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Training Satisfaction of Behavioral Health Providers Treating Older Adult Substance Use

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This is to certify that the doctoral dissertation by

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Abstract

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MA, University of Phoenix 2006

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Dissertation Submitted in Partial Fulfillment

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Abstract

Substance use disorders among the baby boomer generation are steadily increasing, but knowledge and training satisfaction regarding older adult substance use disorders among behavioral health providers (BHPs) has not been explored. Using the Kirkpatrick evaluation model, this quantitative study involved an examination of the knowledge and training satisfaction of four behavioral provider groups: addiction counselors, licensed professional counselors, marriage and family therapists/social workers, and psychologists. Each participant (N = 154) completed a demographic questionnaire, satisfaction questionnaire, and the Alcohol and Older Adult Questionnaire to measure knowledge level on older adult substance use disorders. The results showed that licensed professional counselors held significantly higher levels of knowledge than any other BHP group. There were no significant differences between BHPs regarding satisfaction with training on older adult substance use disorders. No relationship was found between BHP satisfaction and BHP knowledge scores, even when considering the number of years, a BHP was licensed. Therefore, the findings of this study may encourage more training for BHPs aside from licenses professional counselors as well as future research on BHPs treating older adult substance use disorders.

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Chapter 1: Introduction to the Study

Introduction

Behavioral health providers (BHPs) can identify older adults with substance use issues and assist them in recovery. For BHPs to assist older adults with substance use disorders, it is necessary they are trained to treat older adults and have the knowledge necessary to provide competent services. In this study, I investigated the training satisfaction and knowledge of BHPs on older adult substance use disorders. The BHPs in the study consisted of licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, certified addiction counselors II, certified addiction counselors III, and licensed addiction counselors. The study design was an ex post facto posttest only research design with nonequivalent groups. This study was conducted for two reasons: (a) to identify the knowledge BHPs currently hold regarding treatment of older adults who present for possible substance use disorders and (b) to identify satisfaction with the training experiences they have encountered in geriatric substance use disorders. This study addressed gaps in knowledge and training by provider type in treating older adults with substance use disorders. Identifying these two areas helped determine the need for training on substance use disorders concerning older adults and whether providers were prepared to treat this group. This chapter presents a brief history of substance use disorders among older adults, the research problem, and the research questions and hypotheses comprising the study.

Background

The percentage of older adults in the U.S. population is expected to grow from about 13% to approximately 20% (i.e., over 70 million older adults) by the year 2030 (Benshoff & Harrawood, 2003; Virginia Department of Behavioral Health and Developmental Services, n.d.). Additionally, it is projected that by the year 2030, the population of older adults requiring treatment for substance use disorders will more than double to approximately 5 million older adults (Briggs, Magnus, Lassiter, Patterson, & Smith, 2011; White, Duncan, Nicholson, Bradley, & Bonaguro, 2011). Due to the projected increase in the population of older adults, the likelihood that BHPs will have professional contact with an older adult is high. Naito-Chan, Damron-Rodriguez, and Simmons (2004) found that over 60% of surveyed social workers, who were members of the National Association of Social Workers reported the need for treating older adults even though this was not required of them to complete their work. However, it can be difficult to identify substance use in older adults due to factors including existing medical issues that appear to be part of the aging process, psychiatric issues, and the tendency to deny use of substances (Myers, Dice, & Dew, 2000; Socorro & Ferrell, 2006).

To prepare for the increased need in substance use disorder services, providers must have adequate training and knowledge in treating this unique population (Naito-Chan et al., 2004). Training opportunities in addictions are limited with training on geriatric addictions much less common. But experienced addiction counselors have difficulty diagnosing substance use disorders among older adults, which indicates a need for specialized training opportunities (Coogle, Osgood, & Parham, 2000).

Many studies have shown that training in treating persons with substance use disorders is lacking (Cellucci & Vik, 2001; Harwood, Kowalski, & Ameen, 2004; Madson, Bethea, Daniel, & Necaise, 2008; Morgan ,Toloczko, & Comly, 1997). For example, Ong, Lee, Cha, & Arokiasamy (2008) reported that approximately 50% of rehabilitation counselors in California perceived their graduate training in substance use disorders as inadequate and did not feel their delivery of addiction counseling services was effective. Additionally, Dawes-Diaz (2007) surveyed professionals who had graduated in the past 5 years regarding their satisfaction with training substance use disorder training, their perceived service delivery, and effective ways to deliver training in substance use disorders to counseling professionals. New professionals enrolled in programs approved by the Council for Accreditation of Counseling & Related Educational Programs (CACREP) reported higher satisfaction, as opposed to new professionals from non-CACREP programs, with their training and education on substance use disorders. The study also found that new professionals, whether enrolled in CACREP or non-CACREP programs, were not satisfied with their effectiveness in working with clients having substance use disorders (Dawes-Diaz, 2007). Finally, results of a study of health professionals at three hospitals in England indicated that many patients with substance use issues were not identified by health professionals. It was shown that 25% of were diagnosed with a substance use disorder and that only 10% of the patients were referred for further treatment of substance use issues (McInnes & Powell, 1994).

In addition to training on geriatric substance use disorders, BHPs must have the knowledge to identify and treat substance use disorders. Participating in substance use disorder training has been correlated with higher knowledge levels as reported by social workers (Amodeo, 2000; Amodeo & Fassler, 2000). Knowledge is a factor in identifying substance use disorders that may not be apparent when treating the older adult population. A study conducted in Ireland on knowledge levels of nurses, occupational therapists, psychologists, physiotherapists, social workers, and speech therapists regarding older adult alcohol issues showed low levels of knowledge and confirmed the need for training (Waldron & McGrath, 2012).

At the time of writing this study, there have been no studies that on certification and licensure level of BHPs on older adult substance use disorders and how their training satisfaction relates to their licensure/certification levels. This study included licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, certified addiction counselor II, certified addiction counselors III, and licensed addiction counselors. Identifying these factors will help identify ways in which to increase educational opportunities offered to professionals. In turn, older adults will benefit through better substance use disorder services.

Problem Statement

Previous research has indicated that, although BHPs undergo comprehensive formal education and training to obtain licensure, they receive inadequate training and competence in treating geriatric substance use disorders (Institute of Medicine, 2012;

Harawood et al., 2004). Hence, there is a gap in the preparation of BHPs to recognize and treat older adults with substance use disorders.

BHPs must be aware of the treatment needs of this population. Lack of knowledge about older adult substance use disorders, the inability to recognize symptoms, and the inability to screen for substance use issues in older adults are common reasons providers are not able to deliver adequate services (Babatunde, Outlaw, Forbes, & Gay, 2014; Naito-Chan et al., 2004; Wu & Blazer, 2010). BHPs will encounter older adults in their practices at an increased rate due in part to the growing population of older adults; therefore, it is necessary that BHPs are knowledgeable in treating older adults. Identifying which portion of the group of BHPs is more prepared to treat older adults may help identify how the differences in licensure and training are beneficial in treating older adults.

Satisfaction with training experiences has been shown to be essential for increased knowledge and increased skill in the workplace (Conners-Burrow, Kramer, Sigel, Helpenstill, Sievers, & McKelvey, 2013; Cook, Friedman, Lord, & Bradley-Springer, 2009). Training satisfaction has also been correlated with learning and perceived skill of treatment providers (Antle, Frey, Sar, Barbee, & van Zyl, 2010). In addition to this correlation, perceived satisfaction with training experiences is a significant predictor of the transfer of knowledge acquired (Sullivan, Antle, Barbee, & Egbert, 2009).

Despite previous research connecting training satisfaction with increased knowledge, there has not been a study on BHP licensure level and its relationship with

satisfaction of training experiences and knowledge on older adult substance use disorders. Hence, the problem investigated in this quantitative study was whether there were differences between BHPs' with different types of licensure regarding their levels of knowledge and their levels of satisfaction they had with training experiences.

Purpose of the Study

The primary purpose of this quantitative study was to examine whether BHPs had received the knowledge to effectively treat older adults with substance use disorders. A secondary purpose for the study was to determine the satisfaction of BHPs with their training experiences in older adult substance use disorders. In this study, older adults referred to those 50 or older.

Research Questions

This study addressed the following research questions:

Research Question 1: Is there a difference between behavioral health providers (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) in their satisfaction with their education/training on older adult substance use disorders as measured by the satisfaction questionnaire?

$H_0$1: There is no difference between behavioral health providers (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) in their satisfaction with their education/training on older adult substance use disorders as measured by the satisfaction questionnaire.

H_a1: There is a difference between behavioral health providers (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) in their satisfaction with their education/training on older adult substance use disorders as measured by the satisfaction questionnaire.

Research Question 2: Is there a difference between behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) level of knowledge regarding older adult substance use disorders as measured by the Alcohol and Older Adult Questionnaire?

$H_0 2$: There is no difference between behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) level of knowledge regarding older adult substance use disorders as measured by the Alcohol and Older Adult Questionnaire.

$H_a 2$: There is a difference between behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) level of knowledge regarding older adult substance use disorders as measured by the Alcohol and Older Adult Questionnaire.

Research Question 3: Is there a relationship between training satisfaction regarding older adult substance use disorders and behavioral health providers' (licensed

professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) knowledge of older adult substance use disorders?

$H_0$3: There is no relationship between training satisfaction regarding older adult substance use disorders and behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) knowledge of older adult substance use disorders.

H_a3: There is a relationship between training satisfaction regarding older adult substance use disorders and behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) knowledge of older adult substance use disorders.

Conceptual Framework

There are several models used for evaluating the success of training programs. One such model was originally developed by Donald Kirkpatrick in 1959 and has been redefined in 1998 (Kirkpatrick & Kirkpatrick, 2006; Employment Security Department, 2010). Kirkpatrick's four level training evaluation model is a commonly used model to determine the effectiveness of training programs in a variety of fields (Kirkpatrick & Kirkpatrick, 2006). The 4-level model is used to evaluate reactions to (a) training, (b) learning, (c) behavior, and (d) results of training; the levels are ones that build on each other (Kirkpatrick & Kirkpatrick, 2006). Training satisfaction is a concept that comprises

Level 1 of the Kirkpatrick model. Training satisfaction is the trainee's reaction to aspects of the training experience, which helps identify effectiveness of the training experience and provides quantitative information that may be used by program developers to evaluate the training program (Kirkpatrick & Kirkpatrick, 2006). The second level, learning, measures the knowledge gained from the training experience by trainees and is necessary because without learning, change in behavior cannot occur (Kirkpatrick & Kirkpatrick, 2006). The sequence of the model's levels must be completed in order as each level builds on the information obtained in the previous level. Levels 1 and 2 of Kirkpatrick's model were the focus of the current study. Training satisfaction of BHPs with training experiences regarding older adult substance use disorders was collected and quantified along with their knowledge level that comprises Level 2 of the Kirkpatrick model. Chapter 2 will present a more detailed explanation of the Kirkpatrick model.

Nature of the Study

The study was a quantitative, ex post facto posttest only research design with nonequivalent groups. A quasi-experimental design is commonly used in the social sciences and looks quantitatively at the relationships between variables when the researcher does not manipulate the variables in the study (Andeman, 2012). The data were collected using a purposive sampling strategy.

The independent variables in the study were the levels of behavioral health provider (i.e., licensed professional counselors, licensed clinical social workers, psychologists, certified addictions counselors II, certified addictions counselors III, licensed addictions counselors, and licensed marriage and family therapists) and level of

training each BHP had achieved. The dependent variables were each provider's knowledge of older adult substance use disorders and each BHP's satisfaction with training on older adult substance use disorders. The data were collected from participants, entered into an online survey site, then entered into SPSS version 22.0 for Windows. A more detailed presentation of the study's methodology will follow in chapter 3.

Definitions

Assessment: The process by which a behavioral health provider determines the treatment needs, diagnosis, and the plan for treatment for a client (Center for Substance Abuse Treatment, 2009).

Certified addictions counselor II: A certified addictions counselor level II must have completed the requirements of a CAC I and in addition must complete additional state required courses. An additional 3,000 hours of supervised training and the successful completion of a national examination are required (Colorado Department of Regulatory Agencies, 2011).

Certified addictions counselor III: A certified addictions counselor III must meet the requirements of a CAC II, minimally hold a bachelor's degree in the behavioral health field, complete an additional 2,000 hours of supervised training, and successfully pass a national examination (Colorado Department of Regulatory Agencies, 2011).

Council for Accreditation of Counseling & Related Educational Programs (CACREP): A council developed in 1981 that accredits counseling and educational programs to encourage high standards of counseling and educational programs (Council of Accreditation of Counseling & Related Educational Programs, n.d.).

International Association of Addictions & Offender Counseling: A division of the American Counseling Association (ACA) comprised of professional counselors who work and have interest in the addictions and criminal justice fields (International Association of Addictions & Offender Counseling, n.d.).

Licensed addictions counselor: A licensed addictions counselor holds a master's or doctorate degree in the behavioral health field with an accredited program, meets the requirements of a CAC II, and has passed a national examination (Colorado Department of Regulatory Agencies, 2011).

Licensed clinical social worker: A licensed clinical social worker holds a master's or doctorate degree with an accredited social work program, has completed 2 years of postdegree training and supervision, has passed a state examination, and may practice independently (Colorado Department of Regulatory Agencies, 2011).

Licensed marriage and family therapist: A licensed marriage and family therapist holds a master's or doctorate degree with an accredited program, has completed 2 years of postdegree training and supervision, and has passed a state examination (Colorado Department of Regulatory Agencies, 2011).

Licensed professional counselor: A licensed professional counselor holds a master's degree or doctorate degree in the field of professional counseling, has completed 2 years of postdegree training and supervision, and has passed a state examination (Colorado Department of Regulatory Agencies, 2011).

Psychologist: A psychologist practicing in the state of Colorado must hold a doctorate degree in psychology from an approved school, complete 1 year of postdoctoral

supervision under an approved supervisor, and successfully completes a written state exam (Colorado Department of Regulatory Agencies, 2011).

Referral: Referral is a process in which a client is paired with treatment specific to their treatment needs, including case management and follow up with the client (Substance Abuse and Mental Health Services Administration, n.d.).

Screening: The process by which a behavioral health provider determines whether a client is at risk substance use disorders, or whether substance use disorders are present (Center for Substance Abuse Treatment, 2009).

Substance use disorder: "The essential feature of substance use disorder is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems" (American Psychiatric Association, 2013, p. 481).

Assumptions

I assumed that the BHPs participating in the study were honest in their completion of the survey. The BHPs who participated in the study were advised that their information would be anonymous and confidential. It was also assumed that the questionnaire used to gather information would measure what it was meant to measure A final assumption was that the level of knowledge that BHPs had was more reflective of their initial training and not necessarily training that they may have received after they were licensed or certified through on the job or any other training experiences.

Scope and Delimitations

The study was focused on BHPs and their knowledge and satisfaction with training experiences in older adult substance use disorders. BHPs are experiencing an increase in contact with older adult clients who are no longer only presenting for substance use disorders at their physician's offices. Because the study was focused on certain groups of BHPs, the sample was not considered a random sample but a purposive sample due to the use of predefined groups. The populations chosen to complete this study were licensed professional counselors, licensed marriage and family therapists, psychologists, certified addictions counselors II, certified addictions counselors III, licensed addictions counselors, and licensed clinical social workers. Those holding a certified addictions counselor I certification were excluded because they were not able to practice independently per Colorado licensure requirements. The BHPs participating in the study held an active license and were actively practicing in Colorado. Satisfaction with training experiences on older adult substance use disorders was based on training the participants had received in older adult substance use disorders. The results of this study are generalizable to BHPs who are licensed and practice in Colorado and who have professional contact with older adults that may have substance use disorders.

Limitations

The quantitative ex post facto posttest only research design with nonequivalent groups had some limitations. Although this design was appropriate for this study, it was difficult to conclude causality with this study design (Andeman, 2012). This research design also presents some concerns as far as internal validity. The quasi-experimental

design lacked random assignment, which led to issues with selection bias. Maturation may also have affected the study as some BHPs may have had additional training in older adult substance use issues through on the job training experiences. I attempted to control for maturation statistically by using an ANCOVA to control for experience. More detail regarding the study's limitations are discussed in Chapter 3.

Significance

The current study contributes to the field by identifying the level of knowledge BHPs have in treating older adult substance use disorders and the satisfaction they have experienced with training in this field. Identifying perceived training satisfaction of BHPs regarding older adult substance use disorders helped identify the gaps in training experiences that prepare BHPs to treat the growing older adult population. Dissemination of this information may also assist in developing programs for BHPs in preparation for the older adults who will need treatment for substance use disorders. Determining the knowledge of BHPs on older adult substance use illuminated the level of knowledge BHPs currently have in treating older adults with substance use disorders. This also assisted in determining whether BHPs were prepared to treat older adults with substance use disorders and which group of BHPs were better prepared to treat older adults with substance use issues. Identifying the preparedness of BHPs to treat older adults may assist in funding for training and educating BHPs who treat older adults. This will also help those developing training programs to determine what subject matter will help better prepare BHPs to deliver adequate services to the older adult population.

Summary

Chapter 1 provided the background of the study, problem statement, an introduction into the study's methodology, conceptual framework, and significance of the study. Chapter 2 includes a provide a review of the literature applicable to the study. Additional details are provided for the study's conceptual framework and variables.

Chapter 2: Literature Review

Introduction

The population of older adults is increasing due to the generation of baby boomers entering older adulthood. Along with this increase is an increase in the number of older adults with substance use disorders. Despite these predicted increases, the workforce of BHPs is not prepared to treat or address the needs of this older adult population. The purpose of this study was to explore how BHPs' level of certification/licensure and training satisfaction impacts their level of knowledge on treating older adult for substance use disorders.

This chapter includes a review of the literature, the literature search strategy, and the conceptual framework of the study. Chapter 2 also presents the definition of the key variables and concepts in the study, issues that occur in diagnosing substance use disorders, training of BHPs on diagnosing and treating substance use disorders, impact of training on BHPs, the need for BHPs' competence to treat, and the framework for evaluating effective training.

Literature Search Strategy

The Walden University library was used to obtain literature. Library databases included Academic Search Complete, Expanded Academic ASAP, ProQuest Central, PsycINFO, SAGE Premier, and ScienceDirect. Google Scholar was also used while researching literature for the study. Several online sites were also accessed: Colorado Department of Regulatory Agencies, National Institute on Alcohol Abuse and

Alcoholism, National Institute on Drug Abuse, and the Substance Abuse and Mental Health Services Administration.

Key search terms used to search for articles included *geriatric substance abuse, older adult substance abuse, competence geriatric substance abuse, older adult addiction, geriatric addiction, baby boomer addiction, training satisfaction and competency,* and *knowledge older adult addiction.* The dates used to collect literature ranged from the 1980s to August 2015. Older research was incorporated to supplement the lack of current research studies. Despite the use of a broad search strategy that I used, the searches yielded little up-to-date research on the topic of professional knowledge and training satisfaction on older adult substance use disorders.

Literature Review Related to Key Variables and/or Concepts

Baby Boomers

The characteristics of the U.S. population are changing with the aging of the baby-boom generation. The baby boomers, or the generation of persons born between 1946 and 1964, began to reach the age of 65 in 2011 (Kuerbis, Sacco, Blazer, & Moore, 2014; Ortman, Velkoff, & Hogan, 2014). The older adult population will all reach the age of 65 by the year 2030, and this group will number approximately 83 million members by the year 2050, which equates to 20% of the U.S. population being age 65 and older (Colby & Ortman, 2014; Ortman et al., 2014; White et al., 2011;). This 20% represents a 7% increase in the population of those 65 years and older since 2010 and an approximate 3% increase since 1970 (Colby & Ortman, 2014). By the year 2056, the population comprising those 65 years and older will outnumber the population of those 18 years and

under for the first time in history (Colby & Ortman, 2014). Over the next 10-year period, it is expected 10,000 U.S. citizens will be turning 65 years old daily (Delgado, Goettge, & Gonzales, 2015).

The increase in the older adult population, as compared with other age groups in the United States, emphasizes the fact that providers will have increased contact with older adults as the population grows. Older adults use healthcare services at a higher rate than any other generation and constitute 36% of healthcare services (Hoge, Karel, Zeiss, Alegria, & Moye, 2015). Older adults have been shown to require more health care services than the younger population, at primary and specialty levels, which will result in the need for an increase in the number of competent health care workers providing services to this unique population (Blow & Barry, 2014; Ricketts, 2011).

Issues in Diagnosis of Substance Use Disorders

One of the most serious health issues among older adults is the prevalence of substance use (Blow, 1998). Statistically, alcohol and substance use among older adults appears to occur at a lower rate than other age groups (Benshoff & Harawood, 2003). However, the statistics may be misleading due to older adults being out of the work force and not experiencing job related issues, not driving as much and having less chance of being stopped for driving under the influence, having less social contacts, having lower rates of admissions to treatment for substance use disorders, and being less likely to report issues to others (Benshoff & Harawood, 2003; Kuerbis et al., 2014).

Use of substances, especially alcohol, is commonplace among older adults, although there has been an increase in the use of substances other than alcohol (Matthews

& Oslin, 2009). Even though statistics show substance use disorders occurring at a lower rate in the older adult population, the symptoms of substance use disorders are being overlooked by treatment providers (Blazer & Wu, 2009; O'Connell, Chin, Cunningham, & Lawlor, 2003). Though an older study, McInnes & Powell (1994) indicated that only 25% of older adults diagnosed with substance use disorders were diagnosed by medical staff, and only 10% of these patients were referred for treatment of substance use disorders. It is necessary that treatment providers are aware of the seriousness of substance use disorders among older adults and can identify symptoms related to substance use.

Although substance use disorders are not seen as a problem in the older adult population, baby boomers have been shown to have higher rates of substance use than any other generation, and it is expected that they will continue to use alcohol and drugs after the age of 65 (Benshoff & Harawood, 2003; Gfroerer, Penne, Pemberton, & Folsom, 2003). This generation has experienced the benefit of the development of powerful narcotics for pain relief, growing up in a generation that held more acceptance of substance use, and they enter older age with previous experience with the use of drugs and alcohol (Rosen, Heberlein, & Engel, 2013; Sacco, Unick, Kuerbis, Gunes Koru, & Moore, 2015). These factors may account for high rates of substance use among baby boomers as they enter old age. For instance, Alpert (2014) reported that approximately 2 million older adults 60 and older have a substance use disorder; this number comprises 6% to 14% of all emergency room and hospital admissions of older adults. Additionally, Han, Gfroerer, Colliver, & Penne (2009) concluded that the number of older adults with

substance use disorders is expected to double by the year 2020 to over 5 million (see also Matthews, 2010). There has also been an increase in older adult admissions for the treatment of substance use disorders, showing evidence of an increase in the number of older adults requiring treatment for the use of opioids, heroin, sedatives, and cocaine (Boddiger, 2008; Wu & Blazer, 2010).

The growing number of older adults and their use, and misuse, of substances will affect the entire healthcare system in the United States (Boyle & Davis, 2006). Trevisian (2008) reported that the increase in the baby-boom population along with their use of substances will make substance use disorders among baby boomers a major health issue in the United States. Using Medicaid data in Pennsylvania between the years 2000-2009, Rosen et al., (2013) found that older adults with a primary diagnosis of substance use disorders and using Medicaid benefits grew by 203%. Services used by these older adults also increased from $2 million to approximately $9 million in 2009, a 358% increase over the 9-year period (Rosen et al., 2013).

The use and misuse substances have severe consequences for older adults physically, emotionally, and socially with symptoms that make it difficult to diagnose substance use disorders, which suggests the need for BHPs to develop competency to treat this population (Sacco et al., 2015). Physical consequences of use and misuse occur because of interactions with other medications and normal changes occurring within the aging body. Older adults may experience an increase in falls, accidents, decreased self-care, changes in cognition, high blood pressure, poor nutrition, and mood disorders (Dar, 2006, Engel, Detlefsen, & Reynolds, 2013; Sorocco & Ferrell, 2006). Many of the

consequences of use and misuse mimic normal symptoms and conditions experienced by older adults, which makes identifying use or misuse difficult (Engle et al., 2013; Sorocco & Ferrell, 2006). Furthermore, older adults generally take more prescription and over the counter drugs than any other age group, which increases the amount of adverse interactions between medications and substances (Socorro & Ferrell, 2006). Patterson & Jeste (1999) noted that older adults use approximately 3 times the amount of prescription drugs than younger generations and even more over-the-counter drugs. During the 22-year span between 1988 and 2010, the number of prescription drugs used by older adults increased from two to four and those older adults taking five or more prescription drugs tripled (Chiang-Hanisko, Williams, Newman, & Tappan, 2015). In addition to physical consequences, emotional consequences of misuse appear as mental health issues that may be seen as normal by clinicians during the aging process. These manifest as depression, anxiety, memory loss, confusion, mood swings, or other clinical issues (Blow, 1998; Kuerbis et al., 2014). The social consequences of substance use and misuse may appear as withdrawal from activities and social supports (e.g., relational issues, financial issues, and isolation) (Kuerbis et al., 2014).

In addition to symptoms making it hard to diagnose substance use disorders, older adults generally do not discuss their use of substances with others, which includes care providers, and have limited social contacts, which lessens the chance of detecting substance use issues. Feelings of shame regarding substance use may also prevent older adults from discussing their use of substances (Blow, 1998; Dar, 2006). Nemes, Rao, Zeiler, Munly, Holtz, & Hoffman (2004) also found that in comparison to younger adults,

older adults, were significantly more likely to have less concern regarding their use of substances even though their measured use of substances was similar to that of the younger adults in the study. In addition, older adults included in the study failed to report attempts to decrease or eliminate their use of substances (Nemes et al., 2004).

Another issue with diagnosis is that the criteria used to diagnose substance use disorders in the Diagnostic and Statistical Manual of Mental Disorders (DSM) has not been validated for older populations but for younger populations (Wu & Blazer, 2010). The DSM-IV-TR, which has recently been replaced by the DSM 5 as of May 2013, used diagnostic criteria for substance use disorders that did not necessarily apply to older adults. The DSM-IV-TR gives the following criteria for substance abuse:

> A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:
>
> (1) Recurrent substance use resulting in failure to fulfill major role obligations, at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences; suspensions, or expulsions from school; neglect of children or household)
>
> (2) Recurrent substance use in situations which it is physically hazardous (e.g., driving and automobile or operating a machine when impaired by substance use)
>
> (3) Recurrent substance-related legal problems (e.g., arrests for substance-related disorderly conduct)

(4) Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights). (American Psychiatric Association, 2000, p. 199)

Three reasons the DSM may not apply to older adults include increased physical response to the effects of tolerance and withdrawal, normal decrease in cognition may lead to confusion regarding the amount of use and decrease in the size of social contact and social networks (Wu & Blazer, 2010). The DSM-5 has updated criteria for substance use disorder diagnoses, but the criteria continue to make diagnosing substance use disorder among older adults difficult (Tampi, Tampi, & Durning, 2015). For example, the DSM-5 criteria for substance use disorders still include the inability to "fulfill major role obligations at work, school, or home" (National Institute of Alcohol Abuse and Alcoholism, 2013, p. 2), the inability to participate in social, work-related, and leisurely activities due to substance use, and using substances during activities where use might by dangerous physically (National Institute of Alcohol Abuse and Alcoholism, 2013). The roles older adults are not the same as the younger population, and older adults generally participate in activities to a lesser extent, which makes determining reduction in social activities difficult (Kuerbis et al., 2014).

Training to Diagnose and Treat Substance Use Disorders

The rising incidences of substance use disorders among older adults suggests a need for effective identification and treatment. Older adults use healthcare services at a higher percentage than any other age group (Miles & Smith, 2014), and BHPs are also

becoming more valuable in the treatment of substance use disorders (Harwood et al., 2004). However, alcohol and drug counselors receive more training and have more knowledge regarding substance use disorders than other BHPs (Fisher, McCleary, Dimock, & Rohovit, 2015; Keller & Dermatis, 2009). Harwood et al., (2014) indicated that BHPs, except for addiction counselors, receive less training and educational opportunities on substance use disorders, which creates a gap in care. If trained, providers in nursing, psychology, and social work could use brief interventions to benefit older adults with substance use disorders through reduction in their use of alcohol and awareness of drinking limits (Schonfeld, Hazlett, Hedgecock, Duchene, Burns, & Gunn, 2015). Due to the increased population of older adults, all providers should be able to screen older adults for substance use issues (Matthews & Oslin, 2009). The current population of older adults require BHPs, whether specialists or in general practice, to have the knowledge to treat older adults (Mezey, Mitty, Cortes, Burger, Clark, & McCallion, 2010).

Although older adults have increased contact with BHPs, BHPs are ill-equipped to recognize and treat older adults with substance use disorders (Oslin, 2004). Lack of knowledge, little familiarity with diagnostic criteria, the effect of substances on the older adult, the view that older adults will not benefit from treatment of substance use disorders, and lack of training are common issues that BHPs experience when attempting to treat an older adult with substance use disorders (Blow, 1998; Hazelden Betty Ford Foundation, n.d.). Coogle et al. (2000) also suggested that BHPs have difficulty identifying substance use disorders in older adults due to the unique presentation of

symptoms, older adults not being as noticeable as the younger generation, and that older adults may not have substance use issues.

In addition to training, the licensing requirements for BHPs vary by state, and there are no states that offer reciprocity of BHPs. Varying licensure requirements forces counselors to fulfill additional requirements if planning to practice in another state (Bray, Kowalchuk, Waters, Allen, Laufman, & Shilling, 2014). Currently there is a movement to have state licensing boards to implement consistency in requirements for licensure enabling counselors license to become portable (Bray et al., 2014), though at the time of this writing the process has not yet been completed.

The state of Colorado Department of Regulatory Agencies oversees professionals who provide mental health services. BHPs under regulation through the Colorado Department of Regulatory Agencies include psychologists, marriage and family therapists, social workers, licensed professional counselors, addiction counselors, and registered psychotherapists (Lane, 2014). The Colorado Department of Regulatory Agencies does not regulate ministers, mediators, life or professional coaches (who are not practicing psychotherapy or addiction counseling), and employees who work for the Department of Social Services (Lane, 2014).

Marriage and Family Therapists

Although marriage and family therapists can screen clients and refer for substance use disorder treatment, only 50% of marriage and family therapists feel knowledgeable treating substance use disorders and even less feel competent in diagnosing substance use disorders (Northey, 2002). Licensing requirements for marriage and family therapists

include being age of 21 years or older, obtaining a master's degree from an accredited school in marriage and family therapy, having 2 years of post-degree experience and 1,500 hours of direct contact with clients, and completion of a written exam (Colorado Department of Regulatory Agencies, 2014). Marriage and family therapist practice requirements, defined by the State of Colorado, include assessing, diagnosing, and recognizing alcohol and substance use disorders (Colorado Department of Regulatory Agencies, 2014).

Social Workers

Social workers will also have increased contact with older adults with substance use issues and it is important that social workers are competent in screening, assessing and treating older adults who present for treatment, and are able to provide services across varied treatment settings (Memmott, 2003; Smith, Whitaker, & Weismiller, 2006). Currently, social workers have a big impact in the field of addictions and due to the social work perspective, flexibility of the profession, and addressing systems as a whole, they are said to be very instrumental in helping those with substance use issues (Lala & Straussner, 2001). A study completed by Smith et al., (2006) sought to determine what role social workers played in delivering substance disorder services to clients. The study found that over 70% of social workers studied had to respond to substance related issues during the previous year (Smith et al., 2006).

Hanson & Gutheil (2004) indicate that social worker's position, and role, in the community may be that of "gatekeepers" (p. 370) that help older adults in identifying issues of substance use and identify services available to help with this issue. Social

workers should be able to administer appropriate screenings and be aware of assessments used to identify substance use issues (Memmott, 2003).

Licensing requirements for social workers include: filing an application for licensure, attaining age 21 years or older, obtaining master's degree in social work from an approved school, successful completion of a written competency examination, and two years of post-degree experience and supervision under a licensed clinical social worker (Colorado Revised Statutes, 2011). The definition of social work practice includes using knowledge obtained through their degree for, "the purpose of prevention, assessment, diagnosis and intervention with individual, family, group. Organizational, and societal problems, including alcohol and substance abuse" (Colorado Department of Regulatory Agencies, 2014, p. 32).

Psychologists

In a study of psychologists practicing in the state of Idaho it was found that training of psychologists in the issues of addiction is very low (Cellucci & Vik, 2001). There are several arguments as to why psychologists are in the best position to meet the needs of those experiencing substance use disorders. The first argument is that substance use disorders are primarily behavioral, and psychologists are trained in treating primarily behavioral disorders. Secondly, due to the complex nature of substance use disorders, psychologists are better able to diagnose and develop an appropriate treatment plan. Lastly, that treatment for those with substance use disorders comes from the framework of psychology (Miller & Brown, 1997). Although this argument is presented in support of psychologists in caring for those with substance use disorders, psychologists are

unprepared to meet the needs of older adults with substance use disorders (Hoge et al., 2015). Another study of graduate students in counseling psychology, surveyed students regarding their perception of readiness to screen for substance use issues within the clinical setting. A significant number of the graduate students reported a perceived inability to identify substance use issues, a perceived inability to identify appropriate treatments, interventions, or the necessary levels of care (Madson et al., 2015).

Licensed Professional Counselors

The number of counselors that are presented with clients having substance use disorders is increasing and training in substance use disorders is needed in order to serve the increased population (Whittinghill, Carroll, & Morgan, 2005). These practitioners see more clients presenting with substance use issues than any other BHPs, except for addiction counselors, however studies have shown that there is minimal education received by these providers regarding substance use issues (Harwood et al., 2004).

Licensing requirements for Licensed Professional Counselors include: filing an application for licensure, has attained age 21 or older, a master's or doctorate degree in counseling, two-years post-degree experience/on year post-doctorate experience, and successful completion of a written competency exam (Colorado Revised Statutes, 2011).

Addiction Counselors

Among the many services BHPs provide, treatment and assessment of alcohol and substance use disorders are included as part of BHP's defined work practice except for licensed professional counselors and registered psychotherapists (Colorado Department of Regulatory Agencies, 2014). The number of older adults with substance use disorders

is increasing and the chance that a BHP may treat an older adult with a substance use disorder is also increasing rapidly. Residents of Colorado that will be over 60 years old will increase 32% by the year 2030 to make up approximately 21 % of the population (Substance Abuse and Mental Health Services Administration, 2012). Currently, older adults aged 50-64 years are reported to have the highest rate of binge drinking as compared to national and regional statistics including inpatient admissions for substance use disorders (Substance Abuse and Mental Health Services Administration, 2012).

Licensing and Certification requirements for Addiction Counselors include: filing an application for licensure/certification, attaining the age of 21 or older, good standing with the Mental Health board, obtaining a master's degree or doctoral degree in the field of behavioral science, pre-determined amount of clinical supervision and experience (dependent on the level of certification/licensure), and successful completion of a competency exam (Colorado Revised Statutes, 2011). Addiction Counselors must be familiar with theories and models of addiction, current treatments, diagnosis and assessment of substance disorders, and understand differences in cultural groups who may seek services due to substance use disorders (Colorado Department of Regulatory Agencies, 2014).

Impact of Training on Behavioral Health Provider's Competence to Treat

"Training may be defined as the systematic acquisition of skills, rules, concepts, or attitudes that should result in improved performance of the trainee" (Steensma & Groeneveld, 2010). Training is an important means to increase trainee knowledge,

improve work performance, adaptation to changing job functions, increase trainee skill, and improve attitudes, (Steensma & Groeneveld, 2010: Lin, Chen, Chuang, 2011).

Training Needs of Behavioral Health Providers

The need for training among BHPs regarding older adult substance use disorders has been well documented, along with the need for BHPs to be knowledgeable to fully treat older adults with substance use disorders (Briggs et al., 2011; Harwood et al., 2004). Naito-Chan et al., (2004) argue that 62% of social workers whose positions do not deal directly with the elderly realize that Gerontological knowledge is a pre-requisite in their interactions with clients. The authors encourage the field of social work to educate, and become competent, regarding the needs of older adults (Naito-Chan et al., 2004). The growth, and sheer number, of the older adult population makes this an essential practice. All BHPs must be aware of how to identify, screen, assess, intervene, treat and/or refer to treatment to appropriately treat clients with substance use disorders (Babatunde et al., 2014; Institute of Medicine, 2012). "Training general health care professionals and DCWs is pivotal to improving the workforce because they are the most likely to come into contact with older adults with MH/SU conditions" (Institute of Medicine, 2012, p. S-6).

Need for Knowledge to Treat Older Adult Substance Use Disorders

BHPs should be knowledgeable of the symptoms associated with older adult substance use, and how the use of substances affects the older adult, in order to effectively treat and identify substance use disorders (Briggs et al., 2011; Oslin, 2004; Sorocco & Ferrell, 2006). "As most adults in this age group have health care needs, it is

vital that clinicians are competent in identifying and intervening in the most common health issues among older adults" (Matthews & Oslin, 2009). One of the barriers that prevent BHPs from identifying substance use issues among older adults is lack of knowledge about the characteristics of older adult substance use (Babatunde et al., 2014; Tampi, Tampi, & Durning, 2015; U.S. Department of Health and Human Services, 2012). Complicating this is the fact that substance use issues among older adults are difficult to diagnose. Symptoms of substance use among older adults' mimic normal symptoms of aging in physical and psychological realms (Sorocco & Ferrell, 2006). In addition to this are stereotypes of older adult substance use held by BHPs, not having knowledge regarding the effects, and side effects of drug use and interactions, and reluctance to delve into substance use with older adults (Sorocco & Ferrell, 2006).

Waldron & McGrath (2012) studied the knowledge of Irish healthcare providers regarding alcohol use in the older adult population. The providers included: nurses, occupational therapists, physiotherapists, psychologists, social workers, and speech and language therapists. The authors used a cross-sectional survey research design and mailed 480 surveys to these healthcare professionals. The results indicated that the healthcare professionals had not received training in older adult alcohol disorders, but more than half of the providers were able to score 64% on the knowledge quiz included in the study. Overall, the providers lacked the knowledge regarding treatment options for older adults (Waldron & McGrath, 2012).

Screening. A component of knowledge in assessing and diagnosing older adults with substance use issues is screening. Screening is the most effective ways to begin to

address substance use issues (SUIs) with older adults (Sorocco & Ferrell, 2006). This would include appropriate screening instruments used to screen older adults that would evaluate role changes, psychological symptoms, along with physical symptomology that may not be improving even with appropriate treatment (Sorocco & Ferrell, 2006). Screening older adults for SUIs is a brief, effective, and inexpensive way to identify issues with the use of alcohol or substances and is also seen as one of the ". . . highest-ranked preventative services" (Conigliaro, Kraemer, & McNeil, 2000; Fink, Elliott, Tsai, & Beck, 2005, p. 1937;). Screening is also a proven technique to allow for early intervention, decrease in use of substances, and decrease in complications that older adults may experience due to substance use (Conigliaro et al., 2000). BHPs interacting with older adults benefit from knowledge of the SUI screening process because they are able to institute interventions for SUIs and help the older adult be knowledgeable of limits and decrease substance use (Schonfeld, Hazlett, Hedgecock, Duchene, Burns, & Gum, 2015). A study sought to determine the effect of screening clients for substance use disorders. The study involved staff members from twenty-nine agencies in Florida and took place over a five-year period. The study screened clients and determined whether they presented with low risk, moderate risk, or high risk for substance use. Those, whose screening presented moderate risk or high risk, were treated with a brief intervention. The agencies with the most positive screens were agencies providing mental health services, substance use disorder services, and those that provided other services for older adults as opposed to those agencies providing health care services to older adults. Six months after the study was completed, a follow-up was completed. The study determined that there

was a significant decrease in the amount of substance use among older adults, that Screening Brief Intervention and Referral (SBIRT) was an effective and low-cost method to reduce the effects of substance use, and that agencies providing mental health, substance use, and aging services were effective in identifying older adults with SUIs through screening (Schonfeld et al., 2015). BHPs knowledgeable about screening instruments effective in assessing older adult SUIs help identify SUIs and lead to effective interventions to decrease the effect of substance use disorders in the older adult population (Tampi et al,, 2015).

Framework for Evaluating Effectiveness of Training

Donald Kirkpatrick (1959, 1975, 1994) proposed a training evaluation model which has been applied to the design and assessment of training programs in a wide variety of contexts, including rehabilitative training programs (REF). The Kirkpatrick Model is a very common tool utilized for the evaluation of training programs (Alliger, Tannenbaum, Bennett, & Traver; 1998; Bowers, Hitt, Hoeft, & Dunn, 2003). The Kirkpatrick model is the first formal model of training evaluation that was developed and includes the ability to evaluate training across several organizations (Bowers et al., 2003). This four-level model has been frequently used to evaluate training programs in the corporate field and in some educational programs (Roszkowski, 2010; Sachdeva, 2014). The four levels of evaluation that comprise this model are: Reaction, learning, behavior, and results. The levels are meant to progress sequentially from level one through level 4 with each level requiring more time and resources to evaluate (Kirkpatrick, 2006).

Reaction. The first level of Kirkpatrick's model is identified as Reaction. This level of evaluation seeks to measure the level of satisfaction trainee's personal experience during the training program and the level of satisfaction associated with the program (Kirkpatrick, 1978). Kirkpatrick (2006) identifies the importance of this level by noting that measuring satisfaction helps to improve programs, determine the effectiveness of training, and provides concrete data regarding the effectiveness of training. Measuring Reaction also helps to determine positive or negative reactions of the trainee's regarding the training experience. Trainees not reporting positive experiences within the training process greatly reduce the amount of learning that occurs and decrease the chance that information will be absorbed (Kirkpatrick, 2006). "Although a positive reaction does not guarantee a mastery of the subject matter, a negative reaction is likely to hinder learning" (Roszkowski & Soven, 2010, p. 73).This level of evaluation does not seek to evaluate what was learned during training but to usefulness of training, motivation for training, reactions to training, and training interest (Lee & Pershing, 1999; Smidt, Balandin, Sigafoos, & Reed, 2009).Trainee satisfaction with the training process is usually measured through evaluations given to trainees post-training (Smidt et al., 2009).

Learning. The second level of Kirkpatrick's model is identified as Learning. Kirkpatrick (2006) notes that one or more of the following questions should be answered while working within this level: "What knowledge was learned? What skills were developed or improved? What attitudes were changed?" (p. 42). This level of evaluation is important in completing level 3 of the model, evaluating behavior. In order to evaluate behavior, there must be some evidence of learning (Kirkpatrick, 2006). Evaluating this

level consists of determining knowledge and/or skills that trainees have gained during the training process (Smidt et al., 2009). In order to evaluate learning, assessments are devised to measure knowledge and/or skills obtained after training is completed. These assessments may be in the form of written tests, presentations, or through evaluation of a trained instructor (Kirkpatrick, 2006; Praslova, 2010). Learning may be measured through post-test assessment but may be more effective when a pre-test post-test format is used (Praslova, 2010).

Behavior. The third level of Kirkpatrick's model is identified as Behavior. This level measures the change in behavior that is attributable to the training experience and how the application of training material has changed the way in which trainees behave (Kirkpatrick, 2006; University of South Alabama, n.d.). Change in behavior is not something that can be measured immediately, as with levels 1 and 2 of Kirkpatrick's model. Trainees must have the opportunity to apply their new knowledge/ skill obtained during the training process which may occur immediately, or even up to six months, after the completion of training (Kirkpatrick, 2006 (commentary); Rajeev & Jayarajan, 2009). The measurement of Behavior can be achieved through observations, interviews, assessments, self-assessments, and survey questionnaires (Kirkpatrick, 2006; University of South Alabama, n.d.). Kirkpatrick notes that if there is no positive change in the acquisition of knowledge and skills, it is not possible to proceed through to the next level of evaluation which is Results.

Results. The fourth level of Kirkpatrick's model is identified as Results. Kirkpatrick (2006) refers to this level as measuring the result of participation in the

training program, the costs and benefits has an on the organization, how the organization has changed as a result of training, and training impact (Rajeev & Jayarajan, 2009; Sachdeva, 2014). The measurement of training outcomes must occur after behavior change has occurred and requires a lapse of time, of approximately 6 to 12 months, before results may be measured (Kirkpatrick, 2006; Kirkpatrick, 2006 commentary).

The Kirkpatrick Model has been used to evaluate training over a variety of organizations. The model developed by Kirkpatrick can be implemented into evaluation of training in many fields including marketing, technology, child welfare, social work education, criminal justice, and education to name a few (Antle et al., 2008; Bradley & Connors, 2007; Brown, McCloskey, Galpin, Keen, & Immins, 2008; Kirkpatrick, 2006). Kirkpatrick (2006) identifies three reasons for evaluating programs. The first, and the most common, is to determine how training can be improved. The second is to justify whether a training program should be continued or not. The third reason is to evaluate whether the training organization should continue (Kirkpatrick, 2006). The current study will focus on the first three levels of Kirkpatrick's training evaluation model: Reaction, Learning, and Behavior. The fourth level of Kirkpatrick's model, Results, evaluates how an organization has changed due to training which requires a passage of time before these results may be measured (Kirkpatrick, 2006).

Evaluation of Training for Behavioral Health Providers

Training of BHPs in older adult substance use disorders has been proven to be necessary due to several factors: growth of the older adult population, providers encountering older adults - even if not specifically treating the older adult population, and

the need for competent services to be delivered to this unique population. The effects on a provider's knowledge, attitude, and perceived ability to work with clients experiencing substance use disorders is significantly influenced by training (Keller & Dermatis, 1999; Russett & Williams, 2015). In addition, training providers to treat substance use disorders has been shown to have a positive effect on their confidence levels in treating those with substance use issues (Cook et al., 2009).

The training of BHPs in substance use disorders has been carried out in several different forms: infusion into training curriculums, workshops, seminars, independent online training programs, and in-service trainings (Ong et al., 2008). The curriculum in psychology, social work, and counseling psychology programs have been shown to be inadequate (Corbin, Gottdiener, Sirikantraporn, Armstrong, & Probber, 2012). In order to provide competent treatment to clients with substance use disorders it is necessary that the provider is trained and exposed to training opportunities in order to deliver competent treatment to their clients (Fisher et al., 2015). Even with minimal training experience in substance use disorders, BHPs can provide adequate screening, brief intervention, and referral to clients presenting with substance use disorders (Madson et al., 2008).

A study of doctoral counseling psychology programs, accredited by the American Psychological Association (APA), found that the large majority of these doctoral programs did not include training in substance use disorders in the program's curriculum (Corbin et al., 2012). A similar study sought to study rehabilitation counselors regarding their graduate training in substance use disorders. The study confirmed that the rehabilitation counselors did not receive adequate training in substance use disorders

during graduate school and that this training should be a mandatory part of their graduate training (Ong et al., 2008).

A study conducted in 2002, sought to determine the effects of training in geropsychology using a population of psychology interns and externs. After a 9-month training program results indicated that interns reported an increase in knowledge, experienced a decrease in poor attitudes regarding older adults, and increased interest in working with older adults (Hinrichsen & McMeniman, 2002). A similar study by Gregoire (1994) studied child welfare workers and found that addiction training was correlated with a greater willingness to work with addicted clients and an increase in confidence level. Another study found that training residents, in screening and brief intervention (SBIRT) for substance use, encouraged residents to play a bigger role in screening and intervening with client's having substance use disorders and reporting increased confidence in delivering the services to clients (Seale et al., 2012). Training has been shown to improve confidence, knowledge, and the perceived ability to treat those with substance use disorders. "Training of professional mental health and medical providers on the physiological, psychological, and social-emotional factors that affect the elderly population is thus critical" (Briggs et al., 2011, p. 124).

A dissertation study completed by Haimm (2015), mental health professionals practicing in a school environment, participated in a one-day training to determine the effect of one-day training and to determine similarities between providers.

The first aim involved assessing the acceptability and feasibility of a one-day IPT-AST training workshop for school mental health professionals by examining: (a)

> changes in knowledge of IPT-AST techniques from pre- to post-workshop, (b) satisfaction rating measured post-workshop, and (c) changes in beliefs about the acceptability/efficacy of the intervention and implementation commitment from pre to post workshop. (Haimm, 2015, p. 18)

Haimm (2015) reported that there was significant improvement in the knowledge of mental health providers and the level of training satisfaction among the participants was high (75.7%). Overall, the level of knowledge among participants was significantly increased, satisfaction with training was high, and transfer of learning was also high (Haimm, 2015). Connors-Burrow et al., (2013), also studied welfare workers but sought to determine how training on child trauma affected the ability of these workers to use evidence-based methods for screening, assessment, referral, and treating clients. There were 508 participants included in the study, the majority of which were caseworkers, followed by other staff members. The training lasted two days. 90% of the participants in the study reported high satisfaction with the training itself and exhibited significant increase in staff knowledge (Connors-Burrow et al., 2013). In addition, a three-month follow up was completed with participants that reported a significant increase in the use of knowledge gained during the training (Connors-Burrow et al., 2013).

Training Satisfaction

In addition to the benefits of training, training satisfaction is an important factor and comprises level 1 of Kirkpatrick's evaluation model – Reaction. "If training is going to be effective, it is important that trainees react favorably to it" (Kirkpatrick & Kirkpatrick, 2006, p. 27). Measuring training satisfaction involves obtaining a

participant's opinion about the program being evaluated usually through the form of questionnaires.

Training has been shown to have a profound effect on the ability to treat client's experiencing substance use issues. Training satisfaction also plays a role in whether training is effective for the trainee. Trainees who are not be satisfied with their training experience may not take interest therefore inhibiting their ability to learn which makes satisfaction with training a primary component in knowledge acquisition (Cook, Friedman, Lord, & Bradley-Springer, 2009).

A study completed with medical residents focused on training in screening, brief intervention, and referral to treatment for clients with substance use issues sought to measure satisfaction with training, knowledge, and transferring of skills into their practices (Bray et al., 2014). Data was collected from the Baylor SBIRT medical residency program from 95 residents, who participated in SBIRT training, over a period of 4 years. Post-training, residents reported high levels of satisfaction with training, increased knowledge, improvement of skills (self-reported and observed), and use of attained knowledge in their practices (Bray et al., 2014). A study completed by Pringle et al., (2012) studied medical resident's knowledge, skills, and training satisfaction after being trained in a curriculum introducing screening, brief intervention, and referral to treatment (SBIRT) for alcohol and drug use.

A study completed by Sullivan et al., (2009) sought to determine the effect of training on 623 welfare workers and surveyed the workers regarding their proficiency, training satisfaction, and their transfer of knowledge after training regarding program

benefits. Surveys were completed by 623 workers using a quasi-experimental design that used pre-tests and post-tests to measure knowledge, a training evaluation scale to determine satisfaction with training, and a phone survey to determine the transfer of skills to their work environment. The results indicated a significant increase in participant knowledge, a significant correlation between learning and learning transfer, and that trainee satisfaction had a more powerful indication of training transfer (Sullivan et al., 2009).

Dawes-Diaz (2007) examined the satisfaction of counselors with training in the addictions, the perceived view of the effectiveness of their interventions, and counselor perceptions about how to include training on the addictions within the counselor training curriculum (2007). Counselors and addiction professionals were surveyed over the Midwest, Southern, Western, and North Atlantic regions for study. The counselors held no more than 5 years' experience in the field of counseling and were either members of the ACA or the International Association for Addiction and Offender Counseling. Counselors completed programs that were either CACREP approved or non-CACREP approved. A total of 988 surveys were sent to new counselors that were members of the ACA and 756 surveys were sent to new counselors who were members of the International Association for Addiction and Offender Counseling. The results indicate that new counselors from CACREP approved programs were generally more satisfied with training experiences obtained during their programs as opposed to those graduating from non-CACREP approved programs and those members of the International Association for Addiction and Offender Counseling that graduated from CACREP

approved programs. New counselors in CACREP approved and non-CACREP approved programs reported less perceived effectiveness when working with substance use disorders and reported the significance of introducing a substance use disorder aspect into the teaching curriculums (Dawes-Diaz, 2007).

Summary and Conclusions

The older adult population is growing rapidly, and this growth increases the opportunity that BHPs will have contact with older adults presenting with SUIs in their practices. The number of BHPs trained to treat older adults with substance use disorders is extremely low and not enough to treat the specialized issues of this growing population (Bartles & Naslund, 2013). Even though providers have contact with older adults having substance use disorders, many fail to accurately identify the symptoms of substance use disorders (Boyle & Davis, 2006; Conigliaro et al., 2000; Crome & Bloor, 2005). Older adults have been shown to hold the same, or better, prognosis for recovery after treatment than their younger counterparts This strengthens the argument for the need for effective training of providers in screening, assessing, treating, and referring for appropriate treatment of older adults (Lemke & Moos, 2002; Oslin, Slaymaker, Blow, Owen, & Colleran, 2005) The need for competent providers that are able to screen, treat, assess, and refer older adults with substance use disorders is crucial.

In determining whether training in older adult substance use disorders has been effective amongst BHPs, the use of the Kirkpatrick model of training evaluation is an appropriate model. The Kirkpatrick model is a commonly used model to evaluate the effectiveness of treatment programs. This model has been used by many researchers to

evaluate treatment programs. The Kirkpatrick model has four levels of evaluation: Reaction, learning, behavior, and results. The current study will look at the first three levels of Kirkpatrick's model. Kirkpatrick's last level, results, will not be included in the study due to the time needed to pass before this level can be measured.

Training satisfaction is assessed at the first level of Kirkpatrick's model and is used to determine the trainee's evaluation of the training process. Knowledge is assessed in level two of Kirkpatrick's model and helps determine the trainee's level of learning during the training process. Studies have shown correlation between trainee satisfaction with training and level of knowledge (Cellucci & Vik, 2001; Bray et al., 2014; Sullivan et al.,2009; Connors-Burrow et al., 2013). The current study focuses on BHPs who may have contact with older adults that may have substance use issues. Many of the studies published about provider knowledge of SUIs in older adults have focused on those in the medical field (i.e., physicians, nurses, and emergency room staff), although there are some studies that have looked at the population of psychiatrists, psychologists, and social workers. There are few studies that have focused on other BHPs that would have contact with older adults in their daily practice. There have also been studies that sought to investigate BHPs and their perceived knowledge in substance use disorders but there has not been a study, as of this writing, on the knowledge and training satisfaction of BHPs including their ability to treat older adults with substance use disorders.

In conclusion, this study addressed the gaps in literature regarding the effect of training satisfaction and licensure level on the BHP's knowledge regarding substance use disorders in the older adult population. Studies have shown that the older adult population

is increasing rapidly and will continue to do so. In order to effectively treat this population, it is necessary to have BHPs that are knowledgeable in identifying, treating, and referring older adults for appropriate treatment. Studies support the fact that training satisfaction correlates with a trainee's knowledge and ability to effectively address tasks. The study helped to identify which groups of BHPs have the knowledge to care for older adults with substance use issues, or disorders, and determined the satisfaction of their professional training in treating older adults. In order to ensure that the growing population of older adults receives appropriate treatment for substance use issues, determining gaps in knowledge and training for this group was imperative.

Chapter three will discuss the research design, rationale for the research, the study methods used, and validity.

Chapter 3: Research Method

The purpose of this quantitative study was to examine BHPs satisfaction with training on older adult substance use disorders and how this related to their knowledge in treating older adults with substance use disorders. I explored BHP certification level and how this related to each BHPs level of knowledge in treating older adult substance use disorders. This chapter includes the study's research design and methodology, recruitment of participants, participant characteristics, and the method for collecting data. The study's constructs are also defined, and a description of instrumentation is provided along with the data analysis plan. Threats to validity and the procedure to ensure an ethical study are also discussed.

Research Design and Rationale

The research design used for this quantitative study was an ex post facto posttest only research design with nonequivalent groups. Quantitative research designs are used to quantify, or measure, the relationships that occur between different variables (Gravetter & Forzano, 2016; Sousa, Driessnack, & Mendes, 2007). I sought to understand if a relationship occurred between BHPs licensure/certification level, as independent variables, and knowledge and training satisfaction of BHPs on older adult substance use disorders as the dependent variables. An ex post facto, posttest only, nonequivalent group design was appropriate for this study because the sample was not random. Ex post facto posttest only research designs are commonly used when the measurement of a variable occurs after values of the independent variable has previously been fixed by events occurring prior the study, and when it is not feasible to collect data on preintervention

levels of the dependent variable (Montero & Leon, 2007; Sousa, Driessnack, & Mendes, 2007). The independent variable, types of licensure/certification to be measured in the current study, was not be manipulated because this variable was in existence prior to this study. Hence, the groups were not formed by randomization and cannot be assumed to be equivalent on any of the study variables.

Methodology

Population

The target population consisted of six groups of licensed BHPs: licensed clinical social workers, licensed professional counselors, licensed marriage and family therapists, a psychologist, addiction counselors II, addiction counselors III, and licensed addictions counselors. I focused on BHPs' satisfaction with training experiences on older adult substance use disorders. I intended to focus on the population of BHPs providing services in Colorado, though the population was later expanded to include New Mexico, Arizona, and Utah.

Sampling

A purposive sampling strategy was used to construct the sample of BHPs who participated in the study. Purposive sampling is a type of nonprobability sampling in which the participants are defined and chosen based on the characteristics of the group (Tongco, 2007; Trochim, 2008). Although there are other levels of BHPs (i.e., certified addictions counselor I, provisional marriage and family therapist, marriage and family therapist candidate, licensed provisional counselor candidate, provisional licensed professional counselor, and provisional social worker), I did not focus on BHPs unable to

practice independently or hold provisional licenses. The BHPs who were approached to participate in the study held active licenses and were able to practice independently. Participants were excluded if they did not have active licenses and were not able to practice independently.

Research Questions and Hypotheses

Research Question 1: Is there a difference between behavioral health providers (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) in their satisfaction with their education/training on older adult substance use disorders as measured by the satisfaction questionnaire?

$H_0$1: There is no difference between behavioral health providers (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) in their satisfaction with their education/training on older adult substance use disorders as measured by the satisfaction questionnaire.

H_a1: There is a difference between behavioral health providers (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) in their satisfaction with their education/training on older adult substance use disorders as measured by the satisfaction questionnaire.

Research Question 2: Is there a difference between behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed

clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) level of knowledge regarding older adult substance use disorders as measured by the Alcohol and Older Adult Questionnaire?

$H_0$2: There is no difference between behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) level of knowledge regarding older adult substance use disorders as measured by the Alcohol and Older Adult Questionnaire.

H_a2: There is a difference between behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) level of knowledge regarding older adult substance use disorders as measured by the Alcohol and Older Adult Questionnaire.

Research Question 3: Is there a relationship between training satisfaction regarding older adult substance use disorders and behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) knowledge of older adult substance use disorders?

$H_0$3: There is no relationship between training satisfaction regarding older adult substance use disorders and behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers,

psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) knowledge of older adult substance use disorders.

H_a3: There is a relationship between training satisfaction regarding older adult substance use disorders and behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) knowledge of older adult substance use disorders.

Data Collection

Survey Monkey was used to create and distribute the questionnaires to participants through e-mail. The e-mail sent to potential participants included an invitation to participate in the study, informed consent form, demographic survey, satisfaction questionnaire, and the AOAQ. The participants were directed to click the link included in the e-mail, to read and acknowledge the informed consent form, and proceed onto the rest of the survey. In addition, a link to the survey was presented on social media sites requesting participation from those meeting the study's requirements. After the survey period was complete, the data was entered into SPSS.

Instrumentation

Demographic survey. A demographic survey was developed to obtain information regarding the participant's age, ethnicity, licensure/certification level, and length of time the participant has held their license(s)/certification(s). The survey included questions designed to determine how many older adults the participants treated in their practices, how many of these older adults had substance use disorders, and

questions regarding the participant's satisfaction with training in their graduate programs (see Appendix C). The questions for the demographic survey were developed after a review of the literature. The information obtained through the demographic survey assisted in identifying that factors that correlated with BHP training satisfaction and knowledge levels in older adult substance use disorders.

Satisfaction questionnaire. The satisfaction questionnaire used in this study was based on a study completed by Dawes-Diaz (2007), who sought to determine the satisfaction of new counselors with their graduate training in substance use disorders. The survey was validated through a pilot study with doctoral students who were similar to the population being studied (Dawes-Diaz, 2007). The questions on the satisfaction questionnaire were designed to determine the level of satisfaction of graduate training in older adult substance use disorders in screening, assessment and diagnosis, aftercare/relapse prevention, and criteria for referral. The responses were scored on a Likert scale ranging from *very satisfied to not at all satisfied*. A response of *very satisfied* received a score of 5, *satisfied* received a score of 4, *neutral* received a score of 3, *somewhat satisfied* received a score of 2, and *not at all satisfied* received a score of 1. In addition, participants were asked how they would rate their ability to address substance use disorders on older adults since completing their professional training. The responses were also based on a Likert scale with the same ranges. A higher score on the satisfaction questionnaire indicated higher levels of satisfaction and the lower the score, less satisfaction.

The Alcohol and Older Adult Questionnaire. The AOAQ was comprised of 25 statements regarding older adult alcohol use. Instruments used to measure the knowledge of BHPs regarding older adult substance use disorders were few to none. Waldron & McGrath (2012) developed an instrument to assist in determining the knowledge of BHPs on older adult alcohol use because at the time there were no other assessments. The authors validated the questions on the AOQA through a pilot study given to healthcare providers; the Cronbach's Alpha for the questionnaire was .068 (Waldron & McGrath, 2012). The questionnaire reviews four areas of older adult alcohol use: overall knowledge of older adults' use, the effect of alcohol use on older adults, how to manage alcohol issues among older adults, and the treatment of alcohol issues among older adults (Waldron & McGrath, 2012).

The responses to each statement on the assessment are either "true" or "false." Each correct response to the questions on the assessment receives a score of 1 and incorrect responses received a score of 0, and the sum of the correct responses is calculated. A higher score on the questionnaire related to higher knowledge regarding older adult substance use. Sample questions from the assessment include: "In elderly people there are clear recommended sensible drinking limits," "Alcohol related health problems in elderly people include increased risk of falls," and "Management of alcohol problems in elderly people involves using appropriate screening tools such as the MAST-G" (Waldron & McGrath, 2012, p. 355).

Recruitment, Participation and Data Collection

To recruit participants for the study, e-mail addresses were obtained from the ACA and the National Association for Alcoholism and Drug Abuse Counselors. An e-mail was sent to BHPs who hold active licenses as licensed clinical social workers, licensed marriage and family therapists, licensed professional counselors, certified addictions counselors II, certified addictions counselors III, and licensed addictions counselors inviting them to participate in the study. The e-mail included information introducing the study, its purpose, its objectives, and an invitation to participate by pressing the link included in the e-mail. In addition, a link to the survey was presented on social media sites (i.e., Facebook, Twitter, and Psychology Today) requesting participation from those meeting the study's requirements. The informed consent form was the first form of the online survey. The informed consent form identified the study as voluntary, described the procedure for keeping identifying information confidential, included the possible risks and benefits of participating in the study, and included my personal contact information for questions or concerns. The participants were able to review the informed consent form and press the "next" button at the bottom of the page if they agreed to participate in the study. The participants were able to enter an e-mail address, on the last page of the survey, if they wished to have study results forwarded to them by e-mail. The participants were encouraged to print or save the informed consent form for their records before continuing to the questionnaires. Two weeks after the survey a follow-up e-mail was sent to the participants who had not yet completed the

survey. The e-mail invited them to participate in the survey and to contact me should any issues arise.

Demographic information for each participant was collected. The demographic questions comprised Questions 1 through 10 of the survey. The demographic information requested from the participant included: age, gender, ethnicity, licensure/certification types, number of years' licenses/certifications have been held, graduation year of graduate degree, percentage of older adult clients in their practices, years of experience with substance use disorders, and years of experience working with older adult clients having substance use disorders (see Appendix C). Feedback regarding BHPs satisfaction with their graduate training in older adult substance use disorders and the effect of their training on their current job performance was also be requested. These questions allowed the BHP to answer the questions based on a Likert scale: "Very Satisfied", "Satisfied", "Neutral", "Somewhat Satisfied", and "Not at all Satisfied". The participants were asked to rate their satisfaction in the areas of: Screening, assessment and diagnosis, aftercare/relapse prevention, and criteria for referral (see Appendix D).

Data Analysis

After data from the survey was collected, it was exported into SPSS version 22.0 for Windows for analysis from the Survey Monkey site. Comparisons of demographic information such as licensure/certification level, age, gender, years in practice, were conducted from the demographic information collected from the survey. Descriptive statistics were conducted to describe the sample demographics and the research variables

used in the analysis. Frequencies and percentages were calculated for nominal data while means and standard deviations were calculated for continuous data (Howell, 2010).

The Satisfaction Questionnaire scores were analyzed through a multiple analysis of variance (MANOVA). A MANOVA is used to test for mean differences among groups where there is more than one dependent variable (Davis, n.d.). The MANOVA has some assumptions: (a) variables are normally distributed, (b) covariance are equal for the dependent variables, (c) and that random sampling is employed (Davis, n.d.). In order to determine if there was a significant difference between each of the groups being studied. The Satisfaction Questionnaire had two questions that were answered by participants using a Likert scale. The results of the MANOVA indicated how BHP level affects the satisfaction rating in the areas of: Screening, assessment and diagnosis, aftercare/relapse prevention, and criteria for referral. If the results were significant a discriminant descriptive analysis (DDA) would be completed. A post-hoc DDA would distinguish the groups of BHPs separately from the satisfaction scores.

The Alcohol and Older Adult questionnaire responses were analyzed using ANOVA to determine if a difference existed between the mean scores of each level of BHP. In order to see if there was a significant difference between the different BHPs, and their satisfaction with their education and training in older adult substance use disorders, an analysis of variance (ANOVA) was used. ANOVA was the appropriate statistical analysis because the purpose of the research was to evaluate if mean differences exist on one continuous dependent variable between two or more discreet groups (independent variables). The ANOVA has some assumptions: (a) observations are independent (b) the

sample population is normally distributed, (c) and homogeneity of variance (Laerd, n.d.). If a there was a significant result after the ANOVA was conducted a post-hoc test would be run.

The two-way ANOVA is used when mean differences are being compared with more than one factor and identifies the effect of the on the dependent variable for all levels of the independent variable (Laerd, n.d.). In order to control for the effect of experience, due to a BHP's years in practice, a two-way ANOVA was conducted. The variables used was the length of time in practice (1-5 years, 6-10 years, 11-15 years, or 16 or more years) and training satisfaction along with knowledge level of BHPs.

All data was screened for accuracy, missing data and outliers. The presence of outliers was tested by the examination of standardized value. Standardized values represent the number of standard deviations the value is from the mean. Values greater than 3.29 were considered to outliers and were to be potentially removed from the data set (Tabachnick & Fidell, 2012). Cases with missing data were examined for non-random patterns. Participants who did not complete major sections of the survey were excluded.

RQ1: Is there a difference between Behavioral Health Providers (Licensed Professional Counselors, Licensed Marriage and Family Therapists, Licensed Clinical Social Workers, Addiction Counselor II, Addiction Counselor III, & Licensed Addiction Counselors) in their satisfaction with their education/training in older adult substance use disorders?

RQ2: Is there a difference between Behavioral Health Providers (Licensed Professional Counselors, Licensed Marriage and Family Therapists, Licensed Clinical

Social Workers, Addiction Counselor II, Addiction Counselor III, & Licensed Addiction Counselors) level of knowledge regarding older adult substance use disorders?

RQ3: Is there a relationship between training satisfaction in older adult substance use disorders and Behavioral Health Providers ((Licensed Professional Counselors, Licensed Marriage and Family Therapists, Licensed Clinical Social Workers, Addiction Counselor IIs, Addiction Counselor IIIs, and Licensed Addiction Counselors) knowledge of geriatric substance use disorders as measured by the Alcohol and the Older Adult Questionnaire?

There are several assumptions of ANOVA: (a) variances are equal, (b) normality of the sample, and (c) independence (Field, 2014). These assumptions were examined prior to conducting the analysis. The ANOVA is a robust statistic concerning the error rate when the sample sizes are equal (Field, 2014). Normality assumes that the scores are normally distributed. and. In order to test the assumption of normality an Anderson-Darling test was used. The Anderson-Darling test is similar to the Kolmogorov-Smirnov test but is more powerful and is better at detecting issues with normality in the distribution's tails (National Institute of Standards and Technology, n.d.). Homogeneity of variance assumes that both groups have equal error variances. In order to test this assumption, the Levene's Test for equality of variances was used.

A significant ANOVA result required a post-hoc test be conducted in order to determine which groups differ statistically from each other. In order to determine where this significant difference exists, a Tukey-Kramer HSD analysis was conducted. The Tukey-Kramer HSD allows for comparison of each pair of means and is a commonly

used post-hoc test which can also be used if groups are not equal (Keppel & Wickens, 2004; McDonald, 2014).

Sample Size

To assess the research questions, ANOVAs were conducted. Using an alpha level (α) of .05 divided by 3, or 0.0167 (allowing for Bonferroni correction for the analysis of 3 satisfaction outcomes using ANOVA), a generally accepted power of .80, and an effect size (*f*) of .25, the required sample size to find significance in the ANOVA with 7 groups is 315 participants (Faul, Erdfelder, Buchner, & Lang, 2013). Therefore, at least 315 participants would be gathered, with approximately 45 in each group of the BHPs.

Threats to Validity

External Validity

Quasi-experimental designs have been critiqued for several threats to external validity although these designs are often used in research (Shadish, Cook, & Campbell, 2002). One of the threats to external validity is selection bias. Selection bias occurs when the study sample is not representative of the population it refers to which is a concern of quasi-experimental research due to the lack of sample randomization (Laerd, n.d.). This study used homogenous sampling technique in which the groups of BHPs studied met the requirements for licensure in their field through the State of Colorado. Due to the participants in the study being licensed in Colorado, it is possible that the findings of the study would not generalize to another state or to other parts of the world. Another threat to internal validity was experimental mortality. This occurs when participants drop out of a study. Although the study had a one-time survey, it was still possible that a participant

will decide to discontinue the study after beginning the survey. The surveys were sent to participants through e-mail which may have introduced response bias into the study. Survey response rates are generally fairly low. In order to maximize the response rate, a follow-up e-mail was sent to the participants who did not respond to the initial offer to participate in the study. One final threat to external validity would be design contamination that may occur if one of the participants shares information about the survey with another participant. Participants were encouraged to keep participation in the study confidential and not to share the status of their participation with anyone.

Internal Validity

As with external validity, there were some threats to internal validity that may have had an effect on this study - selection bias and maturation. Selection bias is common among quasi-experimental designs and becomes a threat to internal validity when participants are not randomly assigned as in true experimental designs (Laerd, n.d.). The participants in the current study were not considered randomly assigned because each group of BHPs already exist. Each category of BHP has different educational requirements to attain their licenses through the State of Colorado. In addition, there no way to ascertain how BHPs (Licensed Professional Counselors, Licensed Marriage and Family Therapists, Licensed Clinical Social Workers, Addiction Counselor IIs, Addiction Counselor IIIs, and Licensed Addiction Counselors) had changed due to training as opposed to their pre-existing differences without conducting a pre-test. The BHPs participating in the study may not have met the requirements for licensure in the State of Colorado but may have had experiences that may have affected their knowledge of older

adult substance use disorders and training satisfaction. Participants were questioned regarding the number of hours of training and/or experience they held in older adult substance use disorders through the survey to control for this confounding variable.

Maturation was another threat to internal validity that was relevant to this study. The threat of maturation occurs due to changes that occur among research participants over the passage of time. There was a possibility that during the career of the BHPs participating in the study, there may have been an increase in their level of knowledge due to on the job experience. In order to control for this, the study focused on BHPs training experiences and an ANCOVA was used to control for this variable statistically.

Ethical Procedures

In keeping with the ethical research guidelines for protecting participants in the study, participants were informed of any risks associated with the study, and a summary of the study's aims in the informed consent. I obtained informed consent for each participant who voluntarily participates in the study. Participants were advised that the results of the study were to be confidential. The data collected was secured through an online survey site which is HIPAA compliant and had SSL encryption enabled to add extra security during data transfer. The IP address tracking for data being sent through the online survey site was disabled in order to protect the IP address of the participant.

Summary

In this chapter, I discussed the study's methodology, the characteristics of the study population, factors influencing internal and external validity, and ethical guidelines. The study is a quasi-experimental correlational design that sought to find how the

licensure level of a BHP is correlated with their knowledge regarding older adult substance use disorders and perceived training satisfaction. Knowledge among BHPs in older adult substance use disorders was measured using the AOAQ assessment. Training satisfaction was measured using the structure of the Kirkpatrick model level 1 evaluation form.

An ANOVA was used to evaluate the mean differences between the levels of BHPs and their satisfaction with education and training and level of knowledge of older adult substance use disorders. A chi-square analysis was run to find the relationship between BHPs and their perceived ability to treat older adults with substance use disorders and level of knowledge. Chapter 4 will describe the data collection procedures during the study and present the results of the study. Chapter 5 presents an interpretation of the study's finding, limitations of the study, recommendations, and implications of the study. Lastly, chapter 5 presents the study's conclusion.

Chapter 4: Results

Introduction

The purpose of this study was to examine whether satisfaction among BHPs with their training on geriatric substance use issues relates to their knowledge in treating older adults with substance use disorders. I also sought to explore the different levels of BHPs and how their licensure/certification impacts these variables. The study was focused on three research questions. The first question was designed to explore whether there was a difference between BHPs in their satisfaction and education/training on older adult substance use disorders. The second question was designed to explore whether there was a difference between BHPs and their level of knowledge on substance use issues among older adults. The final research question was designed to explore whether there was a relationship among BHPs in training satisfaction of older adult substance use issues.

Data Collection

Data collection and recruitment occurred over a period of 19 months beginning in April of 2016 and ending in November of 2017. Data were collected through Survey Monkey after initially gaining approval from Walden University's IRB (approval no. 05-31-16-0123904) with an extension for data collection through Walden University's IRB. Initially I sought to explore training satisfaction and knowledge among BHPs licensed in the state of Colorado. With IRB approval, two additions to the study were made: the study was expanded to include BHPs in three additional states—Arizona, New Mexico, and Utah—and there was one additional question added to the satisfaction questionnaire (TSS 3), which changed the satisfaction survey from two questions to three. The Survey

Monkey survey was completed by BHPs in Colorado, Arizona, New Mexico, and Utah, which resulted in 161 responses over the data collection time frame of which only 154 were useable. The target sample size, before data collection, was 270 participants. Due to the length of the data collection process, approval was received to continue the study with the 154 surveys that were collected over the 18-month collection period. Three of the unusable surveys did not meet the qualification criteria (i.e., not fully licensed through their state), and the other four surveys were incomplete. The number of BHP groups was lessened from seven groups to four groups due to similarities in licensing criteria of the BHP being studied. This resulted in a larger sample size in the four BHP groups.

The study sample was comprised of BHPs from four states: Colorado, Arizona, New Mexico, and Utah. A total of 154 responses were collected and analyzed for the study. Invitations to BHPs for participation were made through Facebook, flyers mailed to BHPs, through the National Association for Alcoholism and Drug Abuse Counselors dissertation service, and through word of mouth. Approximately 2,000 surveys were sent to BHPs for completion and only 8.05% or 161 useable surveys were received.

Table 1

Demographic Characteristics of Behavioral Health Provider Sample

	Addiction counselors (*n* = 51)		Marriage & family/Social workers (*n* = 29)		Professional counselors (*n* = 58)		Psychologists (*n* = 16)	
Characteristic	*n*	%	*n*	%	*n*	%	*n*	%
License State								
Arizona	7	13.7	0	0	2	3.4	4	25.0
Colorado	39	76.5	27	93.1	55	94.8	11	68.8
New Mexico	4	7.8	2	6.9	1	1.7	0	0
Utah	1	2.0	0	0	0	0	1	6.3
Total	51	100	29	100	58	100	16	100
Age (in years)								
24-29	2	3.9	1	3.4	4	6.9	0	0
30-39	5	9.8	5	17.2	10	17.2	6	37.5
40-49	10	19.6	6	20.7	19	32.8	1	6.3
50-59	18	35.3	12	41.4	12	20.7	6	37.5
60-69	14	27.5	5	17.2	13	22.4	3	18.8
69 and up	2	3.9	0	0	0	0	0	0
Total	51	100	29	100	58	100	16	100
Gender								
Female	34	66.7	24	82.8	48	82.8	11	68.8
Male	17	33.3	5	17.2	10	17.2	5	31.3
Total	51	100	29	100	58	100	16	100
Ethnicity								
African American	0	0	0	0	0	0	0	0
American Indian	0	0	0	0	0	0	0	0
Asian	1	2.0	0	0	1	1.7	0	0
Caucasian	41	80.4	18	62.1	55	94.8	15	93.8
Hispanic	4	7.8	7	24.1	0	0	0	0
Other	5	9.8	4	13.8	2	3.4	1	6.3
Total	51	100	29	100	58	100	16	100
Years licensed								
1 to 5	9	17.6	5	17.2	23	39.7	4	25.0
6 to 10	17	33.3	7	24.1	18	31.0	2	12.5
11 to 15	5	9.8	4	13.8	5	8.6	4	25.0
16 and Up	20	39.2	13	44.8	12	20.7	6	37.5
Total	51	100	29	100	58	100	16	100
Percentage of clients 55 years and older with SUIs in practice								
None	3	5.9	2	6.9	12	20.7	4	25.0
Less than 10%	18	35.3	16	55.2	27	46.6	5	31.3
10% to 19%	9	17.6	2	6.9	5	8.6	2	12.5
20% to 29%	11	21.6	5	17.2	7	12.1	3	18.8
30% to 39%	8	15.7	3	10.3	6	10.3	1	6.3
40% and Up	2	3.9	1	3.4	1	1.7	1	6.3

(table continues)

	Addiction counselors (n = 51)		Marriage & family/Social workers (n = 29)		Professional counselors (n = 58)		Psychologists (n = 16)	
Characteristic	*n*	%	*n*	%	*n*	%	*n*	%
Years' Experience with Older Adults with SUIs								
No Experience	0	0	3	10.3	6	10.3	2	13.3
Less than 1 year	1	2.0	3	10.3	4	6.9	1	6.7
1 year	1	2.0	2	6.9	4	6.9	2	13.3
2 years	1	2.0	1	3.4	3	5.2	0	0
3 years	2	3.9	1	3.4	7	12.1	0	0
4 years	5	9.8	1	3.4	5	8.6	1	6.7
5 or more years	41	80.4	18	62.1	29	50	9*	60
Level of Care Older Adults are Seen								
Outpatient	27	52.9	17	58.6	39	67.2	8	50.0
Aftercare	0	0	0	0	0	0	0	0
Halfway House/Oxford House	1	2.0	0	0	0	0	0	0
Post-Acute Rehabilitation	1	2.0	0	0	1	1.7	0	0
Partial Care	0	0	0	0	1	1.7	0	0
30 Day Outpatient/IOP	1	2.0	0	0	0	0	0	0
Hospital-based/Medical Detox	0	0	0	0	0	0	0	0
Hospital	6	11.8	2	6.9	4	6.9	2	12.5
Assisted Living	0	0	1	3.4	0	0	0	0
Memory Care	1	2.0	0	0	0	0	0	0
Group Home	2	3.9	1	3.4	1	1.7	1	6.3
None of the Above	0	0	2	6.9	2	3.4	1	6.3
Other	11	21.6	6	20.7	10	17.2	4	25.0

The data were screened for outliers by checking for values that were greater or less than, ±3.29. None of the values fell outside of this range indicating there were no outliers in the dataset (see Tabachnick & Fidel, 2013). Because there were no outliers indicated, the entire dataset of 154 surveys was retained. The descriptive statistics for the sample are shown in Table 1.

Knowledge of BHPs was measured using the AOAQ developed by Waldron & McGrath (2012). The questionnaire is comprised of 25, true/false, questions which could render a score between 0 and 25. A higher score indicates higher knowledge regarding older adult substance use issues. The overall scores obtained from participants ranged from 15 to 24 (M = 20.75, SD = 1.60). The data were slightly negatively skewed (-0.160).

The satisfaction variable was measured by using a three question satisfaction questionnaire that was based on a study developed by Dawes-Diaz (2007). The first question addressed satisfaction with graduate program training in treating older adults with substance use issues. The second question addressed how professional training has affected BHP's job performance. The third question addressed BHP satisfaction with their counseling skills in treating older adults. All questions were rated on a Likert scale with possible scores ranging from 1 to 5 for each question. The higher the score, the higher the satisfaction in each area.

Table 2

Descriptive Statistics for Knowledge, Satisfaction 1, Satisfaction 2, and Satisfaction 3

Variable	Mean	SD	Skewness	Kurtosis
Knowledge (8-24)	20.75	1.60	-.114	.164
Satisfaction 1a (1-5)	3.95	1.16	-.828	-.373
Satisfaction 1b (1-5)	3.71	1.18	-.536	-.741
Satisfaction 1c (1-5)	4.03	1.14	-.943	-.074
Satisfaction 1d (1-5)	3.81	1.24	-.700	-.646
Satisfaction 2a (1-5)	2.18	1.22	.925	.086
Satisfaction 2b (1-5)	2.10	1.07	.901	.081
Satisfaction 2c (1-5)	2.31	1.20	.773	-.295
Satisfaction 2d (1-5)	2.30	1.19	.695	-.493
Satisfaction 3a (1-5)	2.34	1.10	.622	-.401
Satisfaction 3b (1-5)	2.29	1.06	.611	-.360
Satisfaction 3c (1-5)	2.38	1.08	.602	-.372
Satisfaction 3d (1-5)	2.32	1.08	-.466	-.584

Note. N = 154 for TSS 1, TSS 2, and Knowledge; N = 87 for TSS 3. The possible range of scores for each variable is shown in parentheses.

Table 3

Means and Standard Deviations for Knowledge and Satisfaction 1 by BHP Level

Variable	BHP Level	Mean	SD
Knowledge	Addiction Counselors	20.86	1.44
	Marriage & Family/Social Workers	19.97	1.38
	Professional Counselors	21.05	1.80
	Psychologists	20.75	1.29
Satisfaction 1a	Addiction Counselors	3.80	1.22
	Marriage & Family/Social Workers	4.03	1.12
	Professional Counselors	4.01	1.19
	Psychologists	4.00	1.03
Satisfaction 1b	Addiction Counselors	3.47	1.19
	Marriage & Family/Social Workers	3.86	1.19
	Professional Counselors	3.84	1.19
	Psychologists	3.75	1.06
Satisfaction 1c	Addiction Counselors	3.90	1.14
	Marriage & Family/Social Workers	4.07	1.10
	Professional Counselors	4.12	1.17
	Psychologists	4.00	1.15
Satisfaction 1d	Addiction Counselors	3.67	1.31
	Marriage & Family/Social Workers	3.97	1.15
	Professional Counselors	3.84	1.27
	Psychologists	3.81	1.17

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Hypothesis Testing

There were three research questions for the study: Is there a difference between BHPs in their satisfaction with training in older adult substance use issues? Is there a difference between BHP's level of knowledge regarding older adult substance use issues as measured by the AOAQ? Is there a relationship between training satisfaction in older adult substance use and BHP's knowledge of geriatric substance use issues as measured by the satisfaction questionnaire and the AOAQ? Reliability was determined using

coefficient alpha. The AOAQ consisted of 25 items and yielded a Cronbach's alpha of .502.

For Research Question 1, a MANOVA was conducted using provider type as the independent variable and the dependent variables of satisfaction with training in the areas of screening/TSS 1a (M = 3.95, SD = 1.16), assessment and diagnosis/TSS 1b (M = 3.71, SD = 1.18), aftercare and relapse prevention/TSS 1c (M = 4.03, SD = 1.14), and criteria for referral/TSS 1d (M = 3.81, SD = 1.24). The assumption of normality was approximately met for the variable satisfaction with a skewness of .797 (SE = .195) and kurtosis of -.227 (SE = .389). The test for equality of variance failed to reject the null hypothesis that the variance was equal among the groups TSS 1a (p = .70), TSS 1b (p = .93), TSS 1c (p = .96), and TSS 1d (p = .49).

A MANOVA was conducted to examine the impact of BHP level on the level of satisfaction as measured by the Satisfaction Questionnaire. The Satisfaction Questionnaire measured four areas of satisfaction. Satisfaction 1 measured satisfaction of BHPs with their graduate programs in training them to treat older adults with substance use disorders in the areas of: screening (TSS 1a), assessment/diagnosis (TSS 1b), after-care/relapse prevention (TSS 1c), and criteria for referral (TSS 1d). The dependent variable was comprised of four levels of BHPs: addiction counselors, marriage and family therapists/social workers, professional counselors, and psychologists. The dependent variable was comprised of satisfaction scale scores (TSS 1a, TSS 1b, TSS 1c, and TSS 1d). There were no statistically significant differences between the groups on any of the four satisfaction scales, F (12,389) = .487, p = .922; Wilks' Λ = .961, partial η^2

=.013. An analysis was conducted for each individual satisfaction scale using a Bonferroni adjusted alpha level of .0125. Satisfaction scale 1a, F (3, 150) = .388, p = .762 partial η^2 = .008, Satisfaction scale 1b, F (3,150) = 1.12, p = .343, partial η^2 = .022, Satisfaction 1c, F (3,150) = .348, p = .790, η^2 = .007, Satisfaction 1d, F (3, 150) = .387, p = .762, η^2 = .008.

For Research Question 2, the data were tested for normality and equality of variances. Levene's test was run and confirmed homogeneity of variance was met, p = .48. Normality was approximately met for the variable knowledge with a skewness of -.114 (SE = .195) and kurtosis of -.164 (SE = .389). An ANOVA was conducted on BHP knowledge and the BHP licensure level. The result was significant, F (3,150) = 3.24, p = .024, indicating that there is a significant difference between BHP licensure level, and the level of knowledge among BHPs. Since the results were significant, a post-hoc test (Tukey HSD) was run. The Tukey test showed a significant difference was found between the Marriage and Family/Social Worker group and the Licensed Professional Counselors group, p = .014. There were no significant differences found between the Marriage and Family/Social Worker group and the Addiction Counselor group (p=.069), the Marriage and Family/Social Worker group and the Psychologist group (p = .376), the Professional Counselor group and the Addiction counselor group (p=.922), the Professional Counselor and the Psychologist group (p=.903), or the Psychologist and Marriage and Family/Social Worker group (p = .994).

For Research Question 3, data were linear and approximately normally distributed without outliers. A Pearson's Correlation was run to examine the association between

BHP knowledge scores and BHP satisfaction scores. The analysis was run examining the relationship of each level of satisfaction individually (TSS 1a, TSS 1b, TSS 1c, and TSS 1d) as it related to the knowledge variable. A Pearson's product-moment correlation coefficient was computed to assess the relationship between TSS 1a scores, TSS 1b scores, TSS 1c scores, TSS 1d scores, and knowledge scores. There were no significant correlations between the Satisfaction 1 variables (TSS 1a, TSS 1b, TSS 1c, and TSS 1d). The result of the Pearson's correlation indicated that there was no statistical significance between knowledge and BHP level as indicated in Table 4.

Table 4

Correlations Among Knowledge and Satisfaction Variables

	Knowledge	TSS 1a	TSS 1b	TSS 1c	TSS 1d
Knowledge	1	.098	.101	.158	.015
TSS 1a	.098	1	.854**	.845**	.815**
TSS 1b	.101	.854**	1	.833**	.817**
TSS 1c	.158	.845**	.833**	1	.790**
TSS 1d	.015	.815**	.817**	.790**	1

Note. ** Correlation is significant at the 0.01 level (2-tailed).

An exploratory analysis was completed to determine if there was a difference between BHPs in their satisfaction with their professional training and how it has affected their job performance in the areas of: screening, assessment and diagnosis, aftercare and relapse, and criteria for referral. A MANOVA was conducted using provider type as the independent variable and the dependent variables of satisfaction with training in the areas of : TSS 2a -screening; TSS 2b - assessment and diagnosis; TSS 2c - aftercare and relapse prevention; TSS 2d and criteria for referral. The assumption of normality was approximately met for the Satisfaction 2 variable (see table 2). The test for equality of variance indicated variance was equal among the groups for TSS 2b (p = .11), TSS 2c (p

= .10), TSS 2d (p=.13). The Levene's test for TSS 2a, however, indicated that there was no equality of variance (p = .03).

Table 5

Means and Standard Deviations for Satisfaction 2 Scores

Variable	BHP Level	*n*	Mean	*SD*
Satisfaction 2a	Addiction Counselors	51	4.06	.93
	Marriage & Family/Social Workers	29	3.69	1.23
	Professional Counselors	58	3.74	1.18
	Psychologists	16	3.56	1.26
Satisfaction 2b	Addiction Counselors	51	4.08	.91
	Marriage & Family/Social Workers	29	3.76	1.18
	Professional Counselors	58	3.81	1.31
	Psychologists	16	3.88	1.09
Satisfaction 2c	Addiction Counselors	51	3.94	1.07
	Marriage & Family/Social Workers	29	3.69	1.28
	Professional Counselors	58	3.53	1.27
	Psychologists	16	3.44	1.15
Satisfaction 2d	Addiction Counselors	51	3.90	1.06
	Marriage & Family/Social Workers	29	3.66	1.23
	Professional Counselors	58	3.66	1.25
	Psychologists	16	3.37	1.25

A MANOVA was conducted using BHP level as the independent variable and TSS 2a, TSS 2b, TSS 2c, and TSS 2d scores as the dependent variables. The result of the MANOVA was not significant on any of the four satisfaction scales, F (12,389) = .98, p = .47; Wilks' Λ = .08, partial η^2 =.03. The exploratory analysis also included running a second MANOVA to examine if there was a difference between BHPs and their satisfaction with their counseling methods with older adult clients having substance use issues in the areas of: TSS 3a -screening; TSS 3b - assessment and diagnosis; TSS 3c - aftercare and relapse prevention; TSS 3d and criteria for referral. The assumption of

normality was approximately met for the Satisfaction 3 variable (see Table 4) and equality of variances was confirmed through Levene's test (TSS 3a [*p*=.663]; TSS 3b [*p*=.681]; TSS 3c [*p*=.928]; and TSS 3d [*p*=.697]).

Table 6

Means and Standard Deviations for Satisfaction 3 Scores

Variable	BHP Level	*n*	Mean	*SD*
Satisfaction 3a	Addiction Counselors	36	3.78	1.09
	Marriage & Family/Social Workers	12	3.42	1.08
	Professional Counselors	27	3.70	1.20
	Psychologists	12	3.42	.90
Satisfaction 3b	Addiction Counselors	36	3.86	1.01
	Marriage & Family/Social Workers	12	3.33	1.23
	Professional Counselors	27	3.70	1.03
	Psychologists	12	3.67	1.07
Satisfaction 3c	Addiction Counselors	36	3.81	1.12
	Marriage & Family/Social Workers	12	2.92	1.16
	Professional Counselors	27	3.63	.97
	Psychologists	12	3.75	.97
Satisfaction 3d	Addiction Counselors	36	3.81	1.03
	Marriage & Family/Social Workers	12	3.50	1.17
	Professional Counselors	27	3.67	1.00
	Psychologists	12	3.50	.91

A MANOVA was run using BHP level as the independent variable and Satisfaction 3 scores as the dependent variables. There was no statistical significance between Satisfaction 3 scores and BHP level, F (12,211) = 1.30, p = .221. An additional analysis, ANCOVA, was run to assess sensitivity for Research Question 1, and Research Question 2, holding the variable Years Licensed as a covariate. The independent variable consisted of the four categories of BHPs, the dependent was BHP satisfaction, and the covariate was comprised of the BHPs years licensed. The Levene's Test indicated that the equality of variance assumption was not violated: TSS 1a (p=.845), TSS 1b (p=.959), TSS 1c (p=.961), and TSS 1d (p=.791). There was a statistically significant difference between the groups for the combined dependent variable "Satisfaction" statistically controlling for years of professional experience by using the variable "Years Licensed" as a covariate, F (12,146) = 2.97, p = .021; Wilks' Lambda = .93. For each dependent variable, statistical significance levels for differences between groups were based upon a Bonferroni adjusted alpha level of .0125. The analysis showed that there was no statistical significance for any of the satisfaction levels holding "Years Licensed" as a covariate: TSS 1a = F (1,149) = 1.40, p = .238; TSS 1b = F (1,149) = 1.07, p = .302, TSS 1c = F (1,149) = .003, p = .956; TSS 1d = F (1,149) = 4.33, p = .039.

An ANCOVA was run to determine sensitivity for Research Question 2. The dependent variables consisted of BHP knowledge scores while the independent variable consisted of BHP licensure level, the variable "Years License Held" was used as a covariate. The data was tested for normality and equality of variances. Levene's test was run and confirmed homogeneity of variance was met, p = .553. The assumption of

normality was approximately met for the variable knowledge. The analysis did not show statistical significance between BHP knowledge while scores holding "Years Licensed" as a covariate variable, F (1,149) = 3.81, p = .053. In addition, a correlational analysis was done to explore the significance between BHPs years licensed, knowledge scores, and satisfaction scores.

Table 7
Correlation Among Years Licensed, Satisfaction 1, and Knowledge Variables

	Years Licensed	Knowledge	TSS 1a	TSS 1b	TSS 1c	TSS 1d
Years Licensed	1	.100	-.102	-.098	-.019	-.164*
Knowledge	.100	1	.098	.101	.158	.015
TSS 1a	.102	.098	1	.854**	.845**	.815**
TSS 1b	.098	.101	.854**	1	.833**	.817**
TSS 1c	.019	.158	.845**	.833*	1	.790**
TSS 1d	.164	.015	.815**	.817**	.790**	1

Note. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Table 8

Correlation Among Years Licensed, Satisfaction 2, and Knowledge Variables

	Years Licensed	Knowledge	TSS 2a	TSS 2b	TSS 2c	TSS 2d
Years Licensed	1	.100	-.200*	-.189*	-.228**	-.201*
Knowledge	.100	1	-.197*	-.169*	-.113	-.141
TSS 2a	-.200*	-.197*	1	.889**	.805**	.754**
TSS 2b	-.189*	-.169*	.889**	1	.810**	.749**
TSS 2c	-.228**	-.113	.805**	.810**	1	.897**
TSS 2d	-.201*	-.141	.754**	.749**	.897**	1

Note. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Table 9

Correlation Among Years Licensed, Satisfaction 3, and Knowledge Variables

	Years Licensed	Knowledge	TSS 3a	TSS 3b	TSS 3c	TSS 3d
Years Licensed	1	.100	-.258*	-.229*	-.280**	-.338**
Knowledge	.100	1	-.113	-.104	-.017	-.103
TSS 3a	-.258*	-.113	1	.917**	.721**	.680**
TSS 3b	-.229*	-.104	.917**	1	.810**	.736**
TSS 3c	-.280**	-.017	.721**	.810**	1	.776**
TSS 3d	-.338*	-.103	.680**	.736**	.776**	1

Note. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Summary

The results of the study indicated the null hypothesis for the first research question was retained. There was no statistical significance between provider type and satisfaction on any of the levels of satisfaction that addressed graduate training programs in the areas of screening, assessment/diagnosis, aftercare/relapse prevention, and criteria for referral. The null hypothesis for the second research question was rejected as there was statistical significance existing between provider type and level of knowledge. A post-hoc test indicated that significance existed between two provider types, Marriage and Family/Social Workers and Licensed Professional Counselors. Research Question 3 indicated no statistically significant result between training satisfaction of BHPs and knowledge of BHPs in older adult substance use issues. An exploratory analysis sought to explore if there was significance between Satisfaction 2 and Satisfaction 3 scores among BHP while using the variable “years licensed” as a covariate. This analysis showed no significance statistical significance existed. Chapter 5 will provide an interpretation of the study’s findings, limitations of the study, and recommendations for further research.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Chapter 5 provides a summary of the study results, interpretation of the study's findings, limitations of the study, and recommendations for further research. In this study, I examined the knowledge and satisfaction of BHPs as it related to their training on older adult substance use disorders. The purpose of this quantitative study was to examine whether BHPs were satisfied with their training on older adult substance use disorders and whether BHPs have the knowledge to treat older adults with substance use issues.

A satisfaction questionnaire was used to measure BHPs satisfaction level along with a knowledge assessment to determine BHPs' level of knowledge concerning older adult substance use disorders. The variable of satisfaction was measured using a three-question satisfaction assessment based on a satisfaction questionnaire developed by Dawes-Diaz (2007). Each of the three questions addressed satisfaction regarding graduate program training, how professional training has affected job performance, and satisfaction with counseling methods. Each question was rated on 5-level Likert scale that measured satisfaction from *very satisfied/very definitely* to *not at all satisfied/not at all*. The variable of knowledge was measured through a knowledge questionnaire published in a study by Waldron & McGrath (2012). The questionnaire measured several areas of knowledge regarding substance use disorders among the older adult population. These areas included knowledge in the management of alcohol use disorders, overall knowledge of older adult substance use disorders, treatments for older adult substance use disorders, and how these disorders affect older adults. The sample consisted of 154 surveys

completed by BHPs (psychologists, licensed counselors, marriage and family therapists/social workers, and addiction counselors) licensed in Colorado, Arizona, New Mexico, and Utah.

Summary and Interpretation of the Study Findings

Research Question 1

Research Question 1: Is there a difference between behavioral health providers (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) in their satisfaction with their education/training on older adult substance use disorders as measured by the satisfaction questionnaire?

There were no significant differences between the types of BHP in regard to their level of satisfaction with training on older adult substance use disorders in screening, assessment/diagnosis, aftercare/relapse prevention, and criteria for referral. The absence of significant differences indicates that there are common reactions among BHPs regarding training on substance use disorders among older adults throughout the BHP community.

Many disciplines have acknowledged the need for adequate training in substance use disorders and in caring for older adults with substance use disorders, especially with the increase in the aging population (Briggs et al., 2011). Cellucci and Vik (2001) found that psychologists reported training in substance use disorders as unsatisfying in preparing them to treat persons having substance use disorders. This paralleled Chiert, Gold, and Taylor's (1994) findings, which also showed that doctoral psychology

programs did not offer adequate training opportunities for students in substance use disorders. However, the current study differed because there was a focus on older adult substance use rather than a general focus on substance use disorders. Although there have been studies among doctors, nurses, graduate students, and diverse groups of counselors, few studies address satisfaction of BHPs regarding training on older adult substance use disorders by BHP licensure/certification level.

Research Question 2

Research Question 2: Is there a difference between behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) level of knowledge regarding older adult substance use disorders as measured by the Alcohol and Older Adult Questionnaire?

The study results indicated that BHP level of knowledge as measured by the AOAQ differed significantly between the types of behavioral healthcare providers. There was significance between two of the BHP groups, the marriage and family/social worker group and the professional counselor group, with the higher mean score attributed to the professional counselor group. As a group, 80% of BHPs were able to achieve a score of 80% or more on the knowledge assessment, with none of the participants answering all the assessment questions correctly. The percentage of BHPs scoring 80% or more on the knowledge assessment was higher than that reported by Waldron and McGrath (2012), who reported 50% of participants scoring 64% or more, on the same assessment. This result might indicate that BHPs have general knowledge regarding older adult substance

use disorders. This may be due to gaining some knowledge of substance use disorders through general professional training or "on the job" knowledge acquisition acquired over years of practice. Waldron & McGrath (2012) hypothesized that BHP knowledge may have been impacted by the current level of attention being focused on substance use disorders in Ireland which may have an impact on BHPs familiarity regarding this topic.

Although the majority of BHPs were able to score 80% or more on the knowledge assessment , there were three questions that were answered incorrectly by over 50% of the BHP groups. These questions included: "Alcohol use in elderly people can be classified into two categories" (answered incorrectly by 51% of respondents), "Alcohol-related health problems in elderly people include increased risk of Alzheimer's disease" (answered incorrectly by 73.4% of respondents), and "Management of alcohol problems in elderly people involved principles that differ from those used for younger people" (answered incorrectly by 65.6% of respondents; see Waldron & McGrath, 2012, p. 355). BHPs did have a general knowledge of substance use disorders, but the majority of BHPs indicated that principals used to treat older adults with substance use disorders did not differ from younger populations. Awareness that a difference in treating substance use disorders among older adults was not apparent among the majority of study participants. This may indicate that there may be a need for more specialized training in substance use disorders among older adults. This also confirms results reported by Coogle et al. (2000), indicating that even experienced BHPs have little knowledge screening, diagnosing, and treating older adults with substance use disorders.

A post-hoc test was used to determine if significance fell between professional counselors (M = 21.05) and marriage and family/social workers (M = 19.97). Professional counselors showed a higher mean score in knowledge regarding substance use disorders among older adults than any other group. The study's findings indicate that professional counselors have more knowledge regarding older adult substance use disorders than any of the other BHP groups studied. Waldron and McGrath (2012) also found that there was a significant difference in knowledge between two professional groups studied, psychologists and physiotherapists. These two groups obtained higher scores on the knowledge assessment, scoring higher than the social worker group. Though only the psychologist and social worker groups were common with the Waldron and McGrath study. Both studies concluded that psychologists may have higher knowledge in older adult substance use disorders than social workers. Additionally, Vander Bilt, Hall, Shaffer, and Higgens-Biddle (1997) found that social workers and nurses needed additional training on substance use disorder screening than any other discipline. The current study results confirmed this, as the group that included social workers were found to have lower scores on knowledge than any of the other groups. The current study indicated the addiction counselors did not have the highest knowledge score, although they held specialist training in addictions which was presented in the study by Waldron & McGrath (2012). However, it is still difficult to determine the reason for the difference in knowledge levels among the groups. The difference in training curriculums among BHPs may be a factor in the difference in levels of knowledge, but the current study was not able to establish this.

Research Question 3

Research Question 3: Is there a relationship between training satisfaction regarding older adult substance use disorders and behavioral health providers' (licensed professional counselors, licensed marriage and family therapists, licensed clinical social workers, psychologists, addiction counselor IIs, addiction counselor IIIs, and licensed addiction counselors) knowledge of older adult substance use disorders?

The study results indicated no statistically significant relationship between BHPs' knowledge scores and their training satisfaction ratings. This result differs from the succession of the Kirkpatrick training evaluation model which shows training satisfaction as a prerequisite of knowledge. A study by Alliger & Janak (1989) indicated that, although the Kirkpatrick mode of evaluation progresses from one step to the next, it is possible that satisfaction with training may not be correlated or may be negatively correlated with knowledge acquisition. The current study confirms this as the relationship between satisfaction and knowledge did not produce a statistically significant result. The current study used Kirkpatrick's training evaluation model was used to evaluate training among BHPs. The Kirkpatrick model is a linear model comprised of four levels beginning with reactions, or satisfaction, with training. The model suggests that satisfaction with training would lead to learning, or knowledge gain, then to behavior change, then to results. The current study did not find significance between BHP training satisfaction and knowledge which does not support the linearity aspect of the Kirkpatrick model. Studies indicate that there is there is a minimal correlation between Kirkpatrick's Level 1 (Reaction) and the other levels of the model (Alliger & Janak, 1989; Holton,

1996; Dixon, 1995). Alliger & Janak, also report that there may also be a negative correlation between Levels 1 and 2 of the Kirkpatrick model as satisfaction with training may not influence learning and that there may be other factors that there may be other factors that interfere with the process (1989).

Although not statistically significant, the addiction counselors and psychologist groups' mean scores were higher than the other BHP groups concerning satisfaction with their graduate program training in preparing them to treat older adults with substance use disorders in the areas of screening and assessment and diagnosis. In addition to these two areas, addiction counselors also scored the highest in reporting satisfaction with their graduate program training on aftercare and relapse and criteria for referral. Although these two groups reported higher satisfaction with training, the professional counselor group had a higher rating in knowledge than any of the other BHP groups. Licensed professional counselors scored higher than any other group in knowledge but had the lowest mean score when reporting satisfaction with graduate training, of older adult substance users, on aftercare and relapse prevention and criteria for referral. Licensed professional counselors were also less satisfied with graduate training on assessment/diagnosis and aftercare/relapse prevention, with marriage and family therapist/social worker group rating the least satisfied in these two areas.

Exploratory Analysis

An exploratory analysis was run to explore BHPs satisfaction in two additional areas; the way training has affected current job function (TSS 2) and how BHP's rate satisfaction with their counseling methods used with older adults.(TSS 3).

TSS 2 scores did not show statistical significance between the groups as to whether BHPs perceived their professional training having an effect on job performance. The group having the highest mean score of satisfaction, in the four areas evaluated, were Addiction counselors. When a correlational analysis was run with BHPs as a combined group, there was a significant relationship between the number of years as BHP was licensed and how training has affected their job performance within the four areas of: screening, assessment/diagnosis, aftercare/relapse, and criteria for referral. A positive correlation existed between years licensed, screening, assessment/diagnosis, aftercare/relapse, and criteria for referral variables. This may indicate the across BHPs, across all types of licensure, may feel that what they have learned, regarding older adult substance use disorders, has had a significant effect on their counseling skills.

TSS 3 scores also showed no statistical significance between the BHP groups, however, Addiction counselors also exhibited higher mean scores than any of the other BHP groups. Similarly, when BHPs were combined into one group, the results for TSS 2 showed a positive correlation between years licensed and a BHPs satisfaction in their use of counseling methods with older adults. Significance was found in all areas of satisfaction with aftercare/relapse and criteria for referral having greater significance then the other two areas.

A correlational analysis was also done for TSS 1 scores which sought to explore satisfaction of BHPs in satisfaction with graduate training. The analysis indicated that BHPs, as a whole, were very satisfied with graduate program training in older adult substance use disorders across all areas. An additional sensitivity analysis was run to

determine whether a BHP's years licensed, by level, influenced the study results for Research Questions 2 and 3. Results indicated, that while holding the variable "years licensed" as a covariate, there was no statistical significance in satisfaction with training even when their years licensed were introduced as a covariate variable.

Limitations of the Study

The current study had several limitations that were addressed in this section. The study used an ex post facto posttest only, research design with non-equivalent groups. This design makes it difficult to determine causality which would warrant caution when attributing causality between the variables of knowledge and satisfaction. This study design also presents some concern regarding internal validity such as selection bias and maturation. I attempted to control for selection bias by categorizing BHPs into separate categories based on license/certification and controlling for maturation by conducting an ANCOVA to control for the effect of BHP experience on the study's results. The projected sample size was to be 273 participants with approximately 39 participants in each of the BHP categories. However, after 18 months of data collection only 161 surveys were collected, with seven of the 161 not being useable, leaving a total of 154 useable surveys. The BHP sample consisted of 51 addiction counselors, 29 marriage and family/social workers, 58 professional counselors, and 16 psychologists totaling 154 BHPs. The difference in sample size may have caused a decrease in the ability to detect the differences that existed between the BHP groups on knowledge and satisfaction with training.

Recommendations for Future Research

Future studies in this area could focus on evaluating what other factors affect the acquisition of knowledge needed to treat older adults with substance use disorders among BHPs. The current study explored satisfaction with training among BHPs and if it may affect knowledge levels among each group. Future studies may focus on the types of training BHPs are receiving that focus on older adult substance use disorders within each licensure group, and the adequacy of trainings that prepare BHPs to work with the unique older adult population. A focus on why BHPs are not fully satisfied with training in older adult substance use disorders may also help identify how to improve training experiences for BHPs. The current study indicated that there was no statistical significance between any of the BHP groups on satisfaction. Lastly, studies focusing on the difference in knowledge between BHPs concerning substance use disorders may benefit the entire field of BHPs.

Implications for Practice

In summary, the study indicated that BHPs did not differ in their feelings of satisfaction with training in older adult substance use disorders. Those involved in developing training curriculums for BHPs may use the study results to develop a needs assessment and determine what training is needed in older adult substance use disorders while improving satisfaction with training experiences. Among the BHP groups, Licensed Professional Counselors appeared to be the most knowledgeable regarding older adult substance use disorders than the Marriage and Family/Social Worker group. This result may help licensing boards to explore why licensed professional counselors have

more knowledge in this area than Marriage and Family/Social Workers. This study results may assist in promoting positive social change by identifying factors that limit older adults from receiving adequate treatment of substance use disorders. The increase in the older adult population will continue as the baby boomers continue to age. Along with this would be an increase in the need for services for older adults. In addition, professionals providing services to this population may become aware of the need for specialized knowledge needed to treat this group and seek training opportunities to improve treatment outcomes. Educational organizations that prepare BHPs may be able to develop curriculums that address the special needs of older adults with substance use disorders. Organizations involved in establishing guidelines for licensure, or certifications, may begin to contemplate requirements that are necessary to prepare a behavioral health provider to treat older adults before a license, or certification, is granted.

Conclusions

Chapter 5 reviewed the study's findings, interpretation of findings, recommendations, and implications. The focus of this study was to determine the satisfaction and knowledge of older adult substance use disorders as it related to the Kirkpatrick Training Evaluation model. Overall, BHPs were similarly satisfied with their training in older adult substance use disorders and there was no relationship between satisfaction and knowledge levels of BHPs with older adult substance use disorders. The study showed a significant difference in knowledge, in older adult substance use disorders, among licensed professional counselors and marriage and family/social

workers. This result highlights a gap that exists in knowledge between the different BHP groups, and identifying this gap will assist in determining how training for licensed professional counselors may lend to better knowledge regarding substance use disorders among older adults. As the population of older adults increases, so will the probability that BHPs will encounter an older adult with a substance use disorder. All BHPs would be able to adequately provide services to this unique group if adequate knowledge is possessed.

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Appendix A: Demographic Survey

1. What is your age?
   __ 24 to 29
   __ 30 to 39
   __ 40 to 49
   __ 50 to 59
   __ 60 to 69

2. What is your gender?
   __ Male
   __ Female

3. What is your ethnicity?
   __ African American
   __ American Indian
   __ Asian
   __ Caucasian
   __ Hispanic
   __ Other (Please specify)

4. What active Licenses/Certifications do you currently hold? If you hold more than one of the following Licenses/Certifications, please select the one you identify with the most.
   __ Licensed Clinical Social Worker (LCSW)
   __ Licensed Marriage and Family Therapist (LMFT)
   __ Licensed Professional Counselor (LPC)
   __ Certified Addictions Counselor II (CAC II)
   __ Certified Addictions Counselor III (CAC III)
   __ Licensed Addictions Counselor (LAC)
   __ Other (Please specify)

5. Please indicate the number of years you have held you license(s)/certification(s). (If more than one, please list the license type and the year held).
   __ 1- 5 years
   __ 6-10 years
   __ 11-16 years
   __ 16 years and up
6. What year did you complete your graduate degree necessary to obtain your license(s)? _____.

7. What percentage of clients, aged 55 years and older, do you treat at your practice?

__ 40% and over.
__ 30% to 39%
__ 29% to 20%
__ 10% to 19%
__ Less than 10%
__ None.

8. What percentage of clients, aged 55 years and older, with substance abuse issues do you treat in your practice?
__ 40% and over.
__ 30% to 39%
__ 29% to 20%
__ 10% to 19%
__ Less than 10%
__ None.

9. How many years of experience do you have working with clients that have substance abuse issues?
__ 5 or more years.
__ 4 years
__ 3 years
__ 2 years
__ 1 year
__ Less than one year
__ No experience.

10. How many years of experience do you have working with clients, 55 years and older, that have substance use issues?
__ 5 or more years.
__ 4 years
__ 3 years
__ 2 years
__ 1 year
__ Less than one year
__ No experience.

11. In terms of experience with older adults, 55 years and older, you have experience with, in what level of care were they seen?
__ Outpatient

__ Aftercare
__ Halfway House/Oxford House
__ Post-Acute Rehabilitation
__ Partial Care
__ 30-day Outpatient/IOP
__ Hospital-based/Medical Detoxification
__ Hospital
__ Assisted Living
__ Memory Care
__ Group Home/Supervised Setting
__ Other: (Please describe):
__ None of the Above

Appendix B: Satisfaction Questionnaire (TSS)

1. Thinking of your professional experience with client's, aged 55 years and older, please rate your satisfaction with your graduate program in preparing you to treat client's, aged 55 years and older, with substance use issues.

	Very Satisfied	Satisfied	Neutral	Somewhat Satisfied	Not at all Satisfied
Screening					
Assessment and Diagnosis					
Aftercare/Relapse Prevention					
Criteria for Referral					

2. Since completing your professional training, has what you learned affected the way in which you do your job in the areas of:

	Very Definitely	Definitely	Neutral	Somewhat	Not at all
Screening					
Assessment and Diagnosis					
Aftercare/Relapse Prevention					
Criteria for Referral					

3. Thinking of your professional experience with client's, aged 55 years and older, please rate your satisfaction with your counseling methods to people aged 55 years and older.

	Very Satisfied	Satisfied	Neutral	Somewhat Satisfied	Not at all Satisfied
Screening					
Assessment and Diagnosis					
Aftercare/Relapse Prevention					
Criteria for Referral					