



Transformation and Recovery: Spiritual Implications of the Alcoholics Anonymous Twelve-Step Program

Citation

Werner, Gretchen. 2015. Transformation and Recovery: Spiritual Implications of the Alcoholics Anonymous Twelve-Step Program. Master's thesis, Harvard Extension School.

Link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:24078366>

Terms of use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material (LAA), as set forth at

<https://harvardwiki.atlassian.net/wiki/external/NGY5NDE4ZjgzNTc5NDQzMGIzZWZhMGFIOWI2M2EwYTg>

Accessibility

<https://accessibility.huit.harvard.edu/digital-accessibility-policy>

Share Your Story

The Harvard community has made this article openly available.
Please share how this access benefits you. [Submit a story](#)

Transformation and Recovery:
Spiritual Implications of the Alcoholics Anonymous Twelve-step Program

Gretchen Werner

A Thesis in the Field of Psychology
for the Degree of Master of Liberal Arts in Extension Studies

Harvard University

November 2015

Abstract

The purpose of this study was to examine spiritual implications and program involvement among Alcoholics Anonymous members ($N = 116$). Subjects completed self-report measures such as the Daily Spiritual Experience scale (DSE), Alcoholics Anonymous Involvement Inventory (AAI), and a modified version of the Purpose in Life (PIL) measure. Based on previous research, Hypothesis 1 predicted that greater involvement in the program would correlate to length of sobriety. Significance was found between steps completed and months sober ($r = .32$, $p < .01$, 2-tailed). Hypothesis 2 suggests that higher levels of spirituality would be correlated with longer sobriety rates. However, there was no significant relationship between the DSE and months sober, although, there was a significant relationship between the Purpose in Life (PIL) scale and Months sober. This supports our hypothesis that spirituality correlates with months sober ($r = .24$, $p < .05$, 2-tailed). Hypothesis 3 suggested that more active participation and commitment to the Alcoholics Anonymous program would influence greater purpose in life. This was mostly supported by our results. Together these findings suggest the need to seek alternate study designs in searching for the association between spirituality and alcohol dependence/recovery. The current study may point to a need to shift focus in addiction recovery and spirituality research. Examining strategies to promote the program of AA may be the more deserving exploration focus than the ongoing research of the relationship between spirituality and recovery.

Dedication

This thesis is dedicated to my mother, Karen Werner. She was always there to give me support and encouragement throughout the process. She taught me to believe in my abilities and to be positive during the most stressful times. It takes a special person to smile and cheer during the most difficult of moments. When I felt overwhelmed with adversity, she was there to listen and give confidence. It was because of her inspiration that I found the courage and determination to complete my research and work on this thesis. I am forever grateful for the sacrifices she has made for me as a mother and as my friend.

Acknowledgements

I would first like to gratefully and sincerely express my deepest appreciation to my thesis director Dr. Cheryl A. Giles, for her guidance, patience, understanding, and most importantly, for providing me with support throughout the research and thesis writing process. Under her mentorship, I gained insight on the research process and learned how to navigate the necessary stages from the IRB application to data analysis and manuscript write-up. I am fortunate to have her guidance and influence. She has been an inspiration and role model where I discovered a new interest in scientific research and passion for writing in pursuit of publishing in the field of psychology.

I would also like to thank Tim Martin, a student at Harvard Divinity School and member of the Langer Lab. I am grateful for his assistance with data analysis as well as his support and interest in researching spirituality. We had a great time looking for unique trends and thinking outside the box.

My thesis advisor Dr. Dante Spetter spent a great amount of time and effort editing my proposal. She supported and encouraged me throughout the thesis process; from the beginning of formulating my thesis topic to finalizing the proposal. She has provided me with advice and encouragement to pursue my interest in the field of psychology. It has been a wonderful experience to learn from and work with her.

I am indebted to the several people who helped me find and recruit members in Alcoholics Anonymous. I could not have done this without the interest and dedication of

Evelyn, Scott, Greg K., Allen, Luke, George, Lis, Charlie, Sharon S., Jennifer L., Mia, and Sabrina. With their help, I was able to reach several AA members whose contribution and time resulted in the most gratifying experience. I am so appreciative for their input and for sharing personal information with me.

I would also like to thank my mentor and friend, Dr. Mike Sperber. Through sharing his knowledge and creativity, he taught me to believe in myself. He was a constant reminder that in life, the obstacle is the path and that by overcoming adversity we discover resilience and our ultimate goal and passion for life. This process has been a journey of discovery where I have learned to develop one small idea into theory and practice.

My special thanks go to my family and friends. I thank my family for their patience and support. I am grateful to Dr. Donald Carney for his endless encouragement and for sharing his insight on the graduate school experience. And finally, I would like to take this opportunity to thank my father who is no longer with us. I know he would be proud.

Table of Contents

Dedication	iv
Acknowledgements.....	v
List of Tables	ix
List of Figures	x
I. Introduction	1
II. Method	20
Participants.....	20
Measures	23
Daily Spiritual Experience Scale (DSE)	23
Alcoholics Anonymous Involvement Scale (AAI)	23
Purpose in Life Test (PIL)	24
Procedure	24
Statistical analysis.....	25
III. Results.....	27
ANOVA analysis of measures (Hypotheses 1 & 2).....	27
ANOVA analysis of measures (Hypothesis 3)	28
Descriptive statistics of the assessment instruments.....	29
Analysis of Descriptive statistics	30
Analysis of Pearson Correlation Coefficients.....	31
IV. Discussion.....	33
Conclusion	35
References.....	37
Appendix A Substance Use Disorder	47

Appendix B The 12-Steps of Alcoholics Anonymous.....	48
Appendix C Alcoholics Anonymous Involvement (AAI) Scale.....	49
Appendix D Purpose in Life (PIL) Measure.....	50
Appendix E Daily Spiritual Experience (DSE) Scale	51
Appendix F Demographic Survey	52
Appendix G Demographics Information Graphs.....	53

List of Tables

Table 1	Demographic profile of sample participants.....	22
Table 2	Descriptive statistics of the assessment instruments.....	29
Table 3	Pearson Correlation Coefficients	31

List of Figures

Figure 1 Purpose in Life to months sober	32
Figure 2 Education level to mean months sober	54
Figure 3 Education level to number of participants	54
Figure 4 Daily Spiritual Experience to months sober	55
Figure 5 AAI-7 (been a sponsor) to months sober	55

Chapter I

Introduction

Alcoholism is a debilitating condition for addicted individuals and a pervasive dilemma for their families and for society. The National Institute on Alcoholism and Alcohol Abuse (NIAAA) states the rate of alcohol dependency in America is 15-20 percent of the population. The cost to society is estimated at over \$223.5 billion dollars annually for specialty care and medical consequences, as well as losses and damages attributed to accidents and crimes resulting from alcoholism (NIAAA, 2006). As implied by these statistics, the consequences of this debilitating behavioral and physiological disorder are alarming, not only for the individual struggling with its psychological effects but also for society at large.

The most prominent and popular treatment solution for alcoholism in the United States is Alcoholics Anonymous (AA), an organization founded in 1935 in Akron, Ohio. The program pathologizes alcohol chemical dependence as “Alcohol Use Disorder,” and is a faith-based, spiritually-oriented treatment initiative. The basis of recovery is dynamic, group-based therapy, where accountability is managed through a one-on-one “sponsor” system; and “the 12-step program,” AA’s best-known and most replicated treatment procedure (Glasner & Ogborne, 1982). AA’s 12-step program, which characterizes alcoholism as incurable but manageable, features a series of self-examination and meditation stages that guides members to achieve recognition of their powerlessness in the face of their dependence on alcohol. Eschewing any scientific or medical explanation or

lexicon, AA articulates the individual's ability to combat dependence on alcohol as an innate reliance on a self-defined "Higher-Power" (Carroll, 1991). AA members embark on a guided spiritual journey involving accountability and responsibility for their own voluntary and involuntary actions. Through prayer, self-discipline gained through meditation, and the active assistance and intervention of fellow AA members, they ultimately achieve a state of peace in the absence of alcohol consumption. The AA 12-step program thus defines dependence on alcohol as a spiritual, medical, and psychological disorder (Alcoholics Anonymous World Service, 1976).

AA's spiritual foundation came from the intellectual experience of men who were deeply mistrustful of all religions. These men—William James with his *Varieties of Religious Experience*, Carl Jung prescribing "*spiritus contra spiritum*," or "spirit against spirit," and the cofounders of AA, Bill Wilson and Dr. Robert Smith—were pioneers in the study of healing and spirituality (Vaillant, 2005). Thus, AA is not about religion but rather about concepts, such as spirituality, growth, and forgiveness. The program is based on a powerful group psychology that addresses, interrupts, and modifies core problems in self-regulation (Khantzian & Mack, 1994). The only membership requirement is a desire to abstain from drinking.

Acceptance of a "Higher Power" is a core component of AA's treatment model, and members attribute a large part of their "recovery" to this spiritual adaptation and conditioning. But how exactly can the spiritual experience of AA be understood and articulated clinically?

As substance use and abuse continues to devastate communities, physicians need more information about specific mechanisms in treatment intervention for addiction, but researchers have often overlooked the role of religious and spiritual practices and beliefs in preventing use

and relapse (Green, Lesley, Fullilove, & Robert, 1998). This thesis describes the process of spiritual awakenings participants experienced in recovery and their understanding of how the 12 steps influenced their desire for sobriety. The data suggests persons in recovery often undergo life altering transformations as a result of embracing a power greater than one's self, a Higher Power, and the results of our testing indicate the spiritual journey experienced in Alcoholics Anonymous leads to sustained abstinence.

Research on the nature, implications, and limitations of a spiritual approach to alcoholism might offer new prospects for treatment. Yet despite substantial scholarly literature that examines and explores faith-based, spiritual, and philosophically-oriented treatments in clinical contexts with respect to a wide range of mental and physical disorders (George, Larson, Koenig, & McCullough, 2000), the psychological and psychiatric communities pay surprisingly little attention to the widespread incorporation of spirituality in the treatment of addictions by organizations such as AA (Miller, 1999). AA members attribute their recovery to strict adherence to the AA fellowship and the 12-step program, and therapists and clinicians alike can benefit from a critical examination of the origins, reasons, and generally positive outcomes of spirituality in the addiction treatment context. This study investigates how the positive effects of meditative practices, religious faith, and spiritual discipline are defined in the clinical context and explores how psychological researchers, cognitive scientists, and other medical professionals can reconcile the role of spiritual subjectivity against the otherwise analytic objectivity of the brain for the behavioral sciences. The spiritual guidance that accompanies AA's 12-step programs demonstrates widespread success in altering destructive behaviors and creating a more optimistic life orientation, greater perceived social support, higher resilience to stress, and enduring rates of recovery. What is the cognitive and/or scientific explanation for

the relationship between spiritual ideation and strict behavioral conditioning, and can this knowledge aid cognitive and psychological therapy generally?

A goal of this thesis is to determine, in clinical and cognitive terms, the process by which AA facilitates recovery from individual chemical dependence on alcohol through a rigorous examination of qualitative aspects of the 12-step program and its effects on the alcoholic's behavior and overall wellbeing.

One of the several challenges to the empirical examination of spirituality is that transcendental experiences are by nature subjective and, therefore, are sometimes considered impossible to measure scientifically. For this reason, it is difficult to determine the validity of a definition of alcoholism that considers spiritual components to etiology or treatment (Chapman, 1997). Because the psychological relationship between spirituality, faith, and health is complex, firm definitions of terms and concepts, as well as rigorous methodologies, are required in order to explore it adequately. This thesis offers a model by which the individual spiritual experience during treatment of alcohol dependency can be studied and quantified in empirically rigorous, clinical terms.

Psychiatric classification systems, such as the Diagnostic Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 1994), describe alcohol use disorders (AUDs) as maladaptive patterns of alcohol use leading to significant impairment and distress. People who are highly distressed over the consequences of their addiction are therefore candidates for responding to the ideological orientation of Alcoholics Anonymous toward recovery, which is based on abstinence and a spiritually grounded lifestyle (Galanter, 2007). Despite increased attention to conceptual and

methodological issues surrounding spirituality, religiosity, and their implications for health and well-being, research regarding the efficacy of interventions for alcohol use disorder that explicitly incorporate spiritual content is sparse (Neff, 2005).

Understanding the process of spiritual transformation in Alcoholics Anonymous and defining the mechanisms required for behavior change in recovery is critical for addiction treatment intervention.

This thesis suggests a new course specifier to help clinicians validate the subjectively experienced criteria by (1) offering a definition of spirituality as explained by AA members, (2) exploring the degree of affiliation and commitment to AA by measuring levels of program involvement, (3) discussing how spiritual transformation relates to quality of life in recovery, (4) reviewing other treatment options, and (5) developing an understanding of 12-step groups as a resource for treatment by health professionals. One way to examine treatment might be to consider addiction as a “spiritual disorder.”

The emergence of Alcoholics Anonymous for the treatment of chemical dependency has been immensely influential and has brought spirituality in the context of addiction recovery to the attention of mental health professionals as well as the general public. Several studies link 12-step involvement to spiritual change and improved recovery outcomes. Zetmore and Kaskutas (2004) studied ambulatory patients who were predominantly drawn from AA meetings by applying a multidimensional measurement of spirituality. They found that AA members with greater levels of spirituality had longer periods of sobriety at the time of evaluation.

Another goal of this study is to determine whether the effects of spiritual change on recovery outcomes are indeed causal and whether spirituality might be an important mediator for the positive effects on recovery of 12-step involvement. For purpose in this study, recovery is referred to as an ongoing process of sustained sobriety. The results indicate causal relationships between spirituality and recovery, which also reveals several correlations between variables of spirituality and abstinence.

The National Institute on Alcoholism carried out a large-scale investigation using long-term follow-up measurement that compared different treatments for alcoholism. Results showed that 12-Step Facilitation (TSF) was as effective as cognitive behavioral therapy (CBT) and motivational interviewing techniques (MT). From this finding, several studies, which were developed using empirically grounded models of research, found TSF to be more effective than CBT or MT techniques in attaining long-term abstinence (Group, Project MATCH, 1998). A federal survey by the National Center for Health Statistics (1991) found that 4 in 10 Americans have been exposed to alcoholism in their families, and Miller and McCrady (1993) estimated 1 in 8 have attended a 12-step program. Twelve-Step Facilitation, therefore, has become an accepted treatment for alcohol use disorder. Pertinent to these figures, Alcoholics Anonymous meetings are very diverse, can be found in every city, and are offered various times throughout day. Treatment and recovery for addiction usually involves a multifaceted approach, including a cognitive focus through restructuring of ineffective thinking and participation in Alcoholics Anonymous. Brown, Peterson, & Cunningham (1998) surveyed inpatient alcohol treatment programs and found that 95% incorporated AA into their programs of recovery. Apparently, 12-step programs operate not only as mutual aid support groups outside traditional treatment, but also within mental health practice. Yet, although AA is the largest mutual-help organization

for alcoholics in the world, the specific mechanisms it employs to mobilize and sustain behavioral change are poorly understood. This outcome highlights the necessity of further controlled research on 12-step participation. A third goal of this study is to examine the relationship between spirituality as found within the 12 steps, and its effectiveness for treatment of alcohol use disorder.

According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2000), over 700,000 Americans in recovery receive two different types of treatment on any given day. These treatment options consist of two distinct alternatives: mutual aid groups, such as AA, or professional treatment at mental health centers (Magura, 2007). As previously mentioned, Cognitive Behavioral Therapy is a commonly used treatment approach. Hodge (2011) believes that, given the widespread interest in incorporating spirituality into professional treatment, practitioners could modify CBT by integrating the clients' spiritual beliefs and practices into treatment. He further believes that adding a spiritual component could reduce treatment disparities by providing more culturally congruent services to enhance treatment compliance and prevent relapse. The Joint Commission on Healthcare recently instituted changes recommending behavioral health organizations that provide addiction services to administer a spiritual assessment questionnaire (Hodge, 2011). Spirituality, a common dimension of mutual aid groups like AA, is comparatively rare in professional treatment settings (Magura, 2007). If accrediting organizations are going to require service providers to explore client spirituality, then content on how to help clients build on their spiritual strengths is vital (Hodge, 2011).

Pharmacologic interventions in addition to cognitive behavioral therapy may not provide long-term abstinence. Naltrexone, an opiate antagonist is a medication commonly prescribed to alleviate the craving for alcohol. In one study by Volpicelli (1992), patients received coping skills therapy and either medication or a placebo. Findings reported no significant difference in craving between the naltrexone-treated and the placebo-treated subjects. Given the findings, it is especially important to consider incorporating spirituality into treatment.

Research on the role of spirituality in the recovery process and the relationship between AA involvement and treatment outcome are a subject for debate (Mark & Robert, 1996), with speculation over which specific variables contribute to personal recovery. Scientific investigation of the spiritual component in 12-step programs is limited, even though the incorporation of spirituality into medical practice has become more common. Religion is a “very important” part of the lives of approximately 67% of the American public, of whom 92% believe in God or a universal spirit and 42% attend religious services regularly (Gallup, 2011). Moreover, interest in spiritual growth is increasing, with 82% of Americans describing themselves as spiritual, but not religious. This is useful information when considering how clinicians can engage with clients to implement spirituality and create better health outcomes (Myers, 2000). A way to examine spirituality and health would be to gain insight into how Alcoholics Anonymous works.

One aspect of the 12-step experience related to spirituality is the development of a sense of mutual support. These group settings are therapeutic because members are able to identify with one another and share not only their suffering but their positive recovery experiences as well. AA literature often refers to the “group” as the most important part

of recovery, and the group's solidarity is considered a critical component of the program's spiritual nature (Vaillant, 2005). In AA, this "group" experience may explain part of the spiritual component that contributes to recovery. One participant stated that he attends AA meetings to hear others speak and believes that sometimes he attributes the discussion to messages from God. This recovery-oriented support may foster greater self-efficacy toward ongoing abstinence because recovering persons can acquire effective coping strategies from their peers (Finney, Noyes, Coutts, & Moos, 1998). While friendships are important for overall wellbeing, social support may influence positive behavior by providing emotional assistance and lending a sense of belonging.

It is therefore important to determine how AA works as a social construct by measuring levels of involvement and how they relate to quality of life. This was measured by using the (AAI) Alcoholics Anonymous Involvement scale, which was designed to measure participation in AA in terms of the degree to which the patient is "working" the program (e.g., step completion, sponsor status, and meeting attendance) and commitment to the AA fellowship (Tonigan, Miller, & Connors, 1998). The measure is characterized by high internal consistency (.85) and excellent 2-day test-retest reliability and may serve as a more sensitive measure of AA treatment process because it identifies two subscales, one measuring involvement in the program, the other attendance at meetings (Allen, 2000). For this reason, the degree to which members become involved in the program predicts the favorability of outcomes. Group members who completed the 12-steps reported longer sobriety rates ($r = .33, p < .01$). Steps completed also correlated with greater purpose in life ($r = .31, p < .01$) and higher scores on the Daily Spiritual Experience scale ($r = .21, p < .05$).

A review of published studies that examine the relationship between belonging to a group and health indicates spirituality and religious involvement are associated with better health outcomes (Galanter, 2007). These positive outcomes include coping skills, better physical health, greater longevity, less anxiety, and enhanced quality of life (Vaillant, 2005). Subjects with more extensive social resources have greater antibody response to influenza vaccine (Pressman, 2005), and social participation and engagement in church are also predictive of lower degrees of dementia and cognitive decline in men and women sixty-five years and older (Kawachi & Berkman, 2001). McCullough and colleagues conducted a meta-analysis of 42 independent samples that examined the association of a measure of religious involvement and mortality. Results indicated highly religious individuals had odds of survival approximately 29% higher than less religious individuals (McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000). The positive outcomes that spirituality implies, point to the importance of gaining insight into how belonging to a group sustain health and mediate behavior change necessary for recovery.

Because spirituality and religiosity are potential health resources (Koenig, 2001), clinicians must understand the spiritual mechanisms that promote positive health effects before they can address the spiritual needs of the patient. The three main mechanisms that are traditionally proposed for conveying positive health outcomes are (1) a healthy lifestyle and avoidance of health risk behaviors due to religious and spiritual inclination, (2) social support owing to religious participation, and (3) an increased sense of coherence and meaningfulness of life owing to spiritual ideation and practices (Kohls, 2011). However, newer conceptualizations propose alternative approaches to spiritual practice. In particular, a state of consciousness known as mindfulness is a popular mind-body technique or

meditative spiritual practice. These meditative practices, such as yoga, tai chi, or qi gong, are framed in secular contexts and are considered spiritual substitutes to traditional belief sets or religious ideation. Whether spirituality is defined in traditional terms or by philosophical practice, it is important to focus on a definition that involves the functional psychological processes involved (Bishop, 2004). One study investigated the role of personal experience and practice of spirituality, rather than community and social aspects of religion. The study found that higher levels of spirituality are linked to something similar to the placebo effect, where the neural systems are engaged in a way that facilitates the healing process. A placebo effect by definition is a change in symptoms due to inert therapeutic intervention.

Kohls (2011) suggests that one important spiritual component can be explained by salutogenetic theory. According to Antonovsky in *Health, Stress, and Coping* (1979), individuals may be able to develop a sense of coherence necessary for recovery if they are able to perceive their environment as comprehensible and manageable and their overall life situation as meaningful (Kohls, 2011). This is an interesting concept that describes spirituality as a practice that enhances healing through neuro-physiological processes. Two psychological processes may be relevant for eliciting health-related outcomes, and there may be a complex interplay of intrapersonal and interpersonal factors. Thus, on a psychological level, spirituality may be regarded as a way to perceive and enhance meaningfulness; on a behavioral level, it may allow the individual to express meaningfulness through rituals and symbols; and on a functional level, it may engage the corresponding neurobiological networks involved in eliciting health effects by activation of top-down physiological and immunological processes (Kohls, 2011). To illustrate this

approach further, religious/spiritual variables may influence opportunities to develop and maintain socially supportive relations, which in turn may reduce depression and moderate alcohol use, and help to reduce undesirable physiological states, such as chronically elevated cortisol and norepinephrine levels (Thoreson, Harris, 2002). There are several ways to consider the mechanisms through which spirituality works to improve health outcomes. This study measures items that focus on day-to-day experiences and spiritual practice rather than religious ideology.

In its large-scale clinical trial, Project MATCH, controlling for baseline drinking, found that higher baseline scores on the Religious Background and Behavior scale (RBB) predicted better drinking outcomes at the 1-year follow-up (Connors, 2001). Using a smaller sample, Connors et al. (2003) found that higher scores on several measures of spirituality predicted higher rates of abstinence at the 6-month follow-up (Zemore, 2004). Kaskutas et al. (2003) found that individuals who reported a spiritual awakening as a result of their AA involvement were nearly 4 times more likely to be abstinent at year 3 than individuals who reported never having had a spiritual awakening (Zemore, 2004). Several spiritual components are emphasized within the 12 steps that seem to contribute to recovery. However, little is known about the recovery experience beyond the immediate post-treatment period that is typical of most addiction research design. AA defines recovery as a life-long, dynamic process, so learning more about relevant challenges and helpful resources in order to enhance the likelihood that stable recovery be maintained is critical (Laudet, Morgan, & White, 2006). Participants who experienced a spiritual awakening had significant scores on the Daily Spiritual Experience scale ($r = .36, p < .01$). Further, empirical studies to date have generally not recognized a distinct mechanism to identify the

beneficial effects of spiritual factors associated with positive health outcomes. Examining these relationships was a primary purpose of this study.

Given the relationship between health and spirituality, the 12-step program serves as one of the most supportive approaches to treating alcoholism (Vaillant, 2005). The 12-step program is a set of principles that guides people suffering from alcohol use disorder into a less destructive relationship with alcohol. Although this thesis concentrates on alcohol use disorder, it may be important to note that members in AA might not only be seeking help for alcohol problems, but may also be struggling with drug addiction as well. AA members commonly understand sobriety itself within a spiritual context, believing that being sober (versus simply “dry”) entails acceptance, humility, and serenity—in other words, spiritual maturity (Zemore, 2004). The program outlines a course of action to use in recovery from all compulsions and abnormal behavioral problems. As the American Psychological Association (APA) summarizes, the 12-step process involves:

- Admitting the fact that one cannot control his or her addiction or compulsion.
- Recognizing a power that is greater than oneself.
- Examining past errors using the help of a sponsor.
- Making amends to the people affected by those errors.
- Learning how to live a new and better life with a newly developed behavior.
- Helping other people suffering from the same compulsions or addictions.

The 12-step method has been adopted in addressing a variety of substance use disorders and other problems relating to dependency. There are over 200 organizations known as fellowships, with a global membership of millions who employ the 12-step principles in their recovery process. While this study focuses specifically on AA, the details of other 12-step

groups are salient insofar as they demonstrate the widespread support for the 12 Steps, a key component of which is their spiritual dimension.

The spiritual dimension of alcoholism is described as a spiritual malady that is considered rooted in self-centeredness. This is not to suggest that spirituality should be conceived as theistic or non-theistic. Rather, Miller (2002) states that spirituality is understood to be operative at the level of the individual, and its definition “must be one that does not rely on any particular religious contexts, that is accessible and observable regardless of one’s personal beliefs, and that can be thereby used to characterize all people.” Elkin et al. (1988) developed a conceptual model that might be appropriate in suggesting an interpretable definition. This model defines spirituality as involving the individual in relation to God, (or a Higher Power), others, and self. In 12-step fellowships, the concept of the “spiritual awakening” is seen as a developing process over a long period of time, as indicated where participants who complete more steps have greater sobriety rates ($r = .33$, $p < .01$). As such, the facilitation of spiritual growth, and thus its benefits for recovery from addiction, can potentially be tailored to all people regardless of theistic beliefs and identification, as issues of meaning, purpose, transcendence, love, wholeness, and awe are common human phenomena (Robinson, Cranford, Webb, & Browler, 2006).

AA meeting attendance is often found to be modestly predictive of better treatment outcomes (Emrick, et al., 1987), and AA suggests that to support this spiritual awakening and the ultimate goal of sustained sobriety, members regularly attend meetings with other members who share their recovery experience. Another study that measured the extent to which AA clients became involved in working the program

found a significant relationship between AA participation and long-term sobriety: those who were more involved in AA-recommended activities were more likely to be abstinent at sixth months (Montgomery, Miller, & Tonigan, 1995). According to AA, a lowered sense of meaning in life is both the cause and effect of alcoholic drinking (Clinebell, 1963). This lowered sense of meaning or lack of purpose in life can be seen as indicative of unmet spiritual needs. Therefore, a major aspect of spiritual growth in AA is to address this lack of purpose by assisting others (Carroll, 1991). AA sees the alcoholic's lack of purpose in life as a mental and spiritual imbalance (Thune, 1977), and examining one's purpose in life along with spirituality contributes to AA's effectiveness. Participants who reported greater purpose in life (PIL) had significantly more months sober ($r = .19, p < .05$).

Regarding AA's effectiveness, a study by Kaskutas (2009) found that (1) rates of abstinence from alcohol are twice as high among AA attendees as among participants in other programs, (2) more frequent attendance at AA meetings equates with high rates of abstinence, (3) prior attendance at AA meetings predicts subsequent abstinence, and (4) AA supports other methods of behavioral change. Participants who celebrated at least one AA birthday reported more months sober ($r = .28, p < .01$), and participants who attended more meetings altogether reported more months sober ($r = .46, p < .01$). These findings suggest that AA's popularity could be related to its effectiveness, which relies on its particular spiritual dimensions.

Limited data is available on AA outcomes. First, until recently as an organization, AA has not been interested in the field of research. Second, according to Vaillant (2004), because of ideological differences, medical researchers have a difficult time assessing AA without bias. Saguil (2006) explored the reluctance of medical professionals to discuss spiritual topics with

patients and found they would be more comfortable initiating discussions if they were made aware of evidence that such conversations are beneficial. Although a large number (96.4%) of physicians believe they have a responsibility to be aware of patient beliefs, many do not address spirituality because they don't understand how to do so (Saguil, 2006). The overall evidence, nevertheless, is convincing that spiritual therapy, such as AA, works as a foundation of recovery for people suffering from alcoholism (Vaillant, 2005). Studies suggest that clinical outcomes correlate significantly with frequency of attending AA, with having a sponsor, with chairing meetings, and with engagement in 12-step work (Montgomery, Miller & Tonigan, 1995). The results of this study also indicate that being a sponsor results in more months sober ($r = .43, p < .01$). However, there are many challenges to measuring spirituality and understanding its role to treatment outcomes. Despite the significant findings there is a need for a more cohesive measure appropriated to this population to attain definitive results.

As noted above, AA posits that the spiritual component is the mechanism that helps alcoholics to abstain and recover. One way to evaluate its effectiveness is to examine personal growth. AA literature suggests that adopting new inspirational behavior promotes the addicted individual to gain a healthier altruistic identity. Belief in a power greater than oneself is a critical step in recovering from alcohol use disorder within the AA model. Predating AA, in *The Varieties of Religious Experience: A Study in Human Nature*, William James articulated the relationship between recovery from alcoholism and religious conversions: "There are two lives, the natural and the spiritual, and we must lose the one before we can participate in the other" (James, 1902). This seems appropriate in relation to the AA fellowship, where old, destructive identities are replaced with new, healthy approaches. There are parallels between Frank and Frank's (1993) model of healing in their book *Persuasion and Healing: A*

Comparative Study of Psychotherapy. Frank and Frank's healer holds the ideal status, i.e., a few years of abstinence, utilizes numerous therapeutic models and creates cure expectancy for the patient (Frank & Frank, 1993). They argue that in group therapy, recovery comes from people caring for one another, not just oneself, and a relationship with a Higher Power.

Robinson, Brower, and Kurtz (2003) compared people in treatment for alcohol problems with a non-alcoholic sample regarding various aspects of spirituality. These variables include feeling God's presence, finding comfort in religion, desiring to be closer to God, and being touched by the beauty of creation. The results of this study suggest that the treatment population scored higher on these spiritual and religious variables than the non-alcoholic population. The authors interpreted these findings "as evidence of what Carl Jung calls '*spiritus contra spiritum*,' the idea that both alcohol problems and spiritual life may be motivated by similar efforts to resolve suffering" (Bliss, 2007). This suggests alcoholics may discover "Positive Spirituality" while in treatment or through participation in the AA fellowship.

The 12 steps are designed to confront a destructive ego and to promote transcendence through the creation and maintenance of positive spirituality. Positive spirituality is defined as loving, accepting, and trusting relationships with the self, others, the world, and ultimately, with God, as one understands God (Warfield, 1996). Studies indicate that spiritual or religious involvement may be an important protective factor against alcohol dependence. Individuals suffering from alcohol problems are often found to have a low level of religious involvement, and spiritual engagement appears to be correlated with recovery (Miller, 1998). Participants with greater purpose in life had significant correlation to sobriety ($r = .19, p < .05$). Finally, spirituality and a community of like-minded individuals engaged in fellowship may serve as a replacement for alcohol, in terms of their effect on the temporal lobe and limbic circuitry (Mark

& Robert, 1996). In other words, religion and spirituality present a substitute to the “high” facilitated by substances. Spirituality, referred to by Marx as “the opium of the people,” and by Jung as “*Spiritus*,” could be an indirect way to motivate the limbic brain as well as the endorphins. The 12 steps guide the recovering alcoholic through complicated emotions and provide hope through faith within this healing process. In order to determine the effectiveness of spirituality, questionnaires measured attitudes in achieving a sense of wellness and spiritual growth within the 12 steps. As previously mentioned, participants who completed more steps reported more months sober ($r = .33, p < .01$).

This spiritual process is a healthy replacement for addictive behaviors. As people recover from alcoholism, they can experience dramatic changes in how they think of themselves, others, and the world in general. In fact, AA asserts that recovery from alcoholism necessitates a radical change in perspective (Zemore & Kaskutas, 2004). AA’s worldview contends that self-centeredness lies at the heart of alcoholics’ suffering; hence, one must overcome self-centeredness by committing to helping others and surrendering self-will to a Higher Power (Humphreys and Kaskutas, 1995). Four factors associated with the recovery process were identified in a 40-year longitudinal study of alcoholism: (1) the role of drinking by developing a vital interest, (2) external reminders that the resumption of drinking would be aversive, (3) involvement in a new social support network apart from the earlier drinking period, and (4) existence of enhanced self-esteem, hope, and a source of inspiration (Vaillant, 1983). Self-knowledge seeking and enhanced relationships with others emerge during on-going recovery, and spirituality may be the key feature of this stage (Brown, 1985).

The role of spirituality in alcoholism recovery relates to promoting the individual’s health and attaining a more meaningful life. The approaches to recovery, such as prayer and

meditation, religious revivalism, and family therapy, exemplify infusion of the individual and personal meaning into the process of recovery. However, despite the individual nature of recovery, AA has codified structures and a broad spiritual reach in which members must participate. The steps are designed to promote a spiritual awakening that prepares the recovering individual to develop a sense of coherence, manageability, and meaning (Kohls, 2011).

Although progress in researching spirituality has been made, there remains a need for more reliable and consistent measurements. This study examines the role of spirituality in recovery, and examines precise relationships between 12-step involvement, spiritual change, and reduction of substance use among the sample interviewed.

Chapter II

Method

This chapter discusses participants, methodology of the study design, experimental procedure and statistical analysis. Data collection was completed by June 30, 2015. The principle investigator attended several AA meetings and distributed the surveys and questionnaires. Several Alcoholics Anonymous members were recruited to distribute questionnaires at open AA meetings within the United States. Questionnaires were distributed in Massachusetts, New Hampshire, Pennsylvania, Florida, Oklahoma, and Minnesota. Upon receiving the data, a graduate student in the Divinity school and a member of the Langer Lab assisted with the Statistical analysis.

Participants

Individuals were recruited from open Alcoholics Anonymous meetings. The sample of 116 participants was recruited based on the eligibility criteria of: (a) being at least 18 years of age and (b) actively participating in the recovery program of AA. The protocol for recruitment at AA was guided by recommendations from the AA General Service Committee. This recommendation involves a key component of attracting and maintaining subjects with the promise and conditions of anonymity, which features largely into the culture of AA, as well as studies of this type. This requirement maintains that participants identity be kept confidential. Of the participants, 51.8% were age 40-59. Three participants opted to leave gender information blank, leaving the total accounted

for at 113 when DSE scores by gender were calculated in one-way ANOVA. The majority were female at ($N = 60$) and male at ($N = 53$). The education level of the sample was quite impressive, where 65.8% had completed College and Graduate level education. Most participants were Christian, at 74.8%. Only 5 participants noted “spiritual” as their Religious Affiliation. Of all participants, 90.9% listed Caucasian for ethnicity. For relationship status, 39.5% were married, 29.8% were separated, 26.3% were single, and the remainder listed other or widowed. For the most part, all participants responded to demographic questions, although for some analyses ($N = 114$ or less).

Questionnaires

The demographic survey included age, gender, relationship status, level of education, religious affiliation, ethnicity, and several questions on specific step work and key recovery information. (Appendix F).

Quantitative Measurements

Qualified participants received a description of the study intent, a form with questions on demographics, and paper-and-pencil measures obtained by a set of 3 questionnaires described further on page 23-24:

- The Daily Spiritual Experiences Scale (DSE)
- The Alcoholics Anonymous Involvement Scale (AAI)
- The Purpose-in-Life Test (PIL)

Table 1.

Demographic profile of sample participants

Variables	Level	N	%
1. Gender	Female	60	52.6%
	Male	53	47.4%
2. Age	20-29	9	9%
	30-39	21	18%
	40-49	28	24.6%
	50-59	31	27.2%
	60-69	22	19.2%
	70+	3	2%
3. Education	Some High School	2	1%
	High School	21	18.4%
	Some College	16	14%
	College	48	42.1%
	Graduate School	27	23.7%
4. Religion	Christian	80	74.8
	Buddhist	3	3%
	Spiritual	5	4%
	Other	2	2%
	None	17	15.9%
5. Marital Status	Single	30	26.3%
	Married	45	39.5%
	Separated/Divorced	34	29.8%
	Other	2	1.8%
	Widowed	3	2.6%
6. Ethnicity	Caucasian	100	90.9%
	African American	1	1%
	Hispanic/Latino	1	1%
	American Indian	4	3.6%
	Other	2	1%
	Bi-Racial	2	1%

Measures

The questionnaires administered for this investigation are described below.

Daily Spiritual Experiences Scale (DSE):

The DSE (Underwood, 1999) is a 16-item scale that was developed to assess spirituality by measuring “the individual’s perception of the transcendent (God, the divine) in daily life and the perception of interaction with or involvement of the transcendent in life” (Underwood, 1999). Items focus on day-to-day experiences rather than religious ideology. Respondents indicate how often they have various spiritual experiences on a scale from 1 (never or almost never) to 6 (many times a day). Using a scale from 1 (not at all close) to 4 (as close as possible), respondents also rate how close they feel to God (Zemore & Kaskutas, 2004). The DSE has demonstrated consistently high reliability (i.e., α ’s of 0.94 and 0.95) and associations with both psychological health (e.g., depression and anxiety) and alcohol use among clients (Underwood and Teresi, 2002). The Daily Spiritual Experience Scale is listed in Appendix B.

Alcoholics Anonymous Involvement Scale (AAI):

The AAI was designed to measure participation in AA in terms of the degree to which the patient is “working” the program (e.g., step completion, sponsor status, and meeting attendance), as well as his or her commitment to the AA fellowship (Tonigan, Miller, & Connors, 1998). The scale consists of 13 items, 8 of which are scored dichotomously. The inventory includes items pertaining to the AA program (e.g. step

work) and others relating to social constructs, i.e. sharing at meetings. Past research indicates good internal consistency where the Cronbach alpha was found for the total AAI scale at .85 (Tonigan, Miller, & Connors, 1996). Overall scores are indicative of AA commitment and involvement. The complete AAI measurement scale is listed in Appendix C.

Purpose-in-Life Test (PIL):

The PIL (Crumbaugh and Maholick, 1964) was developed to measure of Victor Frankl's concept of existential frustration and to determine the concept of meaning and level of purpose in life. This modified version is a 13-item questionnaire scored on a scale of 1 to 4, with 1 being the least satisfied, fulfilled, or interested in certain features of life and 4 being the most satisfied, fulfilled, or interested. The PIL has demonstrated reliability analysis yielding an alpha coefficient of 0.89 (Carroll, 1993). Overall scores are indicative of how participants rate quality of life during recovery. The complete PIL questionnaire is listed in Appendix D.

Procedure

Following the approval by the Harvard Committee on the Use of Human Subjects, participants were recruited on-site at Alcoholics Anonymous meetings. Participants were informed of the purpose of the study and reassured that their participation, as well as responses, was confidential.

The data was collected through questionnaires. Once data was collected, each subject was assigned a number or code to retain confidentiality. Specifically, names and

contact information used for correspondence were deleted and this number code was used for all analysis. As incentive for participation a \$5.00 gift card at Dunkin Donuts was offered at completion of questionnaires. The AA chair member who is in charge of running the meeting was briefed and asked to announce the study and inform the group about research intentions during the meeting. Forms distributed included contact information (strictly used for correspondence only and not for research purpose), demographic information, and a confidentiality non-disclosure form. Questionnaires were distributed by mail or in person and given a self-addressed envelope to ensure proper correspondence.

The sampling technique was used to measure spirituality and quality of life (PIL) contained by participants working the 12-step process in AA. All qualified participants were given the opportunity to receive results from the study. Analysis looked for correlation between variables within three measurements compared to length of sobriety/abstinent rates.

Statistical Analyses

Statistical Package for the Social Sciences was used to conduct statistical analyses for the quantitative portion. Both descriptive statistics and correlation analyses constitute analysis in the current study. Information gathered included demographics, which step the participant is on, sobriety length, and paper and pencil measures from the AAI, DSE, and PIL scores. The quantitative phase is dominant (116 participants). This was used to justify interpretive consistency and examine relationships to make inferences about each measure in the sample frame (Collins, Onwuegbuzie, and Jiao,

2007). First, descriptive statistics was used to investigate characteristics of the study sample, as well as frequency distribution of subscales in three questionnaires.

Univariate analysis explored the distribution and frequency values for specific variables. A two-tailed test was implemented to test thesis hypothesis. This measured the distribution of the outcome variable. If the null hypothesis was rejected, then further analysis explored correlations. The inferential research part used Pearson product-moment correlation to explore associations and strength of linear relationships between two variables. Quantitative measures compared independent variables to length of sobriety to analyze hypothesized correlations:

- Is there a relationship between AA involvement and length of sobriety
- Is there a relationship between level of spirituality and abstinence rates?
- Do spirituality and/or commitment to AA influence the Purpose in Life scores?

Chapter III

Results

One-way ANOVA analysis was conducted to compare AAI scores to length of sobriety. There were three correlations between at least 3 of the AAI items. Members who celebrated an AA Birthday, had been a sponsor, and scored highest on attendance had significant results at $p < .01$ levels. The AAI-5, (celebrated an AA birthday) was significantly correlated to months sober ($r = .28, p < .01$). The AAI-7, (been a sponsor) was significantly correlated to months sober ($r = .43, p < .01$). The AAI-12, (total meetings attended) was correlated to months sober at ($r = .46, p < .01$). These variables indicate that personal involvement in the program is valuable when considering long-term sobriety/abstinence rates. (Hypothesis 1)

Analysis of variance of DSE and PIL totals was used to examine correlation between level of spirituality and abstinence rates. One-way ANOVA was conducted to compare variables to the Daily Spiritual Experience totals. Four variables had significant correlations at $p < .01$ levels. Relying on a Higher Power, prayer and meditation; AA Steps Completed; and other substance use. Reliance on a Higher Power was significantly correlated with total DSE scores ($r = .45, p < .01$). Prayer and meditation was significantly correlated with total DSE scores ($r = .45, p < .01$). Total “AA steps completed” was significantly correlated to total DSE scores ($r = .31, p < .01$). Other substance use significantly correlated to total DSE scores ($r = .28, p < .01$). Several

interesting assumptions can be made when investigating these significant correlations.

(Hypothesis 2)

Further analysis examined correlations between Purpose in Life (PIL) totals and recovery status. The total PIL score was significantly correlated to months sober ($r = .19$, $p < .05$). The total PIL score was significantly correlated to AA steps completed ($r = .21$, $p < .05$). The total PIL score was significantly correlated with prayer and meditation ($r = .19$, $p < .05$). The total PIL score was significantly correlated to having attended a meeting in the past year ($r = .37$, $p < .01$). The total PIL score was significantly correlated to attending 90 meetings in 90 days ($r = .19$, $p < .05$). The total PIL score was significantly correlated to having celebrated an AA birthday ($r = .25$, $p < .01$).

(Hypothesis 3)

DSE was significantly correlated with the PIL ($r = .44$, $p < .01$) level. DSE was significantly correlated to AAI-4, (Have you ever gone to 90 meetings in 90 days?) at ($r = .21$, $p < .05$), AAI-5, (Have you ever celebrated an AA sobriety Birthday?) at ($r = .21$, $p < .05$), AAI-6 (Have you ever had a sponsor?) ($r = .28$, $p < .01$), and AAI-7 (Have you ever been an AA sponsor?) at ($r = .27$, $p < .01$). This shows that high scores for the total Daily Spiritual Experience scale related to one's quality of life, with higher scores on the Purpose in Life scale. The Alcoholics Anonymous Involvement scale displayed significant correlations to these four variables that may point to a relationship to spiritual experience being higher for those who had gone to 90 meetings in 90 days, celebrated an AA birthday, had a sponsor, as well as having been a sponsor.

Table 2.

Descriptive statistics of the assessment instruments (N = 116)

Instrument	Mean	Standard deviation
DSE Total	53.19	14.69
PIL total	43.52	6.49
Months sober	98.12	116.19
Steps completed	9.03	4.42
AA Meetings Attended	12.95	13.96
Other Substance Use	.65	.49
Other treatment	.57	.49
Reliance on Higher Power	.94	.24
Prayer & Meditation	.94	.24
AA attendance in past year (AAI-2)	.97	.18
90 Meetings in 90 days (AAI-4)	.69	.46
Celebrated AA Birthday (AAI-5)	.89	.32
Had a AA sponsor (AAI-6)	.88	.33
Been AA sponsor (AAI-7)	.60	.51
Total meetings attended (AAI-11)	157.28	136.87
Had a Spiritual awakening (AAI-12)	1514.06	3041.53

Analysis of Descriptive Statistics

The following mean comparisons are based on one-way ANOVA t-tests and are statistically significant. Women have a higher score on the Daily Spiritual Experience scale than men. The mean score for sixty women was $M = 56.39$, $SD = 12.59$ at $p < .015$. Men had a mean score of $M = 49.73$, $SD = 16.01$. Participants with more years of education reported more months sober. The mean for 48 participants who graduated college, $M = 103.22$, $SD = 110.83$, and the mean for graduate level education was $M = 169.07$, $SD = 141.51$. Married individuals reported more months sober. Separated/divorced was second, and last was single status. Forty-five married individuals mean was $M = 117.92$, $SD = 120.66$. 34; separated/divorced mean score was $M = 85.04$, $SD = 104.44$. Last was 30 single participants with a mean score of $M = 66.47$, $SD = 90.35$. The analysis of months sober by marital status had a significance of $p < .016$. Several inferences could be made in respect to these findings. However, with consideration to the small sample size, only the correlations can be reported.

Individuals who have gone to 90 meetings in 90 days are more likely to score higher on the DSE ($r = .21$, $p < .05$). Individuals who have been an AA sponsor reported more months sober ($r = .43$, $p < .01$). These participants were more likely to score higher on the Daily Spiritual Experience (DSE) scale ($r = .27$, $p < .01$). They also had a significant correlation to substance use other than alcohol ($r = .19$, $p < .05$). However, no measure was used to indicate dual diagnoses or addiction severity. The significant correlations are compelling insofar as they point to recommending that further studies of this type add a new measure to see whether those with past addiction or dual diagnoses may be more apt to adhere to the program of Alcoholics Anonymous.

PIL positively correlated with months sober ($r = .19, p < .05$). PIL positively correlated with DSE ($r = .44, p < .01$). See additional correlations in Table 3.

Table 3.

Pearson Correlation Coefficients: Correlations Between Months Sober, DSE, PIL, and Steps Completed.

Variables	1	2	3	4
1. Months sober	-			
2. DSE	.115	-		
3. PIL	.191*	.436**	-	
4. Steps Completed	.327**	.307**	.214*	-

$p < .05$, 2-tailed, ** $p < .01$, 2-tailed

Figure 1.

Purpose in Life to months sober



Chapter IV

Discussion

Although most hypothesized correlations were supported in the study, the expectation that high scores on the Daily Spiritual Experience scale would correlate to months sober was not significant. One reason for this may be that the participants recruited were actively engaged in the spiritual program of AA. The broad questions on spirituality were so disproportionately positive that the negative group was too small to compare statistically. The small sample did not consist of enough balance to compare means. For example, out of 116 participants, subjects answering ‘yes’ to questions such as, “Do you pray or meditate?” (“Yes” N = 110, “No” N = 6). Another consideration may be that the sample consisted of participants willing and eager to support the study. In other words, it could be that they were more actively engaged in the program and interested in spirituality in general. A larger sample size that might include an in-treatment group (subjects at rehabilitation treatment programs), might give more meaning to the spiritual implications of recovering individuals in Alcoholics Anonymous.

There are several interesting findings to discuss in regard to the analysis. Scores on the Purpose in Life measure are positively correlated to months sober ($r = .19$, $p < .05$). This finding supports the hypothesis that a greater sense of purpose in life contributes to maintaining sobriety. Greater involvement in the program also contributes to longer abstinence rates. Being an AA sponsor correlates with more months sober, higher PIL scores, and higher DSE scores. The data suggests AA Sponsors stay sober longer, have a

higher sense of purpose and life, and a more active spiritual experiential life. However, these are correlational conclusions and not causal. It may be that participants were spiritual in nature before they entered the program. It also may be that they had previous treatment and were more encouraged to involve themselves in the program and become an AA sponsor and/or follow the recommendation of going to 90 meetings in 90 days. In both cases, spirituality and purpose in life are supported by longer sobriety rates. Certainly, a correlation between becoming a sponsor and length of sobriety is expected as AA sponsors tend to have longer sobriety than beginners in the program. It would be interesting to research what requirements are needed to become an AA sponsor. Individuals who attended 90 meetings in 90 days are more likely to score higher on the Daily Spiritual Experience scale. Again, daily spiritual life may be a motivating factor in compelling a member to commit to the 90-day process. Or, enhanced spiritual life may be the effect of 90 days of meetings. In addition to Alcoholics Anonymous involvement, some of the statistics on demographics are interesting to note. Married individuals report significantly longer sobriety, which may speak to the importance of social support in recovery. Age is also significantly correlated to months sober ($r = .48, p < .01$), and greater Purpose in Life (PIL), ($r = .29, p < .05$). These correlations could indicate that older individuals are more spiritually mature, or it may just be that they have had more opportunity and time in recovery. With a better understanding about the process of spiritual transformation in Alcoholics Anonymous, we have defined specific mechanisms required for behavior change in recovery. Research findings discussed can offer several interesting variables to further examine in future studies on spirituality.

Conclusions

Several of the hypothesized correlations are significant. This study provides new perspectives on specific variables involved when researching spirituality among recovering individuals in Alcoholics Anonymous. Research could benefit immensely from utilization of one cohesive measurement that incorporates spirituality, recovery, and health. It is therefore recommended that new research implement a reliable measure of spirituality specified for AA members. The Purpose in Life (PIL) scale involved similar measures to the Daily Spiritual Experience (DSE) scale. Both involved questions regarding attitudes in achieving sense of wellness and spiritual growth. It was also important to use the Alcoholics Anonymous Involvement inventory to measure specific attributes of program adherence. Self-reporting via questionnaires may lead to bias or misleading experiences. Responses could be indicative of beliefs rather than actual fact. The participants' attendance at Alcoholics Anonymous meetings and affiliation with group philosophy may influence them to respond in socially appropriate fashion. It is difficult to validate spirituality claimed by recovering individuals without controlling for confounding variables. The subjective, individual nature of many of the questions and of the issue at hand may make data analysis and generalizability difficult. Furthermore, data from the questionnaires are based on a small sample and should be interpreted conservatively. The information gathered in the present study cannot be generalized to larger populations. The sample is too small to be considered representative to other AA Groups, and it is difficult to make inferences in regard to a larger population of recovering alcoholics. People suffering from Alcohol Use Disorder differ in several respects such as length of alcohol use and other contributing factors such as dual

diagnoses, demographics, and amount of treatment participants have incurred. The path to achieving a relationship with a Higher Power is a highly individualized one that will need definitions direct from those experiencing this relationship. This complex process requires discussing ways in which the individual might find a Higher Power, as well as how they utilize the group and initiate the 12-steps.

Finally, particular weakness of the study procedure is its reliance on self-report data. The measurements rely on subjective data. Information gathered has considerable variance among participants within the probability sample. Attempts were made to respond to these limitations by maximizing attendance at AA meetings where subjects can be encountered and reliable observations attained. In addition to the subjective nature of the data being measured, there are confounding variables at play. Spiritual growth and 12-step involvement (number of meetings attended) could be associated and, therefore, may exert independent effects on recovery outcomes. The confounded variables are spiritual involvement with the group versus spiritual or transcendent awakening. However, total meetings attended did not correlate with more months sober. The extent to which spiritual change may merely signify a kind of social attachment to the group ideology is difficult to distinguish from personal spiritual experience. Recovery outcomes were positive for those who were more involved in the program, practiced the 12-steps, and in general had a more spiritually active daily life.

References

- AA Services. (2002). *Alcoholics Anonymous - Big book* (4th ed.). New York, NY: Alcoholics Anonymous World Services, Inc.
- AA Services. (2005). *Twelve steps and twelve traditions*. New York, NY: Alcoholics Anonymous World Services, Inc.
- AA World Services. (2002). The twelve steps of Alcoholics Anonymous. Retrieved from http://www.aa.org/en_pdfs/smf-121_en.pdf
- AA World Services. (2014). Historical data: The birth of AA and its growth in US/Canada. *Alcoholics Anonymous*. Retrieved from <http://www.aa.org/lang/en/subpage.cfm?page=288>
- Allen, J.P., (2000). Measuring treatment process variables in Alcoholics Anonymous. *Journal of Substance Abuse Treatment*, 18, 227-230.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Antonovsky, A. (1979). *Health, Stress, and Coping*. Jossey-Bass, San Francisco, CA.
- Arnold, R.M., Avants, S. K., Margolin, A., Marcotte, D.M., (2002). Patient attitudes concerning the inclusion of spirituality into addiction treatment. *Journal of Substance Abuse Treatment*, 23, 319-326.
- Bishop, S.R. *et al.*, (2004). Mindfulness: a proposed operational definition. *Clinical Psychology Science and Practice*, 11, 230-241.

- Bliss, D. L. (2007). Empirical research on spirituality and alcoholism: A review of the literature. *Journal of Social Work Practice in the Addictions*, 7(4), 5-25.
- Bond, J., Kaskutas, L. A., & Weisner, C. (2003). The persistent influence of social networks and Alcoholics Anonymous on abstinence. *Journal of Studies on Alcohol and Drugs*, 64(4), 579-588.
- Bowden, J. W. (1998). Recovery from alcoholism: A spiritual journey. *Issues in Mental Health Nursing*, 19(4), 337-352.
- Brown, H.P., Peterson, J.H., Cunningham, O., (1988). Rationale and theoretical basis of a behavioral cognitive approach to spirituality. *Alcoholism Treatment Quarterly*, 5, 47-59.
- Brown, S. (1985). Treating the alcoholic: a developmental model of recovery. *New York: John Wiley & Sons*.
- Carroll, S. (1993). Spirituality and purpose of life in alcoholism recovery. *Journal of Studies on Alcohol and Drugs*, 54(3), 297-301.
- Carter, T. M. (1998). The effects of spiritual practices on recovery from substance abuse. *Journal of Psychiatric and Mental Health Nursing*, 5(5), 409-413.
- Chapman, R. (1997). Spirituality in the treatment of alcoholism: A world view approach. *Alcoholism Treatment Quarterly*, 5(1/2), 105-113.
- Chappel, J. N., (1994). Working a program of recovery in Alcoholics Anonymous. *Journal of Substance Abuse Treatment*, 11(2), 99-104.
- Clinebell, H.J., Jr., (1963). Philosophical-religious factors in the etiology and treatment of alcoholism. *Quarterly Journal of Studies on Alcohol*, 24: 473-488.

- Cohen, S. R., Mount, B. M., Strobel, M. G., & Bui, F. (1995). The McGill Quality of Life Questionnaire: A measure of quality of life appropriate for people with advanced disease. A preliminary study of validity and acceptability. *Palliative Medicine*, 9(3), 207-19.
- Collins, K. M. T., Onwuegbuzie, A. J., Jiao, Q. G., (2007). A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of Mixed Methods research*, 1(3), 267-294.
- Committee on Public and Community Psychiatry, American Psychiatric Association, (2005). *Use of the concept of recovery: Position statement*. www.psych.org.
- Connors, G.J., Tonigan, J.S., Miller, W.R. (2001). Religiosity and responsiveness to alcoholism treatments. *Project MATCH Hypothesis: Results and Causal Change Analysis. NIAA Project MATCH*, 8, 166-175.
- Connors, G.J., Walitzer, K.S., Giegel, J.L. (2003). AA participation, spirituality, and alcohol treatment outcome. *Paper presented at Research Initiatives on Spirituality and Alcohol. Fetzer Institute, Kalamazoo*.
- Cook, C. H. (2004). Addiction and spirituality. *Society for the Study of Addiction*, 99(5), 539-551.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.
- Dyslin, C. W. (2008) The Power of powerlessness: The role of spiritual surrender and interpersonal confession in the treatment of addictions. *Journal of Psychology and Christianity*, 27(1), 41-55.

- Elkins, D.N., Hedstrom, L.J., Hughes, L.L., Leaf, J.A., & Saunders, C., (1988). Toward a humanistic-phenomenological spirituality. *Journal of Humanistic Psychology*, 28(4), 5-18.
- Emrick, C. D. (1987). Alcoholics Anonymous: Affiliation processes and effectiveness as treatment. *Alcoholism: Clinical and Experimental Research*, 11(5), 416- 423.
- Fetzer Institute, (1999). *Multidimensional measurement of religiousness/spirituality for use in health research*. A Report of the Fetzer Institute/National Institute on Aging Working Group. Kalamazoo, MI: Fetzer Institute.
- Finney, J., Noyes, C., Coutts, A., Moos, R., (1998). Evaluating substance abuse treatment process models: Changes on proximal outcome variables during 12-step and cognitive behavioral treatment. *Journal of Studies on Alcohol*, 59, 371-380.
- Fiorentine, R. (1999). After drug treatment: Are 12-step programs effective in maintaining abstinence? *American Journal of Drug and Alcohol Abuse*, 25(1), 93-116.
- Frank, J. D., & Frank, J. B. (1993). *Persuasion and healing: A comparative study of psychotherapy*. Baltimore, MD: The Johns Hopkins University Press.
- Galanter, M., Dertatis, H., Bunt, G., Williams, C., Trujillo, M., Steinke, P., (2007). Assessment of spirituality and its relevance to addiction treatment. *Journal of Substance Abuse*, 33, 257-264.
- Galanter, M. (2007). Spirituality and recovery in 12-step programs: An empirical model. *Journal of Substance Abuse*, 33(3), 265-272.
- Gallup, G. (1995). *The Gallup Poll: Public opinion 1995*. Wilmington, DE: Scholarly Resources.

- George, L.K., Larson, D.B., Koenig, H.G., McCullough, M.E., (2001). Spirituality and health: What we know, what we need to know. *Journal of Social and Clinical Psychology, 19*(1), 102-116.
- Glaser, F. B., & Ogborne, A. C. (1982) Does A.A. really work? *British Journal of Addiction, 77*(2), 123-129.
- Green, L., Fullilove, M., & Robert, E. (1998). Stories of spiritual awakening: The nature of spirituality in recovery. *Journal of Substance Abuse Treatment, 15*(4), 325-331.
- Group, Project MATCH, (1998). Matching patients with alcohol disorders to treatments: clinical implications from Project MATCH. *Journal of Mental Health 7*(6), 589-602.
- Hodge, D. R., (2003). The Intrinsic Spirituality Scale: A new six-item instrument for assessing the salience of spirituality as a motivational construct. *Journal of Social Service Research, 30*(1), 41-61.
- Hodge, D.R., (2011). Alcohol treatment and cognitive behavioral therapy: Enhancing Effectiveness by incorporating spirituality and religion. *Social Work 56*(1), 21-31.
- Horstmann, M. J, & Tonigan, J. S. (2000). Faith development in Alcoholics Anonymous (AA): A study of two AA groups. *Alcoholism Treatment Quarterly, 18*(4), 75-84.
- Humphreys, K., & Kaskutas, L. A. The Alcoholics Anonymous Affiliation Scale: Development, reliability and norms for diverse treated and untreated populations. *Alcoholism: Clinical and Experimental Research, 22*(5), 974-978, 1998.
- James, W. (1902). *The varieties of religious experience: A study of human nature*. London, UK: Longmans, Green & Co.

- Kaskutas, L. A. (2009). Alcoholics Anonymous effectiveness: Faith meets science. *Journal of Addictive Diseases*, 28(2), 145-57.
- Kawachi, I., Berkman, L. F., (2001). Social ties and mental health. *Journal of Urban Health*, 78, 458-467.
- Khantzian, E., Mack, J. (1994). How AA works and why it's important for clinicians to understand. *Journal of Substance Abuse Treatment*, 11, 77-92.
- Koenig, H.G., (2005). The handbook of religion and health. *International Journal for the Psychology of Religion*, 15(1), 95-96.
- Kohls, N., Sauer, S., Offenbacher, M., Giordano, J., (2011). Spirituality: An overlooked predictor of placebo effects? *Philosophical Transactions: Biological Sciences*, 366(1572), 1838-1848.
- Kurtz, E. (1979). Not God: A History of Alcoholics Anonymous. *Center City, MN. Hazelden Educational Services*.
- Kurtz, E. (1981). Why A.A. works. *Journal of Studies on Alcohol*, 34(1), 38-79.
- Kurtz, E. & Ketcham, K. (1992). The spirituality of imperfection: modern wisdom from classic stories. (New York, Bantam Books).
- Kus, R. J. (1995). Spirituality and chemical dependency. *Journal of Chemical Dependency Treatment*, 5(2), 1-197.
- Laudet, A. B., Morgen, K., White, W.L. (2006). The role of social supports, spirituality, religiousness, life meaning and affiliation with 12-step fellowships in quality of life satisfaction among individuals in recovery from alcohol and drug problems. *Alcohol Treatment Quarterly*, 24(1-2), 33-73.

- Mark, B., & Robert, D. (1996). Spirituality: The key recovery from alcoholism. *Counseling and Values, 40*(3), 196-205.
- Magura, S. (2007). The relationship between substance user treatment and 12-step fellowships: Current knowledge and research questions. *Substance Use and Misuse, 42*, 343-360.
- Mathew, R. J., Georgi, J., Wilson, W. H., & Mathew, G. (1996). A retrospective study of the concept of spirituality as understood by recovering individuals. *Journal of Substance Abuse, 13*(1), 67-73.
- McCullough, M.E., Hoyt, W.T., Larson, D.B., Koenig, H.G., Thoresen, C., (2000). Religious involvement and mortality: A meta-analytic review. *Journal of Health Psychology 19*(3), 211-222.
- McPeake, J., Kennedy, B., & Gordon, S. (1991) Altered states of consciousness therapy: a missing component in alcohol and drug rehabilitation treatment. *Journal of Substance Abuse Treatment, 8*, 75-82.
- Merriam-Webster. (2005). Merriam-Webster's medical dictionary. *Springfield, Massachusetts: Merriam-Webster Inc., c2005*. 40A-p918.
- Miller, W. R. (1998). Researching the spiritual dimensions of alcohol and other drug problems. *Addiction 93*(7), 979-990.
- Miller, W.R., McCrady, B.S., (1993). The importance of research on Alcoholics Anonymous. *Research on Alcoholics Anonymous, (Eds.)*, 3-11.
- Miller, W. R., & Thorensen, C.E. (1998). Spirituality and health, in Miller, W.R. (Ed.) *Integrating Spirituality in Treatment: resources for practitioners*. (Washington, DC, American Psychological Association), in press.

- Montgomery, H.A., Miller, W.R., & Tonigan, J.S., (1995). Does Alcoholics Anonymous involvement predict treatment outcome? *Journal of Substance Abuse Treatment*, 12, 241-246.
- Morjaria, A., & Orford, J. (2002). The role of religion and spirituality in recovery from drink problems: A qualitative study of Alcoholics Anonymous members and South Asian men. *Addiction Research & Theory* 10(3), 225-256.
- Mueller, P.S, Plevak, D. J, & Rummans, T. A. (2001). Religious involvement, spirituality, and medicine: Implications for clinical practice. Mayo Clinic Proceedings, 76(12), 1225-1235.
- Myers, D. G., (2000). *The American paradox: Spiritual hunger in an age of plenty*. New Haven, CT: Yale University Press.
- National Center for Health Statistics, (1991). Alcohol impacts four of ten adults. *Lincoln (NE) Star*, 3.
- Neff, J. A., MacMaster, S. A., (2005). Applying behavior change models to understand spiritual mechanisms underlying change in substance abuse treatment. *The American Journal of Drug and Alcohol Abuse*, 31, 669-684.
- Neff, J.A., (2008). A new multidimensional measure of spirituality-religiosity for use in diverse substance abuse treatment populations. *Journal for the Scientific Study of Religion*, 47(3), 393-409.
- Powell, L.H., Shahabi, L., Thorenson, C.E., (2003). Religion and spirituality: Linkages to physical health. *American Psychologist*, 58(1), 36-52.

- Pressman, S.D., Cohen, S., Miller, G.E., Barkin, A., Rabin, B.S., Treanor, J.J., (2005). Lonliness, social network size, and immune response to vaccination in college freshman. *Health Psychology, 24*, 297-306.
- Prezioso, F. A. (1987). Spirituality in the recovery process. *Journal of Substance Abuse Treatment, 4*(3-4), 233-238.
- PsychoMatrix. (2014). PsychoMaxtrix Spirituality Inventory. *PsychoMatrix: Insight for everyone*. Retrieved from <http://www.psychomatrix.com/inventory.php>
- Robinson, E., Cranford, J.A., Webb, J.R., Browler, K.J., (2007). Six-month changes in spirituality, religiousness, and heavy drinking in treatment-seeking sample. *Journal of Studies on Alcohol and Drugs, 68*(2), 282-290.
- Saguil, A., Fitzpatrick, A.L., Clark, G., (2011). Is evidence able to persuade physicians to discuss spirituality with patients? *Journal of Religion and Health, 50*(2), 289-299.
- Steigerwald, F., Stone, D., (1999). Cognitive restructuring and the 12-step program of alcoholics anonymous. *Journal of Substance Abuse Treatment, 16*(4), 321-327.
- Thune, C.E., (1977). Alcoholism and the archetypal past: A phenomenological perspective on Alcoholics Anonymous. *Journal of Studies on Alcohol, 38*: 75-88.
- Timmons, S.M., (2012). A Christian faith-based recovery theory: Understanding God as a sponsor. *Journal of Religion and Health, 51*(4), 1152-1164.
- Underwood, Lynn, G., (2011). The daily spiritual experience scale: Overview and results. *Journal of Religions, 2*(1), 29-50.
- Underwood, L. G., Teresi, J.A., (2001). The daily spiritual experience scale: Development, theoretical description, reliability, exploratory factor analysis, and

- construct validity using health related data. *Annals of Behavioral Medicine*, 24(1): 22-33.
- Volpicelli, J. R., Alterman, A.I., Hayashida, M., O'Brian, C.P., (1992). Naltrexone in the treatment of alcohol dependence. *Archives of General Psychiatry*, 49, 876-880.
- Warfield, R. D., Goldstein, M. B., (1996). Spirituality: The key to recovery from alcoholism. *Journal of Counseling and Values*, 40(3), 196-206.
- Wolman, R. N. (2001). *Thinking with your soul: Spiritual intelligence and why it matters*. New York, NY: Harmony Books.
- Whitfield, C. L. (1984). Stress management and spirituality during recovery: A transpersonal approach. Part 1: Becoming. *Alcoholism Treatment Quarterly*, 1(1), 43-54.
- World Health Organization (WHO). (2014). Substance abuse. *Health topics*. Retrieved from http://www.who.int/topics/substance_abuse/en/.
- Vaillant, G. E. (2005). Alcoholics Anonymous: Cult or cure? *Australian and New Zealand Journal of Psychiatry*, 39(6), 431-436.
- Vaillant, G. E., Milofsky, E. S. (1982). The etiology of alcoholism. *American Psychologist*, 37, 494-503.
- Zemore, S. E., & Kaskutas, L. A. (2004). Helping, spirituality, and Alcoholics Anonymous in Recovery. *Journal on Studies of Alcoholism*, 65(3), 383-391.
- Zemore, Sarah, E. (2007). A role for spiritual change in the benefits of 12-step involvement. *Alcoholism: Clinical and Experimental Research*, 31(S3), 765-795.

Appendix A

“Substance Use Disorder (or Alcohol Use Disorder)”: The presence of at least two of these symptoms indicates an Alcohol Use Disorder (AUD):

1. Alcohol is often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.
3. A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects.
4. Craving, or a strong desire or urge to use alcohol.
5. Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home.
6. Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.
7. Important social, occupational, or recreational activities are given up or reduced because of alcohol use.
8. Recurrent alcohol use in situations in which it is physically hazardous.
9. Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
10. Tolerance, as defined by either of the following:
 - (a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect.
 - (b) A markedly diminished effect with continued use of the same amount of alcohol.
11. Withdrawal, as manifested by either of the following:
 - (a) The characteristic withdrawal syndrome for alcohol (refer to criteria A and B of the criteria set for alcohol withdrawal) (5th ed.; DSM–5; American Psychiatric Association, 2013)

Appendix B

The 12-Steps of Alcoholics Anonymous

1. We admitted we were powerless over alcohol—that our lives had become unmanageable.
 2. Came to believe that a Power greater than ourselves could restore us to sanity.
 3. Made a decision to turn our will and our lives over to the care of God as we understood Him.
 4. Made a searching and fearless moral inventory of ourselves.
 5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
 6. Were entirely ready to have God remove all these defects of character.
 7. Humbly asked Him to remove our shortcomings.
 8. Made a list of all persons we had harmed, and became willing to make amends to them all.
 9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
 10. Continued to take personal inventory and when we were wrong promptly admitted it.
 11. Sought through prayer and meditation to improve our conscious contact with God, as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
 12. Having had a spiritual awakening as the result of these Steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs.
- (AA World Services, 2002).

Appendix C

Alcoholics Anonymous Involvement (AAI) Scale

Items of the Alcoholics Anonymous Involvement (AAI) Scale:

1. Have you ever attended an AA meeting? (No-Yes)
2. Have you attended an AA meeting in the last year? (No-Yes)
3. Have you ever considered yourself to be a member of AA? (No-Yes)
4. Have you ever gone to 90 AA meetings in 90 days? (No-Yes)
5. Have you ever celebrated an AA sobriety birthday? (No-Yes)
6. Have you ever had an AA sponsor? (No-Yes)
7. Have you ever been an AA sponsor? (No-Yes)
8. If you have been in an alcohol treatment program (inpatient or out-patient), did they require that you "work" any of the AA steps? Circle all that apply (Steps 1-12 listed).
9. Regardless of whether you have or have not been to alcohol treatment, which of the 12 steps of AA have you "worked"? Circle all that apply (Steps 1-12 listed).
10. How many AA meetings have you attended in the last year? Please enter your best estimate below. If you did not attend any AA meetings in the last year enter zero (0).
11. What is the total number of AA meetings that you have ever attended? Please enter your best estimate below. If you have never attended any meetings enter 0.
12. Have you ever had a spiritual awakening or conversion experience since your involvement in AA? (No-Yes)

Note. AA = Alcoholics Anonymous (Tonigan, Miller, & Connors, 1996).

Appendix D

Purpose in Life (PIL) Measurement

Purpose in Life (PIL):

Circle the Extent to which you feel you generally feel you have:

	None	Very little	O.K.	Good
Acceptance of life as it comes	1	2	3	4
Peace of Mind	1	2	3	4
Acceptance of others	1	2	3	4
Connection to a Higher Power	1	2	3	4
Patience	1	2	3	4
Non-controlling attitude	1	2	3	4

Circle the Extent to which you feel you generally feel you have:

	None	Very little	O.K.	Good
Connection to all living things	1	2	3	4
Self-restraint	1	2	3	4
Faith in a Higher Power	1	2	3	4
Connection to people	1	2	3	4
Satisfying prayer life	1	2	3	4
Gratitude	1	2	3	4
Delight in the wonder of life	1	2	3	4

Appendix E

Daily Spiritual Experience Scale (DSE)

Daily Spiritual Experience Scale (Underwood, 1999). Introduction: "The list that follows includes items you may or may not experience. Please consider how often you directly have this experience, and try to disregard whether you feel you should or should not have these experiences. A number of items use the word 'God.' If this word is not a comfortable one for you, please substitute another word that calls to mind the divine or holy for you." Please circle 1 for many times a day, 2 for everyday, 3 for most days, 4 for some days, 5 for once in a while, and 6 never or almost never.

		Many times a day	Every day	Most days	Some days	Once in a while	Never or almost never
1*	I feel God’s presence.	1	2	3	4	5	6
2	I experience a connection to all of life.	1	2	3	4	5	6
3	During worship, or at other times when connecting with God, I feel joy which lifts me out of my daily concerns.	1	2	3	4	5	6
4*	I find strength in my religion or spirituality.	1	2	3	4	5	6
5*	I find comfort in my religion or spirituality.	1	2	3	4	5	6
6*	I feel deep inner peace or harmony.	1	2	3	4	5	6
7	I ask for God’s help in the midst of daily activities.	1	2	3	4	5	6
8	I feel guided by God in the midst of daily activities.	1	2	3	4	5	6
9*	I feel God’s love for me directly.	1	2	3	4	5	6
10*	I feel God’s love for me through others.	1	2	3	4	5	6
11*	I am spiritually touched by the beauty of creation.	1	2	3	4	5	6
12	I feel thankful for my blessings.	1	2	3	4	5	6
13	I feel a selfless caring for others.	1	2	3	4	5	6
14	I accept others even when they do things I think are wrong.	1	2	3	4	5	6
15*	I desire to be closer to God or in union with the divine	1	2	3	4	5	6
		Not close		Somewhat close	Very close	As close as possible	
16	In general, how close do you feel to God?	1	2	3	4		

Appendix F
Demographic Survey

Name:

Phone:

Gender:

Current age:

Ethnicity:

Religious Affiliation:

Education: High School College Graduate School

Marital statues:

Occupation:

How long have you been sober?

Number of years of drinking:

Age of first alcoholic beverage:

Year entered AA

How many AA meetings do you attend per Month?

Number of steps completed:

Have you ever relapsed?

If so, how many times:

Other substance use: YES NO

Did you seek other treatment: YES NO

If YES, please list what type:

Is there Alcoholism in your family: YES NO

How many people in your family have dependency issues:

Do you rely on a Higher Power: YES NO

Do you pray or meditate: YES NO

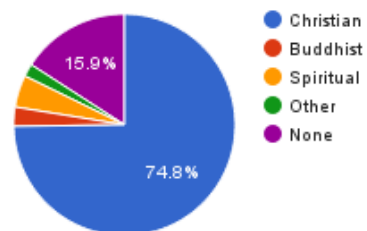
How often do you pray or meditate:

If you would like to receive research results please indicate the best way to contact you:

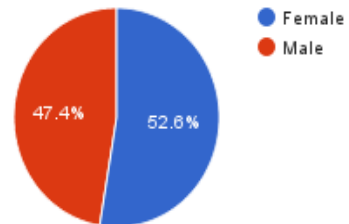
Appendix G

Demographics Information/Graphs

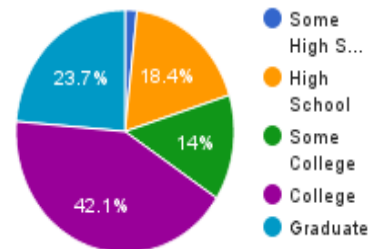
Religious Affiliation



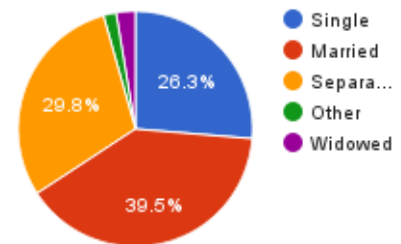
Gender



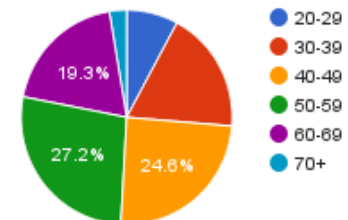
Education Level



Marital Status



Age Breakdown



Ethnicity

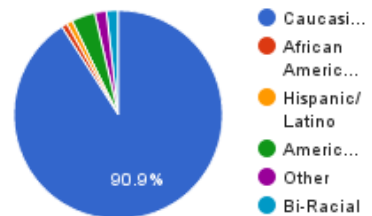


Figure 2. Months Sober by Years of Education (One-Way ANOVA t-test).

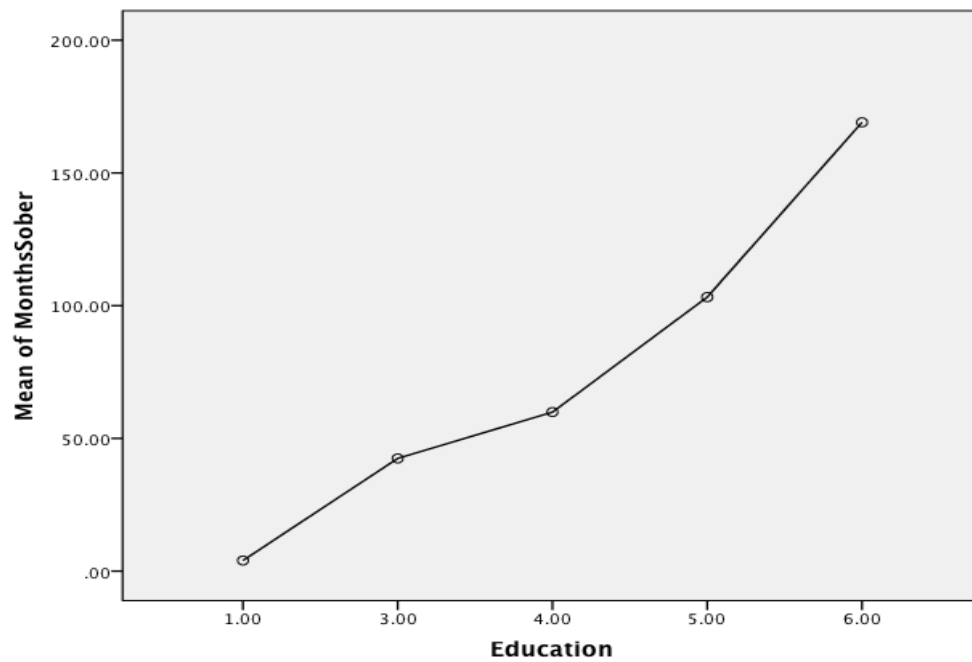


Figure 3. Education level to number of participants (One-way ANOVA t-test).

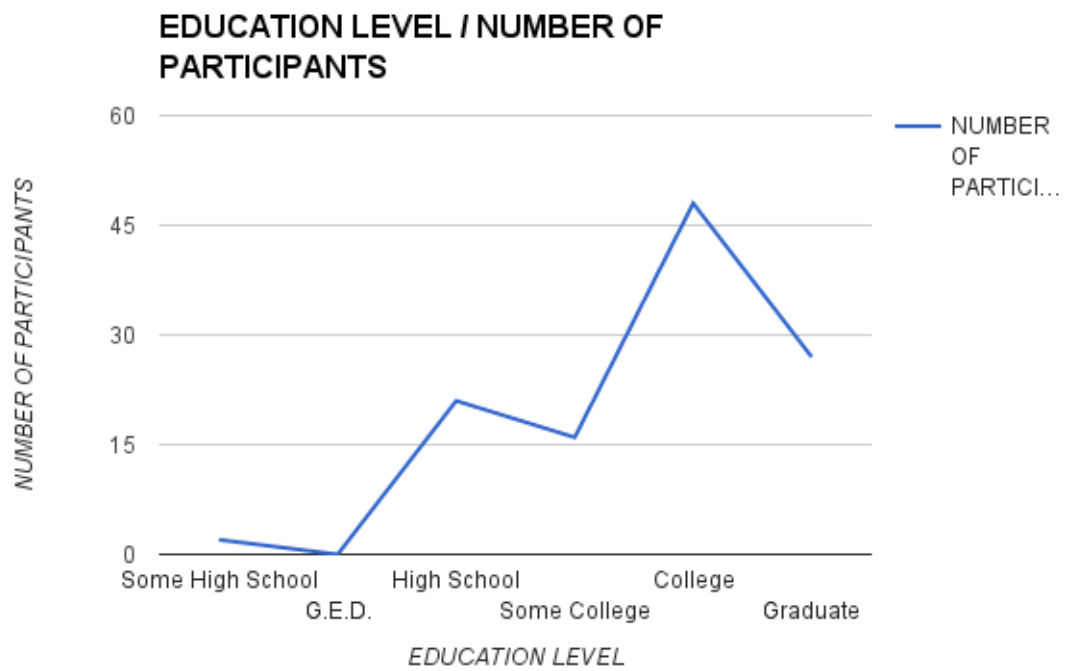


Figure 4. Daily Spiritual Experience to months sober

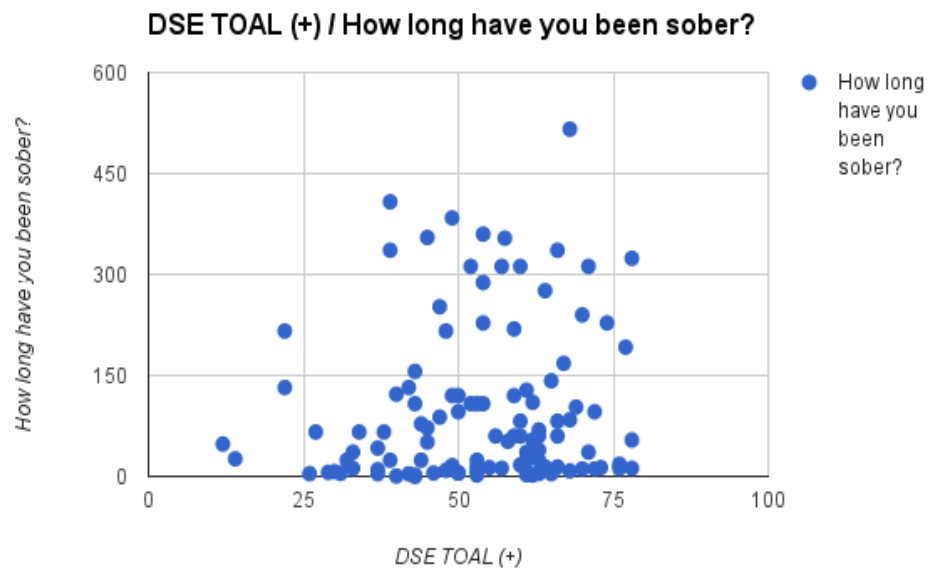


Figure 5. AAI-7 (been a sponsor) to months sober

