2018

Quantitative Assessment of Psycho-Social Factors Associated with Alcoholics Anonymous Involvement

Dianne Bentley
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Dianne Bentley

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Denise Horton, Committee Chairperson, Psychology Faculty
Dr. Anne Morris, Committee Member, Psychology Faculty
Dr. Brian Zamboni, University Reviewer, Psychology Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University
2017

Abstract

Quantitative Assessment of Psycho-Social Factors Associated with Alcoholics Anonymous Involvement

by

Dianne Bentley

MSPSY, Walden University, 2013

EdD, University of Southern California, 2005

MSED, Pepperdine University, 2002

BSED, University of Georgia, 1977

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Clinical Psychology

Walden University

December 2017

Abstract

Alcohol use disorders are a major health problem in the United States; approximately 7.4% of the population meets the criteria for alcohol abuse or dependence. However, Reed, Levin, and Evans (2012) reported a lack in research regarding alcoholism's risk factors and how these influence Alcoholics Anonymous involvement. Though there is evidence for several risk factors, researchers have found mixed results regarding gender and impulsivity. Social learning theory was the theoretical foundation of this study and guided the exploration and interpretation of these risk factors. Therefore, the purpose of this quantitative, nonexperimental study was to understand the relationship that impulsivity (as measured from the Barratt Impulsiveness Scale-15) and gender contribute to involvement (as measured by the Alcoholics Anonymous Involvement scale), as well how impulsivity may moderate gender-based differences. Based on this goal, the target population included individuals who have been a part of the Alcoholics Anonymous program in an urban location in a Western state. This study followed a purposive sampling procedure to target this population, which resulted in a final sample of 136 participants. A series of analyses including chi squares, *t*-tests, and an ANCOVA did not provide any evidence that involvement depended on gender or impulsivity. This study provides a better understanding of how gender and impulsivity influence attendance and will enhance intervention practices and improve outcomes for people suffering from alcohol addiction. By increasing knowledge on Alcoholics Anonymous involvement, and why it works for some and not for others, the study provides support for professionals, families, and communities involved with participants of the program.

Quantitative Assessment of Psycho-Social Factors Associated with Alcoholics Anonymous Involvement

by

Dianne Bentley

MSPSY, Walden University, 2013

EdD, University of Southern California, 2005

MSED, Pepperdine University, 2002

BSED, University of Georgia, 1977

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Clinical Psychology

Walden University

December 2017

Dedication

This study is dedicated to all individuals suffering from alcohol addiction in hopes that through avenues such as Alcoholics Anonymous (AA) they find support, hope, and recovery. I also dedicate this study to my family and friends who have always been there for me throughout my life.

Acknowledgements

I would like to express my sincere appreciation to the individuals who have assisted me in the completion of this study. First and foremost, I appreciate the support and understanding of Dr. Denise Horton, my co-chair, whom I could have never completed my research without and to Dr. Anne Morris, committee member, for her expertise and guidance. Many thanks go to both of you for your consistent support, knowledge, and input.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

In this study, I assessed the relationship between gender and impulsivity and the role each plays in Alcoholics Anonymous (AA) involvement. Despite the statistics, researchers have difficulty conducting empirical studies on the effectiveness of AA (Stevens, 2013). Even though AA remains the most accessible and widely used single intervention and mutual self-help program for alcoholism in the United States and globally (Huebner & Kantor, 2011), there is no concrete evidence on why some choose AA and others do not. The crux of this study was to implement knowledge that revealed why individuals get involved in AA and to understand why others do not get involved.

Chapter 1 provides an overview of relevant knowledge of AA and identifies major concepts. I also provide a background for the study, showing gaps in research and listing the purpose of the study. In this chapter are also the research questions and hypotheses, the theoretical framework, major operational definitions, as well as assumptions, limitations, and delimitations. Finally, I will discuss the significance of the research in relation to positive social change.

Background of the Study

Even though AA was founded by men and exclusively attended by men, Krentzman, Brower, Cranford, Bradley, and Robinson (2012) showed the odds of achieving a year of sobriety were four times higher for women than for men. Women also participate for longer durations and have greater involvement in 12-step groups than men do (Krentzman et al., 2012). There is a correlation between gender, degree of abstinence over time, and the odds of achieving sobriety (Krentzman et al., 2012; Witbrodt &

Delucchi, 2011). Despite women's success in AA, Bright, Osborne, and Greif (2011) and Al-Otaiba, Epstein, McCrady, and Cook (2012) suggested that women are at higher risk than men for adverse consequences of excessive alcohol consumption such as loss of control, fulfilling family and work obligations, and spousal and sexual abuse.

Decreases in impulsivity have been linked to AA involvement and better psychosocial outcomes (Blonigen, Timko, Finney, Moos, & Moos, 2011); however, it is unclear whether impulsivity arises because of long-term exposure to alcohol or predated alcohol use (Aragues, Jurado, Quinto, & Rubio, 2011). There is a lack of research about risk factors for alcoholism (Reed, Levin, & Evans, 2012). These gaps in research stem from the assumption that personality traits are stable constructs in adulthood and are impervious to change.

Decreased impulsivity also results in longer AA duration and improved participation (Blonigen, Timko, & Moos, 2013), while individuals with higher impulsivity tend to have increased alcohol consumption (Blonigen et al., 2013). Avoidance coping skills inhibit negative impulses and lead to alcohol use (Blonigen, Timko, Finney, et al., 2011; Blonigen, Timko, Moos, et al., 2011). Professionals working with those who have alcohol use disorders (AUD) can benefit from knowing why individuals choose AA. As individuals with AUD begin to lead their lives more positively, they can enhance relationships with their families and communities.

Statement of the Problem

AUD represent a significant public health problem in the United States with approximately 17 million people or 7.4% of the population meeting the diagnostic

criteria for alcohol abuse or dependence (Gustafson et al., 2011; Substance Abuse and Mental Health Services Administration [SAMHSA], 2013). In the United States, few alcoholics become involved with AA (Tucker & Simpson, 2011). LaPaglia (2011) indicated that only 8.1% (1.6 million) of the U.S. population received treatment in a specialty care setting. Sometimes costs, geographic distance, and lack of time reduced patient participation in programs (Gustafson et al., 2011).

I intended to capture knowledge of how gender and impulsivity affected a person's AA involvement. I assessed whether being impulsive motivated an individual to attend AA or whether attending AA elicited impulsive behavior. Characteristics related to impulsivity, including poor self-control and deficits in self-regulation of cognition and motivation, showed negative impacts on involvement in AA (Blonigen, Timko, Finney, et al., 2011). I discovered mixed results while studying factors that improved the outcomes surrounding AA involvement, and there were mixed reviews of gender-related issues regarding AA participation.

Purpose of the Study

The purpose of this quantitative study was to provide information for future work in supporting those with alcohol addiction and to increase the confidence of clinicians, researchers, families, and people with current drinking problems. Even for those individuals who are not initially inclined to attend AA (Humphreys, Blodgett, & Wagner, 2014), the therapeutic value of AA can sustain a person's confidence and increase self-esteem. The information obtained from the results may allow individuals to see how their behaviors such as impulsivity (independent variable) affect AA involvement (dependent

variable) and how gender (independent variable) may play a role in AA interaction. Being knowledgeable about AA can help clinicians make the most appropriate referrals as well as use a client's involvement in the therapeutic process. Furthermore, being able to "speak the AA language" allows professionals to gain credibility and build rapport with people who are in AA (Sifers & Peltz, 2013).

Research Questions and Hypotheses

For this study, the research focus was how gender and impulsivity interacted in AA involvement and attendance. Questions that evolved from the research design and analysis were as follows:

1. Are there gender differences in AA involvement?

H_{a1}: Women demonstrate significantly higher levels of AA involvement than men as measured by the Alcoholics Anonymous Involvement (AAI) Scale.

H_{01}: Women do not show significantly higher levels of AA involvement than men as measured by the AAI Scale.

2. Are there relationships between impulsivity and AA involvement?

H_{a2}: Lower levels of impulsivity as measured by the Barratt Impulsiveness Scale 15-Item Short Form (BSI-15, Short Form) positively correlate with AA attendance/involvement.

H_{02}: Lower levels of impulsivity as measured by the BSI-15, Short Form negatively correlate with AA attendance/involvement.

3. Does gender moderate the relationship between impulsivity and AA involvement?

H_{a3}: Women attend AA longer than males do and become more involved than men do.

H_{03}: Women do not attend AA longer than males do and do not become more involved than men do.

Theoretical Foundation

Social Learning Theory of Alcoholism

Bandura (1977) first introduced social learning theory as a means of understanding human nature (Yun & Kim, 2015). Bandura's articulation of a social learning perspective was an attempt to incorporate the patient's psychological experiences and the social or cultural context into a more comprehensive framework for understanding the disease, illness, and health (Hatala, 2013).

I used social learning theory to illustrate how 12-step group participation helps others (Timko, Halvorson, Kong, & Moos, 2015). Recovery requires a behavioral framework that warrants all influences, whether genetic or environmental. I used a social learning model because it provided the conceptual basis for behavioral interventions designed to treat and prevent distress (Johnson & Bradbury, 2015). This theory provides an understanding of human nature and why individuals behave the way they do, regardless of genetics and environment. Social learning theory emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others (Johnson & Bradbury, 2015).

Researchers can increase understanding of health risk behaviors such as alcoholism by examining an individual's cultural, peer, and family environments; his or

her propensity to risk-taking and emotional reactivity (impulsivity); and his or her genetic and biological predispositions (Hatala, 2013). Learning in a person's social context, regardless of gender and impulsive traits, depends on his or her culture and environment, and AA involvement can be a part of this environment. Research on social processes of mutual help can lead to increased social support through AA participation. Young adults who attended 12-step groups for at least 3 years valued the fellowship's connectedness, support, and opportunities to learn from others (Timko et al., 2015). In a study of male inpatients, Timko et al. (2015) found that 12-step group involvement (e.g., attended meetings, read the 12-step literature) correlated with more support and role models (more friends who abstained from alcohol and drugs). An enhanced sense of community and social support correlates with higher social recovery. People who have a goal or purpose, such as AA, are more likely to be of service to others. These altruistic behaviors are promoted and sustained by practices that foster positive health responses and serve as a means by which greater connections to the social world are constructed and nurtured (Hatala, 2011).

Psychosocial factors, such as personality and unhealthy lifestyles, have an impact on a person's behavior (Suls, Krantz, & Williams, 2013)—this includes impulsivity, which is a part of an individual's personality. People learn by observing and modeling the behaviors, attitudes, and emotional reactions of others (Yun & Kim, 2015). As individuals see others in AA meetings becoming more productive in their lives, these observations may influence others to do likewise. There are many individuals who go untreated, but many who seek help show remission in drinking through AA involvement

(Huebner & Kantor, 2011). According to social learning theory, individual conformity is products of a learning process, regardless of impulsive natures and gender, operating in a context of social structure, interactions with significant others, and situation (Yun & Kim, 2015).

I concluded that a social learning approach was appropriate for examining the treatment of alcohol addiction because alcoholism is a complex and multifactorial process involving biochemical, psychosocial, genetic components, and personality/social psychology (Suls et al., 2013). There was a multifactorial determination in which both genetic, environment, and family factors are involved (Coteti, Ion, Damian, Neagu, & Ioan, 2014). Psychological or emotional arousal can be understood as differential reinforcement variables that have an impact on behaviors (Yun & Kim, 2015). The subsystems influence mental and physical health. An individual's perception of pain is developed through connections between biological changes, psychological status, and the sociocultural context. Without emphasizing these domains, understanding is incomplete. Enhanced social support correlates with enhanced recovery (Hatala, 2013). Psychologists understand the psychological functioning as a continuous reciprocal interaction between behaviors and controlling conditions (Bandura, 1977). An individual changes his or her behavior through modeling and positive reinforcement, which can occur due to verbal conditioning (Bandura, 1977). When individuals attend AA meetings long enough and begin to have positive benefits, perhaps these individuals will continue AA involvement.

I examined how an individual is affected by his or her environment or community/family with the goal of determining whether gender/impulsive traits affected

AA attendance and how they affected attendance. Expectancies the individual has about alcohol and his or her upbringing (affection and family support, control, supervision, and discipline) affects the development and risk of alcohol abuse. High levels of familial stress and negative interactions influences a person's coping ability.

Nature of the Study

I surveyed individuals who attended AA meetings to determine how gender differed in AA involvement, why some people continued with AA, and why others did not. I also surveyed how impulsivity affected men and women in respect to AA interaction. The independent variables (IV) included gender and impulsivity, and the dependent variable (DV) was AA involvement. Covariate variables taken from the demographic sheet included age, ethnic backgrounds, educational level, and marital status.

Other covariate variables taken from the AAI included the number of meetings attended in the last year and whether they had ever been a sponsor or done service work in AA. Other confounding variables stemmed from the questions taken from the BIS-15, Short Form. These included planning tasks, not paying attention, doing things without thinking, and acting on impulse. I assessed the results using a quantitative, nonexperimental approach. The research design did not involve a manipulation of the situation, circumstances, or experiences of the participants, but in the quantitative research, I used numerical data to describe, explain, and predict relationships between variables (Neale, Miller, & West, 2014).

The resulting data were statistically comparable. A range of variables were measured and statistically analyzed in the Statistical Package for Social Services, Version 23 (SPSS, V23.0; IBM Corporation, 2013), as they existed in nature. I assessed the potential relationships among variables as they existed within their natural environment and when information was not available about the nature of such relationships (Witbrodt & Delucchi, 2011), thus, I explored the dataset for potential relations among the variables of interest.

Definition of Terms

Alcohol abuse: Abuse happens when one of the following circumstances occurs within a 12-month period: failure to fulfill primary obligations, engagement in dangerous activities, and illegal actions cause abuse. Alcohol abuse also consists of three distinct factors: alcohol craving, alcohol dependence, and alcohol withdrawal (American Psychiatric Association [APA], 2013).

Alcohol craving: A high need or urges to drink (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2013); alcohol craving correlates with family alcoholism, dependence severity, and quantity of ethanol consumed per day, but it is negatively associated with the patient's age (Filho & Baltieri, 2012).

Alcohol dependency (AD): Loss of control over alcohol intake and cravings; an intensive urge for intoxication; and symptoms of withdrawals such as anxiety, restlessness, and hyperactivity (Thurang & Tops, 2012).

Alcohol withdrawal: Symptoms from the cessation or reduction of alcohol use that has been heavy and prolonged. If a person has symptoms such as sweating or pulse

rate greater than 100, he or she could have severe distress or impairment in social, occupational, or other important areas of functioning. Other symptoms are insomnia; nausea or vomiting; anxiety; seizures; and visual, tactile, or auditory hallucinations (APA, 2013).

Choice impulsivity: The tendency to select immediate, rather than delayed or probabilistic benefits (Leeman, Patock-Peckham, & Potenza, 2012).

Cognitive behavioral therapy: Empowers individuals to develop skills to identify, modify, and gain distance from their distressing cognitions. Cognitive behavioral therapy challenges and helps patients understand the thoughts and feelings that influence behaviors. Cognitive behavioral therapy is now an established therapeutic approach. During treatment, people learn how to identify and change destructive or disturbing thought patterns that have a negative influence on behavior. Clinical strategies are to facilitate cognitive change, reduced emotional distress, and increased the frequency of interpersonal and social functioning (Petrik, Kazantzis, & Hofmann, 2013).

Drinking restraint: An important trait-like aspect of self-regulation associated with a heightened risk for alcohol problems and risky consumption. It refers to attempts to cognitively regulate an individual's desire for and use of alcohol (Cohn et al., 2012).

Impulsivity: The tendency to act on the spur of the moment or to respond quickly to a given stimulus, without deliberation and evaluation of consequences (Chen, Coccaro, & Jacobson, 2014).

Maturing out: The consumption of alcohol and the prevalence of alcohol dependence tend to peak in early adolescence and young adulthood and then decreases abruptly in the 3rd decade of life (Verges et al., 2012)

Motivational enhancement therapy or motivational interviewing: A type of therapy that incorporates the principles of motivational interviewing. It is used to enhance AA attendance, to get people more motivated to comply with house rules in some cases, or to get individuals to want to attend AA on their own. This therapy aligns with other forms of treatment for those who have problems with alcohol consumption (Polcin, Korcha, Bond, & Galloway, 2011).

Mutual-help organizations (MHO): Organizations such as AA and Narcotics Anonymous (NA) that facilitate change by enhancing recovery and support of social changes in the networks of attendees. These organizations play a crucial recovery-supportive social role and inform continuing care recommendations (Kelly, Stout, Greene, & Slaymaker, 2014).

Mutuality: Reflective of brain processes associated with three broad classes of psychological function; these classes are grouped together to demonstrate neurobiological correlates of empathic responsivity: (a) mentalizing (understanding and experiencing another person's mental and emotional state); (b) sharing of self-other representations; and (c) being motivated to improve another person's experiences (Galanter, 2014).

Response impulsivity: The deficient inhibitory control over reinforcing thoughts and behaviors (Leeman et al., 2012).

Social support: Has well-known benefits for physical and mental health; giving support has unique benefits on the main brain areas involved in stress and reward responses and reducing activity in stress and threat-related regions (Inagaki et al., 2016).

Assumptions

I assumed that the participants answered the survey questions honestly and accurately. Participants who showed up to AA meetings may or may not have been motivated to participate. I assumed that the amount of participants would provide sufficient statistical power when comparing AA involvement with gender and impulsivity. Role models in AA could be sponsors, secretaries of meetings, circuit speakers, and other leaders like individuals with 20+ years of sobriety. These people could have an influence upon individuals just getting started in AA. When people begin to come to AA meetings, they may see how others are participating and do likewise. This activity could also have influenced participation in this study.

Scope and Delimitations

As I did not find any study on gender and impulsivity together, I deemed it appropriate to do research in these areas. Using gender made it easier for me to obtain participants, as this included everyone who participated in AA. There were probably more males than females in AA, but gender was still an area for study to determine the differences between men and women in the program. Differences included caretaking problems for women, challenges of retirement, marriage, and failing health that precluded one from AA involvement.

I obtained data from individuals in AA-affiliated meetings within a local area. These meetings were within an urban city of a Western state. The adults participating in the study were from diverse ethnic, cultural, age, and socioeconomic backgrounds. Although the educational and age level, along with gender, may be one limitation for the generalizability of results, this sample provided information about the relationship between AA involvement and impulsivity. Results were suggestive and interpretation should be cautious. Individuals were participants who attend AA meetings. I did not determine why those attending AA remained or came back to AA.

Limitations

Many cultures view AA differently. A person's beliefs about drinking could influence drinking behavior; individuals who overestimate their control over drinking are at a greater risk of drinking to excess when exposed to tempting situations (Jones, Cole, Goudie, & Field, 2012). Geographical location could influence opinions and how many AA meetings are available or how accessible the AA meetings are. Rural areas do not have as many AA meetings to attend (Jones et al., 2012). Therefore, face-to-face involvement is decreased. In many parts of the country, however, AA meetings are held daily and often virtually for 24-hours a day in large metropolitan areas. Access was available to all individuals residing in areas with virtual resources. Because the study sample purported to a particular geographical location, the data taken did not apply to other locales. I selected participants from an urban area in a Western state, which may have influenced the findings. Possible limitations were participants' answers, ethnic influences, and age. A participant may have responded to the survey based on what he or

she thought the researcher wanted to know, and biased opinions could have diluted the data.

I did not include a family history of alcoholism in the assessment. People who have the same problem may have a different set of circumstances, background, and parental upbringing, which could have caused prejudice. A person's educational level or lack of understanding could have influenced responses. Researchers who have studied addictions and recovery have called for a new focus (Krentzman, 2013) that will benefit future studies of AA involvement. Using certain types of assessments can reflect how data influences the results. More comprehensive (multidimensional), standardized measures can capture the construct more adequately. One side effect of the study design was an inability to determine key predictors of the outcomes of ultimate interest: the likelihood of relapse, reestablishment of work and family relationships, and improved mental health (Jason, Light, Stevens, & Beers, 2014).

Participants may not have answered the surveys honestly, skewing the results. Others may have exaggerated the truth and others may have held back information due to fear, anxiety, or embarrassment. Exclusive use of self-reports may have biased results (Berking et al., 2011). Time constraints limited the number of participants, as individuals may have been too busy to complete the study. If conflicting schedules existed with the amount of time given to complete the surveys, this may have skewed the results of those who completed the surveys. Knowing and understanding these limitations could render a more conclusive determination. Convenience sampling provided limits due to other individuals not being available for the study.

Other limitations included lack of longitudinal data/ability and lack of comparative data to the current research. If an individual decided to return to alcohol consumption after being in AA, I would not have access to this information. Comparing an individual's alcohol usage and length of sobriety cannot be compared nor measured. Over periods of time, this will be out of the scope of the current study.

Significance of the Study

While identifying characteristics of AA participants, few researchers have examined predictors of membership in AA among remitted alcoholics (Krentzman, Robinson, Perron, & Cranford, 2011). I attempted to examine factors that influence how men/women differ in respect to AA involvement and the role impulsivity plays with AA involvement. Several researchers illustrated the effect of gender on AA involvement. Witbrodt and Delucchi (2011) found that men were less likely than women to be abstinent from alcohol. Keyes, Li, and Hasin (2011) suggested that a diminishing gender gap existed in the prevalence of alcohol use and disorders. Blonigen, Timko, Finney, et al. (2011) found that decreases in impulsivity may account for part of the association between AA involvement and these outcomes. Researchers are still investigating how AA promotes change in an individual's impulsive tendencies, as few scholars have assessed impulsivity regarding AA involvement. Participation in the 12-step program may increase global health and a myriad of other positive results (Blonigen, Timko, Finney, et al., 2011).

By understanding the role gender and impulsivity play in AA involvement, professionals can improve intervention for individuals diagnosed with AUD. People

develop their perception of AA based on AA exposure and involvement (Krentzman et al., 2010). By studying factors of AA involvement, professionals can discover why some individuals get involved with AA and others do not.

Significance to Theory

Social learning theory can be used to explain how 12-step group participation leads to positive outcomes and helping others (Timko et al., 2015). Social learning theorists emphasize the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others (Johnson & Bradbury, 2015). Positive habits evolve as members of AA view role models improving their relationships due to AA. More members begin to incorporate the steps of the AA program as they continue to go to meetings and stay involved in AA.

Significance to Practice

This study provides knowledge on why individuals choose to get involved in programs like AA, which is important for not only decreasing alcohol use but improving an individual's lifestyle, familial relations, and personal gain (Blonigen, Timko, Finney, et al., 2011). Individuals with AUD would benefit from professionals who understand why a person chooses to get involved in AA. These professionals include psychiatric social workers, counselors, therapists, teachers, or ministers. For social and professional reasons, I hoped to support future work with alcoholics and their families, rendering a positive impact on society and in a person's social development.

Significance to Social Change

Positive social change and improving the lives of human and social conditions promotes the worth, dignity, and development of individuals, communities, cultures, and society. By supporting the AA movement when working with those suffering from AUD, an individual can begin to move into more positive and trusting relationships. Promoting positive social change for these individuals can enhance communities. Communities can improve AA involvement by keeping housing and employment resources available. The potential for positive social change may be an additional advantage in studying these variables and how they affect AA interaction.

The goal of this study was to assist future work with individuals who have AUD while supporting families and communities. Those working with individuals who have had and continue to have problems with alcohol abuse can use this information to provide better support for AA involvement. Professionals, families, and communities can also use the knowledge in this study to better understand AA attendance practices based on gender and impulsivity. This knowledge can help individuals understand themselves while helping professionals to improve retention, intervention processes, and support for individuals with AUD. Future researchers can use the knowledge from participants to find better solutions to alcohol addiction. Understanding relationships and AA involvement can assist to evaluate strategies for what works best for the individual.

Summary and Transition

In Chapter 1, I identified variables of gender and impulsivity to determine how gender differed and how impulsivity affected one's AA involvement. By revealing a

relationship on AA interaction and how gender and impulsivity variables determined this participation, more information may provide useful data when working with individuals who have AUD. I introduced social learning theory as the theoretical model to explain how people learn from society, their environment, and from each other. I described how the theory influenced variables of gender and impulsivity. I also defined terms used in this study and demonstrated the lack of research on risk factors for alcoholism. Professionals can use research on gender and impulsivity to understand why some individuals choose AA while others do not.

After studying the negative effects of untreated AUD, I assessed why some chose AA and why others do not. The purpose of this study was to examine these reasons related to gender and impulsivity. In this chapter, I also identified the research questions and hypotheses; limitations, delimitations, and assumptions; and the significance of theory, practice, and social change. In Chapter 2, I provide a more thorough background in the literature and the theoretical underpinnings and framework of the study.

Chapter 2: Literature Review

Background

In this study, I investigated the role of gender regarding impulsivity in the context of AA involvement. I intended to reveal why some individuals participated in AA although others did not, regardless of the negative consequences alcohol had on the individual's life. I studied the factors affecting AA participation, such as decreasing strong relationships with drinkers and fostering new relationships with sober friends, which may improve the chances of sobriety (Krentzman, Cranford, & Robinson, 2013).

My goal was to determine how gender and impulsive behaviors affect AA participation. An individual's participation in AA is influenced by attitude changes resulting from positive role models that increase an individual's self-esteem and self-efficacy. People who abstain from alcohol can change their negative habits and develop positive habits because drinking problems have a significant effect on mental health (APA, 2012). Alcohol abuse and alcoholism may worsen existing conditions such as depression or induce new challenges such as severe memory loss or anxiety (APA, 2012). To address the issue of alcohol addiction, I researched how individuals become involved in AA, based on an individual's gender and impulsivity.

In this chapter, I include a literature review covering theory, alcohol consumption, implications of past research, the adverse effects of alcohol, and the statistics on alcohol addiction recovery. I also discuss the background of the problem, the search strategies I used to assess the literature, and the theoretical foundation of the study.

Literature Search Strategy

I searched the following databases to find peer-reviewed journal articles written in the past five years: PsycINFO, Med-Line, PubMed, CINAHL, ERIC, SocINDEX, PsycARTICLES, and Psychology: A SAGE Full-Text Collection Psychological. I also searched *The Mental Measurements Yearbook, Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), and the Academic Search Complete/Premier. ProQuest Central, SAGE Premier, World Health Organization, the Cochrane Library, and the Pasadena, California Public Library database were also useful sources.

I noticed a lack of existing research on impulsivity and gender regarding AA attendance. I used the following terms in my search: *alcohol abuse*, *alcohol dependency (AD)*, *alcohol withdrawal*, *response impulsivity*, *choice impulsivity*, *mutual-help organizations (MHOs)*, *mutuality*, *maturing out*, and *social support*.

Theoretical Foundation

For the theoretical foundation of this study, I used a social learning model, which offered an integrated theoretical framework used by professionals and researchers in the addiction field (Johnson & Bradbury, 2015). In the late 1970s, Bandura (1977) emphasized the need for a social learning perspective. Researchers use social learning theory to observe learning within an individual's social context (Bandura, 1977). Understanding the complex behaviors of an individual's cultural, peer, and family environments assists in determining someone's propensity to risk-taking and emotional reactivity, as well as his or her genetic and biological predispositions, which must be accounted for (Hatala, 2013). Understanding the psychosocial factors of environmental

clusters such as family issues, community/school environments, peer/social factors, underlying cognitions, stress, and coping is essential to problem-solving skills (Hatala, 2013). These significant influences affect individuals as they develop and mature. Professionals should understand the changes in an individual's environment, the influences of future events, and the meaning of events to support those with AUD (Hatala, 2013). The principal mandate of the social learning model is that the clinician understands an individual's environment and collects diagnostic data to develop a treatment protocol from this framework that works for the individual (Yun & Kim, 2015). The social learning model has much to offer professionals working in research, prevention, and treatment in the addictions field (Yun & Kim, 2015).

Benefits of participating in 12-step mutual-help programs can be explained by the social processes of support, goal direction, provision of role models, and involvement in rewarding activities (Timko et al., 2015). Social processes significantly mediate newcomers' sustained attendance status versus dropping out in the areas of life context (e.g., better quality of life, better able to handle problems due to the drinker). The process improves positive symptoms such as higher self-esteem, more hopefulness, and decreased negative symptoms such as less abuse and less depression (Timko et al., 2015). Social processes also significantly mediate newcomers' number of meetings attended and outcomes (Timko et al., 2015). To assess how impulsivity and gender affect AA attendance, I used the social learning model to examine the individual and his/her environment.

Literature Review

Implications of Past Research in Present Research

Kelly and Yeterian (2011) revealed that attendance at 12-step programs positively correlates with increased rates of abstinence. Forty-six percent of those in a formal treatment reached abstinence after an 8-year follow-up. In an AA-only group, 49% achieved abstinence (Kelly & Yeterian, 2011). Longer durations of AA involvement predicted abstinence, and Kelly and Yeterian also suggested that benefits may be enhanced if people tailor more specifically to their individual needs (2011). High-level recovering individuals are those who are either abstinent or who have reduced their substance abuse by at least 95% at 6-month follow-up sessions (Arbour, Hambley, & Ho, 2011). Arbour et al. (2011) revealed that 60% of individuals who do not attend regular aftercare return to alcohol consumption, at 6-month follow-up, compared to 71% of people who regularly attend an aftercare support group.

Evidence from multiple lines of research supported that AA involvement decreases alcohol consumption (Kelly & Yeterian, 2011). Earlier treatment engagement, like increased motivation for a lifestyle change, may influence an individual to attend AA meetings. Kelly and Yeterian (2011) supported evidence of behavioral change for those getting involved in the AA fellowship. As individuals continued to work the 12-steps of AA, a considerable change became evident in one's personality and attitude. Research was sparse in comparing AA involvement versus noninvolvement. I hoped with the current study to show results of how impulsivity affected AA influences and

participation. The study also attempted to reveal whether gender influenced AA involvement and how this affected one's motivation in AA participation.

Participants in AA also have a greater chance of abstinence from alcohol in addition to reducing drinking problems. Krentzman et al. (2010) demonstrated that constant and weekly 12-step program attendance over a period of 3 years sustains abstinence (Krentzman et al., 2010). Out of 286 respondents, 42.3% found AA helpful, 18.2% had mixed comments about AA, 19.2% found AA unhelpful, and 20.3% did not mention AA. Those who said AA was not helpful said they could not relate to others in AA groups. These individuals found too much negativity and complaining or felt that they could handle the problem (Krentzman et al., 2010). Magura, Cleland, and Tonigan (2013) also found that AA attendance lead to alcohol abstinence by using data from Project MATCH (Matching Alcoholism Treatments to Client Heterogeneity) to analyze possible reciprocal causation between AA participation and drinking outcomes through 15 months after intake. Stout, Kelly, Magill, and Pagano (2012) predicted the percentage of days abstinent at months 15 and 19 using post-Project MATCH treatment. AA attendance was predictive of abstinence-related outcomes over and above that predicted by social network variables. Finally, Witbrodt, Mertens, Kaskatas et al. (2012) found that over a 7-year period any pattern of AA attendance, even if it declines or is never high for a particular 12-month period, is better than little or no involvement. Balteri and Filho (2012) also noted that weekly or more frequent AA attendance positively correlates with retention in formal treatment among a Brazilian sample of men with alcohol drinking problems in outpatient treatment.

Little knowledge exists on treated alcoholics who achieve total abstinence without AA involvement, but there is a link between AA attendance and improved drinking behavior. Krentzman et al. (2011) demonstrated that remitters' participation in AA was after 3 years of successful abstinence. Magura et al. (2013) indicated a relationship between AA participation and less drinking from alcohol occurred. Magura et al. (2013) suggested that involvement in a 12-step program such as AA resulted in less drinking consumption, demonstrating a probable causal link between AA attendance and drinking outcomes. They demonstrated that AA results are a reciprocal causation between AA participation and drinking behavior, lending support for the hypothesis that AA attendance leads to increases in alcohol abstinence and a reduction in drinking/problems (Magura et al., 2013). Additionally, impulsivity is relevant to AA involvement and outcomes; less involvement stems from high impulsivity (Magura et al., 2013).

Despite the research supporting AA participation and decreases in alcohol abuse, this study points to the lack of AA involvement. I focused on why individuals choose AA and others do not, using gender and impulsivity as variables to determine the role each played in AA attendance.

Gender Differences in AA Involvement

Several researchers found that due to different needs, women drink for various reasons that are different from their male counterparts (Choi & DiNitto, 2011; Keyes, Li, et al., 2011; Roberts, 2012). The prevalence of alcohol use in the United States is lower among women compared with men, but gaps between U.S. men's and women's drinking behaviors seem to be narrowing (Al-Otaiba et al., 2012; Wilsnack, Wilsnack, & Kantor,

2014). Moreira, Marinho, Oliveira, Sobreira, and Aleixo (2015) showed that alcohol abuse has increased over 10% in the last decade, particularly with women.

Alcohol consumption for women is a growing problem. Since 2004, alcohol use has more than doubled for women between the ages of 30 to 44 (Lown, Nayak, Korcha, & Greenfield, 2011). Alcohol consumption has increased more than four times in women ages 45 to 64. As alcohol abuse is on the rise, and as professionals become aware of the increase in alcohol use in women, developments affecting this alcohol consumption are integral for working and reducing this negative trend with these women (Roberts, 2012). Drinking may help women to fulfill role obligations (e.g., a good wife or partner) if they have a husband or partner who also drinks (Kuerbis, Hagman, & Sacco, 2013). Therefore, it is important for women to be aware of the risks associated with alcohol use. The NIAAA estimates that of the 15.1 million people who abuse alcohol or are dependent on alcohol, approximately 6 million (40%) are women (Bright et al., 2011). There is little research, however, on the differential response of women in various lifespan periods to age-nonspecific treatment (Al-Otaiba et al., 2012) and the everyday life of women with alcohol dependency (Thurang & Tops, 2012). Few researchers have conducted alcohol-related studies that focused on women and elucidated factors that may contribute to these risks in women who drink (Reed et al., 2012). I used the AAI to assess AA involvement. I also compared how women and men differ in AA involvement.

AA began as a male organization, but about one-third of the members are now female. In bivariate analysis of 364 alcohol dependent individuals over the course of 3 years, women with 1 year of abstinence were 3 times more likely to be in the AA group

than men with 1 year of abstinence, as determined by the Life Transition Study (Krentzman et al., 2011). Al-Otaiba et al. (2012) and Witbrodt and Delucchi (2011) also concluded that gender is a variable that influences AA involvement. However, it is unclear whether women benefit from AA in the same or different ways as men (Kelly & Hoeppner, 2013). Even though statistics show that women are increasingly getting involved in AA, there are no explanations as to why other women are not. One explanation might be that the lack of childcare can preclude women from getting involved in AA meetings. Many meetings are held at night, posing problems for women who have younger children (Krentzman et al., 2012).

Women share persistent stigma and shame often experienced by addicted women. Sanders, Wilkes, Nelson, White, and McGovern (2014) reported that women in both AA and NA have creatively adapted the 12 steps to meet their gender-specific needs. These may be psychological in nature but are also reinforced and shaped by cultural gender role ideals. Reframing the 12 steps may enable women to address "*hitting bottom*," which may be qualitatively different from men. For women, "hitting bottom" may involve feelings of intense shame, regarding their failure to fulfill the role of caregiver. For males, "hitting bottom" may more likely be experiencing trouble with the law, work, or home (Sanders et al., 2014).

As women age, their vulnerability to adverse drinking consequences compounds (Al-Otaiba et al., 2012). Legal problems may pose more stress for either gender while social norms among younger generations are different (Keyes, Li, et al., 2011). Keyes, Li, et al. (2011) suggested that women who have chronic alcohol disorders have higher long-

term health risks than men do. Women with AUD sense and express guilt and shame over being alcoholics and have specific blocks to seeking professional treatment. The barriers mainly depend on an unwillingness to be further labeled and stigmatized, but also the risk that social services take their children into custody (Thurang & Tops, 2012). Women have an increased risk of toxic effects of alcohol on the brain and increased risks of reproductive health consequences such as infertility and sexual dysfunction. An increased likelihood of date rape, physical assault, and death stemming from alcohol-related injuries, such as traffic crashes, are also dangers for women (Wagoner et al., 2012). When working with individuals, these statistics lead one in supporting individuals through health education, moral support, and intervention crisis (Jayawickreme, Yasinski, Williams, & Foa, 2012).

Even though more women are attending AA, men are still the majority at risk for alcohol addiction. Men reported higher alcohol severity and higher AA treatment than women (Witbrodt & Delucchi, 2011), and alcohol is the leading risk factor for death among males aged 15 to 59 (Kelly & Yeterian, 2012). Roberts (2012) revealed a greater proportion of men consume alcohol by using the Behavioral Risk Factor Surveillance System (BRFSS) and obtaining data from states across the US. Regardless of gender, having people encouraging AA involvement yielded a greater probability of an individual's attendance in AA. At the 3-year follow-up, a high percentage of the individuals reported no AA or formal treatment participation. Results also demonstrated that some treatment seekers never connect with AA, others connect briefly, while still others maintain AA involvement (Witbrodt & Delucchi, 2011).

Though there is evidence that men drink more frequently than women and a greater proportion of men are considered riskier drinkers than women, these results varied across states. For example, the percentage of male drinkers ranged from 32% in Utah to 74% in Wisconsin and Connecticut. The proportion of women drinkers ranged from 23% in Utah to 62% in Wisconsin (Roberts, 2012). Variation in alcohol consumption between genders, across geographic settings, assume to be a difference in women's drinking. In risky drinking patterns, however, change in alcohol consumption is attributed to male use (Roberts, 2012). The mean volume of alcohol consumption varies across states for male drinkers, ranging from 23% in New Jersey to 46% in Nevada, and for female drinkers' alcohol consumption ranged from 10% in Oklahoma to 18% in Utah. Wagoner et al. (2012) found that the gender discrepancy existed in obtaining free alcohol for college-age students. For example, 76.4% of women reported that they did not pay for alcohol the last time they drank in comparison to 63.2% of men.

Co-Occurring Disorders for Men and Women

The prevalence of emotional regulation problems and the use of alcohol to cope with negative attitudes are higher for women than men. McKechnie and Hill (2011) showed that mood disorders and the etiology of alcoholism are different for men and women. For women, higher psychiatric severity associates with higher AA involvement (Witbrodt & Delucchi, 2011). Female alcoholics have higher rates of internalizing disorders, such as disclosing any drinking-related problems due to existing norms. Males report using alcohol for social reasons diagnosed with more externalized disorders such as antisocial behavior, alcoholism, and issues in daily functioning (e.g., legal issues,

work, money). Major depression is the most common influential factor among women diagnosed with alcohol abuse. Thurang and Tops (2012) reveal that women with AUD have a history of psychiatric illness such as depression and anxiety. These women fear the judgment of alcohol use as immoral, inappropriate, or effeminate. For persons diagnosed with both depression and alcoholism, approximately two-thirds (e.g., 72% to 78%) of males reported that their AUD preceded the onset of comorbid depression. This onset is opposite to onset seen in women: 60% of women reported depression as initial and alcohol abuse as secondary (McKechnie & Hill, 2011).

Orwat et al. (2011) examined the relationship between predisposing characteristics and enabling resources regarding AA meeting attendance. Results from the HIV-Longitudinal Interrelationships of Viruses and Ethanol Study indicated female gender was inversely related to meeting attendance. Social support systems were inversely related to alcohol/drug use. Orwat et al. (2011) associated the presence of the NCV antibody, drug dependence diagnosis, and homelessness with increased attendance. Living with HIV was an example of a nonsubstance abuse barrier to AA group involvement.

Significant differences between trauma, cognitions, and symptoms related to AUD exist. Negative self-perception, negative beliefs about the world, and a tendency to blame oneself are factors significantly related to the intensity of alcohol cravings for men, but not for women (Thurang & Tops, 2012). Negative emotions correlate with stress and alcohol-cue-related alcohol cravings for men, but not for women. Women tend to acknowledge and value emotions compared to men, who tend to be more avoidant of

emotions (Thurang & Tops, 2012). Men tend to avoid processing negative emotions and instead drink to cope with distressing thoughts. The adverse consequences of AUD differ among men and women. In particular, interpersonal consequences of drinking are significantly related to self-blame for women, but not for men. Women with comorbid post-traumatic stress disorder and AUD report more social impairment because of post-traumatic stress disorder compared to men (Thurang & Tops, 2012).

Metabolic Differences Between Genders

The female body contains proportionately less water and more fat than the male body. Water dilutes alcohol and fat retains it. Alcohol becomes less diluted for women, and therefore, women reach higher blood alcohol levels than men, even if ingest the same amount of alcohol (Wilsnack et al., 2014). This metabolism occurs in each age group. Females become alcohol-dependent at a faster rate and experience increased consequences as a result of alcohol use, including psychiatric problems, damage to the brain and other organs, and fatal accidents. The female body contains less alcohol dehydrogenase, an enzyme that breaks down alcohol before it reaches the bloodstream, than the male body (Al-Otaiba et al., 2012). At any alcohol dose, a woman's blood alcohol level will be higher than a man's. On average, two drinks for a man equals one drink per day for a woman (Al-Otaiba et al., 2012). The female body is less effective at metabolizing alcohol than the male body. Although women consume alcohol at lower rates than men, their body composition puts them at higher risk for developing alcohol-related problems (Wilsnack et al., 2014).

Gender differences in the stress and reward systems of the brain, such as the hypothalamic-pituitary-adrenal axis system, may cause differences in alcohol consumption (Jayawickreme et al., 2012). Women with AUD have a higher risk of developing physical symptoms, such as liver disease and heart disease, compared to men with AUD. Also, women with AUD experience a faster progression of brain atrophy than men with AUD (Thurang & Tops, 2012). Thurang and Tops (2012) showed women with AUD are more likely than women in the general population to report sexual dysfunctions and infertility.

Binging Differences Between Genders

Witkiewitz (2011) defined binge behavior as four or more drinks per day for females and five or more drinks per day for men. Out of 15.1 million people who abuse alcohol or are dependent on alcohol, approximately six million (40%) are women (Bright et al., 2011). Reed et al. (2012) showed the percentage of binge drinking for females has increased in recent years. This increase in drinking is a result of changes in women's drinking and demographic patterns in recent years.

Women in general tend to develop more health-related problems than men and exhibit a lack of inhibition compared to men (Bright et al., 2011). Women who use alcohol tend to have fewer social supports than women who do not use alcohol. It is unclear whether gender differences in alcohol consumption are a result of increased consumption levels for women, lower levels of consumption for men, or a combination of the two (Roberts, 2012). Hamilton, Sinha, and Potenza (2012) indicated no differences exist between men and women and binge and nonbinge drinkers in three dimensions of

impulsivity: attention, nonplanning, and motor impulsivity. Regardless, there are differences between the dimensions of impulsivity and hazardous alcohol use (Hamilton et al., 2012).

Evidence revealed males are more likely to crave alcohol in response to stress, whereas women are more likely to ruminate. Females are more likely to focus on feelings of sadness and anxiety compared to males, who are more likely to distract themselves from such emotional states and therefore drink (Thurang & Tops, 2012). Female binge drinkers report more physically and mentally unhealthy days than male binge drinkers (Assari, 2014).

Usually, older women have limited social support networks. Therefore, women sometimes experience inadequate support from these networks when seeking sobriety. Jones et al. (2012) determined negative moods increase alcohol intake, but individuals experiencing more positive moods have more control regarding their drinking. This research leads one to believe if more beneficial support were available, individuals would experience increased levels of efficacy and increased confidence, leading to an increased ability to control alcohol intake (Jones et al., 2012).

Schonbrun et al. (2011) determined AA may be particularly beneficial for women. However, there is sparse information regarding patterns of AA participation for women. As a result, more researchers should focus on assessing gender patterns as they relate to AA involvement. Therefore, in the current study, I addressed the differences between men and women regarding AA participation. Rates of binge drinking are higher among men than women (Centers for Disease Control and Prevention [CDC], 2012). Women are

more likely to be lifetime nondrinkers or former drinkers. Women may find it easier than men to quit drinking because women are lighter drinkers than men and drinking is not as beneficial to women's social roles as it is to men's. Also, women who stop drinking during pregnancy and early childrearing may not resume drinking (Wilsnack et al., 2014).

Gender Differences in Cultural Expectancies

Patterns of cultural differences may explain why gender differences exist in drinking patterns. One's culture plays a role in the gendered use of alcohol and stigma associated with alcohol problems. Lack of familiarity with treatment, AA, meetings in a foreign language, financial concerns, transportation, and gender differences may pose problems for those coming from different cultural backgrounds. Cultures may instill values in individuals that affect how they perceive ways to handle problems with alcohol (Krentzman et al., 2010).

One explanation for this is that AA involvement expectancies vary for men and women, depending on one's culture (Cheng, Lee, & Iwamoto, 2012). Witbrodt and Delucchi (2011) found more women attending AA were White (64%). Drinking behavior among women is viewed more negatively than for men in the Asian culture. Cultural expectancies for Asian American, including cultural, knowledge, and linguistic gaps, may preclude these women from AA involvement. The percentage of heavy drinking is larger for Asian men than Asian women (Cheng et al., 2012). Because heavy drinking is viewed negatively for women in this culture, women do not attend usually AA. Cheng et al. (2012) showed a lack of attention given to the mental health needs of the Asian population. Cheng et al. (2012) stated Asian Americans use alcohol less frequently than

other racial groups. However, new trends indicate alcohol consumption and problems are increasing significantly among Asian American women and men aged 18–29 (Cheng et al., 2012).

Asian Americans who are heavy drinkers experience significant health disparities and problems as a result of problematic alcohol use at a higher rate than heavy drinkers of other ethnicities (Cheng et al., 2012). Higher rates of depression exist in Asian Americans compared to other ethnic groups. Researchers have found Asian American adolescent females are at higher risk (9.7%) than Caucasian women (5.7%) for reporting major depressive disorder. Asian American women in the 15–24 age group have the highest suicide rates compared to all other racial and ethnic groups. Asian American men have the second highest suicide rate within the same age range, compared to other racial and ethnic groups (Cheng et al., 2012).

In their study, Cheng et al. (2012) assessed how many drinks individuals have during a day, week, or month, focusing on gender and ethnic variables. Other factors in the study included an individual's friends. If an individual had friends who consumed alcohol, an increased probability existed that the individual would also drink. Poor mental health and reduced family ties increased drinking. When cultures expect women to behave in a certain way, because of different upbringings and cultural values, these expectations can reflect how a woman acts later in her adult life. Cheng et al. (2012) indicated a lack of attention given to the mental health needs of the Asian population. Cheng et al. (2012) demonstrated that Asian Americans have lower alcohol use compared

to other racial groups, but there are new trends which suggest alcohol consumption and problems are increasing for this group.

Cultural expectations about gender norms affect an individual's acculturation and exposure to alcohol use. In traditional cultures, studies show views about drinking behaviors for women are more harmful than those for men (Cheng et al., 2012). Acculturation is important when working with any ethnic group. For Latino women, increased drinking increases with acculturation. Traditional cultural values and family conflicts increase drinking among women if a woman is more acculturated (Cheng et al., 2012). For the Latino women, it is considered violating traditional cultural expectations if one starts drinking. If a culture places a stigma on alcohol use, the chances of using alcohol may decrease. In some cultures, the stigma regarding alcohol consumption can put a burden on women that does not exist for men (Cheng et al., 2012).

Between 1992 and 2002, the prevalence of alcohol abuse treatment increased for the Caucasian and African American groups, but not for Hispanics. Alcohol abuse rates were higher for men than for women in all three ethnic groups (Chartier & Caetano, 2011). The data indicated a significant increase in hazardous alcohol use among Caucasian and African American men. Failure to fulfill role obligations, such as home and work responsibilities, decreased in all three groups for men. The prevalence of alcohol dependence decreased significantly among Caucasian and Hispanic men but was stable among African American men. Caetano and Chartier's (2011) study detected a higher rate of alcohol-related problems among African Americans than in other groups. African Americans and Hispanics have lower rates of psychiatric and substance

disorders. This lower rate exists despite more exposure to institutional and interpersonal discrimination, which can engender substantial stress through biological and psychological mechanisms (Caetano et al., 2011).

Researchers completed a study in a 10-year period and showed trends of alcohol abuse among Caucasians, African Americans, and Hispanics in the United States (Caetano et al., 2011). The researchers used responses from participants 18 years of age and older taken from U.S. household populations. The data revealed a complex interplay between the volume of alcohol individuals consumed, the drinking patterns they followed, and the social environment in which they drank (Caetano et al., 2011).

In a study by Assari (2014), problem drinking is related to poor subjective health among non-Hispanics, Hispanic Whites, and African Americans. The study included 4,655 men, including 2,407 African Americans; 1,354 Hispanic Whites; and 894 non-Hispanic Whites. Race and ethnicity modified the effects of different mental health problems (Assari, 2014). Within the Latino population, men consistently have a higher prevalence of substance use disorders. In the Latin community, AUDs exist among 16.7% of the male population and 4.3% of the female population (Verissimo, Grella, Amaro, & Gee, 2014). As a result of discrimination and contextual differences, individual coping mechanisms differ with ethnicity. These mechanisms concurrently affect AA involvement and an individual's ability to seek help from outside familial support groups (Verissimo et al., 2014). In this study, I considered how different races such as the Latino, Caucasian, and African American populations, affect AA involvement.

Age and Life Span Phases Influencing Alcohol Consumption for Gender

Alcohol abuse and dependence onset rates are most frequent for individuals in their late teens and early 20s (Keyes, Li, et al., 2011). Alcohol use and alcohol dependence tend to increase in adolescence and emerging adulthood, then decline when individuals mature into their late 20s, a phenomenon called "maturing out" (Verges et al., 2012). The persistence of alcohol dependence tends to increase with age, but the onset and recurrence of alcohol dependence tends to decrease with age. Decreases in traits such as negative emotionality and impulsivity may contribute to maturing out of alcohol problems (Verges et al., 2012). Data indicate abstinence increases with age and alcohol dependence is higher among younger individuals. Marriage, parenting, and divorce affect how and why people refrain, continue, or return to drinking.

Al-Otaiba et al. (2012) revealed age-specific life stressors affect the development of drinking problems. Al-Otaiba et al. (2012) argued the existence of a particular set of risk factors, regardless of age, affecting one's drinking behavior. A better quality of life can increase older adults' participation in AA. When people retire, their alcohol consumption habits are different from the habits of those in younger generations. Both age groups are culturally and socially diverse. When individuals transition from adolescence to adulthood, alcohol use and alcohol-related problems become less deviant as one matures (Winograd, Littlefield, & Sher, 2012).

Older women face a unique set of barriers to treatment for alcohol problems (Al-Otaiba et al., 2012). Barriers include caretaking roles regarding children and parents, retirement, marriage, career, failing health, and widowhood. Through analysis of

treatment adherence, Al-Otaiba et al. (2012) revealed older women fare better than younger women in AA meetings. Maturity and negative consequences or experiences in adulthood are possible reasons for differences between older and younger women. Additionally, through the use of tools such as the Time Line Follow Back and Structured Clinical Interview for DSM-IV Disorders I and II, Al-Otaiba et al. (2012) found older women have more assistance when expanding social networks. This support results in increases in alcohol abstinence for older women. Women with alcohol dependence are particularly vulnerable to the physiological, psychosocial, and social consequences of alcohol consumption (Thurang & Tops, 2012).

Researchers should assess general risk factors for each of the life span phases when developing treatments (Al-Otaiba et al., 2012). Age groups and the stressors associated with age, regardless of gender, may offer researchers reasons as to why individuals get involved in AA. As women age, they become more likely to engage in alcohol abuse. In the previous year, in the United States, the prevalence of alcohol abuse or alcohol dependence was 0.51% for women aged 65 and older, 2.58% for women aged 45–65, and 5.92% for women aged 30–44 (Al-Otaiba et al., 2012). Age is a factor in the prevalence of alcohol consumption for women. Drinking rates decrease as age increases for all sexes in the United States. However, drinking remains less prevalent among women compared to men (Wilsnack et al., 2014).

Kuerbis et al. (2013) demonstrated alcohol use declines with increasing age. The rates of AUD among individuals 65 and older range from 1% to 9% in the general population. In the adult population between 75 and 85 years of age, 7.9% of women and

22.3% of men reported drinking problems (Kuerbis et al., 2013). Understanding this can be significant for professionals working with alcoholic clients. Age may affect the depth and brevity of alcohol problems. When the human body ages, there is a decrease in total body water and lean body mass. These changes diminish the ability of the liver to process alcohol. Other reduction problems include increased blood-brain barrier permeability and increased receptor sensitivity to alcohol in the brain (Kuerbis et al., 2013). Women may experience more stigma and shame as a result of drinking if they neglect their role obligations, such as being a mother or grandmother (Kuerbis et al., 2013).

McKechnie and Hill (2011) revealed alcohol dependence and abuse declined as between age groups for men and women. Among adults aged 65 and older, alcohol abuse and dependence are about four times as frequent for men (1.2%) than for women (0.3%). The rate of heavy drinking (e.g., five or more drinks on five or more occasions per month) among women decreases between age groups. The highest levels of consumption exist for people between the ages of 30–39. Health reasons, maturity, and emotional levels contribute to this increased consumption level. Twelve percent of women older than 60 drank more than seven drinks in a week (Al-Otaiba et al., 2012). Among women 55 years and older, 3.4% engaged in at-risk drinking, which is nine or more drinks per week. As individuals mature into adulthood, get married, and become parents, their values and lifestyles often change. As people get older, the perceived benefits of alcohol consumption decrease (Al-Otaiba et al., 2012).

Winograd et al. (2012) showed when people reach the age of 30, the majority of individuals who exhibited excessive and problematic alcohol involvement between the

ages of 18–25 have ceased or have significantly declined these behaviors. Age is a demographic factor I considered in this study. Prior research has revealed individuals within different age groups vary in their needs, maturity, and AA involvement. As age changes, so does AA involvement.

Younger AA Members

Individuals below the age of 30 comprise the minority of AA participants, or 13–14% of members (Kelly, Stout, Greene, & Slaymaker, 2014). Younger individuals face different psychosocial stressors, such as transient living situations, sexual and romantic challenges, and financial stressors. Younger individuals tend to be less interested in spiritual and religious ideology, rendering the religious focus of AA less attractive (Hoeppner, Hoeppner, & Kelly, 2014). Despite these challenges, emerging evidence indicates young people can benefit from AA (Chi, Campbell, Sterling, & Weisner, 2012; Kelly & Urbanoski, 2012). There is limited information regarding mechanisms that affect AA attendance. Changes in impulsivity in young adults, but not adults, mediates the effect of AA attendance on drinking outcomes (Blonigen, Timko, Finney, et al., 2011). Adaptive social network changes are related to outcomes for young adults, but are not affected by AA (Kelly et al., 2014).

The results of the National Epidemiological Survey on Alcohol and Related Conditions indicated 39% of individuals aged 18–25 reported heavy episodic drinking. Sensation-seeking is another issue for younger individuals. Younger individuals are also at higher risk for peer pressure or acceptance into a particular group.

Younger people have lower motivation than older age groups to remain abstinent, as they have fewer negative associations with drinking; they may experience several positive consequences of drinking (Hoeppner et al., 2014). However, when they attend AA meetings, younger adults are exposed to the toll drinking can take on one's life through the life stories shared by their older peers. This experience can strengthen their negative associations with alcohol, and therefore maintain and increase their motivation to remain abstinent. Younger people's motivations may be enhanced by feelings of belonging as a result of AA participation or taking control of their alcohol abuse by taking the 12 suggested steps and going to AA meetings (Hoeppner et al., 2014).

How Impulsivity Influences AA Affiliation

In a naturalistic, 16-year study of men and women with AUD, Blonigen, Timko, Finney, et al. (2011) revealed impulsivity reduction is consistent with AA activity. The researchers assessed the participants at baseline and one, eight, and 16 years later. The participants demonstrated decreases in impulsivity and fewer alcohol use problems in conjunction with longer AA durations. Researchers discovered decreases in impulsivity and fewer alcohol problems in participants after only one year (Blonigen, Timko, Finney et al., 2011). Researchers also discovered traits, such as impulsivity, can change over time (Blonigen, Timko, & Moos, 2013). Decreased impulsivity appeared to mediate reductions in alcohol-related problems in people attending AA over eight years (Blonigen, Timko, Finney et al., 2011). Blonigen, Timko, Finney et al. (2011) stated future work in this area might benefit individuals with AUD. Improved psychosocial functioning in individuals with AUD correlates to decreased impulsivity. Longer AA

duration is linked to a decrease in alcohol use problems and increased self-efficacy to resist drinking (Blonigen, Timko, Finney et al., 2011). Decreases in impulsivity correlate with reductions in alcohol use problems and increases in self-efficacy. The effect of impulsivity remains significant regarding the amount of time an individual attends AA (Blonigen et al., 2013).

Blonigen, Timko, Finney, et al. (2011) published a longitudinal study that spanned eight years. The researchers indicated individuals showed longer AA duration, increased social support, decreased impulsivity, and decreased drinking patterns after eight years. This study demonstrated impulsivity levels decrease with age (Blonigen, Timko, Finney, et al., 2011). The researchers also emphasized improvements in global health. Mutual help groups target deficits in self-regulation of behavior and encourage increased organization and structure in individuals' daily lives. Given the associations between impulsivity, drinking, and psychosocial outcomes, decreases in impulsivity may account for part of the factors influencing AA involvement (Blonigen, Timko, Finney, et al., 2011).

Blonigen, Timko, Finney, et al. (2011) revealed decreases in impulsivity levels accounted for AA involvement. The researchers also discovered age affected improved psychosocial outcomes. Blonigen, Timko, Finney, et al. (2011) showed individual impulsivity levels gradually declined between ages 18 and 30. Researchers have hypothesized that a progressive reduction of daily alcohol intake, a decrease in mesolimbic neurotransmission, and changes in the hypothalamic-pituitary-adrenal and hypothalamic-pituitary-thyroid axes are possible causal mechanisms for alcohol craving

reduction as age increases. Filho and Baltieri (2012) predicted older individuals are more likely to comply with alcoholism treatment. In a previous study, researchers revealed impaired control and impulsivity regarding alcohol use related to problem drinking for young adults (Leeman et al., 2012).

Impulsivity can be a marker for mental disorders, which are associated with alcohol use. I incorporated impulsivity in the current study to assess its' role in AA involvement. Thus far, minimal research exists regarding impulsivity and addictive or individual behavior patterns. Impaired control may be a mechanism underlying the relationship between impulsivity and alcohol abuse (Leeman et al., 2012).

Participation in AA appears to reduce impulsivity. There is a need for researchers to understanding and identify the aspects of AA that account for decreases in impulsivity. Groups that follow the 12-step model encourage members to be structured and goal-directed, which may translate to increased efforts to delay gratification of one's impulses (Blonigen et al., 2013). Reduced impulsivity is a mechanism of change that eliminates negative behaviors such as drug abuse, reckless driving, sexual practices, criminality, poor health, and lower quality of interpersonal relationships.

In this study, I needed more information to understand the main problem, which was identifying the mechanisms that propel one to become more involved in AA. Previous researchers revealed impaired control and impulsivity regarding alcohol use was related to problem drinking for young adults (Leeman et al., 2012). Researchers suggested impaired control is relevant to alcohol use behaviors. Impaired control may be a mechanism underlying the relationship between impulsivity and alcohol use (Leeman et

al., 2012). Gaps in the literature involving impulsivity and treatment highlight the lack of research regarding risk factors (Reed et al., 2012). The gap in the literature may stem from the assumption that personality traits are stable constructs in adulthood and relatively impervious to change. Regardless of individual traits, AA, for both men and women, increases an individual's social supports and initiates positive change. Closing the gap between treatment need and service use, therefore, is a public health priority. To solve this, researchers must understand the relationships between help-seeking and recovery patterns, and processes at the population and individual levels (Huebner & Kantor, 2011).

In a double-blind, placebo-controlled, outpatient experimental design, Reed et al. (2012) investigated women who were heavy drinkers and those who were light drinkers. The researchers found heavy drinking women were more impulsive than light drinking women (Reed et al., 2012). Heavy drinkers (high risk) had more than seven drinks a week, based on the National Institute on Alcohol Abuse and Alcoholism (NIAAA) guidelines; light drinkers consumed less than six drinks per week, based on NIAAA guidelines (Reed et al., 2012). The researchers demonstrated that alcohol increased impulsivity, particularly in women who were heavy drinkers. Heavy drinkers are less sensitive to the adverse effects of alcohol (Reed et al., 2012). Impulsive drinking was exacerbated by heavy drinking among females, which lead to females developing an increased risk for AUDs and engaging in risky behaviors (Reed et al., 2012).

Reed et al. (2012) found when individuals act impulsively, they use alcohol more excessively, indicating impulsivity increases in problem drinkers. Hamilton et al. (2012)

showed men have higher mean levels of impulsivity than women do, and experience more significant changes in impulsive urges. Hamilton et al. (2012) revealed longer treatment durations yielded declines in impulsivity because AA promotes structure and organization in daily routines. Researchers associated older age, more education, and marital status with less impulsivity and fewer legal problems for both men and women. Usually, as an individual gets older, he or she gains responsibility. Age may decrease impulsivity and therefore reduce alcohol usage. I considered this concept of reduced impulsivity when I compiled the data in the present study. Women tend to experience a greater change in impulsivity over time than men experience (Blonigen et al., 2013). In the current study, I used the Barratt Impulsiveness Scale, Version 11 to assess impulsivity and how this affected AA involvement.

Decreased impulsivity may allow a researcher to predict increases in alcohol-related self-efficacy. The duration of an individual's AA attendance is significant considering the link between decreased impulsivity and increased self-efficacy. As a result of AA attendance, social network changes occur, along with fewer legal problems and better psychosocial outcomes (Blonigen et al., 2013). Researchers question whether sudden urges change over time. They also question if abstinence from alcohol changes impulsivity, and whether an individual's personality stabilizes over time. It remains unclear whether impulsivity arises as a consequence of long-term exposure to alcohol or predates alcohol use (Aragues et al., 2011).

When one tries to maintain control of his or her alcohol intake, this may trigger increased alcohol use. Adverse effects could also trigger increased alcohol use. Impaired

control may have a causal effect or play a role in subsequent problem drinking (Leeman et al., 2012). In a previous study, researchers revealed impaired control and impulsivity regarding alcohol abuse relates to problem drinking for young adults (Leeman et al., 2012). Evidence suggests impaired control is relevant to alcohol use behaviors. If one experiences hardships in limiting his or her alcohol consumption early in life, this may indicate a need to treat young adults abusing alcohol. Each individual may react differently to different variables, whether they are receiving treatment or not. Impaired control may be a mechanism affected the relationship between impulsivity and alcohol use (Leeman et al., 2012), which may affect AA participation. Young adults seem to be more interested in sensation-seeking, which could explain the lack of impulse control in this age group. However, limited evidence exists that impaired control relates to sensation seeking (Leeman et al., 2012).

For treatment purposes, behavioral measures of impulsivity may change during treatment. Variables such as alcohol related expectancies and motives, related to impaired control in young adults, affect treatment effectiveness. The alcohol related reinforcements that predict impaired control, such as cravings and stimulant effects, may be necessary to research when working with these individuals (Leeman et al., 2012). A lack of impaired control may cause an individual to avoid AA if the individual is experiencing alcohol related effects that reduce pain and suffering and stimulate calming effects (Leeman et al., 2012).

Impaired control, a facet of impulsivity, represents a manifestation of impulsivity in alcohol use and abuse. The disabled control variables regarding alcohol related

reinforcement stem from cravings, cue-induced alcohol consumption, alcohol priming effects, and as a response to stress (Leeman et al., 2012). The value of impaired control may be twofold. Impaired control may be one way in which problem drinking manifests itself in impulsive individuals. Impaired control captures the risk related to daily behaviors (Leeman et al., 2012). If one cannot control one's thoughts and actions, one may act more impulsively than others. Alcohol impairs inhibitory control, but researchers have not determined if alcohol is the sole factor responsible for impulsive behavior (Aragues et al., 2011).

The more impulsive an individual is, the more violent he or she can become because risk-taking dispositions correspond to increased violence among individuals receiving alcohol treatment (Blonigen et al., 2013). Researchers have not determined whether an individual's perception of change or impulsive tendencies have implications regarding positive results in AA participation. Findings from a study by Blonigen et al. (2013) demonstrated decreases in impulsivity correlate with decreased alcohol problems, improved coping strategies, and increased social support. Researchers observed this trend in men and women. Impulsivity is higher for those with AUDs than those who do not have AUDs (Blonigen et al., 2013).

DeVito et al. (2013) provided evidence indicating impulsivity can be a severe symptom of the psychological disorders associated with alcohol use. After an exhaustive review of the existing literature, DeVito et al. (2013) determined impulsivity accelerates alcohol abuse, which further accelerates the development of significant illnesses and can complicate clinical outcomes. Decision-making may result in adverse decisions and poor

choices for the individual. Researchers have associated declines in impulsivity with significant reductions in legal problems and increased AA involvement (Blonigen et al., 2013). Heightened impulsive behaviors may result in irrational decisions and disruptions to normal routines such as AA participation.

Aragues et al. (2011) assessed impulsivity levels after alcohol intake and found after drinking, individuals experienced significant increase in impulsivity. These responses were dependent on the dose of alcohol and the time of testing. The researchers demonstrated impulsivity was not uniformly affected by alcohol use, which was consistent with their hypothesis that impulsivity is not a unitary construct (Aragues et al., 2011). Furthermore, Aragues et al. (2011) argued personality traits may affect one's response to alcohol. The participant's responses indicated alcohol may not be the only factor responsible for variability in behavioral inhibition. Rather, humans demonstrate impulsivity from birth as a character trait (Aragues et al., 2011). Aragues et al. (2011) indicated alcohol impairs inhibitory control. The number of detoxifications, the age of onset, and other factors may play a role in impairment. Alcohol has chronic effects on the central nervous system and individuals using alcohol heavily exhibit poor performance on neuropsychological tasks (Aragues et al., 2011).

According to Skomorovsky and Lee (2012), alcoholism is related to low conscientiousness, low agreeableness, and high neuroticism. These characteristics represent risk factors for individuals regarding AUDs and are reliable predictors of psychosocial outcomes. Impulsivity levels are higher among individuals with AUDs compared to individuals without AUDs. Other researchers have associated increased

impulsivity with low alcohol related self-efficacy, increased use of avoidant coping, and poorer quality of social relations (Blonigen, Timko, Finney et al., 2011).

Hamilton et al. (2012) demonstrated men have lower behavioral inhibition system activation and reward responsiveness than women. Men engage in more hazardous drinking than women (Hamilton et al., 2012). Women possess higher levels of emotional responsiveness to rewarding and aversive stimuli, which contributes to hazardous drinking for women (Hamilton et al., 2012). Males tend to engage in more aggressive behaviors than females (Chen et al., 2014). Chen et al. (2014) revealed the disparity in the frequency of aggression between men and women may be a result of differences in information processing and responses. Men are more likely to externalize negative effects and respond with anger or aggression, although women tend to internalize their responses (Chen et al., 2014).

The risk periods for alcohol use, abuse, and dependence are worth mentioning because work with individuals with these alcohol related issues should involve knowledge of these elements. Blonigen, Timko, Finney, et al. (2011) stated AA engagement decreased an individual's rate of displaying impulsive behaviors. Also, AA involvement affected change in thought processes for these individuals. Further, the researchers demonstrated AA involvement can affect change in one's personality and coping mechanisms (Blonigen, Timko, Finney, et al., 2011).

Impulsivity marks the low end of the conscientiousness. The magnitude of one's impulsivity reflects the tendency to engage in a pattern of behavior characterized by risk-taking, poor self-control, and disregard for future consequences (Blonigen, Timko,

Finney, et al., 2011). Thus, given the relationships between impulsivity, drinking, and psychosocial outcomes, decreases in impulsivity may account for patterns in AA involvement. However, researchers must consider the way in which impulsivity manifests over time (Blonigen, Timko, Finney, et al., 2011). A better understanding of the internal factors that influence one's motivation for alcohol treatment benefits individuals with AUD, families, professionals working with these individuals, and the community at large.

Littlefield, Sher, and Wood (2010) completed a 16-year longitudinal study of 489 first-year college students and found alcohol use may increase throughout emerging adulthood. However, when an individual has more emotional stability and self-control, alcohol problems may decrease. Personality, drinking motives, mediation of coping, and assessing impulsivity can affect alcohol use. In the study, researchers catalogued family history of alcoholism and problematic alcohol involvement. Reduction of neuroticism and impulsivity provided evidence to an important mechanism that increases coping skills and motives for individuals between the ages of 18 and 35. The researchers found changes in coping motives over time corresponded to changes in impulsivity (Littlefield et al., 2010). These results indicated change in coping motives affect "maturing out" of alcohol problems and personality change (Littlefield et al., 2010). As such, Littlefield et al. (2010) implied the use of personality as a matching variable for treatment approaches and the understanding of "maturing out" could have potential for use in clinical interventions.

Littlefield et al. (2010) provided support for an understanding of behavior and motivations leading to interventions tailored to individuals with different needs. Individuals should adapt to these values while researchers produce further research to ascertain a better understanding of predictors for change and coping. Understanding these changes can provide individuals with further knowledge regarding alcohol use and how their impulsive natures or personalities affect their AA attendance. In assessing gender and impulsivity within these areas, researchers stated the significance of the roles each of these factors play in AA attendance. If alcohol use increases spontaneity and impulsivity, an individual's chances of relapse may increase.

Alcohol Consumption Regarding Impulsivity

Blonigan, Timko, Finney, et al. (2011) revealed individuals with impulsive traits were also more likely to consume alcohol at an increased rate. Aragues et al. (2011) showed alcohol intake diminishes an individual's tolerance for delay of gratification. For individuals with alcohol dependence, instant gratification is more important than delaying alcohol use (Aragues et al., 2011). It becomes more important to consume alcohol when needing it, regardless of the consequences. The combination of increased impulsivity and alcohol consumption could indicate variability in behavioral inhibition (Aragues et al., 2011). An individual may not have the ability to inhibit his or her thoughts and actions, therefore delaying rewards. Immediate rewarding consequences sometimes have more influence on an individual's behavior than delayed results would (Aragues et al., 2011). The delay of reward model and heavy drinking correlate negatively with the onset age of

alcohol consumption (Aragues et al., 2011). In this study, I defined and researched how impulsivity affected AA involvement.

Alcohol Use Disorders (AUD) in the United States

Of all the disability-adjusted life years lost as a result of approximately 400 established psychiatric disorders, AUDs accounted for a disproportionately high (36%) fraction of lost years (Kelly & Yeterian, 2012). According to Hasin, Fenton, Beseler, Park, and Wall (2012), the criteria for alcohol abuse or dependence included tolerance to alcohol, withdrawal, cravings, use despite legal problems, and failure to fulfill role obligations as a result of use. The 2010–2012 data from the National Survey on Drug Use and Health indicated underage binge alcohol abuse ranged from 9.2% in Shelby County, Tennessee to 46.3% in the District of Columbia (SAMSHA, 2013). From the survey, researchers found the regions with the highest rates of underage binge alcohol use were in the Northeast, the South, and the Midwest. Nationally, 5.9% of all persons aged 12–20 exhibited binge alcohol use in the 30 days before taking the survey (SAMSHA, 2013).

The percentage of past-year drinkers in the United States increased from 65.4% in 2001–2002 to 72.7% in 2012–2013 (Dawson, Goldstein, Saha, & Grant, 2015). This increase in overall drinking was magnified among all racial and ethnic groups. However, the increase in monthly heavy episodic drinking was magnified only among those who identified as African American (Dawson et al., 2015). The increases in drinking behaviors were larger for women than they were for men regarding all measures; drinking rates among the formerly married were larger than the overall drinking rates (Dawson et al., 2015).

Researchers have demonstrated the odds of developing an AUD are 13.2% for individuals between the ages of 18 and 29, 8.1% for individuals between the ages of 30 and 44 years, and 4.1% for individuals between the ages of 45 and 64. Also, those who exhibited a higher risk for AUD were those who never married and those who were widowed, separated, or divorced. Lastly, individuals with less education and those with a maximum annual family income of $35,000 were more susceptible to an AUD (Caetano et al., 2011).

Between 13% and 30% of the U.S. population will meet the criteria for AUD at some point in their lives (Kelly & Yeterian, 2010). The criteria for an AUD include consumption, abuse, and dependence on alcohol (Kelly & Yeterian, 2010). Alcohol has detrimental effects on an individual's physical health, mental health, and family relations, in some cases leading to an increased risk of depression and suicide, absenteeism, and impaired activity in the home (Bouchery, Harwood, Sacks, Simon, & Brewer, 2011). Researchers recommend individuals who abuse alcohol should be assessed for psychiatric symptoms and suicidality (Moreira et al., 2015). Bouchery et al. followed the U.S. Public Health Service guidelines. Their study revealed alcohol consumption patterns from 2006, showing the economic costs of excessive drinking: $223.5 billion. The individual cost of excessive drinking in the United States was approximately $746 per person (Bouchery et al., 2011).

In 2006, 11% of the $24.6 billion associated with excessive alcohol consumption was spent on increased healthcare costs. Of this $24.6 billion, 43.4% of expenditures were spent on specialty treatments for alcohol abuse, and 20.8% was spent on

hospitalizations associated with excessive drinking (Community Anti-Drug Coalitions of America, 2012).

According to a press release, 9,967 people were killed in alcohol-impaired driving crashes in 2014 (CDC, 2016). This number accounts for 31% of all traffic-related deaths in the United States (CDC, 2016). The National Highway Traffic Safety Administration (2013) confirmed deaths in crashes involving drunk drivers increased by 4.6% in 2012. More specifically, 10,322 people died in alcohol-related deaths in 2012, compared to the 9,865 people who died in 2011. In the majority of those crashes, the drivers involved had a blood alcohol concentration of 0.15 or higher, which is nearly double the legal limit (National Highway Traffic Safety Administration, 2013). There are approximately 80,000 alcohol-related deaths each year in the United States, making excessive alcohol use the third leading lifestyle related cause of death in the nation (Bouchery et al., 2011). About 33% of offenders report being under the influence of alcohol when partner violence or domestic abuse occurred (CDC, 2012).

Alcohol dependency is a life-threatening disease that can lead to other illnesses such as cirrhosis, neuroanatomical effects, cognitive disorders, and slow brain development (Bjork, Grant, Chen, & Hommer, 2014). Alcohol abuse results in substantial costs to the individual and to society, including an increase in mortality rates, traffic accidents, crime, and injury to families (Bouchery et al., 2011). Researchers also attribute some domestic violence, health problems, and fetal alcohol syndrome to alcohol abuse (Bouchery et al., 2011). Globally, alcohol use results in approximately 2.5 million deaths each year (World Health Organization, 2011).

Negative Effects of Alcohol

Despite these statistics, people continue to use and abuse alcohol. In this section of the chapter, I cited vital and pertinent information about alcohol abuse, showing the detrimental effects of alcohol for society. Alcohol's adverse effects on the body may include heart problems, high blood pressure, irregular heartbeat, arrhythmias, and hepatitis. Other symptoms may include cirrhosis and a breakdown of the immune system, which could cause pneumonia or tuberculosis (NIAAA, 2013). Alcohol interferes with the brain's communication pathways, potentially changing mood and behavior. Drinking too much can increase an individual's risk of developing certain cancers, including cancers of the mouth, esophagus, throat, liver, and breasts. Drinking too much can weaken the immune system, making the body a target for disease (NIAAA, 2013).

Alcohol use can impair visual perception, motor performance, and self-regulatory control. Alcohol use increases dopamine levels, which may be one reason individuals continue to use it, despite the potentially negative consequences. Alcohol can impair one's thought processes and mechanisms of behavior (Bartholow, Henry, Lust, Saults, & Wood, 2012). Alcohol often deregulates social practices, may lead to aggression, impairs error processing, and affects behavioral adjustments. It affects the evaluative and regulative components of cognitive control (Bartholow et al., 2012). Risky sexual behavior, psychiatric problems, and unintentional injuries (such as traffic injuries, falls, drowning, and burns) can result from alcohol abuse (CDC, 2012).

Alcoholism continues to be an adverse health condition affecting millions of individuals and imposing significant economic costs on society. In the World Health

Organization (2011) global report, the researchers found 6.2% of all male deaths were attributable to alcohol, compared to 1.1% of all female deaths. Alcohol consumption is the third leading risk factor for disease, disability, and health hazards such as impaired self-regulatory control of behavior (Bartholow et al., 2012; Kelly et al., 2012). Alcohol is one of the world's leading health risks and is a contributing factor for more than 60 major types of diseases.

Despite the legality and active use of alcohol, drinking causes harm beyond the physical and psychological health of the drinker. Alcohol use may create social harm to others including family, friends, and employers. Unborn babies are exposed to the hazards of alcohol if the mother consumes any amount of alcohol during pregnancy, which may result in fetal alcohol syndrome (World Health Organization, 2011). Researchers estimate excessive alcohol consumption costs the United States more than $223.5 billion each year: a rate that continues to rise (Bouchery et al., 2011).

In high-income countries, such as Canada and the United States, alcohol is the second leading contributor to disease risk factors and disabilities. Tobacco is the leading contributor of ill health effects. In low-mortality countries, such as countries in Latin America, the burden of disease is more detrimental than tobacco (Patra, Giesbrecht, Rehm, Bekmuradov, & Papova, 2012). Researchers illustrated alcohol interferes with the brain's communication pathways, changing mood and behavior (NIAAA, 2013). Despite statistics that indicate alcohol can affect one in negative ways, researchers are still unclear about why some individuals refrain from AA involvement. Many of these social problems appeared to coincide as a result of increased impulsivity. Therefore, in this

study, I attempted to research, assess, and understand the effects of gender and impulsivity on AA attendance. I also wanted to understand why some individuals chose to participate in AA and others did not.

AA and Treatment

Wilson and Smith founded AA in Akron, Ohio in 1935 (Huebner & Kantor, 2011). This establishment created a new era of mutual help movements for people with addiction problems. Leaders who participate in modern self-help movements, such as AA, recognize the unique role they provide to those with the disease of dependency (Pagano, White, Kelly, Stout, & Tonigan, 2013). In 2011, there were 57,095 AA groups and 1,279,664 AA members in the United States (Magura et al., 2013; Young, 2011). Galanter (2014) recorded more than two million AA members worldwide and 200,000 weekly meetings worldwide. Despite these statistics, researchers still consider participation low compared to the rates of individuals who need AA. Participation in AA yields positive results for individuals with AUD, such as better relationships with family. However, only 14.6% of those with a lifetime history of alcohol abuse or dependence have received treatment (Huebner & Kantor, 2011). "Conclusive findings are hard to come by due to the nature and complexity of the population, treatment confounds, condition confounds, and sampling limitations" (Stevens, 2013, p. 7). These issues compound one's ability to seek treatment and increases the complexity for the researcher to make a determination why participation in AA remains at a low level.

Researchers showed six different mediators explain a large portion of the alcohol recovery benefits (Hoeppner et al., 2014). These factors include the ability to cope in

high-risk social contexts when encountering negative affects such as depression, anger, boredom, and anxiety (Hoeppner et al., 2014). Other mediators for alcohol recovery were spiritual or religious practices, depression symptoms, and two aspects of an individual's social network: the number of pro-abstainers and the number of pro-drinkers in their lives (Hoeppner et al., 2014). For some individuals, AA is a useful treatment adjunct (Huebner & Kantor, 2011).

Krentzman et al. (2011) argued the duration of involvement, including the frequency and length of commitment to AA, affects positive outcomes and abstinence from alcohol. Researchers have found involvement at AA meetings is predictive of sobriety, although this is not always accurate (Stevens, 2013). Recognizing the need for treatment and finding an appropriate treatment setting and provider are important steps for the individual to take in the recovery process (Huebner & Kantor, 2011). Pagano et al. (2013) revealed data derived from Project MATCH. Their longitudinal prospective study of alcohol abuse and dependence calculated relapse rates for individuals helping other alcoholics. Data indicated those helping others were significantly less likely to relapse, independent of the number of AA meetings they were involved in (Pagano et al., 2013). Blonigen, Timko, Finney, et al., (2011) stated impulsivity affects an individual's AA involvement, regardless of the length of time or commitment to AA.

Zemore, Subbaraman, and Tonigan (2013) showed that AA meeting attendance and having a sponsor were consistently related to abstinence after six months and after one year. Other activities, such as reading the literature and involvement in service work, contributed to recovery after six months and after one year. Social interactions with

members and step work did not yield significant results (Zemore et al., 2013). The effects of meeting attendance on abstinence remained significant, whereas activity involvement was nonsignificant (Zemore et al., 2013).

For many individuals, participation in AA engages mechanisms that reflect the symbolic thinking and affiliative processes that impinge on pathologic changes, which may result from chronic alcohol use (Galanter, 2014). Involvement a social contact such as AA can affect the biologically grounded processes previously described (Galanter, 2014). In this study, determining how gender and impulsive traits affected AA involvement, I informed both the participants and myself. It was necessary to acquire an understanding of the mechanisms underlying the effects of AA, such as the role of social networks, coping, and self-efficacy (Galanter, 2014). To sustain AA involvement, an individual must possess mutuality. Mutuality is the psychological processes that underlies the building of relationships: namely, how one entering into the AA context connects with other members (Galanter, 2014).

As described by Krentzman et al. (2010), involvement refers to the quantity and quality of time spent participating in AA. This time includes time spent as a sponsor or secretary of a meeting, or making coffee for a meeting, among other tasks. Also, Young (2011) stated the degree of involvement in AA can effectively predict abstinence. For example, Young (2011) studied AA participation and found the focus of AA attendance and involvement is on changing dysfunctional behaviors, changing thoughts, or on identity transformation. Witbrodt, Kaskutas, Bond, and Delucchi (2012) found 82% of individuals with decreasing attendance rates and decreasing sponsor classes reported 30-

day abstinence at a seven-year follow-up. Understanding how alcohol dependent people involve themselves in AA and how this relates to change can help health providers and clients become more effective in setting realistic long-term treatment goals and expectations (Witbrodt, Kaskutas et al., 2012).

Arbour et al. (2011) indicated high-level recovery participants were either abstinent or reduced their substance abuse. Subbaraman, Kaskutas, and Zemore (2011) stated those who gained a sponsor and attended AA meetings remained sober after both six months and one year, showing positive results from 12-Step Facilitation (Subbaraman & Kaskutas, 2012). The specific types of meetings individuals attend (e.g., speaker meetings, literature-focused meetings, meetings for beginners, young people's meetings, or gay meetings) affects how they get involved (Kelly et al., 2012). Other meeting types include closed meetings (for AA members only), women only, Stag (men only), and Big Book studies (meetings where parts of the Big Book are read and discussed).

Though there are many different types of meetings for individuals to get involved in, the availability of the meeting types may affect how often an individual attends a meeting. Another meeting type includes open participation (anyone can share what they feel or talk about their own experiences). Individuals may have a problem sharing in open participation discussion meetings or may not feel comfortable sharing in public. Researchers have found many useful approaches for those with alcohol related health conditions, such as cognitive behavioral therapy, community reinforcement, behavioral marital therapy, computer-based behavioral approaches, and contingency management.

However, in this study, I focused on research in the 12-step program and the social learning theory as a model for recovery.

The AA program is experiential, not theoretical. The approach is not based on empirical evidence, but on the experimental truths drawn from the experiences of the participants (White, 2014). In AA, unlike therapeutic alliances, the helping relations are egalitarian and reciprocal: all members are assumed to have the same strengths and vulnerabilities (White, 2014). A fundamental tenet of AA is the idea that alcoholism is progressive, therefore alcoholics "get worse, never better" (AA, 2001, p. 30).

The subjective experience of being a member of a recovery group can aid in the successful reduction and cessation of addictive practices in an individual. A positive social identity regarding addiction recovery may explain why some individuals remain abstinent, and some do not (Buckingham, Frings, & Albery, 2013). By learning about these identities, individuals can stay involved in the AA fellowship. These results suggest a one-size-fits-all approach in assessing the strengths of these identities will not be effective. Evaluating differences and increasing efficacy can be effective for different individuals (Buckingham et al., 2013).

Involvement and participation in 12-step activities may take various forms. Members of 12-step groups participate by attending AA meetings, sponsoring others, interacting outside of meetings, reading the literature, completing the 12 steps, and doing service work (Zemore et al., 2013). For individuals, finding what motivates them to seek treatment and maintain sobriety is paramount to the recovery process. The location of one's residence may affect how often one attends AA meetings. For example, if one lives

in a rural area the individual may experience challenges in getting to the meetings. Or, one may live in a remote area where there are no AA meetings available.

Globally, AA is the largest and most venerable addiction recovery group (Greenfield & Tonigan, 2013). Social workers send patients to AA meetings. Judges condition an individual's freedom based on meeting attendance. One of the benefits of participation in a 12-step program is having social support, a sense of meaning, and a sense of purpose. The primary therapeutic mechanism of AA is to cultivate the idea that the recovering identity is not stable, but is tenuous and dependent on the member's willingness to relate appropriately with others. The acceptance of one's limitations is also pertinent for recovery. Abstinence alone is not the solution because one needs to recover without experiencing the "dry drunk" phenomenon (Young, 2011). The fellowship of AA occurs primarily during meetings. This fellowship provides a way for members to practice appropriate behavior. Those involved in AA do not relapse (Young, 2011).

However, the overarching goal of participation in the 12-step program is for individuals to experience a spiritual awakening that transforms them. Young (2011) found individuals who were more involved in AA relapsed at a lower rate than those who were less involved in the program. Some individuals may disagree with the religious aspects of AA that revolve around finding a God or finding a power greater than the individual. For many individuals, the expectation that they will make a "decision to turn our will and our lives over to God as we understood Him" (Step 3) is difficult to accept (Galanter, 2014).

Mutuality and social support are key elements in the process of engaging addicted individuals in 12-step groups. After many attempts at turning recalcitrant alcoholics toward abstinence, Bill W., one of the co-founders of AA, concluded the best way to approach the subject was to tell them his story (Galanter, 2014). On the clinical level, researchers observed a variety of social interactions, attitudes, and mood states among AA members. Meeting attendees may experience conflicts regarding the social and class differences among members. These conflicts may impinge their ability to identify with the program. Members may have to overcome their ingrained attitudes, which can make it challenging to achieve high attendance levels at AA meetings (Galanter, 2014).

A fundamental tenet of AA is that alcoholism is progressive, therefore alcoholics "get worse, never better" (AA, 2001, p. 30). One finding that supports this progressive framework is the difference between problems for "high-bottom*"* and "low-bottom" alcoholics. Low-bottom alcoholics are less likely to enter AA at a high-bottom stage because their social networks include fewer AA members who could take them to a meeting (Young, 2011). Alcoholics who enter AA via a court order are less likely to be high-bottom alcoholics. Mandated referrals are a last resort compared to other modes of entry. Researchers who endorse the effectiveness of coercion also reference this finding. Low-bottom alcoholics may be less motivated than high-bottom alcoholics to pursue recovery. Researchers should focus on identifying specific problems associated with motivational impairment so individuals will use coercion less often or effectively deploy coercion (Young, 2011). Researchers have not associated the age that one starts drinking or the number of years spent drinking with low-bottom status. Less coercive interventions

(e.g., interventions from family members, case workers, and healthcare providers) may be used to trigger recovery before individuals reach low-bottom (Young, 2011).

Meeting Structure

The AA meetings occur in a standard format that includes a reading of the Big Book of AA at the beginning of each session. This early reading includes the preamble, parts of Chapter 3, Chapter 5, and the 12 Traditions. At the end of each meeting, individuals get up and hold hands, symbolizing the circle of AA, and recite the Serenity or the Lord's Prayer. The symbol of AA (i.e., a triangle within a circle) symbolizes recovery, unity, and service. The 12-step program is a program of recovery, and AA leaders consider each step vital to one's rehabilitation and abstinence from alcohol. Officials administering the 12-step program suggest practical ways to cope with addiction through spiritual recovery. Following this paragraph, I present the 12-steps, as presented in the official AA book.

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, and we tried to carry this message to alcoholics and to practice these principles in all our affairs (AA, 2001).

Statistics for AA Recovery

Kelly and Yeterian (2011) studied inpatients from 15 Veterans Administration programs, including 3,018 male inpatients. During a one year follow-up, the researchers determined individuals attending only 12-step meetings were more likely to be abstinent and in remission than patients who received only outpatient treatment. During a two year follow-up, 2, 319 men from the same sample demonstrated AA involvement led to a decrease in alcohol consumption and fewer alcohol related problems.

Magura et al. (2013) wanted to determine whether or not AA participation lead to reduced drinking. In a survey, the researchers used a structural equation model of panel

data with cross-legged partial regression coefficients. Using this method, the researchers analyzed AA outcomes and demonstrated a reciprocal relationship between AA participation and drinking behavior. The sample of 952 participants showed results that strongly supported the researcher's hypothesis: AA involvement lead to increases in alcohol abstinence and reduced drinking problems (Magura et al., 2013).

In Project MATCH, conducted between 1989 and 1998, researchers recruited subjects from outpatient sites and aftercare sites (Magura et al., 2013). More than 90% of the subjects were dependent on alcohol. Volunteers signed an informed consent form and completed a baseline assessment battery before the researchers randomly assigned them to one of three treatment groups: 12-step facilitation therapy, cognitive behavioral therapy, or motivational enhancement therapy. Individuals in the 12-step facilitation therapy and cognitive behavioral therapy groups had 12 weekly sessions. Individuals in the motivational enhancement therapy group had four sessions in three months. Follow-up interviews occurred after three, six, nine, 12, and 15 months after treatment and indicated positive results. In this study, the researchers used structural equation modeling with cross-legged partial regression paths. The researchers revealed the amount of AA involvement strongly predicted the amount of AA participation in subsequent months. The regression paths from AA to the percentage of days absent were statistically significant (Magura et al., 2013).

Data from the National Longitudinal Alcohol Epidemiologic Survey conducted in 1991–1992 and 2001–2002 indicated an increase of alcohol abuse from 3.03% to 4.65%. However, alcohol dependence declined from 4.38% to 3.81% (NIAAA, 2014).

Researchers measured the following age groups: 18–29 years, 30–39 years, 40–49 years, and 50 years or older. The researchers also measured AA nonattendance, continuous involvement with AA, and intermittent participation. According to the results of the study, 85% of the subjects never attended AA. Only 10% of the subjects intermittently attended AA and 5% of the subjects attended AA regularly (NIAAA, 2014).

Social Change in AA Support Systems

AA involvement affects social change within an individual. Alcohol use is a complex phenomenon. An individual's alcohol use is affected by one's cohort lifestyle, one's life events, one's history of alcohol consumption, and social patterns. The presence of perceived AA group cohesion predicted increases in AA attendance, AA activities, and self-reported AA usefulness (Rice & Tonigan, 2012). Rynes, Tonigan, and Rice (2013) investigated whether the quality of social interactions in 12-step groups also predicted substance use outcomes. Participants' perceptions of group engagement were predictive of behavior consistent with the 12-step program and decreased alcohol consumption. The quality of recovery oriented social networks and non-using social network ties emphasized the maintenance of sobriety, treatment adherence, and prevention of relapse. Individuals rely on social interactions and support to reduce their drinking (Jenkins & Tonigan, 2011). When individuals rely on social networks and these networks produce positive change, the effects for overall society, communities, and families are positive.

What Recovery Means

Within the growing body of research, many researchers have suggested facilitating AA involvement can be beneficial for patients (Kelly & Yeterian, 2011).

Recovery means different things for different people. In a survey, given at the Betty Ford Center in Palm Springs, California, 62% of patients defined recovery from addiction as the one addicted stopping the use of whatever it is they are addicted to. Additionally, 22% of respondents reported the one in recovery is free from the disease of addiction and no longer uses alcohol.

Positive Support in AA Recovery

Through AA involvement, individuals acquire skills, including learning how to interact and work with others. Other related activities may include being the secretary of the meeting, becoming a sponsor, or having someone to guide one through the 12 steps of recovery. Females understand the idea of taking care of others, although males focus on individual achievement (Bright et al., 2011). This caretaking may be a reason for increased rates of female recovery. Men are less likely than women to ask for help, which may suggest a strong role of external pressures that keep individuals involved with AA (Witbrodt & Delucchi, 2011).

The use of intensive referral interventions for individuals in the criminal justice system may enhance AA involvement among incarcerated women and men preparing to return to the community (Schonbrun et al., 2011). Developing a closer liaison to health service treatment increases and promotes interventions. This liaison also increases AA involvement.

In Project MATCH, the researchers employed a longitudinal prospective investigation to determine the efficacy of three behavioral treatments for alcohol abuse and dependence. Researchers conducted proportional hazard regressions to identify the

value of helping other alcoholics. In this study, the controlled variable was the number of AA meetings attended. This value determined whether the likelihood of relapse was lower for those who were helping other alcoholics (Pagano et al., 2013). A total of 1,501 out of the initial 1,726 participants completed AAI data and a three month follow-up assessment. Pagano et al. (2013) investigated the effects of meeting attendance, AA related helping, and step-work on long-term outcomes. Data derived from treatment seeking included alcoholics recruited from an outpatient site in Project MATCH and followed for 10 years after the treatment. Results showed significant direct effects of AA related helping and meeting attendance on reduced alcohol use.

Kingree and Thompson (2011) examined the relationship between AA meeting attendance, having a sponsor, and abstinence from alcohol. Researchers recorded measures of AA participation at treatment enrollment, at three month follow-up, and the measures at baseline at a six month follow-up. The researchers revealed meeting attendance was unrelated to abstinence from alcohol. Having a sponsor at three months was associated with abstinence from alcohol at the six month follow-up.

Witbrodt et al. (2014) explored causal relationships between post-treatment 12-step attendance and abstinence at multiple waves. Nine years later, the researchers examined circuitous paths leading from treatment initiation to alcohol abstinence. The researchers followed 1,945 adults seeking help for alcohol and measured their habits after one, five, seven, and nine year intervals. The researchers concluded the participants exhibited more involvement with the 12-step program after one year and after five years, related to 30-day abstinence after five and seven years. The researchers suggested 12-step

involvement leads to abstinence into the post-treatment period, but not vis versa. These researchers provided compelling evidence that recovering alcoholics who help other alcoholics maintain long-term sobriety following formal treatment are better able to maintain their own sobriety.

Krentzman et al. (2011) revealed individuals who achieved at least one year of abstinence were involved in AA. An interruption in sobriety indicates AA involvement decreases over time (Krentzman et al., 2011). Although researchers stated the number of individuals involved with AA compared is smaller than the number of individuals not participating in AA, results indicated positive improvements (Krentzman et al., 2011).

Criticisms of AA Recovery

Although AA is considered one of the most modern therapeutic approaches in the United States (Greenfield & Tonigan, 2013), many individuals criticize the program. Although there were data supporting AA as an effective adjunct to treatment, there were some individuals who disagreed, stating AA is not the cure-all its' proponents purport it to be (Drake, Wallach, & McGovern, 2014). The potential benefits of AA and the program's unique characteristics make it difficult for researchers to resolve the issue of scientific effectiveness (Stevens, 2013). In a review of AA and other 12-step scientific studies by the Cochrane Collaboration (an international organization focused on evidence-based health care practices), the researchers stated AA may help patients in treatment. However, researchers have not indisputably determined the benefits of AA (Stevens, 2013).

Numerous perceptions about AA may be inaccurate or misconstrued (Lee, Engstrom, & Petersen, 2011). Many different programs use the 12 steps. However, these programs vary in the ways service providers use the 12 measures when working with clients. Individuals must discover what works for them. Sometimes addressing denial, as opposed to paying attention to the spiritual aspects of AA, is beneficial (Lee et al., 2011). An enduring criticism of AA is that its' effectiveness has not been subjected to rigorous scientific evaluation by researchers (White, 2014). The American Medical Association endorsed alcoholism as a primary disease in 1956, and the American Psychiatric Association followed suit in 1965 (McCrady & Epstein, 2013). As a result, many individuals believe endorsing alcoholism as a disease allows individuals to refrain from taking responsibility (White, 2014).

The strength of the relationship between adoption of the 12-step program and abstinence from alcohol may vary for individuals with extensive 12-step experiences (Greenfield & Tonigan, 2013). Biswas, Mukherjee, and Basu (2012) showed personality traits and alcohol expectancies may indicate differences in risk factors for alcohol use. Researchers have associated heavy drinking with high power needs, impulsivity, neuroticism, and negative emotionality, which are related to alcohol dependence. Biswas et al. (2012) stated understanding alcohol dependence is the result of social prompting, individual vulnerabilities, and predispositions such as personality factors.

Those who implement the 12-step program can be forceful and offensive when requiring participants to follow guidelines. The ideology of the abstinence only requirement may shatter an individuals' self-esteem. This may cause the individual to

feel doubt about his or her capability of survival or ability to become sober (Lee et al., 2011).

In private treatment, profit-making motives can interfere with treatment because clients select treatment, only if they can afford it. The client's needs and motivations become secondary (Zafiridis & Lainas, 2012). Another threat to the effectiveness of treatment occurs when members of the judicial system impose AA meetings upon individuals who are not addicted to alcohol. This circumstance may have an adverse effect on the operation of the AA group (Zafiridis & Lainas, 2012).

In recent decades, there has been a weakening of the groups' defense mechanisms against both internal and external pressures. Some members do not fully understand the philosophy of the self-help group and do not make use of the 12 steps, or it simply does not interest them. The 12 traditions in AA exist to help individuals remember personal recovery depends on group unity. Use of the 12 traditions emphasizes the only requirement for AA members: a desire to stop drinking. Public relations policy is based on attraction, not promotion. Anonymity is the spiritual foundation of the traditions (AA, 2001, p. 562).

Many individuals impose their perceptions of the workings and objectives of the group. These impositions may cause group dysfunction (Zafiridis & Lainas, 2012). Sociopolitical changes in the environment endanger group goals, therefore causing dysfunction (Zafiridis & Lainas, 2012). When individuals criticize AA groups, they often cite these factors. Other criticisms stem from the existence of other programs and individuals who have different needs. Other forms of therapy may fit the needs of

individuals better than AA fits those needs. The use of school-based alcohol prevention programs, facilitated by computers or the Internet, are more readily available (Champion, Newton, Barrett, & Teesson, 2013).

On the Internet, individuals have the potential to increase self-disclosure and reduce stigmatization about alcohol and drug use. Participants are less likely to feel vulnerable disclosing information online than in face-to-face settings (Champion et al., 2013). Some of the disadvantages of AA lie in the actual programming. Spiritual messages weaved into the program may discourage some individuals from participating. These messages sometimes create a disadvantage, especially if individuals describe themselves as atheists or do not believe in a higher power.

Barriers to Recovery in AA

In this study, I examined the reasons why one may choose not to get involved in AA meetings. The time commitment, changes in patterns of involvement, and engagement with alternative interventions were some reasons individuals stopped attending AA meetings. A lack of motivation to continue, returning to drinking alcohol, or being incarcerated were also reasons individuals stopped attending (Kelly et al., 2011). Also, identifying as atheist or belonging to another faith could cause an individual to stop attending AA.

Many individuals addicted to alcohol oppose formal treatment. Filho and Baltieri (2012) showed the intensity of cravings affect rates of compliance in the treatment of alcoholism. Individuals who craved alcohol tended to avoid speaking to anyone about treatment. Higher depression scores also increase the AA dropout rates (Filho & Baltieri,

2012). Inadequate engagement with family members tends to affect individuals with alcohol problems. Individuals would rather engage in what makes them feel more positive than get involved with something that makes them feel negative (Filho & Baltieri, 2012). When working with these individuals, knowledge of these emotions and feelings could be helpful when determining the best course of action. Krentzman et al. (2012) showed individuals with more social phobias have difficulty with AA involvement because of fears (including the fear of people, large groups, or speaking in front of groups).

If one is a passive, introverted person, participation in AA may be intimidating. Anxiety may become a factor in involvement. Those who do not like large groups may want to find smaller groups. Attending meetings where only a few people are present may be useful for some (Filho & Baltieri, 2012). Some individuals, such as older individuals or those who have been in AA for a prolonged duration, tend to prefer smaller meetings (Filho & Baltieri, 2012).

Motivation and willingness are crucial to an individual's success in completing the 12 steps of recovery and maintaining sobriety. If one feels they do not belong, feels ridiculed, or feels scorned by others, one may not feel comfortable attending AA meetings, thus discouraging his or her involvement with the program. Motivation, a multidimensional construct, may include one's concerns about the need for change, goals, and intentions. The need to take responsibility, the desire to commit, or the perceived need for change may encourage an individual to get involved in AA (Penberthy et al., 2011).

The desire to develop an identity may motivate one to get involved in AA meetings. Or, support from others going through the same thing may motivate one to continue his or her AA involvement (Penberthy et al., 2011). Developing salient social identities and different behavioral norms can significantly influence perceptions of self-efficacy and other related health behaviors (Buckingham et al., 2013). If social status increases self-efficacy, this may enhance one's motivation to achieve his or her goals (Buckingham et al., 2013).

Witbrodt, Kaskutas, Bond, et al. (2012) suggested some alcohol dependent individuals recover with little or no AA involvement, and that some dependent people can stop drinking without specialty treatment or attendance in a 12-step program. More research is required to understand individual differences in maintaining abstinence without treatment or AA involvement. Those who manage themselves better in a structured recovery network alongside others suffering from AUD, may benefit from AA participation (Witbrodt, Kaskutas, Bond et al., 2012).

A lack of knowledge and understanding about AA may contribute to individuals' lack of involvement in the program. As previously stated, there are computer prevention programs that overcome the obstacles in AA programs. These prevention programs offer advantages compared to the traditional drug prevention methods. These programs are less restrictive in their availability and have reduced implementation costs. Individuals who choose to use these programs can update the materials with ease and overcome the geographical limitations of AA (Champion et al., 2013).

Reasons for Relapse

Psychosocial stressors promote drinking in both men and women with alcohol dependence (Thomas, Bacon, Randall, Brady, & See, 2011). Attendance at AA meetings may decrease relapse rates. Increased AA attendance facilitates a substantial decline in prodrinking social ties and significant, but less substantial, increases in pro-abstinent ties (Kelly et al., 2011). One of the mechanisms through which these recovery-related benefits may confer is the mobilization of adaptive social network changes, which support sober activities. Changes in what one does, and with whom, could reduce exposure to alcohol-related cues, thereby reducing cue-induced cravings and the risk of a relapse (Kelly et al., 2011). Researchers found mixed results when studying the factors that improved outcomes surrounding AA involvement and gender related issues regarding AA participation. Previous researchers showed a correlation between gender and degree of abstinence over time (Witbrodt & Delucchi, 2011). Other researchers explored the odds of achieving sobriety (Krentzman et al., 2012).

Interpersonal conflicts with intimate partners, conflict with family members, and military service systems are significant triggers for relapse. Women affected by trauma, such as spousal abuse, tend to abuse alcohol more than others because of coping and stress issues (Bright et al., 2011). Further research regarding stress related factors could support the effects of stressful life events on alcohol consumption (Keyes, Hatzenbuchler, & Hasin, 2011). However, researchers have not reached a consensus on the specificity of these associations regarding gender. Other types of stressful experiences causing one to drink may include fateful or catastrophic events, child maltreatment, interpersonal strife,

occupational stress, financial trouble, legal trouble, and stress as a result of ethnicity or oppression (Keyes, Hatzenbuchler, et al., 2011).

A study by Jones et al. (2012), showed those who overestimate their degree of drinking restraint and control regarding drinking may be more likely to relapse or consume large amounts of alcohol. Those who exceed their limits are usually the ones who are at higher risk of drinking when exposed to tempting situations (Jones et al., 2012). According to Kelly and Yeterian (2011), AA leaders promote abstinence and recovery, and therefore promote significant changes in the social processes and the reduction of exposure and engagement with drinking. This recovery adjunct appears to be an influential community resource, effectively mobilizing adaptive social changes (Kelly, Stout, Magill, & Tonigan, 2011).

Alcohol Consumption

Some researchers support further investigation regarding the effects of stressful life events on alcohol consumption (Keyes, Hatzenbuchler, et al., 2011). Evidence indicated increases in alcohol consumption in the short-term are associated with stress (Keyes, Hatzenbuchler, et al., 2011). Alcohol, a legal drug, plays a large role in society. The legality of alcohol may make it more challenging to abstain. There are many social functions such as weddings, anniversaries, birthdays, and parties where individuals use alcohol as part of the "fun" (Patra et al., 2012). The average U.S. adolescent is exposed to references to alcohol in popular music on a daily basis (Primack, Nuzzo, Rice, & Sargent, 2011).

Individuals may want to feel included and fit in with their peer groups (Keyes, Hatzenbuchler, et al., 2011). Stress, which is caused by external stimuli that are threatening or harmful may cause alcohol consumption. These stimuli elicit anger, fear, excitement, sadness, or other negative effects (Keyes, Hatzenbuchler, et al., 2011). Alcohol use could be a response to a disaster, such as an earthquake, a terrorist attack, a flood, a hurricane, a fire, or the loss of a home. Ill health could cause one to become depressed and drink alcohol. Lastly, individuals at war are often stressed and need a break from the routine and demands of fighting, which may elicit a reliance on alcohol.

Terrorism and disasters. Researchers determined a change in alcohol consumption rates after September 11, 2001, where there were terrorist attacks on the World Trade Center in New York and on the Pentagon in Washington D.C. The data from this study indicated alcohol consumption increased in New York City during this time (Keyes, Hatzenbuchler, et al., 2011). Keyes and Hatzenbuchler, et al. (2011) stated individuals in close proximity to the attack showed increases in alcohol consumption, including people living in Connecticut, New York, and New Jersey. Even from one week to two years after the 9/11 attacks in New York, researchers revealed increased alcohol consumption (Keyes, Hatzenbuchler, et al., 2011). People with pre-existing alcohol problems were more likely to increase their drinking rates during moments of crisis. However, inconsistencies exist within this claim. Researchers have found examples when there were no changes in alcohol consumption rates after a disaster or other traumatic event. For example, following the bombings in Oklahoma City, there were no reports of an increase in drinking rates. However, the average rates of drinking increased following

Hurricane Katrina, but survivors of Hurricane Andrew did not appear to increase their drinking rates (Keyes, Hatzenbuchler, et al., 2011).

Social problems. Childhood maltreatment during the first 18 years of one's life includes sexual, emotional, and physical abuse, which could become a primary motivation for alcohol consumption. Other issues, such as genetic vulnerability to alcohol, comorbid psychopathology, and poor parenting practices may increase the likelihood of alcohol abuse. Financial crisis, violent crime, and divorce may increase one's consumption of alcohol (Keyes, Li, et al., 2011). If one is in a stressful situation, such as enrollment in the military, alcohol use may increase (Skomorovsky & Lee, 2012).

Unrealistic beliefs about one's ability to control or curb the amount one drinks can negatively influence how much one will actually drink. Sometimes individuals over or underestimate their ability to control themselves or refrain from drinking alcohol (Jones et al., 2012). Overconfidence may be detrimental to one's ability to abstain from alcohol use. Fighting the temptation to drink decreases self-control, and may affect one's ability to abstain from drinking. If one's self-control is weak, this may override one's motivation and push one to exhibit problematic drinking behavior (Teunissen, Spijkerman, Schoenmakers, Vohs, & Engels, 2012).

Alcohol Use/Trends in Marketing

Alcohol marketing trends may have a large role in one's drinking habits. The recent expansion of marketing skills, financial resources, and websites provide interactive environments for individuals to engage with, thereby increasing their alcohol consumption (Casswell, 2012). With the presence of the Internet, marketing strategies

transcend national boundaries and increase the marketing models available for consumers (Casswell, 2012). These trends and resources increase positive attitudes and beliefs about alcohol, affecting young peoples' perceptions of how much their friends drink and how much they consume when they do drink. Different levels of exposure and different cultural norms may influence how often one drinks alcohol. Casswell (2012) revealed that a 28% increase in marketing yielded a 14% increase in sales in both Europe and the United States, compared to a 6% increase in worldwide sales. Marketing alcohol is essential for businesses. As previously stated, culture determines the cost of marketing, marketing trends, and an individual's motivation to consume alcoholic beverages.

Reasons Individuals Refrain from Alcohol Consumption

There are many reasons one decides not to consume alcohol, including religion, a distaste for alcohol, the way alcohol affects a person, or moral choice. Having seen what alcohol does to a family member and how it causes marital and family problems may cause one to refrain from drinking (CDC, 2012). One may stop drinking because of their continuous involvement with legal entities, the risk of losing a job, or health problems such as cirrhosis of the liver, heart failure, kidney failures, or pancreatic problems. One's spouse may threaten the individual with divorce and legal custody of children.

Cultural expectancies regarding gender norms affect one's acculturation and exposure to alcohol use. If an individual's culture places a stigma on alcohol use, the chances of using alcohol may decrease, especially for people of certain genders (Cheng et al., 2012). As previously mentioned, women may experience a larger burden or increased shame regarding alcohol consumption, compared to men (Cheng et al., 2012). It is crucial

for helpers to understand the stigmas and cultural backgrounds when assessing an individual.

Summary and Conclusions

Chapter 2 contained a literature review about research studies on the history of AA. I assessed why individuals attended AA and what happened to those who became involved in AA. I introduced information about why some individuals do not attend AA, and how and why individuals abstain from alcohol use. In this review, I included studies that revealed differences in gender and impulsivity and how these variables affected AA involvement and abstaining from alcohol. To fill the research gap, I assessed differences in gender and impulsivity and how these traits affected one's AA involvement.

An empowerment process could assist an individual in successful recovery from alcohol dependence. If emotional and cultural influences support this process, it may be a breakthrough for the individual. Alcohol misuse is prevalent and poses many health risks, including AUDs, heart disease, cancer, and sexual risk-taking, particularly among women (Reed et al., 2012). I aimed to reveal information that will sustain men and women through the 12-step process and increase attendance at AA meetings.

Impulsive traits change with time, which may explain how these features affect one's performance. Impulsivity is a multifaceted construct including sensation-seeking, risk-taking, and poor decision-making. I examined the facets of impulsivity that were most affected by specific aspects of AA. Identifying elements may have accounted for the reduction in impulsivity (Blonigen et al., 2013).

In this study, I assessed the meaning of AA involvement and how different variables mediated AA participation. Further, I attempted to determine the stressors causing individuals to drink. I examined the roles of gender, impulsive urges, and other demographic data on AA involvement. Through this process, I gained meaning and purpose regarding the future development of this topic. Self-regulation skills highlighted the importance of this study by emphasizing therapeutic techniques that improve emotions.

Chapter 3: Research Method

Background

In this study, I attempted to understand the relationship between gender in AA involvement and the effect of impulsivity on gender, regarding AA participation. I explored the levels of participation by socio-demographic characteristics such as age, marital status, educational level, and ethnicity. The information I obtained in this study may inform professionals, the public, and families as to why individuals choose to participate in AA and how impulsivity impacts the choice to participate in AA. In the following chapter, I provide information on the research design and why the particular design was chosen. I also provide the setting and sample as well as data collection procedures and instruments used to assess participant behaviors. In the analysis, I reveal the power of the research and how data was transcribed. I show the accuracy of the study through the test-retest reliability of the instruments and the ethical standards of the study.

Research Design and Rationale

For this study, I used a correlational, quantitative, nonexperimental design; the research design did not involve a manipulation of the situation, circumstances, or experiences of the participants. Numerical data was assessed to describe, explain, or predict relationships between variables (Neale et al., 2014). The independent variables included gender and impulsivity and the dependent variable was AA involvement/attendance. Covariate variables were taken from the demographic sheet to include age, ethnic background, marital status, educational status, and the number of meetings one had attended in the last year and in a participant's lifetime.

Confounding variables regarding impulsivity, taken from the BIS-15, Short Form included not paying attention, planning tasks, doing things without thinking, acting on impulse, buying things on impulse, or planning for the future. Other confounding variables taken from the AAI included the number of meetings attended within the last year, how many meetings an individual had attended in his or her lifetime, whether an individual had been a sponsor or not, and whether an individual had completed service work. The use of numbers to describe sample characteristics (e.g., number of participants and key demographics) was essential for comparing the variables and reaching conclusions. I used a relational design by measuring and comparing a range of variables as they existed in nature, meaning I did not manipulate the variables. Time to complete the surveys took approximately 5 to 10 minutes, so there were minimal time constraints.

Methodology

I used nonexperimental, purposeful sampling to determine the extent of a relationship between two or more variables. These variables included the independent variables of gender and impulsivity, and the dependent variable included AA involvement. I obtained data through survey methodology, which was useful for measuring characteristics at a single point in time, as it was the most standardized and efficient way of gathering data from a large group of people (Trochim, 2006). This method was appropriate because it addressed how gender varied in AA involvement and whether impulsivity motivated AA involvement, which addressed the lack of research on gender and impulsive traits.

I used two standardized questionnaires, giving a diverse group of individuals participating in AA an opportunity to respond. The surveys used in the study included the AAI and the BIS-15 Short Form. A demographic questionnaire was also included, which added to other measures and assessed age, gender, ethnic background, marital status, and education level. Assessing these measures, I determined how AA involvement was affected**.** Demographic variables determined the relationship between the dependent variables of impulsivity and gender.

I looked for trends and patterns in the data, but I did not establish cause and effect for them. Data, relationships, and distributions of variables were observed only. I included both fixed (e.g., gender, ethnicity) and time-varying (attitudes, behaviors, etc.) model effects when measuring impulsive behaviors (Jason et al., 2014). Variables were not manipulated; they were only identified and studied as they occurred in a natural setting.

Sometimes correlational research is considered a type of descriptive research and not as its method of research, as no variables were manipulated in the study. Descriptive statistics included demographic measures of age, gender, ethnicity, education, and impulsive natures/behaviors. The calculation depended on the expected themes and prevalence of main ideas (Fugard & Potts, 2015). The effect size included enough participants to gain 85% interest and significance of capturing themes (Fugard & Potts, 2015). The higher reliability, the more consistent the sample was.

Population

The target population consisted of 136 participants: 84 men and 52 women. The target population was taken from an urban location in a Western state. Population for this study included individuals who chose to participate due to interest and motivation. The goal was to gain a balanced participant pool. Participants ranged in demographic data, including ethnic background, age group, educational group, and marital status. Other concerns included the availability of participants and other resources such as researcher time. The size was taken from a chosen probability of finding a statistically significant results (power) for a given population effect magnitude (Fugard & Potts, 2015).

Sampling and Sampling Procedures

There were 136 participants in the sampling group. Coding for demographics included the following: marital status was coded into three categories consisting of married, single, and other. Education was coded into some high school, high school graduate, junior college, bachelor's degree, and graduate degree. Ethnicity was coded into *Caucasian*, *Hispanic*, *African American*, and *Other*. The AAI used a binary code (i.e., one or two) for "yes" or "no" answers. Items on the subscales in the BIS-Short Form-15 were scored one through four. One was *rarely/never*, two was *occasionally*, three was for *often*, and four was for *almost always* (Spinella, 2007). The nonplanning subscales included questions one, five, seven, eight, and 15. The motor impulsivity subscales involved questions two, nine, 10, 12, and 13, and the attentional impulsivity questions involved three, four, six, 11, and 15, respectively.

A larger population was appropriate for data collection, as the costs were low and multiple variables were effectively analyzed using two surveys. Participants privately filled out surveys, minimizing levels of stress for participants. Everyone in AA or other alcohol treatment centers had an equal opportunity to participate. Voluntary commitment to participate excluded any form of manipulation or coercion to get involved in the study.

Procedures for Recruitment, Participation, and Data Collection

I corresponded with managers and secretaries of AA meetings and sober living houses to obtain permission to give the surveys to individuals. Potential participants received two surveys to complete. Secretaries of meetings allowed the researcher to announce at the end of the meetings why the survey was being conducted. Informed consent was provided in the explanation that participation was strictly voluntary. Surveys were collected as participants completed them at the meetings. Each participant placed the surveys into a sealed envelope.

Participants voluntarily completed reviews, and no one saw the results except the researcher. Surveys were dropped off at sober living houses and left with the manager. Participants completed the surveys during an in-house meeting. The manager explained the purpose of the surveys to the voluntary participants. Upon completion, the manager of the house collected the surveys, placed them in an envelope, and sealed the envelope. The researcher collected the sealed surveys at a specified date. The procedures maintained an individual's confidentiality and protection, as no names were put on the surveys. Information was given to each participant explaining that the surveys were strictly confidential.

I assessed AA involvement based on both gender and impulsive behaviors. Upon IRB approval, surveys were distributed. Participants were briefed that the investigation was for educational and research purposes only. Care was taken to ensure that members fully understood the nature of the research and that participation was voluntary. Consideration of these issues was necessary for ensuring the privacy as well as the security of the participants. If the members chose not to participate for whatever reason, this was accepted and adhered to. Any participant was free to withdraw from the research at any time. If any negative consequences appeared, these were handled with the participant. For example, if someone decided not to participate once he/she began taking a survey, then the participant could stop taking the survey at any time. Incomplete surveys were destroyed by shredding upon receipt. There were no follow-up interviews.

Instrumentation and Operationalization of Constructs

Alcoholics Anonymous Involvement Index. The AAI is used to assess involvement in AA (Tonigan, Connors, & Miller, 1996). This AA participation includes celebrating an AA sobriety birthday, having a sponsor, being a proponent, and whether one has been in treatment or not. The AAI is a 13-item self-report inventory that measured lifetime, recent attendance, and involvement in AA (Tonigan et al., 1996). AAI items one through seven and 13 are scored dichotomously with no = 0 and yes = 1. Items 10, 11, and 12 are converted to deciles that are then separately divided by 10, resulting in a value ranging between .1 and 1.00 for each item (Tonigan et al., 1996). Scores render the sum of positive responses on seven of the scale's items. The number of 12 steps

completed are assessed by the tool based on attendance and how many meetings one attended in the last year.

AAI can serve as a reliable and useful instrument for assessing AA involvement (Tonigan et al., 1996). Tonigan et al. (1996) showed good internal consistency using the AAI with 1,726 participants in one sample and 82 participants in a second sample. Tonigan et al. (1996) used Cronbach's alpha and found the total AAI scale (a = .85), and each of the 11 items correlated with the total scale score at or above .30. The Attendance subscale also had good internal consistency (a = .85), and correlations between each of the four items and the total subscale score were high. All raw scores (rs) were above .65 (Tonigan et al., 1996). Test-retest comparisons of AAI identified to reveal the following scales. For the sample (N = 76), Cronbach alphas for the AAI composite and Attendance and Involvement subscales were .76, .91, and .59, respectively. Lower estimates of item consistency, obtained for the AAI composite and Attendance and Involvement scales, revealed .68, .70, and .65 respectively (Tonigan et al., 1996).

Barratt Impulsivity Scale - 15-Item, Short Form. The BIS-15, Short Form is a shorter version of a well-known measure of impulsivity in clinical and community samples (Spinella, 2007), which reliably measures three subscales. The subscales include attentional impulsiveness (BISa), involving the ability to maintain concentration; motor impulsiveness (BISm), referring to the process of acting without thinking; and nonplanning impulsiveness (BISnp), characterized by inversely scored questions such as "I am a careful thinker" or "I plan for job security" (Spinella, 2007). Each item scores on a 4-point scale, one corresponding with "*rarely or never*" engaging in the given behavior

and four with "*almost always*." The fact that professionals use the BIS-15, Short Form in researching clinical populations, neurological measures, and neuroimaging studies (Spinella, 2007) emphasizes the validity and usefulness of this self-rating instrument. BIS scores correlate with behavior and personality characteristics in normal community samples and with objective neuropsychological measures of impulsivity (Spinella, 2007). Due to time constraints and good reliability and validity, I chose the BIS-15, Short Form for this study.

Participants used in the methods to obtain data for the 15-item version of the BIS-15, Short Form included 49 women and 51 men, a total of 100 participants. Participants' ages ranged from 17 to 57 years (M = 27.0, SD = 11.2), and they had completed between 8 and 18 years of education (M = 14.0, SD = 2.3). The short version of the BIS-15, Short Form correlated strongly with the full version and showed increased intra-scale reliability about the full-length BIS in a nonclinical, community sample. The BIS-15 carries a Cronbach's alpha at .79. (Spinella, 2007). The BIS-15 is not time-consuming and gives a researcher information about an individual's impulsive tendencies.

Test-Retest Reliability and Consistency of Instruments

The AAI provides normative data. Data based on a national sample of participants in alcoholism treatment (N = 1,625) yielded good results. The AAI response stability is reported by using a test-retest sample (N = 76). Researchers have used the AAI as a reliable instrument for assessing AA involvement (Tonigan, et al., 1996). For example, Tonigan et al. (1996) conducted a study with 1,726 clients participating in Project MATCH, a national multisite clinical trial of customer treatment matching (Tonigan et

al., 1996). Demographic measures in the study included age, education, days since most recent drink, gender, marital and employment status, ethnicity, and the number of drinking days in past 90 days. Exploratory factor analysis included attendance, accounting for 40% of the variance, and involvement, accounting for 9% of the variance. The number of AA steps equally correlated with each factor (.52) but was interpreted within the Involvement factor because of item content. The correlation between the subscale scores for these two factors was $r = .64$ (Tonigan et al., 1996). Internal item consistency (Cronbach alpha) was found for the total AAI scale ($\alpha = .85$). The Attendance subscale had good internal consistency ($\alpha = .85$). The eight items in the AA Involvement subscale correlated at or above .30 and the Cronbach alpha was .77 (Tonigan et al., 1996). A second-factor analysis was conducted using clients reporting some lifetime or past year AA attendance ($n = 1,272$). This analysis was to determine if a different underlying AAI structure would be present when excluded, non-exposed clients were involved. Involvement accounted for most of the variance in AAI responses (39%), and Attendance accounted for the remaining 14% of the variance, correlating the two factors at .52.

Tonigan et al. (1996) also conducted a sample with 82 participants, 76 of whom provided complete responses. The following data provided test-retest comparisons of AAI responses for the item, factor, and composite AAI scale levels. Categorical elements such as kappa coefficients were reported to reduce the influence of chance agreement and continuous questions. AAI scale test-retest comparisons were made by using the Pearson correlations. Comparisons indicate prior AA attendance for the total sample. This sample

was used to provide an estimate of reliability, due to responses of individuals who had no prior exposure to AA attendance could inflate reliability estimates (Tonigan et al., 1996).

I found that test-retest relationships in the current study were reflected after removing an outlier (> 4 *SD*) and standard deviations. I computed internal item consistency for the AAI composite score and the two subscales by using the initial test administration data for the total sample and the prior AA subsample. Baseline values are included to control for previous AA participation. Scores were rendered by finding the sum of the positive responses of seven of the scale's items, and scores were computed using a dichotomous response set. Scores were in a range of possible scores from zero to seven (a = .83).

The BIS-15, Short Form version has items from three nonoverlapping scales, showing retest reliability between .61 and .78 (Spinella, 2007) of the BIS-15, Short Form. Several researchers who used the BIS-15, Short Form suggest its validity. Clinicians have used the BIS-15, Short Form in neuroimaging and neuropsychological measures (Spinella, 2007). The BIS-15, Short Form has maintained reliability for nonplanning, motor impulsivity, and attentional impulsivity. Linear regression of demographic variables predicted the total score was significant, $F(3, 695) = 26.8$, $p < .001$ in Spinella's 2007) study. Men scored higher than women, and scores tended to decrease with age and education. Spinella (2007) indicated that scores were normally distributed in a one-sample Kolmogorov-Smirnov Test ($Z = 1.02$, $p = .249$), with two-tailed significance.

Scores decreased with age and education in Spinella's study. The sex differences (males scoring higher than females) fell to marginal significance ($p = .059$). However, the

coefficients for all three demographic variables were equivalent (Spinella, 2007). Evenly distributed scores indicate, by a Kolmogorov-Smirnov test, ($Z = 1.15$, $p = .14$) two-tailed significance. BIS-15, Short Form scores correlated with the total scores of the full test (BIS-30) ($r = .94$, $p < .001$). The scores also correlated with the total of the remainder items not included in the BIS-15, Short Form ($r = .65$, $p < .001$) (Spinella, 2007). Participants ($n = 100$); 49 women and 51 men, recruited by word-of-mouth. Subjects ranged in age from 17 to 57 years ($M = 27.0$, $SD = 11.2$), and had completed between eight and 18 years of education ($M = 14.0$, $SD = 2.3$). Scores indicated proper intra-scale reliability, serving as a useful alternative while retaining good psychometric properties (Spinella, 2007).

I found the roles of gender and impulsivity in AA involvement from the scores of explanatory variables taken from surveys, and I noted whether variables were significant or explanatory.

Data Analysis Plan

The aim of the analysis explored the following research questions and hypotheses.

1. Are there gender differences in AA involvement?

H_{a1}: Women demonstrate significantly higher levels of AA involvement than men as measured by the AAI Scale.

H_{01}: Women do not show significantly higher levels of AA involvement than men as measured by the AAI Scale.

2. Are there relationships between impulsivity and AA involvement?

H_{a2}: Lower levels of impulsivity as measured by the BSI-15, Short Form positively correlate with AA attendance/involvement.

H_{02}: Lower levels of impulsivity as measured by the BSI-15, Short Form negatively correlate with AA attendance/involvement.

3. Does gender moderate the relationship between impulsivity and AA involvement?

H_{a3}: Women attend AA longer than men do and become more involved than males do.

H_{03}: Women do not attend AA longer than men do and do not become more involved than males do.

For the first research question in this study, I used an ANCOVA to evaluate the independent variable of gender using age, ethnicity, marital status, and education, and the dependent variable of AA involvement as the covariates. I also assessed other continuous variables of AA attendance including the total number of AA meetings individuals attended last year and the number of steps individuals completed.

For the second research question, I used an ANCOVA to evaluate the mean levels of impulsivity and the significance of AA involvement. I assessed covariates of age, ethnicity, marital status, and education. I used continuous variables (i.e., planning tasks, doing things without thinking, not paying attention, planning for the future, acting on impulse, buying things on impulse, and squirming at plays) to assess impulsive nature. In the analysis for Research Question 1 and 2, I identified the variables that were significantly associated with the independent variables (gender and impulsivity) and the

dependent variable (AA involvement). After I completed and obtained the data, I sufficiently cleaned the data and used screening procedures. Therefore, I eliminated the need for further use of the data.

For the third research question, I used a moderation analysis to assess whether a significant relationship between the independent variable (impulsivity) and the dependent variable (AA involvement) existed. I determined the analysis through calculations for multiple regression analysis taken from the Statistics Calculators Index (Soper, 2017) and Cohen's (1992) statistical power analysis. Using the statistical power analysis, I exploited the relationships among the four variables: sample size (*N*), significance criterion (*a*), population effect size (ES), and statistical power (Cohen, 1992). Based on the anticipated effect size (*f*2) of 0.20, the desired statistical power level of .80, there were five predictors. In this study, I used a probability level of 0.05, and the minimum required sample size was 70 (Soper, 2017). After participants completed the surveys, I conducted a power analysis through the Statistical Package for Social Science, Version 23. I obtained a G-power after I collected the data. After inputting the data, I checked for outliers, missing data values, and runs that were appropriate for scoring. Through descriptive statistics and multiple correlations, I revealed sociodemographic characteristics.

Using explanatory variables such as gender and age and recording survey answers revealed how each variable affects AA involvement. Based on the results, I indicated whether each variable was significant and explanatory (Ockey, 2011). Confidence

intervals were .80. I also included p-values and parameter estimates were. I interpreted the results and analyzed the data.

Threats to Validity

External Validity

An individual's location may produce minimal disturbances in external validity. The locations I selected for this study may have contained many participants, or few participants. In this study, minor threats to validity existed because I administered two surveys at one time in a comfortable environment. To maintain confidentiality and anonymity, I did not use names on either the survey or the demographic sheet. I administered the surveys at local meeting venues and sober living houses. I had limited resources to gather interested participants because many of the centers had strict regulations and confidentiality procedures.

Internal Validity

Each participant in this study received the same survey. At each location, I administered the surveys at the same time. Age factors and the particular instruments I used did not pose a threat to the validity of the study. I administered the surveys to individuals of varying ages, except minors, therefore a minimal threat existed. I did not perceive a threat regarding time differences because I administered the surveys at one time. I perceived minimal threats to internal validity for this study. Each participant's biases, opinions, and inner conflicts posed some threat, but for most participants, this threat was minimal to nonexistent. I desired a balanced pool of participants from various ethnic backgrounds, age groups, and genders. Varying levels of education among

participants could have minimized certain participants' understanding of some questions, especially for the BIS-15 short form, because the individuals had to understand a Likert scale ranging from 1–4 and know what each number meant to obtain an accurate score. I expected minimal to no risks to those participating. The survey did not take long to complete, therefore decreasing the amount of stress and fatigue for participants.

Construct Validity

The AAI is easy to understand because the questions require yes or no answers with the exception of two questions that require a numerical value. Participants may have had a more challenging experience when understanding the BIS-15 short form, because of the Likert-type scale, ranging from 1–4. Each number represented a different response of a scale, including 1 (*rarely/never)*, 2 (*occasionally)*, 3 (*often*), and 4 (*almost always*). If participants forgot information, that could have posed a threat to the validity of the results. Overall, threat seemed minimal. The demographic sheet was self-explanatory, and participants should not have had any problems answering that part of the assessment.

Ethical Considerations

I drafted this study in a clear and concise manner, which prevented conflict from respondents. I made agreements with participants to gain access to their information through the IRB review process. I maintained confidentiality at all times and showed integrity. I obtained informed consent from each participant before starting the survey. I used a solid, theoretical rationale to minimize risk. I kept personal information and data in a secure location in my home and will keep the data for a minimum of five years. At that time, I will destroy the information using a shredder. As the researcher, I am the only

person who had access to this information, and under no circumstances did I distribute data to anyone. At the beginning of the research, I gave participants a waiver of confidentiality, stating I would not disclose confidential information. I obtained institutional permissions, including Walden University's IRB approval. The approval number of this study was 04-07-17-0031199. If needed, participants could have contacted the chair for specific concerns.

I addressed ethical concerns related to recruitment materials and processes. If a participant decided not to participate after starting the survey, the individual could refrain from continuing. The study was strictly voluntary and anonymous. I did not include names on the surveys. Information gained in the study gave professionals and the community valuable insight regarding individuals with excessive alcohol use. Furthermore, data obtained continues to help and support future endeavors working with individuals diagnosed with AUD.

I gave participants full disclosure regarding the nature of the study before giving them the informed consent form. I briefed participants about the survey. I told participants the survey was for educational and research purposes only. I ensured participants fully understood the nature of the study and that participation was voluntary. I stated confidentiality would be maintained at all times. I expected minimal to no risks for participation in this study.

Summary

Chapter 3 involved the methods used in the study and tools used to assess participant behaviors. In this chapter, I included the purpose of the research, the research

design, the methodology, and the tools and assessments used to gain information from individuals in the study. To conclude this chapter, I detailed the setting, the number of participants, the modes of analysis, and the ethical considerations. I obtained data in a concise manner that revealed information useful for myself and future researchers.

I used tools to obtain data in a quick, efficient manner. Enough participants took the survey and provided valid and reliable data. I used a quantitative, nonexperimental design to obtain numerical data. I analyzed the data to describe, explain, and predict relationships between gender and impulsivity. Participants were located in a large, southwestern locale in the United States. I administered two tools in this study. These instruments included the AAI and the BSI-15. Using the results obtained in the study, I provided useful information for professionals, families, and communities for supporting appropriate intervention practices and helping individuals who have AUD.

In Chapter 4, I address the results and show revealing information for future work with individuals who have AUDs. I address the reliability and validity of the instruments to determine results. I use a variety of tables to depict the results in a way that is easy to read and understand. I explain the analysis, the research questions, and the hypothesis and show the significance of each question in the study. For each research question, I assessed the role each variable has in AA involvement. I explain these findings and results in Chapter 4.

Chapter 4: Results

Purpose of the Study

The goal of this study was to understand the relationship between gender and AA involvement and the role that impulsivity has on gender regarding AA participation. I intended to guide professionals, families, and communities with information that can be used in future work supporting individuals who have AUD. Information obtained from these results could allow someone to recognize the relationship between behaviors such as impulsivity in regard to AA involvement. Research questions involved in the study included: (a) whether there are gender differences in AA involvement, (b) whether there are relationships between impulsivity and AA involvement, and (c) whether gender moderates the relationship between impulsivity and AA involvement. Alternate hypothesis one was that women demonstrate significantly higher levels of AA involvement than men, as measured by the AAI scale. Alternate hypothesis two was that levels of impulsivity, as measured by the BIS-15, Short Form were correlated with AA attendance/involvement or not. The third alternate hypothesis was that women attend AA longer than men do and become more involved than men do.

By determining the role that gender plays in AA involvement, professionals have more information for intervention practices throughout the therapeutic process. Knowledge on the relationships between impulsivity and AA involvement can lead to better intervention practices.

In this chapter, I present the results of the analyses described in Chapter 3. First, I will describe the data collection procedures, then I will outline the data cleaning and

coding procedures. Finally, I will present the results of the main analyses organized by research questions.

Data Collection

The time frame for data collection was 3 weeks and 2 days. The response rate was 95%, as 136 agreed to participate out of 143 surveys given. The number of participants included 84 men and 52 women for a total of 136 individuals. I took the sample from people who attend AA meetings and individuals who live in sober living houses. I gave surveys to fifteen AA meetings and four sober living houses. This was only a partial representation of the number of meetings in the local, Western state, as there are hundreds of meetings each week and many more houses in the area.

Data Cleaning and Coding

A sample of 136 participants completed the survey. Outliers were assessed using Tabachnick & Fidell's (2013) guidelines, where standardized (*Z*) scores are created and then assessed for values beyond ±3.29 standard deviations from the mean. No outliers were found. There were no participants with substantial missing data (i.e., > 50%), therefore, the full sample of 136 participants was used.

Due to small cell frequencies, some categories were combined in the marital status, education, and ethnicity variables to compute the ANOVA models. Additionally, dummy coding was also performed to produce dichotomous independent variables appropriate for the regression analysis. Marital status was recoded into two categories: *married* and *other. Other* was coded as the reference category. The category of *other* consists of those who are single, divorced, separated, and widowed. Education was

recoded into *high school graduate or less and junior college and above. High school graduate or less* was coded as the reference category. Ethnicity was recoded into one dummy-coded variable: *Caucasian* with *Other*, which includes the category of minority categories as the reference category. In order to be used as a categorical grouping variable in the ANOVA models, impulsivity was dichotomized using a median split; every case with an impulsivity score above the median of 1.98 was categorized as *high*, and every case with an impulsivity score of 1.98 or less was categorized as *low*.

Descriptive Statistics

Frequencies and percentages were shown for demographics including age, ethnic groups, marital status, and educational levels. Table 1 presents all frequencies and percentages of these demographic characteristics. Table 1 also presents these frequencies by gender. The largest proportion of the sample consisted of 47-57 year-olds (n = 40, 29.6%), men (n = 84, 61.8%), and Caucasian (n = 67, 50.4%). Most participants were single (n = 64, 47.4%), and the largest proportions had either attended junior college (n = 46, 33.8%) or graduated high school (n = 45, 33.1%).

Table 1

Frequencies and Percentages of Demographic Characteristics

Variable		Total		Male		Female	
		n	%	*n*	%	*n*	%
Age	18 – 25	12	8.9	8	9.6	4	7.7
	26 – 35	19	14.1	11	13.3	8	15.4
	36 – 46	19	14.1	14	16.9	5	9.6
	47 – 57	40	29.6	25	30.1	15	28.8
	58 – 69	35	25.9	19	22.9	16	30.8
	70 – 79	10	7.4	6	7.2	4	7.7
Gender	Men	84	61.8	-	-	-	-
	Women	52	38.2	-	-	-	-
Marital Status	Married	34	25.2	24	28.9	10	19.2
	Single	64	47.4	41	49.4	23	44.2
	Divorced	28	20.7	14	16.9	14	26.9
	Separated	7	5.2	4	4.8	3	5.8
	Widowed	2	1.5	0	0.0	2	3.8
Ethnicity	Caucasian	67	50.4	37	45.1	30	58.8
	Hispanic	26	19.5	17	20.7	9	17.6
	African American	20	15.0	15	18.3	5	9.8
	Asian	7	5.3	6	7.3	1	2.0
	American Indian	5	3.8	3	3.7	2	3.9
	Other	8	6.0	4	4.9	4	7.8
Education	Some High School	11	8.1	4	4.8	7	13.5
	High School Graduate	45	33.1	35	41.7	10	19.2
	Junior College	46	33.8	31	36.9	15	28.8
	Bachelor's	27	19.9	13	15.5	14	26.9
	Master's	6	4.4	1	1.2	5	9.6
	Doctorate	1	0.7	0	0.0	1	1.9

I assessed demographic variables by gender using a series of chi squares to determine whether the categories of gender were associated with the categories of each demographic variable. Due to the increased possibility of committing a type 1 error, the Bonferroni adjustment was applied by dividing the alpha ($p = .05$) by the number of comparisons being made. As such, the alpha level to be considered was $p = .013$. Unless otherwise noted, these chi squares were conducted using the original categories of the variables rather than the recoded variables. Table 2 presents the results for each chi square.

The chi square between gender and age was not significant $\chi2(5) = 2.23$, $p = .817$, indicating that there is not a significant relationship between gender and age. The chi square for marital status could not be computed because of small cell frequencies. As such, the recoded categories of *married* and *other* were used. The results of this chi square were not significant, $\chi2(1) = 1.59$, $p = .207$, suggesting that gender and marital status could be independent of one another. The results of the chi square test were not significant for ethnicity, $\chi2(5) = 5.01$, $p = .415$, suggesting that gender and ethnicity are not associated. The chi square for education could not be computed due to small cell frequencies, so the recoded categories of *high school graduate or less* and *junior college or higher* were used. This chi square was not significant, $\chi2(1) = 2.50$, $p = .114$, suggesting that gender and education could be independent of one another.

Table 2

Chi Squares Between Demographic Variables and Gender

Variable	Chi Square with Gender	
	χ^2	*p*
Age	2.23	.817
Marital Status	1.59	.207
Ethnicity	5.04	.415
Education	2.50	.114

Table 3 presents the frequencies and percentages of categorical AA-related variables in total and by gender. All but one participant had attended an AA meeting (*n* = 135, 99.3%), and all but two had attended an AA meeting in the last year (*n* = 134, 98.5%). The majority were AA members (*n* = 118, 86.8%), had gone to 90 AA meetings in 90 days (*n* = 86, 63.7%), and had celebrated an AA birthday (*n* = 97, 71.3%). Most had an AA sponsor (*n* = 109, 80.1%), while slightly less than half had been an AA sponsor (*n* = 64, 47.4%). A large majority had a spiritual moment in AA (*n* = 106, 78.5%). While in treatment, most had been required to work AA steps (*n* = 71, 57.7%), and 21 (15.6%) had completed all 12 steps in treatment. Slightly less than half of the participants (*n* = 66, 48.9%) had completed all 12 steps in AA.

Table 3

Frequencies and Percentages of AA Related Variables

Variable		Total		Male		Female	
		n	%	*n*	%	*n*	%
Attended an AA Meeting	No	1	0.7	1	1.2	0	0.0
	Yes	135	99.3	83	98.8	52	100

Table 3 Continued

Variable		Total		Male		Female	
		n	%	*n*	%	*n*	%
Attended AA Meeting Last Year	No	2	1.5	1	1.2	1	1.9
	Yes	134	98.5	83	98.8	51	98.1
Member of AA							
	No	18	13.2	9	10.7	9	17.3
	Yes	118	86.8	75	89.3	43	82.7
Gone to 90 AA Meetings in 90 Days	No	49	36.3	27	32.5	22	42.3
	Yes	86	63.7	56	67.5	30	57.7
Celebrated an AA Birthday	No	39	28.7	21	25.0	18	34.6
	Yes	97	71.3	63	75.0	34	65.4
Had an AA Sponsor	No	27	19.9	16	19.0	11	21.2
	Yes	109	80.1	68	81.0	41	78.8
Been an AA Sponsor	No	71	52.6	41	48.8	30	58.8
	Yes	64	47.4	43	51.2	21	41.2
Had a Spiritual Moment in AA	Yes	29	21.5	19	22.9	10	19.2
	No	106	78.5	64	77.1	41	80.8
Was Required to Work Steps in Treatment	No	52	42.3	32	41.0	20	44.4
	Yes	71	57.7	46	59.0	25	55.6
Steps Completed in Treatment	0	74	54.8	44	53.0	30	57.7
	1	9	6.7	4	4.8	5	9.6
	2	1	0.7	0	0.0	1	1.9
	3	19	14.1	14	16.9	5	9.6
	4	8	5.9	5	6.0	3	5.8
	5	3	2.2	1	1.2	2	3.8
	6	0	0.0	0	0.0	0	0.0
	7	0	0.0	0	0.0	0	0.0
	8	0	0.0	0	0.0	0	0.0
	9	0	0.0	0	0.0	0	0.0
	10	0	0.0	0	0.0	0	0.0

Table 3 Continued

Variable		Total		Male		Female	
		n	%	*n*	%	*n*	%
	11	0	0.0	0	0.0	0	0.0
	12	21	15.6	15	18.1	6	11.5
Steps Worked in AA	0	36	26.7	18	21.4	18	35.3
	1	7	5.2	4	4.8	3	5.9
	2	1	0.7	1	1.2	0	0.0
	3	5	3.7	3	3.6	2	3.9
	4	9	6.7	6	7.1	3	5.9
	5	5	3.7	4	4.8	1	2.0
	6	0	0.0	0	0.0	0	0.0
	7	2	1.5	2	2.4	0	0.0
	8	1	0.7	0	0.0	1	2.0
	9	1	0.7	1	1.2	0	0.0
	10	1	0.7	1	1.2	0	0.0
	11	1	0.7	1	1.2	0	0.0
	12	66	48.9	43	51.2	23	45.1

Note. Items taken from the AAI instrument.

I performed chi square tests by gender for each demographic variable. Table 4 presents the results of these chi squares. Using the Bonferroni correction, the alpha level to be considered was $p = .006$. Chi squares between gender and attended an AA meeting, attended an AA meeting last year, steps completed in treatment, and steps worked in AA could not be accurately calculated due to inadequate frequencies. The results of chi square involving AA member were not significant, $\chi^2(1) = 1.22$, $p = .270$, indicating that gender and AA membership were not related. The results of the chi square involving gone to 90 AA meetings in 90 days were not significant, $\chi^2(1) = 1.32$, $p = .250$, indicating that the two variables were not related. The chi square involving celebrated an AA birthday was not significant, $\chi^2(1) = 1.45$, $p = .228$, indicating that the two variables were

not related. The chi squares for had an AA sponsor ($\chi^2(1) = 0.09$, $p = .765$) and been an AA sponsor ($\chi^2(1) = 1.28$, $p = .259$) were both not significant, indicating that the variables had no relationship to gender. The chi square involving had a spiritual moment in AA was not significant, $\chi^2(1) = 0.25$, $p = .614$, indicating that the variables were not related. The chi square involving required to work steps in treatment was not significant, $\chi^2(1) = 0.14$, $p = .712$, indicating that the variables are independent.

Table 4

Chi Squares Between AA Related Variables and Gender

Variable	Chi Square with Gender	
	χ^2	*p*
Attended an AA Meeting	-	-
Attended AA Meeting Last Year	-	-
Member of AA	1.22	.270
Gone to 90 AA Meetings in 90 Days	1.32	.250
Celebrated an AA Birthday	1.45	.228
Had an AA Sponsor	0.09	.765
Been an AA Sponsor	1.28	.259
Had a Spiritual Moment in AA	0.25	.614
Was Required to Work Steps in Treatment	0.14	.712
Steps Completed in Treatment	-	-
Steps Worked in AA	-	-

Note. Where chi Square is blank, analysis could not be computed due to inadequate cell frequencies.

Table 5 presents the means and standard deviations of continuous variables. On average, participants completed 2.72 (*SD* = 4.24) steps in treatment, and 6.88 (*SD* = 5.40) steps in AA. Participants went to an average of 145.25 meetings (*SD* = 151.14) in the last year, and 1742.80 (*SD* = 2609.48) meetings in total. Participants scored an average of

2.03 (*SD* = 0.51) in impulsivity, and an average of 33.85 (*SD* = 33.85) in AA involvement.

Table 5

Means and Standard Deviations of Continuous Variables

Variable	Min	Max	*M*	*SD*
Steps Completed in Treatment*	0.00	12.00	2.72	4.24
Men	0.00	12.00	3.02	4.47
Women	0.00	12.00	2.23	3.85
Steps Worked in AA	0.00	12.00	6.88	5.40
Men	0.00	12.00	7.37	5.22
Women	0.00	12.00	6.08	5.63
AA Meetings Last Year	0.00	1000.00	145.25	151.14
Men	0.00	1000.00	164.80	161.92
Women	0.00	405.00	111.24	124.75
Total AA Meetings	0.00	12000.00	1742.80	2609.48
Men	0.00	10000.00	2019.31	2638.45
Women	0.00	12000.00	1275.36	2521.84
Total Impulsivity	1.07	3.47	2.03	0.51
Men	1.13	3.33	2.01	0.45
Women	1.07	3.47	2.05	0.60
AA Involvement	10.00	53.00	33.85	11.00
Men	10.00	53.00	35.62	10.17
Women	11.00	51.00	30.68	11.83

**Note.* This variable is number of steps completed in treatment. It is distinct from the second variable by program—number of steps completed in either treatment facility (variable 1) or AA (variable 2).

Independent sample *t* tests were conducted to assess whether these variables differed by gender (see Table 6). The Bonferroni correction was applied, which reduced the alpha level to $p = .008$. First, the normality of the sample was assessed using a Kolmogorov-Smirnov (KS) test, indicating that normality could not be assumed for each test. However, the *t* test is robust to violations of normality with sufficiently large sample

size (Stevens, 2009). I tested homogeneity of variances using Levene's test, which was significant for some tests. The equal variances not assumed corrected test coefficient was used for these tests.

The results of the *t* test involving steps completed in treatment was not significant, $t(133) = -1.06$, $p = .292$. The result of the independent samples *t* test involving steps worked in AA was not significant, $t(133) = -1.35$, $p = .179$. The result of the independent samples *t* test involving AA meetings attended last year was not significant, $t(124) = -1.94$, $p = .055$. The result of the independent samples *t* test involving total AA meetings attended was not significant, $t(111) = -1.47$, $p = .144$. The result of the independent samples *t* test involving impulsivity was not significant, $t(85.26) = 0.39$, $p = .696$. The result of the independent samples *t* test involving AA involvement was not significant, $t(93) = -2.14$, $p = .035$. Overall, there are not significant differences between genders for these continuous variables.

Table 6

Results of the t-tests of AA Related Continuous Variables and Gender

Variable	*t Test*	
	t	*p*
Steps Completed in Treatment*	-1.06	.292
Steps Worked in AA	-1.35	.179
AA Meetings Last Year	-1.94	.055
Total AA Meetings	-1.47	.144
Total Impulsivity	0.39	.696
AA Involvement	-2.14	.035

**Note.* This variable is number of steps completed in treatment. It is distinct from the second variable by program—number of steps completed in either treatment facility (variable 1) or AA (variable 2).

The continuous variables of interest were correlated to explore any preliminary relationships. As the assumption testing in the previous analyses indicated that some of these variables were not normally distributed, the Spearman Rho correlation was used. Due to the large number of correlations, only those with a moderate to large effect size were reported in the narrative, as well as the non-significant relationships. All significant relationships were positive.

A significant positive correlation existed between the steps completed in treatment and the steps worked in AA ($r_s = 0.30$, $p = .001$). The correlation coefficient was 0.30, indicating a moderate effect size. There was a significant positive correlation between steps completed in treatment and AA involvement ($r_s = 0.61$, $p < .001$), which indicated a large effect size.

There was a significant positive correlation between the number of steps worked in AA and the number of AA meetings attended in the last year ($r_s = 0.50$, $p < .001$), which indicated a large effect. There was a significant positive correlation between the number of steps worked in AA and the total number of AA meetings attended ($r_s = 0.63$, $p < .001$), which indicated a large effect. There was a significant positive correlation between the number of steps worked in AA and AA involvement ($r_s = 0.77$, $p < .001$), which was the largest effect I found in this correlation matrix. There was a significant positive correlation between the number of AA meetings attended last year and the total number of AA meetings attended ($r_s = 0.684$, $p < .001$), which indicated a large effect. There was a significant positive correlation between total AA meetings attended and AA

involvement ($r_s = 0.77$, $p < .001$), which was the largest effect I found in this correlation matrix.

There was no significant correlation between the number of steps completed in treatment and the number of AA meetings attended last year ($p = .193$), between impulsivity and the number of steps worked in AA ($p = .074$), or between AA meetings attended last year ($p = .822$) and total AA meetings attended ($p = .838$). I also revealed there were no significant differences between AA involvement and levels of impulsivity. In this study, I did not show whether impulsivity decreased after AA involvement. In Table 7, I present the full results of this correlation analysis.

Table 7

Correlations Between Continuous Study Variables

Variable	1	2	3	4	5	6
1. Steps Completed in Treatment[a]	-					
2. Steps Worked in AA	0.30*	-				
3. AA Meetings Last Year	0.12	0.50*	-			
4. Total AA Meetings	0.25*	0.63*	0.68*	-		
5. Total Impulsivity	0.19*	-0.16	0.02	-0.02	-	
6. AA Involvement	0.61*	0.77*	0.75*	0.77*	0.02	-

*Indicates significance at .05 level.
[a]This variable is number of steps completed in treatment. It is distinct from the second variable by program—number of steps completed in either treatment facility (variable 1) or AA (variable 2).

Analysis of Results

1. Are there gender differences in AA involvement?

H_{a1}. Women demonstrate significantly higher levels of AA involvement than men as measured by the AAI Scale.

*H_{01}***.** Women do not show significantly higher levels of AA involvement than men as measured by the AAI Scale.

I addressed this research question using an ANCOVA. I used independent variables such as gender, covariates of age, ethnicity, marital status, and education. I also used the dependent variable, AA involvement. Prior to performing the analysis, I assessed the assumptions of normality and homogeneity of variances. I assessed the assumption of normality using a Kolmogorov-Smirnov test. I determined the dependent variable was normally distributed for all levels of the independent variable and covariates, as indicated by a nonsignificant Kolmogorov-Smirnov test (Tabachnick & Fidell, 2013). I used Levene's test to assess the assumption of normality of variances. I found the results of test were significant, which indicated the assumption was not met (Tabachnick & Fidell, 2013). However, the *F* test is robust to violations of assumptions with sufficient sample size, when $n > 40$ (Tabachnick & Fidell, 2013).

The results of the main effect of gender were not significant when I controlled for the effects of the covariates, $F(1, 854) = 3.39$, $p = .069$, $\eta^2_{partial} = .04$. This indicated there were not significant differences between individuals of different genders in terms of AA involvement. Therefore, I did not reject the null hypothesis. I performed a G*Power post hoc power analysis and found actual achieved power was low (.49). This result indicated there an effect may have existed, but I had insufficient power to detect it. Men had higher rates of AA involvement ($M = 35.54$) compared to women ($M = 31.89$). In Table 8, I present the full results of this ANCOVA model. In Table 9, I present the means of each variable.

Table 8

Results of the ANCOVA with Independent Variables and Dependent Variable

Source	*SS*	*df*	*MS*	*F*	*P*	$\eta^2_{partial}$
Gender	262.99	1.00	262.99	3.39	.069	.04
Age	1871.46	2.00	935.73	12.06	.000	.22
Ethnicity	170.26	1.00	170.26	2.20	.142	.03
Marital Status	631.96	1.00	631.96	8.15	.005	.09
Education	0.11	1.00	0.11	0.00	.971	.00
Error	6593.85	85.00	77.58	-	-	-

Table 9

Mean AA Involvement by Main Effects and Covariates

Variable	*M*	*SE*
Gender		
Men	35.54	1.32
Women	31.89	1.82
Age		
18 to 36 years	26.39	2.35
37 to 57 years	35.37	1.46
58 plus years	39.38	1.82
Ethnicity		
Other	32.29	1.58
Caucasian	35.15	1.56
Marital Status		
Other	30.38	1.11
Married	37.05	2.14
Education		
High School Graduate or Less	33.68	1.68
Junior College or Higher	33.75	1.46

2. Are there relationships between impulsivity and AA involvement?

H_{a2}. Lower levels of impulsivity as measured by the BSI-15, Short Form positively correlate with AA attendance/involvement.

H_{02}. Lower levels of impulsivity as measured by the BSI-15, Short Form negatively correlate with AA attendance/involvement.

I assessed this research question using an ANCOVA. I added impulsivity to the existing model specified in the analysis of the previous research question. I included the independent variables of gender and impulsivity, the covariates of age, ethnicity, marital status, and education, and the dependent variable of AA involvement in the ANCOVA. I discussed the analysis of the normality and homogeneity of the existing model when I analyzed the results pertaining to Research Question 1. I assumed normality for the dependent variable based on the levels of the added independent variable. I assumed normality for the low level, but not the high level, based on my assessment of the results from a Kolmogorov-Smirnov test. I examined the skew and kurtosis values for the high level, which indicated the values were within an acceptable range (skew: -0.44; kurtosis: -0.90). This result indicated I could assume normality (Kline, 2015). The results of the Levene's test were significant, indicating homogeneity of variances could not be assumed (Stevens, 2009). However, with sufficient sample size ($n > 40$), the F test is robust to violations of assumptions (Tabachnick & Fidell, 2013).

The results of the main effect of impulsivity were not significant when I controlled for gender and the covariates, $F(1, 84) = .59$, $p = .111$, $\eta^2_{partial} = .03$, indicating significant differences between levels of impulsivity in AA involvement did not exist.

Therefore, I could not reject the null hypothesis. In Table 10, I present the full results of this ANCOVA model. In Table 11, I present the means and standard errors.

Table 10

Results of the ANCOVA Regarding Gender and Impulsivity and AA Involvement

Source	*SS*	*df*	*MS*	*F*	*p*	$\eta^2_{partial}$
Gender	282.94	1.00	282.94	3.72	.057	.04
Age	2066.74	2.00	1033.37	13.57	.000	.24
Ethnicity	137.37	1.00	137.37	1.80	.183	.02
Marital Status	639.84	1.00	639.84	8.40	.005	.09
Education	0.14	1.00	0.14	0.00	.966	.00
Impulsivity	197.40	1.00	197.40	2.59	.111	.03
Error	6396.45	84	76.15	-	-	-

Table 11

Mean AA Involvement by Main Effects and Covariates

Variable	*M*	*SE*
Gender		
Men	35.64	1.31
Women	31.85	1.80
Age		
18 to 36 years	25.87	2.35
37 to 57 years	35.24	1.45
58 plus years	10.11	1.86
Ethnicity		
Other	32.45	1.57
Caucasian	35.03	1.56
Marital Status		
Other	30.38	1.66
Married	33.78	1.45
Education		
High School Graduate or Less	33.70	1.66
Junior College or Higher	33.78	1.45

Table 11 Continued

Variable	*M*	*SE*
Impulsivity		
Low	32.19	1.55
High	35.29	1.57

3. Does gender moderate the relationship between impulsivity and AA involvement?

H_{a3}. Women attend AA longer than men do and become more involved than males do.

H_{03}. Women do not attend AA longer than men do and do not become more involved than males do.

To assess this research question, I followed the Baron and Kenney (1986) regression moderation procedure. According to Baron and Kenney (1986), a significant relationship between the independent variable (impulsivity) and the dependent variable (AA involvement) must exist for a researcher to support moderation. Baron and Kenney (1986) also indicate there must be a significant relationship between the moderator (gender) and the dependent variable (AA involvement). In this study, I added an interaction term to the model to test for moderating effects. I mean centered the continuous independent impulsivity variable to reduce potential issues regarding multicollinearity associated with the interaction term. I computed the interaction term using the centered statistics for variable and gender. I controlled for covariates of age, ethnicity, marital status, and education, using dummy coding when appropriate.

Prior to performing the analysis, I assessed the assumptions of the regression. I assessed normality using a Normal P-P plot. Visual examination of the plot (Figure 1) yielded data that closely followed the normality line, indicating I met the assumption (Tabachnick & Fidell, 2013). I assessed homoscedasticity using a scatterplot of the residuals. An examination of the scatterplot (Figure 2) revealed data that were approximately evenly and randomly distributed about zero, indicating the assumption was met (Tabachnick & Fidell, 2013). Finally, I assessed the absence of multicollinearity using variance inflation factor (VIF) values. Except for gender and the interaction term (impulsivity and gender), which I expected to be collinear, VIF values were below 10, indicating the assumption was met (see Tables 12–14; Stevens, 2009).

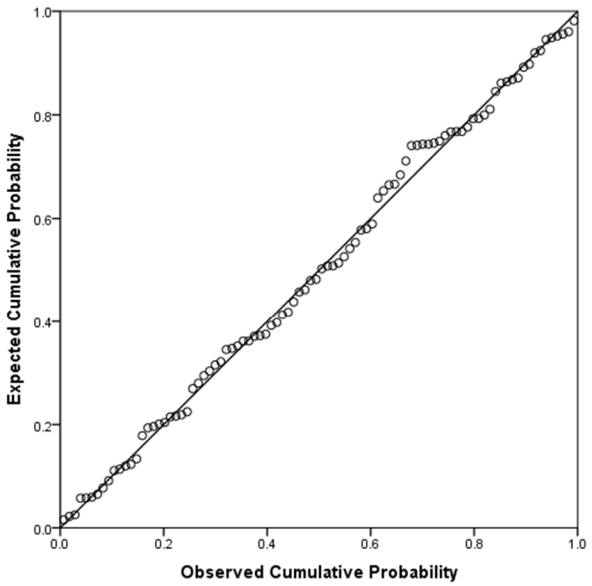

Figure 1. Normal P-P plot for the regression.

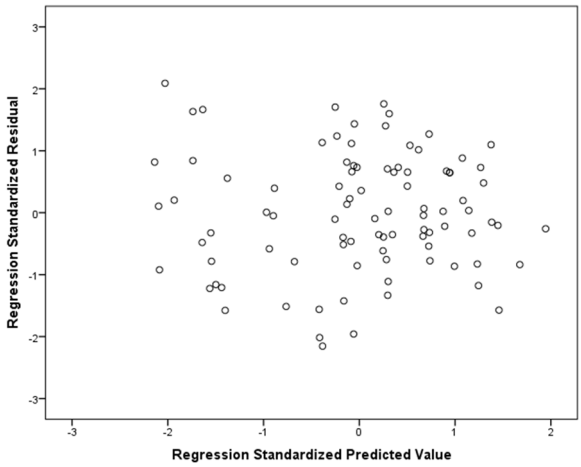

Figure 2. Scatterplot of the residuals for the regression.

I found the results of the first step of the moderation to be significant: $F(6, 854) = 8.59$, $p < .001$, $R^2 = .334$. This indicated a significant relationship between the independent variables, covariates, and AA involvement. However, I examined the individual predictors in the model and found impulsivity was not individually significant when I controlled for the covariates ($B = 1.77$, $p = .372$; see Table 12). Therefore, I could not test the moderating effects on the preliminary relationship.

Although I was not able to demonstrate the necessary preliminary relationship, I continued the moderation analysis in an exploratory manner. The results of the second step of the model were significant, $F(7, 8) = 8.14$, $p < .001$, $R^2 = .35$, with a nonsignificant F change at $p = .055$. This indicated the inclusion of gender into the model did not significantly improve the predictive ability of the model. I examined the individual gender predictor and found gender did not have a significant relationship with AA involvement ($B = -3.87$, $p = .055$). In Table 13, I present the results of Step 2 of the moderation analysis.

Table 12

Step 1 Moderation Analysis Results

Variables	*B*	SE	β	*t*	*p*	VIF
Age (ref: 18–35 years)						
36–57 years	9.16	2.72	0.42	3.37	.001	2.11
58+ years	13.51	2.80	0.58	4.82	.000	1.99
Ethnicity (ref: other)						
Caucasian	2.12	1.99	0.10	1.07	.289	1.13
Marital Status (ref: other)						
Married	7.82	2.32	0.32	3.37	.001	1.19
Education (ref: high school graduate or less)						
Junior college and above	-0.11	1.96	-0.01	-0.06	.955	1.06
Impulsivity	1.77	1.98	0.08	0.90	.372	1.17

Table 13

Step 2 of the Moderation Analysis

Variables	*B*	SE	B	*t*	*p*	VIF
Age (ref: 18–35 years)						
36-57 years	9.16	2.68	0.42	3.42	.001	2.11
58+ years	13.88	2.77	0.60	5.02	.000	2.00
Ethnicity (ref: other)						
White	2.44	1.96	0.11	1.24	.217	1.14
Marital Status (ref: other)						
Married	6.82	2.34	0.28	2.92	.005	1.25
Education (ref: high school graduate or less)						
Junior college and above	0.07	1.93	0.00	0.04	.973	1.06
Impulsivity	2.15	1.96	0.10	1.10	.275	1.18
Gender (ref: men)						
Women	-3.87	1.99	-0.17	-1.94	.055	1.10

The final step in moderation is when the researcher determines if the interaction between the moderator and the independent variable is significant (Baron & Kenney,

1986). In the present study, I found the collective model for Step 3 of the regression was significant, $F(8, 83) = 7.11$, $p < .001$, $R^2 = .35$. I did not identify a significant F change ($p = .561$), indicating the interaction term did not significantly improve the model. I examined the interaction term and found the interaction of gender and impulsivity was not significant ($B = -2.19$, $p = .561$). As a result of this nonsignificance, and the nonsignificance of the association between impulsivity and AA involvement, I could not support moderation. Therefore, I could not reject the null hypothesis. In Table 14, I present the full results of Step 3 of this analysis.

Table 14

Step 3 of the Moderation Analysis

Variables	*B*	SE	B	*t*	*p*	VIF
Age (ref: 18-35 years)						
36-57 years	9.21	2.69	0.42	3.42	.001	2.12
58 plus years	13.76	2.78	0.59	4.95	.000	2.01
Ethnicity (ref: other)						
Caucasian	2.59	1.99	0.12	1.30	.196	1.16
Marital Status (ref: other)						
Married	7.01	2.37	0.28	2.96	.004	1.28
Education (ref: high school graduate or less)						
Junior college and above	0.16	1.9	0.01	0.08	.935	1.07
Impulsivity	3.14	2.60	0.15	1.21	.230	2.06
Gender (ref: men)						
Women	0.65	8.00	0.03	0.08	.935	17.57
Impulsivity x Gender	-2.19	3.76	-0.22	-0.58	.561	19.01

Summary

The results of the analysis pertaining to Research Question 1 were not significant; there are no significant gender differences in AA involvement. However, I completed a post hoc power analysis test and determined there was reduced power for the analysis. Men exhibited more AA involvement than women. The results of the analysis pertaining to Research Question 2 were not significant, indicating there are no significant differences in AA involvement regarding levels of impulsivity. This indicated all participants showed similar AA involvement, regardless of their level of impulsivity. The results of the analysis pertaining to Research Question 3 were not significant; moderation of the relationship between impulsivity and AA involvement by gender was not supported. In the following chapter, I will discuss these results in terms of the extant literature, followed by a discussion of the strengths and limitations of the study. I will also give recommendations for future research.

Chapter 5: Final Discussion

I was determined to explore whether there are gender differences in AA involvement and whether impulsivity moderated gender differences in AA involvement. Chapter 5 contains a summary of the results of the study and an interpretation of the findings. This interpretation includes comparison of this study with past research completed on AA involvement and gender, along with impulsive behaviors. Limitations include where the study was conducted, age groups studied, and cultural expectations. I discuss recommendations for future research and the implications of the current study and finish with conclusions from the study.

I found that gender was not significant in AA involvement, but the main effect was only marginally significant. Insufficient power or sampling error could have affected the analysis. The power analysis indicates that the power was low (.49), indicating insufficient power to detect gender significance. Significant differences existed between the 18 to 36 age groups and the 37 to 57 age groups. Individuals in the younger group were less involved than those in the older group. Those who were married showed higher AA involvement than those in other groups or categories (e.g., those who were single, divorced, or widowed). Results showed that levels of impulsivity, as measured by the BIS-15, Short Form, were not significant in AA involvement when controlling for gender and the covariates.

Interpretation of Findings

Even though some studies have shown that women attend more AA meetings than men do, I found no significant differences between genders with respect to AA

involvement. The current study involved more men participating than women, for a total of 84 men and 52 women. In contrast, Krentzman et al. (2011) showed with 364 alcohol dependent individuals, over the course of 3 years, that women with 1 year of abstinence were 3 times more likely to be in the AA group than men with 1 year of abstinence. Witbrodt and Delucchi (2011) showed men had a higher alcohol severity than women. Roberts (2012) also noticed a greater proportion of men than women consume alcohol and that men drink more frequently than women do.

There are different factors affecting women's involvement in AA. A woman's needs as a caregiver could preclude her from attending AA as often (Sanders, 2011). But women may need to be more involved in AA, as women develop higher long-term health risks than men do (Keyes, Li et al., 2011). Jones et al. (2012) demonstrated that if an individual had better support, he or she would attend AA more. Cultural expectancies vary between gender when it applies to alcohol consumption and AA attendance (Cheng, et al., 2012). Asian American culture precludes many Asian women from getting involved in AA (Cheng et al., 2012, and Latino women violate cultural expectations if they succumb to drinking (Cheng et al., 2012). Caetano et al. (2011) noted that from 1992 to 2002 alcohol abuse increased significantly among both men and women for Caucasians, African Americans, and Asian American groups. I found that gender was not a significant contributor to AA involvement.

As one matures and grows older, abstinence tends to increase (Verges et al., 2012). Older adults have a better quality of living and increase participation in AA, while alcohol use and alcohol-related problems tend to decrease (Winograd et al., 2012). As

women get older, their responsibilities include caretaking roles, retirement, marriage, career, failing health; however, older women are more likely to get involved in AA (Al-Otaiba et al., 2012).

The age group with the highest number of participants in this study included the 47 to 57 age group (29.60%). The 58 to 69 age group was the second largest (25.90%), while both the 26 to 35 and 36 to 46 age groups held at 14.10% each or 19 participants for each group. The current study data are consistent with what the literature review discussed on individuals getting older participating more in AA. Maturing out further explains that as individuals get older, AUD tends to decline and decreases in impulsivity may contribute to AA involvement (Verges et al., 2012).

More single individuals participated (47.40%), with married individuals in second (25.20%); and divorced in third (20.70%). The individuals living in sober living houses are usually single, which may attribute to this study, as four sober living houses were given the surveys. The *Caucasian* group was the largest ethnic group to participate (50.40%), while the *Hispanic* was second (19.50%) and the *African-American* third (15.00%). Data attests to what was discussed in Chapter 2 regarding cultural and ethnic backgrounds. Some cultures' expectations vary for women's participation in the AA movement (Cheng et al., 2012; Witbrodt & Delucchi, 2011). The largest group in education were those attending a *junior college* (33.80%), while the second largest group were those graduating from *high school* (33.10%). Those holding a *bachelor's degree* equaled 19.90%. Education may give an individual more knowledge about resources available, what AA involvement means, and knowledge of how AA works.

Even though Blonigen, Timko, Finney, et al. (2011) demonstrated that impulsivity reduction was consistent with AA activity, the current study did not reveal any significant results of impulsivity when controlling for gender. There were no significant differences between levels of impulsivity in AA involvement. Future work to improve psychosocial functioning for individuals with AUD could include decreasing impulsivity, as AA has already been shown to improve impulsive behaviors (Blonigen, Timko, Finney, et al., 2011). Blonigen, Timko, and Finney et al. (2011) suggest impulsivity declines during 18 to 30 years of age. As alcohol intake declines, not only does older age mean better compliance with alcoholism treatment (Filho & Baltieri, 2012), but decreases in impulsivity goes with increased age (Blonigen, Timko, Finey et al., 2011). More research will be needed to explore further the implications of reduction in impulsivity because of AA involvement.

Professionals can improve treatment for those with AUD with a better understanding of AA involvement. Decreased impulsivity can lead to more AA involvement (Blonigen et al., 2013), but Aragues et al. (2011) assessed that impulsivity was not uniformly affected by alcohol use. Personality traits might affect an individual's response to alcohol and AA involvement. I discovered no significance between impulsivity and AA involvement. The maturing out of alcohol problems (Littlefield et al., 2010) allows a person to have different needs and better coping mechanisms, which may preclude someone from attending AA. Understanding these changes may support individuals with AUD.

A social learning model involves learning in one's social environment (Bandura, 1977). Understanding these factors of an individual's environment such as family and peer/social factors aids in the understanding of how influences affect a person's behavior and can assist in behavioral intervention. During this study, I observed the learning process of those with AUD from the data I obtained. As an individual lives in a sober environment, it is a requirement to attend AA meetings. By attending AA meetings, a person begins to listen to others and see how AA has influenced their lives in a positive way. The social learning theory emphasizes the importance of observing and modeling behaviors of others (Johnson & Bradbury, 2015). These observations, watching others, and witnessing accounts of lives becoming better by attending AA can influence an individual into getting involved with AA. Increased social support and mutual help while living at a sober home or while attending AA meetings may suffice for individuals who have had problems attending AA in the past. As individuals assist one another, significant influences affect individuals as they develop (Hatala, 2013).

Limitations of the Study

The number of men exceeded the number of women who participated in the study with 84 men and 52 women. The number of accessible meetings available did not influence this study, as 15 meetings and four sober living houses were included. This is only partial representation of the number of meetings in the local, Western state. Power may have been an issue with the current study as well as sampling. With additional power *t* it could be possible to detect gender effects, and a more representative sample may have yielded greater generalizability of these results or different patterns of results. There may

be differences across sites that were not measured or controlled for. Perhaps had more participants attending meetings been given the survey or more sober living houses been included, the numbers might have been different. With time constraints for the study, sober living house rules, and having a goal in mind for the number of participants and effect size to be 85% (Fugard & Potts, 2015), the number of participants exist as they are. The age group of 47 to 57 was the largest age group participating. Single participants constituted the largest participating group over divorced, married, separated, etc. A significant number of *Caucasian* participants were included—67 total or 50.40% of the total participants given surveys. Individuals with a *junior college degree* were the largest educational group participating. An individual's knowledge of community resources, education, cultural background, and family support may allow him or her to participate more often in sober living houses and in AA meetings.

Other limitations included cultural expectations. More *Caucasians* participated in the study than other ethnic groups. The selection of participants was solely from an urban area in a Western state where AA participation is stronger than in the more rural areas of the country. Participants may have answered the questions the way they felt a researcher wanted them to, causing biased responses. Individuals may have responded differently depending on their circumstances, background, and upbringing. More resources are available in urban areas, but individuals may not use these as needed due to work, transportation, family obligations, etc. Time constraints may have limited the number of participants.

The screening tools used in the current study influenced how data were assessed. Using more standardized measures could have captured results more adequately. The AAI is a *yes/no* answer tool that minimizes assessment into dichotomous answers. The BSI-15, Short Form is a quick, 10-minute survey used to capture as much as you can in as little time possible. Tools such as the Time Line Follow Back and the Structured Clinical Interview for DSM-IV Disorders I and II (Al-Otaiba, 2012) could show more expansion in assessments. These tools found that older women have more assistance in expanding social networks.

Each individual was not under the influence of alcohol when taking the survey, as sobriety is a requirement while residing in sober living houses. Individuals taken from local AA meeting venues, while taking the survey, were also sober, as managers of these venues would not allow an individual to take the survey if under the influence. The researcher also listed not being under the influence of drugs or alcohol as a requirement for taking the surveys.

Recommendations

By understanding AA involvement, individual traits, and factors influencing AA involvement, information can support future work with people diagnosed with AUD. Learning more about AA involvement and how an individual can get involved can assist with this process. More research will be needed to further study why some choose AA and why others do not. Continued AA involvement can support individuals to become more productive in their lives and improve communities, yet many choose not to participate in the AA program. There are many reasons women do not participate in AA

due to age, marital status, and ethnicity. The older a woman becomes, the more vulnerable she becomes for alcohol abuse (Al-Otaiba et al., 2012), and she may experience more shame if role obligations such as being a mother or grandmother are neglected (Kuerbis et al., 2013). Many cultures do not look at women attending AA in a favorable manner. In the Latino population, culture places a stigma on drinking for women (Cheng et al., 2012). For Asian women, cultural expectancies may preclude them from getting involved in AA (Cheng et al., 2012). Further research may uncover different trends in AA involvement for both men and women.

Individuals can create positive social change when they become more productive in their communities. Professionals such as therapists, counselors, teachers, psychologists, and social workers can also support families and individual members with AUD. Individuals can get the support they need by knowing where and when AA meetings are held and how to get involved in AA. Knowing more about AA can help individuals better understand themselves and help professionals improve retention and intervention. As individuals begin to understand more of how AA works, the knowledge may help for better solutions in future work with individuals having AUD. Understanding the individual's personality traits and background can support more appropriate intervention strategies for what works best for each person. As other research may divulge into personality traits and how this affects AA involvement, more information can give society and communities better explanations as to why some choose AA and others do not.

Implications

Social standards can be improved by increasing social networks for men and women, offering more community referrals and resources, and informing the public of what alcohol does to a person. Increased knowledge could lead to AA participation and treatment procedures in a more appropriate manner. Alcohol affects individuals differently. When one succumbs to AUD problems may arise with the law agencies, school, work, and families. Studies such as this one reveal how alcohol plays a negative role in some individual's lives. Individuals with AUD can make better decisions with the knowledge that also informs professionals, families, and communities. As lives change into more positive realities, human and social conditions improve. By developing positive habits, individuals can also increase their dignity, self-esteem, and self-worth. Having plentiful AA meetings available, appropriate housing, and more employment opportunities could instill more motivation for continued involvement in AA. Studies such as this one and continued research can support future work and better understanding for those with AUD.

Individuals who continue to get better through AA involvement benefit by observing others and watching closely how others' lives are changed for the better, which instills even more motivation for one to positively move forward. Identifying with individuals in AA meetings positively influences people who choose to go to AA. By sharing life stories in the meetings, this can influence a person's behavior. Having more stability produces positivity for individuals as well as the families and communities surrounding these individuals.

Positive social change happens when individuals make better decisions for healthier lifestyles. Individuals become more involved with more positive aspects of the communities. Families become better adjusted and begin to have more positive relationships with each other. When families begin to work with professionals in solving some of the problems caused by AUD more positive developments occur for all concerned. It is hoped that these positive relationships can sustain whatever it takes to come to better conclusions and more positive results in the end.

Conclusions

As this study concludes, I have provided a better understanding of AA involvement and the how gender and impulsivity affect involvement. Blonigen, Timko, Finney, et al. (2011) showed that impulsivity is consistent with AA involvement. From 1, 8, and 16 years conducted in the study, impulsivity and fewer alcohol use problems existed. Blonigen, Timko, and Moos (2013) showed that traits such as impulsivity change over time, mediating reduction in alcohol-related problems. From studies like this, individuals with AUD can learn how to improve and how AA involvement may help. I conducted this study to learn more about AA involvement and how this works differently for each individual. Looking into the problem through research, both past and present, gave me a better understanding of why some get involved in AA and why others do not. Understanding relationships between gender, impulsivity, and AA involvement can lead to discoveries of what works for some and what does not work for others.

It is in the best interest of those with AUD that this study was developed, researched, and finalized, in hopes that a better understanding of AA involvement can be

achieved. Working with others on this journey can sustain society with better hopes and more positive results for individuals suffering from AUD, their families, and their communities. When people work together on this, society becomes a more positive place in which to live. As individuals positively change their lifestyles, AA involvement can add more support. When lives are changed for the better and families and communities are working closer together results become more positive for everyone. Positive results can provide insight and hope for everyone involved with alcohol issues.

References

Alcoholics Anonymous World Services. (2001). *Alcoholics Anonymous* (4th ed.). New York, NY: Author.

Alcoholics Anonymous World Services. (2011). *2011 membership survey.* New York, NY: Author.

Al-Otaiba, Z., Epstein, E. E., McCrady, B., & Cook, S. (2012). Age-based differences in treatment outcome among alcohol-dependent women. *Psychology of Addictive Behaviors, 26*(3), 423–431. doi:10.1037/a0027383

American Psychiatric Association. (2012). *Understanding alcohol use disorders and their treatment.* Washington, DC: Author. Retrieved from http://www.apa.org/helpcenter/alcohol-disorders.aspx

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Aragues, M., Jurado, R., Quinto, R., & Rubio, G. (2011). Laboratory paradigms of impulsivity and alcohol dependence: A review. *European Addiction Research, 17*(2), 64–71. doi:10.1159/000321345

Arbour, S., Hambley, J., & Ho, V. (2011). Predictors and outcome of aftercare participation of alcohol and drug users completing residential treatment. *Substance Use & Misuse, 46*(10), 1275–1287. doi:10.3109/10826084.2011.572941

Assari, S. (2014). Separate and combined effects of anxiety, depression and problem drinking on subjective health among Black, Hispanic and Non-Hispanic White

men. *International Journal of Preventive Medicine, 5*(3), 269–279. Retrieved from https://www.ncbi.nim.gov/pmc/articles/PMC4018635/

Balteri, D. A., & Filho, J. M. C. (2012). Role of two clusters of male alcoholics in treatment retention. *European Addiction Research, 18*(4), 201–211. doi:10.1159/000336530

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.

Baron, R. M., & Kenney, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182. Retrieved from www.ncbi.nlm.nih.gov/pubmed/3806354

Bartholow, B. D., Henry, E. A., Lust, S. A., Saults, J. S., & Wood, P. K. (2012). Alcohol effects on performance monitoring and adjustment: Affect modulation and impairment of evaluative cognitive control. *Journal of Abnormal Psychology, 121*(1), 173–186. doi:10.1037/t06070-000

Berking, M., Margraf, M., Ebert, D., Wupperman, P., Hofmann, S. G., & Junghanns, K. (2011). Deficits in emotion-regulation skills predict alcohol use during and after cognitive-behavioral therapy for alcohol dependence. *Journal of Consulting and Clinical Psychology, 79*(3), 307–318. doi:10.1037/a0023421

Biswas, A., Mukherjee, T., & Basu, S. (2012). Alcohol dependence: Personality and inter-personal perspectives. *Somatic Inkblot Society: Journal of Projective Psychology and Mental Health, 19*(2), 110–120. Retrieved from http://somaticinkblots.com/

Bjork, J. M., Grant, S. J., Chen, G., & Hommer, D. W. (2014). Dietary tyrosine/phenylalanine depletion effects on behavioral and brain signatures of human motivational processing. *Neuropsychopharmacology, 39*(3), 595–604. doi:10.1038/npp.2013.232

Blonigen, D. M., Timko, C., Finney, J. W., Moos, B. S., & Moos, R. H. (2011). Alcoholics Anonymous attendance, decreases in impulsivity and drinking and psychosocial outcomes over 16 years: Moderated-mediation from a developmental perspective. *Addiction, 106*(12), 2167–2711. doi:10.1111/j.1360-0443.2011.03522.x

Blonigen, D. M., Timko, C., Moos, B. S., & Moos, R. H. (2011). Impulsivity is an independent predictor of 15-year mortality risk among individuals seeking help for alcohol-related problems. *Alcoholism: Clinical and Experimental Research, 35*(11), 2082–2092. doi:10.1111/j.1530-0277.2011.01560.x

Blonigen, D. M., Timko, C., & Moos, R. H. (2013). Alcoholics Anonymous and reduced impulsivity: A novel mechanism of change. *Substance Abuse, 34*(1), 4–12. doi:10.1080/08897077.2012.691448

Bouchery, E. E., Harwood, H. J., Sacks, J. J., Simon, C. J., & Brewer, R. D. (2011). Economic costs of excessive alcohol consumption in the U.S., 2006. *American Journal of Preventive Medicine, 41*(5), 516–524. doi:10.1016/j.amepre.2011.06.045

Bright, C. L., Osborne, V. A., & Greif, G. L. (2011). One dozen considerations when working with women in substance abuse groups. *Journal of Psychoactive Drugs, 43*(1), 64–68. doi:10.1080/02791072.2011.566503

Buckingham, S. A., Frings, D., & Albery, I. P. (2013). Group membership and social identity in addiction recovery. *Psychology of Addictive Behaviors*, *27*(4), 1132–1140. doi:10.1037/a0032480

Caetano, R., Baruah, J., & Chartier, K. G. (2011). Ten-year trends (1992 to 2002) in sociodemographic predictors and indicators of alcohol abuse and dependence among whites, blacks, and Hispanics in the United States. *Alcoholism Clinical and Experimental Research*, *35*(8), 1458–1466. doi:10.1111/j.1530-0277.2011.01482.x

Casswell, S. (2012). Current status of alcohol marketing policy: An urgent challenge for global governance. *Addiction*, *107*(3), 478–485. doi:10.1111/j.1360-0443.2011.03701.x

Centers for Disease Control and Prevention. (2012). *Fact sheets*. Retrieved from http://www.cdc.gov/alcohol/fact-sheets/alcohol-use.html

Centers for Disease Control and Prevention. (2016). *Impaired driving: Get the facts.* Retrieved from http://www.cdc.gov/motorvehiclesafety/impaired_driving/impaired-drv_factsheet.html

Champion, K. E., Newton, N. C., Barrett, E. L., & Teesson, M. (2013). A systematic review of school-based alcohol and other drug prevention programs facilitated by

computers or the internet. *Drug and Alcohol Review, 32*(2), 115–123. doi:10.1111/j.1465-3362.2012.00517.x

Chartier, K. G., & Caetano, R. (2011). Trends in alcohol services utilization from 1991-1992 to 2001-2001: Ethnic group differences in the U.S. population. *Alcoholism Clinical and Experimental Research, 35*(8), 1485-1497. Doi:10.1111/j.1530-0277.2011.01485.x

Chen, P., Coccaro, E. F., & Jacobson, K. C. (2014). Hostile attributional bias, negative emotional responding, and aggression in adults: Moderating effects of gender and impulsivity. *Aggressive Behavior, 38*(1), 47–63. doi:10.1002/ab.21407

Cheng, A. W., Lee, C. S., & Iwamoto, D. K. (2012). Heavy drinking, poor mental health, and substance use among Asian Americans in the NLAAS: A gender-based comparison. *Asian American Journal of Psychology, 3*(3), 160–167. doi:10.1037/a0028306

Chi, F. W., Campbell, C. I., Sterling, S., & Weisner, C. (2012). Twelve-step attendance trajectories over 7 years among adolescents entering substance use treatment in an integrated health plan. *Addiction, 107*(5), 933–942. doi:10.1111/j.13600443.2011.03758.x

Choi, N. G., & DiNitto, D. M. (2011). Heavy/binge drinking and depressive symptoms in older adults: Gender differences. *International Journal of Geriatric Psychiatry, 26*(8), 860–868. doi:10.1002/gps.2616

Cohen, J. (1992). Quantitative methods in psychology: A power primer. *Psychological Bulletin, 112*(1), 155–159. doi:10.1037/0033-2909.112.1.155

Cohn, A. M., Cameron, A. Y., Udo, T., Hagman, B. T., Mitchell, J., & Bramm, S. (2012). Delineating potential mechanisms of implicit alcohol cognitions: Drinking restraint, negative affect, and their relationship with approach alcohol associations. *Psychology of Addictive Behaviors, 26*(2), 318–324. doi:10.1037/a0027281

Community Anti-Drug Coalitions of America. (2012). *The economic costs of excessive alcohol consumption*. Retrieved from http://www.cadca.org/resources/detail/economic-costs-excessive-alcohol-consumption.

Coteti, A., Ion, A., Damian, S., Neagu, M., & Ioan, B. (2014). Like parent, like child? Considerations on intergenerational transmission of alcoholism. *Revista Romaneasca pentru Educatie Multidimensionala, 6*(2), 39–53. Retrieved from www.researchgate.net/publication/269900603_LIKE_PARENT

Dawson, D. A., Goldstein, R. B., Saha, T. D., & Grant, B. F. (2015). Changes in alcohol consumption: United States, 2001-2 to 2012-13. *Drug and Alcohol Dependence, 148*, 56–61. doi:10.1016/j.drugalcdep.2014.12.016

DeVito, E. E., Meda, S. A., Jiantonio, R., Potenza, M. N., Krystal, J. H., & Pearlson, G. D. (2013). Neural correlates of impulsivity in healthy males and females with family histories of alcoholism. *Neuropsychopharmacology, 38*(10), 1854–1863. doi:10.1038/npp.2013.92

Drake, R. E., Wallach, M. A., & McGovern, M. P. (2014). Special section on relapse prevention: Future directions in preventing relapse to substance abuse among

clients with severe mental illnesses. *Psychiatric Services*, *56*(10), 1297–1302. doi:10.1176/appi.ps.56.10.1297

Filho, J. M. C., & Baltieri, D. A. (2012). Psychosocial and clinical predictors of retention in outpatient alcoholism treatment. *Revista Brasileira de Psiquiatria*, *34*(4), 413–421. Retrieved from www.ncbi.nlm.nih.gov/pubmed/23429812663

Fugard, A. J. B., & Potts, H. W. W. (2015). Sjupporting thinking on sample sizes for thematic analyses: A quantitative tool. *International Journal of Social Research Methodology*, *18*(6), 669–684. doi:10.1080/13645579.2015.1005453

Galanter, M. (2014). Alcoholics Anonymous and twelve-step recovery: A model based on social and cognitive neuroscience. *The American Journal on Addictions*, *23*(3), 300–307. doi:10.1111/j.1521-0391.2014.12106.x

Greenfield, B. L., & Tonigan, J. S. (2013). The general Alcoholics Anonymous tools of recovery: The adoption of 12-step practices and beliefs. *Psychology of Addictive Behaviors*, *27*(3), 553–561. doi:10.1037/a0029268

Gustafson, D. H., Boyle, M. G., Shaw, B. R., Isham, A., McTavish, F., & Richards, S. (2011). An e-health solution for people with alcohol problems. *Alcohol Research and Health*, *33*(4), 327–337. Retrieved from pubs.niaaa.nih.gov/publications /arh334/327-337.pdf

Hamilton, K. R., Sinha, R., & Potenza, M. N. (2012). Hazardous drinking and dimensions of impulsivity, behavioral approach, and inhibition in adult men and women. *Alcoholism: Clinical and Experimental Research*, *36*(6), 958–966. doi:10.1111/j.1530-0277.2011.01708.x

Hasin, D. S., Fenton, M. C., Beseler, C., Park, J. Y., & Wall, M. M. (2012). Analyses related to the development of DSM-5 criteria for substance use related disorders: 2. Proposed DSM-5 criteria for alcohol, cannabis, cocaine and heroin disorders in 663 substance abuse patients. *Drug and Alcohol Dependence*, *122*(1), 28–37. doi:10.1016/j.drugalcdep.2011.09.005

Hatala, A. R. (2011). Resilience and healing amidst depressive experiences: An emerging four-factor model from emic/etic perspectives. *Journal of Spirituality in Mental Health*, *13*(1), 27–51. doi:10.1080/19349637.2011.547135

Hatala, A. R. (2013). Towards a biopsychosocial-spiritual approach in health psychology: Exploring theoretical orientations and future directions. *Journal of Spirituality in Mental Health*, *15*(4), 256–326. doi:10.1080/19349637.2013.776448

Hoeppner, B. B., Hoeppner, S. S., & Kelly, J. F. (2014). Do young people benefit from AA as much, and in the same ways, as adult aged 30+? A moderated multiple mediation analysis. *Drug and Alcohol Dependence*, *143*(1), 181–188. doi:10.1016/j.drugalcdep.2014.07.023

Huebner, R. B., & Kantor, L. W. (2011). Advances in alcoholism treatment. *Alcohol Research and Health*, *33*(4), 295–299. Retrieved from http://pubs.niaaa.nih.vog/publications/arh34/295-299.html

Humphreys, K., Blodgett, J. C., & Wagner, T. H. (2014). Estimating the efficacy of Alcoholics Anonymous without self-selection bias: An instrumental variables re-analysis of randomized clinical trials. *Alcoholism: Clinical and Experimental Research*, *38*(11), 2688–2694. doi:10.1111/acer.12557

IBM Corporation. (2013). *IBM SPSS Statistics for Windows, Version 22.0* [Computer software]. Armonk, NY: Author.

Inagaki, T. K., Haltom, K. E. B., Suzuki, S., Jevtic, I., Hornstein, E., Bower, J. E., & Eisenberger, N. I. (2016). The neurobiology of giving versus receiving support. *Psychosomatic Medicine*, *78*(4), 443–53. doi:10.1097/PSY.0000000000000302

Jason, L. A., Light, J. M., Stevens, E. B., & Beers, K. (2014). Dynamic social networks in recovery homes. *American Journal of Community Psychology*, *53*, 324–334. doi:10.1007/s10464-013-9610-6

Jayawickreme, N., Yasinski, C., Williams, M., & Foa, E. B. (2012). Gender-specific associations between trauma cognitions, alcohol cravings, and alcohol-related consequences in individuals with comorbid PTSD and alcohol dependence. *Psychology of Addictive Behaviors*, *26*(1), 15–19. doi:10.1037/a0023363

Jenkins, C. O. E., & Tonigan, J. S. (2011). Attachment avoidance and anxiety as predictors of 12-step group engagement. *Journal of Studies on Alcohol and Drugs*, *72*(5), 854–863. Retrieved from www.ncbi.nlm.nih.gov/pubmed/21906512

Johnson, M. D., & Bradbury, T. N. (2015). Contributions of social learning theory to the promotion of healthy relationships: Asset or libability? *Journal of Family Theory & Review*, *7*(1), 13–27. doi:10.1111/jftr.12057

Jones, A., Cole, J., Goudie, A., & Field, M. (2012). The effect of restraint beliefs on alcohol-seeking behavior. *Psychology of Addictive Behaviors*, *26*(2), 325–329. doi:10.1037/a0025546

Kelly, J. F., & Hoeppner, B. (2013). Does Alcoholics Anonymous work differently for men and women? A moderated multiple-mediation analysis in a large clinical sample. *Drug and Alcohol Dependence*, *130*(1–3), 186–193. doi:10.1016/j.drugalcdep.2012.11.005

Kelly, J. F., Stout, R. L., Greene, M. C., & Slaymaker, V. (2014). Young adults, social networks, and addiction recovery: Post treatment changes in social ties and their role as a mediator of 12-step participation. *PLoS One*, *9*(6), 1–7. doi:10.1371/journal.pone.0100121

Kelly, J. F., Stout, R. L., Magill, M., & Tonigan, J. S. (2011). The role of Alcoholics Anonymous in mobilizing adaptive social network changes: A prospective lagged meditational analysis. *Drug and Alcohol Dependence*, *114*(2–3), 119–126. doi: 10.1016/j.drugalcdep.2010.09.009

Kelly, J. F., & Urbanoski, K. (2012). Youth recovery contexts: The incremental effects of 12-step attendance and involvement on adolescent outpatient outcomes. *Alcoholic Clinical and Experimental Research Journal, 36*(7), 1381–1392. doi:10.1111/j.1530-0277.2011.01727.x

Kelly, J. F., Urbanoski, K. A., Hoeppner, B. B., & Slaymaker, V. (2012). Facilitating comprehensive assessment of 12-step experiences: A multidimensional measure of mutual-help activity. *Alcoholism Treatment Quarterly*, *29*(3), 181–203. doi:10.1080/07347324.2011.586280

Kelly, J. F., & Yeterian, J. D. (2010). Using mutual-help groups to address alcohol problems: Research is beginning to show that attendance at Alcoholics

Anonymous meetings increases the odds of recovery and improves mood and well-being. *The Journal of Employee Assistance*, *40*(3), 5. Retrieved from elsolmedellin.co/using-mutual-help-groups-to-address-alcohol-problems-research-i

Kelly, J. F., & Yeterian, J. D. (2011). The role of mutual-help groups in extending the framework of treatment. *Alcohol Research and Health*, *33*(4), 350–355. Retrieved from pubs.niaaa.nih.gov/publications/arh334/350-355.pdf

Kelly, J. F., & Yeterian, J. D. (2012). Empirical awakening: The new science on mutual help and implications for cost containment under health care reform. *Substance Abuse*, *33*(2), 85–91. doi:10.1080/08897077.2011.634965

Keyes, K. M., Hatzenbuchler, M. L., & Hasin, D. S. (2011). Stressful life experiences, alcohol consumption, and alcohol use disorders: The epidemiologic evidence for four main types of stressors. *Psychopharmacology*, *218*(1), 1–17. doi:10.1007/s00213-011-2236-1

Keyes, K. M., Li, G., & Hasin, D. S. (2011). Birth cohort effects and gender differences in alcohol epidemiology: A review and synthesis. *Alcoholism: Clinical and Experimental Research*, *35*(12), 2101–2112. doi:10.1111/j.1530-0277.2011.01562.x

Kingree, J. B., & Thompson, M. (2011). Participation in Alcoholics Anonymous and post-treatment abstinence from alcohol and other drugs. *Addictive Behaviors*, *36*(8), 882–885. doi:10.1016/j.addbeh.2011.03.011

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. New York, NY: Guilford Press.

Krentzman, A. R. (2013). Review of the application of positive psychology to substance use, addiction, and recovery research. *Psychology of Addictive Behaviors*, *27*(1), 151–165. doi:10.1037/a0029897

Krentzman, A. R., Brower, K. J., Cranford, J. A., Bradley, J. C., & Robinson, E. A. R. (2012). Gender and extroversion as moderators of the association between Alcoholics Anonymous and sobriety. *Journal of Studies on Alcohol and Drugs*, *73*(1), 44–52. Retrieved from www.jsad.com/jsad/volumes

Krentzman, A. R., Cranford, J. A., & Robinson, E. A. R. (2013). Multiple dimensions of spirituality in recovery: A lagged mediational analysis of Alcoholics Anonymous' principal theoretical mechanism of behavior change. *Substance Abuse*, *34*(1), 20–32. doi:10.1080/08897077.2012.691449

Krentzman, A. R., Robinson, E. A. R., Moore, B. C., Kelly, J. F., Laudet, A. B., & White, W. L. (2010). How Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) work: Cross-disciplinary perspectives. *Alcoholism Treatment Quarterly*, *29*(1), 75–84. doi:10.1080/07347324.2011.538318

Krentzman, A. R., Robinson, E. A. R., Perron, B. E., & Cranford, J. A. (2011). Predictors of membership in Alcoholics Anonymous in a sample of successfully remitted alcoholics. *Journal of Psychoactive Drugs*, *43*(1), 20–26. doi:10.1080/02791072.2011.566493

Kuerbis, A. N., Hagman, B. T., & Sacco, P. (2013). Functioning of alcohol use disorders criteria among middle-aged and older adults: Implications for DSM-5. *Substance Use and Misuse*, *48*(4), 309–322. doi:10.3109/10826084.2012.762527

LaPaglia, D. (2011). Challenges and solutions of adding medications treatment to specialty addiction treatment programs: A review with suggestions. *Alcohol Research and Health*, *33*(4), 305–307. Retrieved from pubs.niaaa.nih.gov

Lee, H. S., Engstrom, M., & Petersen, S. R. (2011). Harm reduction and 12 steps: Complementary, oppositional, or something in-between? *Substance Use and Misuse*, *46*(9), 1151–1161. doi:10.3109/10826084.2010.548435

Leeman, R. F., Patock-Peckham, J. A., & Potenza, M. N. (2012). Impaired control over alcohol use: An under-addressed risk factor for problem drinking in young adults? *Experimental and Clinical Psychopharmacology*, *20*(2), 92–106. doi:10.1037/a0026463

Littlefield, A. K., Sher, K. J., & Wood, P. K. (2010). Do changes in drinking motives mediate the relation between personality change and "maturing out" of problem drinking? *Journal of Abnormal Psychology*, *119*(1), 93–105. doi:10.1037/a0017512

Lown, E. A., Nayak, M. B., Korcha, R. A., & Greenfield, T. K. (2011). Child physical and sexual abuse: A comprehensive look at alcohol consumption patterns, consequences, and dependence from the National Alcohol Survey. *Alcoholism: Clinical and Experimental Research*, *35*(2), 317–325. doi:10.1111/j.1530-0277.2010.01347.x

Magura, S., Cleland, C. M., & Tonigan, J. S. (2013). Evaluating Alcoholics Anonymous's effect on drinking in Project MATCH using cross-lagged regression panel analysis. *Studies on Alcohol and Drugs*, *74*(3), 378–385. Retrieved from www.ncbi.nlm.nih.gov/pubmed/23490566

McCrady, B. S., & Epstein, E. E. (2013). *Addictions: A comprehensive guidebook.* New York, NY: Oxford University Press.

McKechnie, J., & Hill, E. M. (2011). Risk factors for alcoholism among women religious: Affect regulation. *Pastoral Psychology*, *60*(5), 693–703. doi:10.1007/s11089-011-0344-9

Moreira, C. A., Marinho, M., Oliveira, J., Sobreira, G., & Aleixo, A. (2015). Suicide attempts and alcohol use disorder. *European Psychiatry, 30*, 521. doi:10.1016/s0924-9338(15)30409-0

National Highway Traffic Safety Administration. (2013). *NHTSA data confirms traffic fatalities increased in 2012*. Retrieved from http://www.nhtsa.gov/About+ NHTSA/Press+Releases/NHTSA+Data+Confirms+Traffic

National Institute on Alcohol Abuse and Alcoholism. (2013). *Understanding the impact of alcohol on human health and well-being.* Retrieved from http://www.niaaa.nih. gov/alcohol-health/alcoholics-effects-body

National Institute on Alcohol Abuse and Alcoholism. (2014). *Alcohol alert: National epidemiologic survey on alcohol and related conditions.* Retrieved from http://pubs.niaaa.nih.gov/publications/AA70/AA70.html

Neale, J., Miller, P., & West, R. (2014). Reporting quantitative information in qualitative research: Guidance for authors and reviewers. *Society for the Study of Addiction*, *109*(2), 175–176. doi:10.1111/add.12408

Ockey, G. (2011). Self-consciousness and ssertiveness as explanatory variables of L2 oral ability: A latent variable approach. Language Learning, *61*(3), 968–989. doi:10.1111/j.1467-9922.2010.00625.x

Orwat, J., Samet, J. H., Tompkins, C. P., Cheng, D. M., Dentato, M. P., & Saitz, R. (2011). Factors associated with attendance in 12-step groups (Alcoholics Anonymous/Narcotics Anonymous) among adults with alcohol problems living with HIV/AIDS. *Drug Alcohol Dependency*, *113*(2–3), 165–171. doi:10.1016/j.drugalcdep.2010.07.021

Pagano, M. E., White, W. L., Kelly, J. F., Stout, R. L., & Tonigan, J. S. (2013). 10-year course of AA participation and long-term outcomes: A follow-up study of outpatient subjects in Project Match. *Substance Abuse*, *34*(1), 51–59. doi:10.1080/08897077.2012.691450

Patra, J., Giesbrecht, N., Rehm, J., Bekmuradov, D., & Popova, S. (2012). Are alcohol prices and taxes an evidence-based approach to reducing alcohol-related harm and promoting public health and safety? A literature review. *Contemporary Drug Problems*, *39*(1), 7–48. Retrieved from http://www.federallegalpublications.com/contemporary-drug-problems/201206/cdp-2012-3

Penberthy, J. K., Hook, J. N., Vaughan, M. D., Davis, D. E., Wagley, J. N., & DiClemente, C. C. (2011). Impact of motivational changes on drinking outcomes

in pharmaco-behavioral treatment for alcohol dependence. *Alcoholism, Clinical, and Experimental Research*, *35*(9), 1694–1704. doi:10.1111/j.1530-0277.2011.01516.x

Petrik, A. M., Kazantzis, N., & Hofmann, S. G. (2013). Distinguishing integrative from eclectic practice in cognitive behavioral therapies. *Psychotherapy*, *50*(3), 392–397. doi:10.1037/a0032412

Polcin, D. L., Korcha, R., Bond, J., & Galloway, G. (2011). What did we learn from our study on sober living houses and where do we go from here? *Journal of Psychoactive Drugs*, *42*(4), 425–433. Retrieved from www.tandfonline.com/loi/ujpd20

Primack, B. A., Nuzzo, E., Rice, K. R., & Sargent, J. D. (2011). Alcohol brand appearances in U.S. popular music. *Addiction*, *107*(3), 557–566. doi:10.1111/j.1360-0443.2011.03649.x

Reed, S. C., Levin, F. R., & Evans, S. M. (2012). Alcohol increases impulsivity and abuse liability in heavy drinking women. *Experimental and Clinical Psychopharmacology*, *20*(6), 454–465. doi:10.1037/a0029087

Rice, S. L., & Tonigan, J. S. (2012). Impressions of Alcoholics Anonymous (AA) group cohesion: A case for a nonspecific factor predicting later AA attendance. *Alcoholism Treatment Quarterly*, *30*(1), 40–51. doi:10.1080/07347324.2012.635550

Roberts, S. C. M. (2012). Whether men or women are responsible for the size of gender gap in alcohol consumption depends on alcohol measure: A study across the

United States. *Contemporary Drug Problems*, *39*(2), 195–212. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/23248388

Rynes, K. N., Tonigan, J. S., & Rice, S. L. (2013). Interpersonal climate of 12-step groups predicts reductions in alcohol use. *Alcoholism Treatment Quarterly*, *31*(2), 167–185. doi:10.1080/07347324.2013.771983

Sanders, J. M. (2011). Feminist perspectives on 12-step recovery: A comparative descriptive analysis of women in Alcoholics Anonymous and Narcotics Anonymous. *Alcoholism Treatment Quarterly*, *29*(4), 357–278. doi:10.1080/07347324.2011.608595

Sanders, J., Wilkes, K. H., Nelson, J., White, W. L., & McGovern, T. (2014). Gendered members of Alcoholics Anonymous: Varieties of spiritual experiences in recovery. *Alcoholism Treatment Quarterly*, *32*(2–3), 248–270. doi:10.1080/07347324.2014.907034

Schonbrun, Y. C., Strong, D. R., Anderson, B. J., Caviness, C. M., Brown, R. A., & Stein, M. D. (2011). Alcoholics Anonymous and hazardously drinking women returning to the community after incarceration: Predictors of attendance and outcome. *Alcoholism: Clinical and Environmental Research*, *35*(3), 532–539. doi:10.1111/j.1530-0277.2010.01370.x

Sifers, S. K., & Peltz, K. M. (2013). What members of Alcoholics Anonymous really believe. *Mental Health, Religion & Culture*, *16*(7), 711–718. doi:10.1080/13674676.2012.715630

Skomorovsky, A., & Lee, J. E. C. (2012). Alcohol use among Canadian forces candidates: The role of psychological health and personality. *Military Psychology*, *24*(6), 513–528. doi:10.1080/08995605.2012.736318

Soper, D. (2017). *Calculator: A-priori sample size for multiple regression.* Retrieved from http://www.danielsoper.com/statcalc/calculator.aspx?id=1

Spinella, M. (2007). Normative data and a short form of the Barratt Impulsiveness Scale. *International Journal of Neuroscience*, *117*(3), 359–368. doi:10.1080/00207450600588881

Stevens, E. (2013). *An exploratory investigation of the Alcoholics Anonymous sponsor: Qualities, characteristics, and their perceived importance* (Doctoral dissertation). Retrieved from the College of Science and Health Theses and Dissertations. (49).

Stevens, J. P. (2009). *Applied multivariate statistics for the social sciences* (5th ed.). Mahwah, NJ: Routledge Academic.

Stout, R. L., Kelly, J. F., Magill, M., & Pagano, M. E. (2012). Association between social influences and drinking outcomes across three years. *Journal of Studies on Alcohol and Drugs*, *73*(3), 489–497. Retrieved from http://www.ncbi.nim.nih.gov/pmc/articles/PMC3316719/

Subbaraman, M. S., & Kaskutas, L. A. (2012). Social support and comfort in AA as mediators of "Making AA Easier" (MAAEZ), a 12-step facilitation intervention. *Psychology of Addictive Behaviors*, *26*(4), 759–765. doi:10.1037/a0028544

Subbaraman, M. S., Kaskutas, L. A., & Zemore, S. (2011). Sponsorship and service as mediators of the effects of making Alcoholics Anonymous easier (MAAEZ), a

12-step facilitation intervention. *Drug and Alcohol Dependence*, *116*(1–3), 117–24. doi:10.1016/j.drugalcdep.2010.12.008

Substance Abuse and Mental Health Services Administration. (2013). *National Survey on Drug Use and Health, 2013 (ICPSR 35509-V1).* doi:10.3886/ICPSR35509.v1

Suls, J., Krantz, D. S., & Williams, G. C. (2013).Three strategies for bridging different levels of analysis and embracing the biopsychosocial model. *Health Psychology*, *32*(5), 597–601. doi:10.1037/a0031197

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston, MA: Allyn and Bacon.

Teunissen, H. A., Spijkerman, R., Schoenmakers, T. M., Vohs, K. D., & Engels, R. C. M. E. (2012). The effect of self-control on attentional bias for alcohol cues in male heavy drinkers. *Journal of Applied Social Psychology*, *42*(3), 776–792. doi:10.1111/j.1559-1816.2011.00800.x

Thomas, S. E., Bacon, A. K., Randall, P. K., Brady, K. T., & See, R. E. (2011). An acute psycho-social stressor increases drinking in non-treatment-seeking alcoholics. *Psychopharmacology*, *218*(1), 19–28. doi:10.1007/s00213-010-2163-6

Thurang, A., & Tops, A. B. (2012). Living an unstable everyday life while attempting to perform normality – the meaning of living as an alcohol-dependent woman. *Journal of Clinical Nursing*, *22*(3–4), 423–432. doi:10.1111/j.1365-2702.2012.04293.x

Timko, C., Halvorson, M., Kong, C., & Moos, R. H. (2015). Social processes explaining the benefits of Al-Anon participation. *Psychology of Addictive Behaviors, 29*(4), 856–863. doi:10.1037/adb0000067

Tonigan, J. S., Connors, G. J., & Miller, W. R. (1996). Alcoholics Anonymous Involvement (AAI) scale: Reliability and norms. *Psychology of Addictive Behaviors*, *10*(2), 75–80. doi:10.1037/0893-164X.10.2.75

Trochim, W. M. K. (2006). Research methods knowledge base: Types of surveys. *Web Center for Social Research Methods.* Retrieved from http://www.socialresearch methods.net/kb/survaddi.php

Tucker, J. A., & Simpson, C. A. (2011). The recovery spectrum: From self-change to seeking treatment. *Alcohol Research & Health*, *33*(4), 371–379. Retrieved from www.ncbi.nlm.nih.gov/pubmed/23580021

Verges, A., Jackson, K. M., Bucholz, K. K., Grant, J. D., Trull, T. J., & Wood, P. K. (2012). Deconstructing the age-prevalence curve of alcohol dependence: Why "maturing out" is only a small piece of the puzzle. *Journal of Abnormal Psychology*, *121*(2), 511–523. doi:10.1037/a0026027

Verissimo, A. D. O., Grella, C. E., Amaro, H., & Gee, G. C. (2014). Discrimination and substance use disorders among Latinos: The role of gender, nativity, and ethnicity. *American Journal of Public Health*, *104*(8), 1421–1428. Retrieved from www.medscape.com/medline/abstract/24922159

Wagoner, K. G., Blocker, J., McCoy, T. P., Sutfin, E. L., Champion, H., & Wolfson, M. (2012). Free alcohol use and consequences: Gender differences among

undergraduates. *American Journal of Health Behavior*, *36*(4), 446–458. doi:10.5993/AJHB.36.4.2

White, W. L. (2014). Slaying the dragon: *The history of addiction treatment and recovery in America.* Bloomington, IL: Chestnut Health Systems.

Wilsnack, S. C., Wilsnack, R. W., & Kantor, L. W. (2014). Focus on: Women and the costs of alcohol use. *Alcohol Research: Current Reviews, 35*(2), 219–228. Retrieved from https://www.ncbi.nim.nih.gov/pmc/articles/PMC3908713/

Winograd, R. P., Littlefield, A. K., & Sher, K. J. (2012). Do people who mature out of drinking see themselves as more mature? *Alcoholism: Clinical and Experimental Research*, *36*(7), 1212–1218. doi:10.1111/j.1530-0277.2011.01724x

Witbrodt, J., & Delucchi, K. (2011). Do women differ from men on Alcoholics Anonymous participation and abstinence? A multi-wave analysis of treatment seekers. *Alcoholism Clinical & Experimental Research*, *35*(112), 2231–2241. doi:10.1111/j.1530-0277.2011.01573.x

Witbrodt, J., Kaskutas, L., Bond, J., & Delucchi, K. (2012). Does sponsorship improve outcomes above Alcoholics Anonymous attendance? A latent class growth curve analysis. *Addiction*, *107*(2), 301–311. doi:10.1111/j.1360-0443.2011.03570.x

Witbrodt, J., Mertens, J., Kaskutas, L. A., Bond, J., Chi, F., & Weisner, C. (2012). Do 12-step meeting attendance trajectories over 9 years predict abstinence? *Journal of Substance Abuse Treatment*, *43*(1), 30–43. doi:10.1016/j.jsat.2011.10.004

Witbrodt, J., Ye, Y., Bond, J., Chi, F., Weisner, C., & Mertens, J. (2014). Alcohol and drug treatment involvement, 12-step attendance and abstinence: 9-year cross-

lagged analysis of adults in an integrated health plan. *Journal of Substance Abuse Treatment, 46*(4), 412–419. doi:10.1016/j.jsat.2013.10.015

Witkiewitz, K. (2011). Predictors of heavy drinking during and following treatment. P*sychology of Addictive Behaviors*, *25*(3), 426–438. doi:10.1037/a0022889

World Health Organization. (2011). *Global status report on alcohol and health.* Geneva, Switzerland: Author. Retrieved from www.who.int/global_alcohol/msbgsrupro

Young, L. B. (2011). Alcoholism and identity: How an alternative framing of identity can facilitate Alcoholics Anonymous research. *Addiction Research and Theory*, *19*(3), 213–223. doi:10.3109/16066359.2010.530712

Yun, M., & Kim, E. (2015). Illicit drug use among South Korean offenders: Assessing the generality of social learning theory. *International Journal of Offender Therapy and Comparative Criminology*, *59*(11), 1166–1187. doi:10.1177/0306624X14530671

Zafiridis, P., & Lainas, S. (2012). Alcoholics and narcotics anonymous: A radical movement under threat. *Addictive Research and Theory*, *20*(2), 93–104. doi:10.3109/16066359.2011.588353

Zemore, S. E., Subbaraman, M., & Tonigan, J. S. (2013). Involvement in 12-step activities and treatment outcomes. *Substance Abuse, 34*(1), 60–69. doi:10.1080/08897077.2012.691452

Appendix A: Alcoholics Anonymous Involvement (AAI) Scale

1. Item	Response
2. Have you ever attended an AA meeting?	Yes or No
3. Have you attended an AA meeting in the last year?	Yes or No
4. Have you ever considered yourself to be a member of AA?	Yes or No
5. Have you ever gone to 90 AA meetings in 90 days?	Yes or No
6. Have you ever celebrated an AA sobriety birthday?	Yes or No
7. Have you ever had an AA sponsor?	Yes or No
8. Have you ever been an AA sponsor?	Yes or No
9. If you have been in an alcohol treatment program (inpatient or Outpatient), did they require that you "work" any of the AA steps?	
10. What steps did you complete when you were in alcohol treatment? (Please select from Steps 1-12).	
11. Regardless of whether you have or have not been to alcohol treatment, which of the 12 steps of AA have you "worked"? (Please select from Steps 1-12).	
12. How many AA meetings have you attended in the last year? (Please enter your best estimate. If you did not attend any AA meetings in the year enter zero (0)).	
13. What is the total number of AA meetings that you have ever attended? (Please enter your best estimate. If you did not attend any AA meetings in the last year enter zero (0)).	
14. Have you ever had a spiritual awakening or conversion	Yes or No

Scoring instructions: The scoring method is for items 1, 2, 3, 4, 5, 6, 7, and 13 with no = 0 and yes = 1, while items 10, 11, and 12 are converted to deciles. Within SPSS you can request that a variable (here an individual item) can be converted into decile rankings. Once the conversion is complete (the variable is named a new name) then simply add it to the sum of the non-deciled items (Tonigan et al., 1996).

Appendix B: Barratt Impulsiveness Scale-15-Item Short Form (BIS-15)

DIRECTIONS: For each statement, circle a number to the right to indicate how well it describes you.

1	2	3	4
Rarely/Never	Occasionally	Often	Almost Always/Always

1	I plan tasks carefully.	1	2	3	4
2	I do things without thinking.	1	2	3	4
3	I don't "pay attention."	1	2	3	4
4	I concentrate easily.	1	2	3	4
5	I save money on a regular basis.	1	2	3	4
6	I squirm at plays or lectures.	1	2	3	4
7	I am a careful thinker.	1	2	3	4
8	I plan for job security	1	2	3	4
9	I say things without thinking.	1	2	3	4
10	I act on "impulse."	1	2	3	4
11	I get easily bored when solving thought problems.	1	2	3	4
12	I act on the spur of the moment.	1	2	3	4
13	I buy things on impulse.	1	2	3	4
14	I am restless at lectures or talks.	1	2	3	4
15	I plan for the future.	1	2	3	4

Factor analysis, abbreviations, and scoring for the 15-item version of the BIS is as follows: Three subscales: A = Attention Impulsivity; M = Motor Impulsivity; and NP = Non-Planning. Items are scored 1-4 (Spinella, 2007).

Subscale	Item
Non-Planning Impulsivity	1*
	5*
	7*
	8*
	15*
Motor Impulsivity	2
	9
	10
	12
	13
Attentional Impulsivity	3
	4*
	6
	11

14	

*Denotes Inverted Item

Appendix C: Demographic Page

PLEASE COMPLETE THE FOLLOWING:

Place an X in spaces provided for Questions

Age:

18 – 25_____ 26 – 35 _____ 36 – 46 _____ 47 – 57 ____ 58 – 69 ____ 70 – 79 _____

80+_____

Gender:

Men _____ Women _____

Ethnic Background:

Caucasian____ Hispanic _____ African American ____ Asian ____ American Indian

_____ Other _____

Marital Status:

Married _____Single ____Divorced ____ Separated ____ Widowed ___

Educational Level:

Some High School ____ High School Graduate _____Junior College _____ Bachelor's

Appendix D: Permission Request to Use the Alcoholics Anonymous Involvement Index

Original Message -----
From: [redacted]
To: [redacted]
Sent: Tuesday, April 22, 2014 4:58 PM
Subject: Alcoholics Anonymous Involvement Index

Dr. Tonigan:

I am working on a dissertation involving AA involvement. I plan on conducting surveys. I was wanting to know if I could use this tool as one of my surveys/tools. My dissertation involves two variables of gender and impulsiveness and the role each plays influencing AA involvement. For IRB purposes, I have to make sure that each tool I use is approved to use.

I will wait until I hear from you. Thanks.

Best regards,

Dianne Bentley

Re: Alcoholics Anonymous Involvement Index
Back to Messages
From: "J. Scott Tonigan, Ph.D."
Add to Contacts | Invite Sender | Block Sender
Full Header
To:<dbentley
Sent: Wed, Apr 23, 2014 09:04 AM

By all means please feel free to use the AAI, it is not copyrighted. Best of luck with your dissertation.

Scott Tonigan

From: dbentley
Sent: Saturday, April 26, 2014 5:53 PM
To: Jeff Scott Tonigan
Subject: Re: Alcoholics Anonymous Involvement Index

Dr. Tonigan:

I have another question. I rec'd your email to go ahead and use the tool, but I was wanting to know if I could use the table in the article, Alcoholics Anonymous Involvement Scale: Reliability and norms on page 78? This would be for purposes to explain or show in Chapter 3 the reliability and test-retest for the tool. I was not sure for IRB purposes if this would be okay. I wanted to check with you first. Of course, I would note at the end of the table I had obtained permission, along with referencing the information. Thanks again. I will await your response.

Best regards,

Dianne Bentley

RE: Alcoholics Anonymous Involvement Index
Back to Messages
From: Jeff Scott Tonigan
To:"dbentley
Sent: Sat, Apr 26, 2014 06:07 PM

Fine with you reproducing the table on page 78 in your dissertation.

Scott

Appendix E: Request Permission to Obtain a Copy and Use the Barratt Impulsiveness Scale

---

From: dbentley
Sent: Sunday, April 20, 2014 11:56 PM
To: Spinella, Marcello
Subject: Barratt Impulsiveness Scale

Hello M. Spinella:

I am working on a dissertation involving attendance in Alcoholics Anonymous meetings and how gender and impulsivity play a role in this attendance. I would like to use the Barratt Impulsiveness Scale for the impulsivity section. Would I be able to use this in a survey given to individuals in treatment facilities and AA meetings? What would I need to do in order to make this happen? Is it feasible, due to copyright, etc.? Individuals would take the survey via online, but I understand IRB procedures need to have an assurance that this is okay with the producers of each tool. Please let me know the particulars of this issue at your convenience. Thanks.

Best regards,

Dianne Bentley

From: dbentley
Sent: Monday, April 21, 2014 8:27 PM
To: Spinella, Marcello
Subject: RE: Barratt Impulsiveness Scale

Marcello:

Would it be okay for me to use the short form, as this would work better for me I am dealing with three surveys, so I want to keep it as short as possible. Any input would be helpful. I did email the individual you put in your email back to me, but after I got home, I started reading this and would like very much to use the 15-item short form as opposed to the longer 30 item version. Would this apply to you only for IRB purposes I think if I get approval from the individuals who put the tools together, this will suffice for IRB, as I will state in my dissertation who I contacted and how it was accomplished. I feel this would answer all questions they would have. Thanks again, and I hope to hear from you regarding the short form.

Best regards,

Dianne Bentley

Back to Messages
From: "Spinella, Marcello"
To:"dbentley
Sent: Mon, Apr 21, 2014 07:12 PM
Dianne,

By all means, feel free to use it. :-)

If you need anything from me, let me know.

Marcello

Best of luck with your dissertation!

Marcello :-)

From: dbentley
Sent: Thursday, April 24, 2014 10:33 PM
To: Spinella, Marcello
Subject: RE: Barratt Impulsiveness Scale

Dr. Spinella:

Is it possible to get a copy of the Short Form of the Barratt Impulsiveness Scale? I cannot seem to find it in any of the articles that I have, as they all relate to the 30-item Scale. If you could let me know how I could get a copy, I feel that this would be better for my study, as I will have three surveys, and I am trying to keep it as short as possible. OR do you feel that the 30-item would be the way to go?

Thanks again.

Best regards,

Dianne Bentley

Dr. Marcello Spinella replied and sent the copy via email.

RE: Barratt Impulsiveness Scale
Back to Messages
From: "Spinella, Marcello"
To:"dbentley
Sent: Mon, Apr 28, 2014 10:48 AM

Oh, here you go:

https://sites.google.com/site/marcellospinella/psychological-tests

Psychological Tests

- Barratt Impulsivity Scale - 15-item Short Form (BIS-15)
  - Development
  - Items/form
  - German Version (replicated BIS-15 factor structure)

From: dbentley
Sent: Saturday, April 26, 2014 7:46 PM
To: Spinella, Marcello
Subject: RE: Barratt Impulsiveness Scale

Dr. Spinella:

I was wondering if it would be okay to use a table from your article regarding the short form Barratt Impulsiveness Scale. This would be for retest-reliability purposes in the Chapter 3 discussion of Test-retest reliability. I was thinking that the table would help explain it, on page 362 364. The tables for descriptive statistics, linear regression of demographic variables, and the table on p. 364 on factor analysis. This would help to explain the tool, showing that it is reliable, etc. Please let me know if this will be okay to use in my dissertation. Of course I would footnote it that permission had been granted and reference it accordingly, but was not sure until you let me know. Thanks

Best regards,

Dianne Bentley

RE: Barratt Impulsiveness Scale
Back to Messages
From: "Spinella, Marcello"
To:"dbentley

Sent: Mon, Apr 28, 2014 10:24 AM

Of course :-)

Appendix F: Institutional Review Board (IRB) in Response to Distributing Surveys

IRB <IRB@waldenu.edu>

Hi Dianne,

Below is the original response from the IRB regarding your planned method of data collection, in response to the email request sent 2/16.

Sincerely,

Libby Munson
Research Ethics Support Specialist
Office of Research Ethics and Compliance
Walden University
100 Washington Avenue South, Suite 900
Minneapolis, MN 55401
Phone: (612) 312-1283
Fax: (626) 605-0472

Information about the Walden University Institutional Review Board, including instructions for application, may be found at this link:http://academicguides.waldenu.edu/researchcenter/orec

---

From: Elizabeth Munson On Behalf Of IRB
Sent: Wednesday, November 12, 2014 2:50 PM
To: Dianne Bentley
Cc: IRB
Subject: RE: Dianne Bentley's Dissertation A00031199

Hi Dianne,

Thank you for contacting the IRB as it is definitely good to be thinking of ethical issues through the capstone process. Using AA meetings for data collection would not be appropriate, as it does not offer sufficient privacy nor time to consider participation.

Please note though, this does not mean that AA meetings cannot be used overall, it's just that surveys can't be completed at the meeting. For example, you could ask the moderator to distribute flyers with your contact information, and then attendees could contact you if they are interested in participation (of the flyer could contain a link to an

online version of the survey). Another option would be for you to attend a meeting and distribute the surveys but explain that they can be completed after the meeting. The completed surveys could then be returned to you via a self-addressed stamped envelope.

Please also note, as you further develop your topic the IRB also offers advising hours which can be useful brainstorming opportunities to identify potential solutions to ethical concerns. Information about the advising hours is available online.

Sincerely,

Libby Munson
Research Ethics Support Specialist
Office of Research Ethics and Compliance
Walden University
100 Washington Avenue South, Suite 900
Minneapolis, MN 55401
(612) 312-1283

Information about the Walden University Institutional Review Board, including instructions for application, may be found at this link:http://academicguides.waldenu.edu/researchcenter/orec

From: Dianne Bentley
Sent: Tuesday, November 11, 2014 3:15 PM
To: IRB
Subject: Dianne Bentley's Dissertation A00031199

I am trying to contact you, but having difficulty, so I am writing this email. I would like to know if I can obtain data from AA meetings; I would drop off the survey questions, picking them up at a later date; nothing would be compromised, as I will not be asking names or any identity, just a few demographic variables such as gender, ethnicity, and socioeconomic status. Possibly marriage status. I am looking to find out how many individuals attend AA, how long, have they every quit attending, why. I am using two variables including gender and impulsivity. I am working with someone to get my research design together. They did not see a problem with this. Every study I have looked at and researched obtained their information from either AA meetings, in and out-patient treatment centers, social service agencies, probation offices, etc.

Dianne Bentley