiction," do you mean stop using or being in recovery? These are 2 different states, and the answer is dependent on whichever one you mean.

271: Very thought provoking question/statements! I believe there are no easy, all encompassing answers and will pass on your questions to my clients. Thank you!

275: Questions are too vague for meaningful answers.

277: Many of the questions were ambiguous and difficult to answer because of the way they were worded.

278: Strong lecturer of Rational Recovery groups. People who are addicts or alcoholics, can help themselves the best. Treatment can only be a guide to recovery.

279: Q59: Depends on which definition of addiction you use and what you mean by get over.

280: I work with Native Americans for last 2 1/2 years (influenced some answers).

281: Some of the questions are difficult to answer, due to the differences in the stages of the addictive diseases. Alcohol is a drug! While doing your doctoral keep this in mind. I don't feel that this is stressed enough!

283: As with any multiple choice questionnaire tends to reflect an assumed answer. For example - question #59 above - I would estimate that people can become abstinent without a 12 step program, but, the % is probably less than 1%. This would be closer to 0% than 5%. In conclusion, I do not feel that this survey accurately reflects my opinions related to this topic, because, the wording is very vague or contradictory in 50% of the questions.

284: I would welcome a survey that requires a less rigid mindset to answer. Considering all the evidence, I'd say the votes aren't in on many theories. My observation over the past 12 years tells me that there is a genetic predisposition, that there is no cure for alcoholism, that heavy drinking isn't always but usually addiction, that often predisposing conditions are trauma in childhood (including neglect). Above all that we need to remain open minded re: what works for people. I personally believe 12 steps are powerfully effective - but not the end all and be all. That therapy is often indicated, and that everyone's requirements are different and the reasons for that are still a mystery. Diet, exercise, therapy, group therapy, psychodrama, individual therapy, twelve steps AA, abstinence, love + support, spiritual counsel, expression - dance, art, singing, sports, writing, meaningful work, relationship, community, intellectual stimulation.

285: In your survey, you are talking about addiction and getting into areas such as religion and spirituality. I am not against religion and spirituality, but I don't believe it is necessary in treating addiction: If addiction is a disease (and basically its called a disease because the medical profession wants reimbursement) why is it treated with a "spiritual or religious" program? The 12 steps say "having had a spiritual awakening" -

this is paradoxical because if I have a disease, I can't get rid of it, I will always have it. The 12 step model is not consistent with the disease concept. In your survey you didn't separate physical addiction versus emotional addiction. I don't believe you can use the word addiction to cover everything: After all, "the program" says its physical, mental, spiritual.

290: Difficult to strongly agree or disagree as every individual is different.

292: Sounds like locus of control and the 12 Step AA dependency fad with the self-help support group trend.

#### Comments From Non-Addiction Treatment Providers

The following comments are from respondents who indicated they are not addiction treatment providers:

001: This instrument has given you a great deal of information about me. I hope it will be helpful and I trust anonymity will be respected. Personal viewpoint: Health care providers can help to give needed rest to the body of an alcoholic or addict, direction to the mind and spirit but beyond that it is very much an individual's responsibility to seek long term help via 12-step programs. The sole purpose of a treatment center is to direct the individual to a 12-step program that they can identify with - AA is not the place to direct a person with only narcotics problems. If alcohol is not the problem (symptom) AA is not the solution.

002: There are certain health related questions and God related questions which I felt inherent in the actual question was a bias, therefore, I refrained from answering. I'm reluctant to commit to this survey not knowing who you are and why you are doing the survey ... in relation to such volatile & perhaps delicate issues.

003: Comment on #11 & #14: My field of expertise is genetic factors in substance abuse and the neuro-physiological factors underlying substance abuse. Could have answered #11 the other way because the question forces a choice in a situation which is not either/or. I would be most interested in your results - another area of interest of mine is evaluation of AA. AA meetings are frequently dominated by a small group of rigid, authoritarian "gurus" whose thinking process closely resembles born-again fundamentalists. They believe Bill W. is their messiah and the Big Book their bible and these "inspired words" are not to be questioned. Also - I teach pharmacology courses in a program to certify alcohol/drug counselors. Most are already active in the field. If you want a larger sample - who like most counselors are not members of professional groups - let me know.

004: #4 - Term "will power" not medical or scientific term. I would substitute "ability to change your thinking." #7 - Depends more on one paradigm of life. 10. - But why take a chance? 13. - Also when things go well! 15. - Prefer "alcohol dependency" over "alcoholism." 19. - Mostly. 26. - Or genetic make up. 43. It's stupid to harbor resentment; better to deal with hurt for emotional, mental and physical health. 44. - Don't understand statement. Don't understand goal of questions. Will we receive your conclusions? Believe prognosis for alcohol dependents recovery very high.

008: I'm a vocational rehab counselor. Most of the questions on my health are strongly flawed in view of my very extensive medical history. I've had genitourinary problems since age 22 months. So, no, I'm not responsible for my body rejecting a transplanted kidney, but yes, I'm responsible for how I react to that and what I do about it. I am also

responsible for taking care of myself and doing the best I can by exercising and trying to stay fit & health. From a professional point of view I abhor AA.

009: I work in AOD prevention, not treatment.

010: 12-step is not for everyone - secular humanists, atheists and agnostics have an especially difficult time, especially in rural areas where they are often abused by being told they are in "denial" because they don't "buy" the "party line" hook, line and sinker. Also, feminists have a majorly hard time accepting 12 step when it has been traditionally dominated by males and masculine higher power language is used in most settings. Saying the "Lord's Prayer" at the end of meetings pretty well establishes 12 step as a Christian Based philosophy.

012: Don't send another ... [item 11] Come on, give me a break, black and white thinking went out ages ago] This survey is worthy of a high school diploma certainly not a Ph.D. [item 36: deify the MD pray to the great pharmacist in the sky] Show this to your supervisor, go out get a drink, pray and go out and live with a few alcoholics for a couple of months than get a life ... the poorest example of research I have ever seen ... surely NAADAC would not approve this ... LBJ stamp, how appropos [return stamp was Hubert Humphrey].

013: It would have been helpful to include your definition of addiction.

015: I think it's unconscionable that addiction treatment is almost completely dominated by 12-step treatment, which is lacking in statistics vis a vis how well it really works. It's high time that people be given a choice of treatments, which should include non-secular treatments such as Rational Recovery, which makes a concerted effort to be accountable and to



be scientifically rigorous to the extent that it is able to be, given the embryonic stage of its existence. The widespread notion that 12-step is the only way is extraordinarily destructive. A concerted effort must be made to turn that idea around.

024: Answered regarding abuse + dependence. Not extreme forms of dependence.

027: #19 - I have the power to choose to receive assistance from individuals with appropriate skills and to assist myself in addition to what I do for myself directly. #32 - The type of care can either impede or expedite recovery from illness and what I may do for myself. Interesting survey....Good luck!

028: As an experimental psychologist, I realize that many of the questions are forced-choice. But those questions that do not separate types of alcoholics, i.e. genetic vs. psychological, confuse the issue. They would be answered oppositely depending on whether they are referring to a genetic (primary) or psychological (secondary) alcoholic. The survey is written as though all drug-dependency is the same.

030: I am still in graduate school, so I am still forming my ideas about addiction and the process of recovery. I will be specializing in drug/ETOH treatment during my internship beginning in December. Also, the questions about my own health were somewhat confusing for me. I have had cancer, which I do not believe was caused from something I did/did not do. I feel my mental attitude, however, was partially responsible for my recovery. On the other hand, I believe that minor illnesses such as colds, flu, etc. can be exacerbated by stress + mental state which contribute to one's ability to ward off or recover from illness.

031: I am a coordinator for a Rational Recovery group. I stopped using alcohol about two years ago but do not consider myself "in recovery" or "alcoholic." I am a person who at one time abused alcohol + found it was easier to stop than moderate. Your survey seems focused on AA and its principles. If this is its intent, fine. It if means to be broader the number of questions you address about God and AA are biasing your results. I am the creator of a text on drugs and alcohol and consider myself a psychopharmacologist. I have no objection to ... nor to your contacting me.

032: Choice is the heart of a healthy lifestyle. Deterministic theories and theologies are no excuse or adequate explanation for addictive behavior. Recovery is hard work and that is up to the individual to make responsible choices. Recommended self-help program for chemically dependent people - Rational Recovery.

APPENDIX H  
CORRELATION COEFFICIENT MATRIX

	SBS	IHLC	PHLC	CHLC	Age	Gender	Ed.	Cert.
ABS	.63**	-.13*	.18**	.09	-.00	.31**	-.26**	-.26**
SBS	1.00	-.06	.21**	.04	-.06	.18**	-.25**	-.16**
Recovered Addict		.10	-.04	-.01	-.13*	-.01	.42**	.28**
AA Now		.05	-.05	.03	-.09	-.10	.34**	.25**
AA Time		-.09	.07	-.03	.32**	.09	-.37**	-.32**
AA Past		.04	-.03	.04	-.05	-.14*	.18**	.25**
Abstinence		.07	.04	.00	-.09	-.10	.29**	.27**
Drug Freq.		.09	.02	.05	.04	-.15*	.16**	.16**
IHLC		1.00	-.02	-.31**	.06	-.05	.03	.02
PHLC			1.00	.29**	-.08	-.08	-.01	.10
CHLC				1.00	-.15*	-.03	-.02	-.03
Age					1.00	-.10	.03	-.13*
Gender						1.00	-.05	-.04
Education							1.00	.31**

APPENDIX H (Continued)

	Recovered Addict	AA Now	AA Time	AA Past	Abstinence	Drug Frequency
ABS	-.40**	-.55**	.45**	-.28**	-.37**	-.35**
SBS	-.37**	-.53**	.44**	-.36**	-.33**	-.28**
Recovered Addict	1.00	.67**	.64**	.33**	.51**	.35**
AA Now		1.00	-.68**	.36**	.49**	.34**
AA Time			1.00	-.34**	.45**	-.30**
AA Past				1.00	.35**	.29**
Abstinence					1.00	.58**

Note. \* $p$ =.05, \*\* $p$ =.01, two-tailed,  $N$ =295.

APPENDIX I  
INTERCORRELATION OF ABS ITEMS (A) BY SBS ITEMS (S) COEFFICIENTS

	S1	S2	S3	S4	S5	S6	S7	S8
A1	.25**	.26**	.22**	.27**	.28**	.30**	.23**	.11
A2	.42**	.39**	.32**	.41**	.45**	.43**	.31**	.17**
A3	.20**	.18**	.15**	.22**	.29**	.27**	.20**	.14*
A4	.44**	.42**	.35**	.42**	.48**	.46**	.30**	.22**
A5	.40**	.39**	.23**	.43**	.41**	.43**	.30**	.20**
A6	.16**	.10	.15**	.06	.08	.12*	-.03	-.05
A7	.28**	.25**	.17**	.24**	.28**	.25**	.13*	.15**
A8	.46**	.39**	.33**	.39**	.48**	.45**	.21**	.13*
A9	.63**	.54**	.42**	.58**	.61**	.58**	.40**	.25**
A10	.43**	.43**	.28**	.42**	.48**	.47**	.30**	.20**
A11	.40**	.34**	.29**	.34**	.36**	.37**	.25**	.17**
A12	.47**	.42**	.28**	.42**	.43**	.46**	.26**	.13*
A13	.18**	.19**	.12	.19**	.16**	.14*	.07	.06
A14	.45**	.43**	.33**	.41**	.43**	.43**	.27**	.14*
A15	.48**	.44**	.32**	.46**	.48**	.47**	.33**	.16**
A16	.47**	.40**	.36**	.43**	.50**	.46**	.34**	.17**
A17	.47**	.43**	.31**	.47**	.44**	.48**	.34**	.20**
A18	.16**	.13*	.16**	.17**	.13*	.19**	.02	.06

Note. \* $p=.05$ , \*\* $p=.01$ , (two-tailed,  $N=295$ )

APPENDIX J

SIGNIFICANT GROUP COMPOSITIONS: CHI-SQUARE ANALYSIS OF EXPECTED VS OBSERVED FREQUENCIES

Group	AA past	Recovery status <sup>1</sup>	Certif. status	AA now	Gender	Abstin. status
	26.74** (2) <sup>2</sup>	58.61** (2)	49.39** (2)	93.90** (2)	12.97** (2)	41.22** (2)
Marital status	10.60* (3)	19.00** (3)		34.00** (3)	19.68** (3)	
Ed. status	20.05** (4)	73.17** (4)	32.68** (4)	76.44** (4)	18.41** (4)	
Rel. affil.	23.98** (5)	23.28** (5)		29.62** (5)	15.07* (5)	
AA past		30.31** (1)	17.09** (1)	36.08** (1)	5.57* (1)	
Abst. status		74.67** (1)	20.90** (1)	71.04** (1)		
AA now		133.26** (1)	18.72** (1)			
Cert. status		22.24** (1)				
Gender	5.57* (1)					

Note. <sup>1</sup>Consider themselves to be alcoholics or addicts in recovery. <sup>2</sup>(df). \*p=.02, \*\*p=.002

## APPENDIX K

### FACTOR ANALYSES

#### Results for the Factor Analyses of the SBS and the ABS

##### Results for the Factor Analysis of the SBS

Factor analyses were conducted to investigate underlying conceptual dimensions on the SBS (Table 12) and the ABS (Table 13) because they are new, the SBS scale was able to explain variance in the ABS in a statistically-significant way, and the researcher was interested in whether the two dimensions of the ABS grouped separately in terms of their correlations with one another.

As Table 12 shows, two factors were extracted from the SBS utilizing varimax rotation - Kaiser normalization. The first factor had an Eigenvalue of 5.17, with 64.7 percent of variance. The first six items on the SBS, items S1-S6, were highly correlated with factor one and grouped together representing the three spiritual dimensions of release, gratitude, and humility, the highest correlation being with item S4 at .91. This item reads: I feel it is important to thank God when I manage to do the right thing. It was designed to express the gratitude element of spirituality.

Factor 2 had an Eigenvalue of 1.08, with 13.4 percent of the variance. Items S7 and S8 correlated highest here, both designed to represent the tolerance dimension of spirituality, S8 with the highest correlation at .91.

##### Results for the Factor Analysis of the ABS

As Table 13 shows, three factors were extracted from the ABS utilizing varimax rotation - Kaiser normalization. The first factor had an Eigenvalue of 7.22, with 40.1 percent of variance. The items with the highest correlations for this factor were A1 (.52), A2 (.64), A3 (.59), A5 (.51),

Table 12.  
Factor Analysis of Scores on the Spiritual Belief Scale: Varimax Rotation

	Factor 1	Factor 2
Eigenvalue	5.17	1.08
Percent of Explained Variance	64.70	13.40
Cumulative Percent of Explained Variance	64.70	78.10
[S1] I feel that in many ways turning my life over to God has actually set me free. [Release]	.85	.24
[S2] I know that all the best things in my life have come to me through God. [Release]	.89	.26
[S3] I believe I am blessed by God with many gifts I do not deserve. [Gratitude]	.80	-.04
[S4] I feel it is important to thank God when I manage to do the right thing. [Gratitude]	.91	.21
[S5] It's only when I stop trying to play God that I can begin to learn what God wants for me. [Humilty]	.82	.37
[S6] I know I am able to meet life's challenges only with God's help. [Humilty]	.89	.25
[S7] I know that forgiving those who have hurt me is important for my spiritual health. [Tolerance]	.41	.67
[S8] I believe there are many ways to know God and that my way is not the only way. [Tolerance]	.03	.91



Table 13.  
Factor Analysis of Scores on the Addiction Belief Scale: Varimax Rotation

	Factor 1	Factor 2	Factor 3
Eigenvalue	7.22	1.59	1.04
Percent of Explained Variance	40.10	18.80	5.80
Cumulative Percent of Explained Variance	40.10	49.00	54.80
[A1] Most addicts don't know they have a problem and must be forced to recognize they are addicts. [Disease model]	.52	.11	.07
[A2] Addicts cannot control themselves when they drink or take drugs. [Disease model]	.64	.24	.13
[A3] The only solution to drug addiction and/or alcoholism is treatment. [Disease model]	.59	.34	-.30
[A5] Addiction is an all-or-nothing disease: A person cannot be a temporary drug addict with a mild drinking or drug problem. [Disease model]	.51	.56	.14
[A9] The most important step in overcoming an addiction is to acknowledge that you are powerless and can't control it. [Disease model]	.71	.45	.09

Table 13. (continued)

	Factor 1	Factor 2	Factor 3
[A10] Abstinence is the only way to control alcoholism/drug addiction. [Disease model]	.61	.57	-.03
[A11] Physiology, not psychology, determines whether one drinker will become addicted to alcohol and another will not. [Disease model]	.04	.80	.27
[A14] The fact that alcoholism runs in families means that it is a genetic disease. [Disease model]	.29	.71	.10
[A17] People who are drug addicted can never outgrow addiction and are always in danger of relapsing. [Disease model]	.62	.47	.10
[A4] The best way to overcome addiction is by relying on your own willpower. [Free-will model]	.69	.04	.22
[A6] People can stop relying on drugs or alcohol as they develop new ways to deal with life. [Free-will model]	.02	.05	.65
[A7] Addiction has more to do with the environments people live in, than the drugs they are addicted to. [Free-will model]	.22	.40	.44
[A8] People often outgrow drug and alcohol addiction. [Free-will model]	.52	.46	.26
[A12] Alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use. [Free-will model]	.56	.54	.10

Table 13. (continued)

	Factor 1	Factor 2	Factor 3
[A13] People become addicted to drugs/alcohol when life is going badly for them. [Free-will model]	.19	.14	.61
[A15] You have to rely on yourself to overcome an addiction such as alcoholism. [Free-will model]	.70	-.00	.37
[A16] Drug addicts and alcoholics can find their own ways out of addiction, without outside help, given the opportunity. [Free-will model]	.69	.33	.04
[A18] Drug addiction is a way of life people rely on to cope with the world. [Free-will model]	.05	.11	.68

A9 (.71), A10 (.61), A17 (.62), which were all designed to represent the disease-model dimension, and A4 (.69), A8 (.52), A12 (.56), A15 (.70) and A16 (.69), all designed to represent the free-will dimension. Item A9, with the highest correlation of .71, read: The most important step in overcoming an addiction is to acknowledge that you are powerless and can't control it.

The second factor had an Eigenvalue of 1.59, with 18.8 percent of variance. The item with the highest correlation on this factor was A11 with a correlation of .80. This item reads: Physiology, not psychology, determines whether one drinker will become addicted to alcohol and another will not. Items A11, A5 (.56), A10 (.57), A14 (.71) were all designed to represent the disease-model dimension. Item A12 was the only other item in factor two that had a correlation above .50 with .53. It was designed to represent the free-will dimension.

The third factor had an Eigenvalue of 1.04, with 5.8 percent of variance. Three items grouped together with high correlations on this factor, all designed to represent the free-will perspective, with A18 the highest at .68. A18 reads: Drug addiction is a way of life people rely on to cope with the world. The other two items were A6 (.65) and A13 (.61).

#### Discussion of Factor Analysis of the SBS and the ABS

##### Discussion of Factor Analysis of the SBS

The factor analysis of scores on the SBS shows that the three dimensions of spirituality characterized by release, gratitude, and humility, are not as distinct as originally thought to be: The three dimensions are positively correlated with one another. The tolerance dimension separated from the other three and is more distinct.

The item with the highest loading on Factor One, S4, "I feel it is important to thank God when I manage to do the right thing," is most

representative of the three dimensions. The statement contains elements of release and humility, in addition to gratitude. For example, "doing the right thing," can be interpreted as a release from doing the wrong things. "Thanking God" for something the individual does that is considered good, is a form of humility. So, from a logical point of view, it makes sense that the three dimensions group together on this statement.

The item with the highest loading on Factor Two, S8, "I believe there are many ways to know God and that my way is not the only way," is most representative of the tolerance dimension. In the reliability analysis of the SBS, this was the item that, if deleted, raised the alpha level from .94 to .96. The item also has the highest mean, 4.30 ( $SD=.10$ ,  $n=280$ ), compared to the seven other items which have an average mean of 2.91).

This final statement, item S8, is one that may be difficult to disagree with. The purpose of the SBS is to measure spiritual thinking, as defined by belief in a metaphysical entity that can influence experience. People who assert they do not believe in God may well be inclined to agree with this statement. People who assert they believe in God may well be inclined to disagree with the statement.

For example, a self-described atheist or agnostic may believe that diverse paths to knowing God are equally legitimate in being illegitimate, i.e., they are all false because either God does not exist, or can't be known. Yet, when a person agrees with the statement, he or she is expressing a belief in God, in that God is something that exists, something that can be known in diverse ways. To be intellectually consistent, the true atheist and/or agnostic should theoretically disagree with this statement. If God does not exist, or we cannot know that God exists, then one way of knowing God, or diverse ways of knowing God, are equally false.

On the other hand, many people believe their way of knowing God is the only way. Therefore, they may disagree with the statement and yet still believe in God and engage in spiritual thinking. For example, the survey was given to a woman who described herself as an ex-nun and currently a born-again Christian. She said she disagreed with the statement because she believes that Jesus is the only way a person can know God.

A final point is worth mentioning: Note that item S3 on Factor Two, which reads "I believe I am blessed by God with many gifts I do not deserve," is the only item to be negatively correlated with the others. Many treatment providers objected to the "I do not deserve" part of this statement. This item had the lowest mean, 2.29 ( $SD=1.23$ ,  $n=280$ ), compared to the other seven items. It is the most distant item from tolerance in the sense that the more treatment providers believe there are many ways to know God, and that their way is not the only way, they believe they are deserving of the gifts they feel God has blessed them with. Certainly this final belief is not indicative of humility.

These points aside, the SBS appears to do a good job of assessing spiritual thinking, the release, gratitude and humility dimensions are not as distinct in the minds of addiction-treatment providers as was originally believed to be, and the three of them together are quite distinct from the tolerance dimension of spiritual thinking.

#### Discussion of Factor Analysis of the ABS

The ABS seems to do a good job of measuring beliefs about addiction in terms of representing two sides of the disease v. free-will controversy, as evidenced by the high alpha reliability. The ABS also appears to measure three distinct dimensions: A power dimension; a dichotomous-thinking

dimension; and a way-of-coping-with-life dimension. These three dimensions appear to be pivotal issues in the disease-model debate.

The dichotomous-thinking dimension constituting Factor Two lends support to the notion set forth by Alexander & Rollins (1984) that AA is a cult characterized by Lifton (1961). The notion of addiction as a "way of life," or, way of coping with life, as extracted in the third factor appears to support assertions by Fingarette (1988) that heavy drinking is a "central activity" in life, as well as Alexander's (1990b) adaptive model of addiction. The power dimension of Factor One seems confirmed in the discussion above regarding the common thread that runs through spiritual thinking, health locus-of-control orientation, and gender status.

That treatment providers hold contradictory points of view regarding the disease and willful nature of addiction supports Caetano's (1987) findings that conceptions about alcoholism are "not entirely consistent in the public's mind: the disease concept may be contradicted and supported at the same time," (Caetano, 1987, p. 158).

The fact that treatment providers appear to hold contradictory beliefs regarding addiction, e.g., disease model and free-will model items load together on the same Factor, is worthy of comment and does not necessarily detract from the content and construct validity of this measure: The underlying dimensions of beliefs regarding power and powerlessness, dichotomous thinking, and drug addiction as a way of coping with life, appear to be key issues in the controversy.

Five free-will beliefs loaded high on Factor One (power): A4, A8, A12, A15, and A16 with seven disease-model beliefs. Factor Two (dichotomous thinking) loaded items that were disease-model beliefs with the exception of A12. Factor Three (way of life) loaded only free-will items.

Since Factor Three loaded only free-will items it appears there is no contradiction here and further commentary is not warranted.

Factor Two included one item expressing the free-will model, A12, and it had the lowest correlation of the items that loaded highest on this Factor, .53. The underlying dimension for Factor Two is explained as dichotomous thinking. Of the other four items, A5, A10, A11, and A14, A12 seems most at odds with A10, for here we have the diametrically-opposed viewpoints on the controlled-drinking/drug-taking controversy—yet the two are positively correlated with one another. How can this be?

In other words, addiction-treatment providers who believe that abstinence is the only way to control alcoholism/drug addiction also believe that alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use. Perhaps one way of explaining this apparent contradiction in beliefs is that the people who hold them also believe that addicts can moderate their addiction, they won't moderate it, and therefore the best solution is abstinence. They may believe that addicts have the power to control their drug ingestion behavior, they just won't do it. Therefore, the best approach to helping drug addicts is the abstinence approach, which is really more of a utilitarian perspective on addiction treatment than a logical one.

In terms of the apparent contradiction of simultaneously held beliefs, i.e., those of the disease-model perspective and the free-will model, for Factor One (power), seven of the items that loaded on Factor One are disease-model items and five are free-will model. All are highly correlated with one another in a positive way. An analysis of this apparent contradiction will now proceed item by item.



Item A4, "The best way to overcome addiction is by relying on your own willpower," appears to strongly contradict A3, "The only solution to drug addiction and/or alcoholism is treatment," and A9, "The most important step in overcoming an addiction is to acknowledge that you are powerless and can't control it." The assumption here is that those who hold a strong belief in the disease model of addiction couldn't possibly agree with idea that willpower is the best way of overcoming addiction. In fact, those who disagree with the disease model may disagree with the belief that willpower is the best way. For the statement may suggest to them that people who are drug addicted don't need help or support from others and the idea that they can rely solely on their own willpower may seem to be an unreasonable expectation that could lead to further addiction and trouble, i.e., problems in living. That a drug addict should rely on others for help in solving his or her problem does not necessarily mean to these addiction-treatment providers that addiction is a disease devoid of volition components. In this sense the holding of these two beliefs is not inconsistent.

Yet, from a strictly logical point of view, abstinence and seeking help from others are still willful acts, and a person exercises willpower in seeking to fulfill these acts. Therefore, a contradiction, strictly speaking does seem to be present in the minds of those who hold these two beliefs.

A8, "People often outgrow drug and alcohol addiction," is inconsistent with all of the other disease-model items at first glance, yet the contradiction with the first six items, especially A1, A2, A3, A5, A9, and A10, can be resolved through the following logic: People can outgrow drug and alcohol addiction *if* they are forced to recognize they are addicts, get

treatment for their addiction, acknowledge they are powerless to their addiction, and engage in abstinence. A17 is the trouble item.

How can people who believe in A17, "People who are drug addicted can never outgrow addiction and are always in danger of relapsing," also believe that "People often outgrow drug and alcohol addiction?" For one thing, the focus for some treatment providers on A17 may be the latter part of the statement - people who are drug addicted are always in danger of relapsing. This part of the statement is not inconsistent with A8. This may explain a great part of the inconsistency.

On the other hand, people simply hold contradictory beliefs and they do not make logical sense. One reason for this is they may have been taught to believe that addicts cannot mature out of their addiction, when they, the treatment providers, personally believe that addicts can. They may have learned that addiction can never be overcome or outgrown, as part of the ideology of their own treatment program if they themselves are addicts in recovery. They may have learned to believe certain ideas about addiction because they were taught their own sobriety was contingent upon believing in these ideas. For example, believing addiction is a disease is an integral part of treatment for the disease. Until the patient exhibits signs of belief in the disease they often are not considered to be making progress. Despite these beliefs, the treatment provider may well observe that his or her patients are in fact maturing out of their addiction.

Here is the discrepancy between what addiction treatment providers may have learned to believe, based on their own experience of addiction and sobriety, or perhaps as part of becoming certified as an addiction treatment counselor, or some other educational and/or professional

certification process, and what they may know to be true based on their own observations of addicts.

Again, while 80 percent of these items are designed to represent the disease-model orientation to addiction, an underlying theme or dimension is present throughout all of them: Dichotomous thinking. For example, in A5, "Addiction is an all-or-nothing disease: A person cannot be a temporary drug addict with a mild drinking or drug problem," the dichotomous, or either-or way of viewing addiction as a disease is explicit. Moreover, the statement expresses dichotomous thinking in its second half. There is no such thing as a middle ground when it comes to addiction. Either a person is an addict or he or she is not. If the person is an addict, he or she has a disease, period, there is no middle ground.

A10, "Abstinence is the only way to control alcoholism/drug addiction," expresses dichotomous thinking through the use of the word "only." This is a unilateral perspective on addiction and its control. On the one side is abstinence, on the other is addiction. Either abstinence or addiction is the way the statement reads.

A11, "Physiology, not psychology, determines whether one drinker will become addicted to alcohol and another will not," is another clear statement of dichotomous thinking, and is the most representative statement for Factor Two. There is a sense of absolutism present in this black or white belief. Either physiology or psychology determines addiction in this case. The more treatment providers agree with the statement, the more they view addiction in a black or white fashion, an either-or perspective, dichotomously. Again, there is no middle ground.

A14, "The fact that alcoholism runs in families means that it is a genetic disease," is perhaps difficult to understand as an expression of

dichotomous thinking. The statement expresses the belief that either alcoholism is genetically determined, and this explains why it may run in families; or it is a learned behavior, and this is why it runs in families. It is an absolute statement in this sense, that alcoholism is genetically determined, or that it is learned. If people see alcoholism as a combination of the two, they should disagree with the statement.

And finally, A12, "Alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use," is a free-will modelist's belief, and really represents the flip side of A10, which asserts that abstinence is the only way to control alcoholism/drug addiction. The controlled-drinking and/or drug-taking versus abstinence controversy is often viewed as a mutually-exclusive issue, and much of the disease model of addiction controversy has centered on these two approaches. The free-will modelist believes in the addict's ability to moderate his or her drug ingestion. The disease modelist absolutely refutes it. The disease modelist tends to see the controversy from an either-or perspective, i.e., moderate drinking or drug ingestion is not an option for the addict. It equals death. The free-will modelist sees controlled-drinking or drug ingestion and abstinence as more or less equally viable ways of dealing with addiction.

While many of the other items that loaded high on Factor One can be interpreted as expressing this dichotomous-thinking dimension, they do not seem salient in this respect, compared to the way in which items loaded high on Factor Two do.

It is interesting to note that the seven disease-model items correlate highly with the five free-will model items, an apparent contradiction in beliefs held. What do the twelve items have in common?

At first glance, the twelve items that load highest in correlation on Factor One all express beliefs about power. A1, "Most addicts don't know they have a problem and must be forced to recognize they are addicts," while a statement that clearly expresses a disease-model orientation to addiction, also communicates a belief about power. One might interpret this statement as saying that the addiction problem is so powerful addicts don't even know they have a problem, and, being powerless in this respect, must rely on the power of others to force them to recognize they are addicts.

A2, "Addicts cannot control themselves when they drink or take drugs," is again a statement expressing beliefs about power—addicts cannot control themselves, they do not have the power to control themselves when they drink or take drugs. A3, "The only solution to drug addiction and/or alcoholism is treatment," can be construed as a statement expressing beliefs about power in the sense that the power of treatment is the only solution to addiction, i.e., everything else is powerless. Of course treatment involves the power of another person or persons outside of the self.

A5, "Addiction is an all-or-nothing disease: A person cannot be a temporary drug addict with a mild drinking or drug problem," expresses a belief about power in the sense that when a person has the addiction, which is either present as a disease or not present at all, there is no power that a person can exhibit to moderate the problem. A9, "The most important step in overcoming an addiction is to acknowledge that you are powerless and can't control it," expresses the power theme again clearly. A10, "Abstinence is the only way to control alcoholism/drug addiction," is another power statement in the sense that abstinence is the way to control

or have power over addiction. A17, "People who are drug addicted can never outgrow addiction and are always in danger of relapsing," expresses the power theme in the sense that addicts are at risk of the danger of relapse, a powerful force, one that is so powerful it cannot be outgrown, and even the power of maturation cannot overcome the power of addiction.

A4, "The best way to overcome addiction is by relying on your own willpower," is obviously a power-oriented statement, only this time the power theme refers to the power within or of the self. A8, "People often outgrow drug and alcohol addiction," refers to the power of maturation as a force able to overcome the power of addiction. A12, "Alcoholics and drug addicts can learn to moderate their drinking or cut down on their drug use," is a free-will model statement that expresses the power theme in the sense that it refers to a person's ability to exercise the power of moderate or controlled drinking and drug-taking as a way of dealing with the power of addiction. A15, "You have to rely on yourself to overcome an addiction such as alcoholism," refers to the power of self, not others, to overcome the power of addiction. And finally A16, "Drug addicts and alcoholics can find their own ways out of addiction, without outside help, given the opportunity," is a power-oriented statement in the sense that it is similar to A15 and refers to the power of self, really self-efficacy, as contrasted with outside help, or, the power of non-self forces, e.g., others, in overcoming the power of addiction.

Therefore, a theme of power, self power, powerlessness, powerful others, and the power of addiction runs through these 12 items, despite the fact that the first seven were design to express the disease-model orientation to addiction and the second 12 were designed to express the

free-will model. Power is an underlying theme or dimension for those items that loaded heavily on Factor One.

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## FOOTNOTES

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