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Success and Failure of Drug Rehabilitation: Pets Accompanying Clients to Treatment

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Walden University
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Abstract

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MS, Walden University, 2014

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Proposal Submitted in Partial Fulfillment

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Abstract

This research addresses the use of canine animals in substance abuse treatment. There is research that addresses the importance of animals regarding therapy and mental illness, as well as research on the comorbidity of severe mental illness and substance abuse disorder. However, there is no research that looks at utilizing canines in substance abuse therapy. The purpose of this research was to examine the utilization of canine animals in rehab for those with substance abuse issues. The theoretical foundation for this study is the theory of contextualism. This theory focuses on humans with animals. To address the gap in research, this quasi-experimental quantitative study looked at two independent variables, presence or absence of a canine during treatment, and gender. The method of data collection was obtaining charts of 130 discharged clients, along with retrieval of data regarding days authorized by insurance for treatment. Information was obtained on the number of days that the client stayed in treatment. There was a comparison of the numbers that created a standardization for treatment. There was not significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine nor was there a difference between the genders. This research may create positive social change by providing an alternative to substance abuse disorder treatment. Not only will this create a positive environment for the client, but it will also provide them the ability to have comfort in a critical time in their lives. This research shows that canines provide something to mankind that we cannot always provide to one another.

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Dedication

This dissertation is dedicated to the love of my life, Alonso “Lonnie” Burroughs. You brought me so much laughter, gave me so much love, and friendship. You left this world way before your time. Not a day goes by that I don’t think of my struggles and the support you gave me, even when your life was slipping away. I know you are with me and I feel your presence as I move on in life preparing to be the amazing woman that you saw in me. I will always love you, and be thankful for the time that God gave us together.

To my nana, thank you for always being there for me and for taking me away from an abusive home where I would have been nothing without your love. You have taught me success, and how to know my roots, and embrace our ways. I will forever be indebted to you for the time out of your life that you have given me to be whole, to be healed, and to be successful.

Lastly, I dedicate this to my mother who adopted me at thirteen. I was lost, hurt and unable to find my way. In you I saw a hard working woman putting herself through school and rising to the top. I was able to push through life with you and nana always beside me. Even when I wanted to quit you pushed me forward when no one knew how hard it was to keep going. All the tears, all the pain, and all the loss has brought me here, to this moment. This dedication doesn’t come close to repaying you all for your love and support, but hopefully my success will come close. I love you all, you are my strength.

Acknowledgements

I would like to thank my committee chair, Dr. Michael Plasay. I know throughout this process there were times when I wanted to give up because of everyday life getting in the way, and you kept me focused and moving forward. You gave me the tough support I needed to remember that I didn't come this far for nothing, and that I wasn't going as slow as I thought.

I would also like to thank my statistical chair and support, Dr. Richard Thompson. You have taught me so much more about statistics than I could have ever imagined. I appreciate your patience and you going above and beyond to help me.

Lastly I would like to thank my friends, co-workers, and classmates who discussed different idea's with me, and supported my idea of showing the support that can be provided by canine animals, and for inspiring me.

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Chapter 1: Introduction to the Study

Background

Approximately one in 35 adults in the United States is involved in alcohol or drug-related activity (Batastini, King, Morgan, & McDaniel, 2016, p. 20). Substance abuse is a primary factor affecting criminal recidivism (Batastini et al., 2016). Every year there are more than 20 million Americans who do not receive treatment for their substance abuse. There are double that amount of people who use substances but do not meet the criteria to be in treatment or who go untreated (Schaper, Padwa, Urada, & Shoplaw, 2016, p. 105). Not only does substance abuse affect adults, but it also affects adolescents. This has created a serious health concern for the public. Although there are many types of treatment for substance abuse, it is difficult to retain and keep this population engaged in treatment (Burrow-Sanchez, Meyers, Corrales, & Ortiz-Jensen, 2015, p. 969). Substance abuse is associated with mental health diagnoses, psychological trauma, and posttraumatic stress disorder (PTSD; Boughner, & Frewen, 2016). Most individuals who have substance use disorders have been victims of physical or sexual assault or have been involved in traumatic events that have increased the likelihood of this behavior (Boughner, & Frewen, 2016).

In 2015, The National Survey on Drug Use and Health estimated that 23.9 million people in the United States had used illicit drugs in the past month (Stanforth, Kostiuk, & Garriott, 2015, p. 138). The FBI estimates that there have been 1,501,043 arrests for violations involving drug offenses, along with 265,684 arrests involving distribution or manufacturing of illicit drugs (Stanforth et al., 2015, p. 138). This data show that

substance abuse is a significant issue. Not only do these issues affect substance abusers, but also innocent people who are victimized to support substance abuse.

A significant issue that needs to be addressed is the effect of support to substance abusers before completion of treatment. This is especially important for those who do not have access to family or a strong support system upon completion of their treatment. These patients can relapse and continue to suffer from substance use disorder. Substance abuse can cause isolation, loss of relationships, and medical issues. Current treatment modalities for substance use disorder are cognitive behavioral therapy (CBT), mindfulness and harm reduction therapy (Bayles, 2014), along with entering substance abuse programs. What is missing involving current modalities of substance abuse treatment is the implementation of a companion canine animal.

Barlow, Cromer, Caron, and Freyd (2012) discussed the therapeutic effects of companion animals on mental health. They found that there is a decrease in symptoms such as loneliness, and an increase in positive mood. This research displayed that companion animals are an emotional benefit due to the companionship. Schramm, Hediger, and Lang (2015) found that animal-assisted therapy, in combination with other forms of therapy, improved "mental health, quality of life, and a decrease in the sense of isolation" (p. 192).

In this study, I addressed the gap in research related to the success of substance abuse treatment along with pet ownership while in treatment. Although there is research that shows there can be an enhanced quality of life and socialization due to ownership of

an animal, there is no research that addresses a personally owned animal along with measurement of time in treatment, and success or failure of rehabilitation.

Problem Statement

Research regarding the impact of canines involved in substance abuse treatment has been significantly overlooked and understudied. Research has shown that canines play a significant role in relationships among people, along with assisting those with mental health issues to feel more accepted in society. Schramm et al. (2013) researched animal-assisted therapy. They found that animal-assisted therapy can decrease symptoms of depression, loneliness, and mental illness. The researchers focused on the relationship between human and canine. Further research needs to be conducted in this area with a focus on canines and patient bonding and how they provide support to one another. This codependent relationship helps the substance abuser to have meaning in life because of the dog relying on them for support and care. This also creates a positive social environment in which the substance abuser is not judged for their addiction, but is seen as a person of society, a man or woman, a pet or non-pet owner. This helps them to feel more socially accepted and increases their independence due to an increased comfort level while being supported by their canine.

Purpose of the Study

The purpose of this quantitative experiment was to test the theory of contextualism by examining if the utilization of canine animals increases the time in rehab for substance abuse users. I completed this measurement by reviewing charts of clients who have completed substance abuse treatment and brought their canine with

them to have while in treatment. By obtaining charts of discharged clients, I retrieved data related to the number of days authorized by insurance for treatment, along with the days that the client stayed in treatment at the facility. I compared these two numbers to create standardization for treatment. In looking at the success of treatment, success may be viewed as insurance approving 30 days and client stayed over 50% of that time.

I also measured comparison groups involving gender, and non-pet owners who attend treatment. The independent variables of this experiment were gender and dog ownership and the dependent were the time in substance abuse treatment and success or failure of treatment.

Research Questions and Hypotheses

Research Question 1 (RQ1): Is there a difference in substance abuse treatment duration based on gender?

Alternative Hypothesis (H_a1) There will be a statistically significant difference in the average duration of substance abuse treatment when comparing men and women.

Null Hypothesis ($H_0 1$) There will not be a statistically significant difference in the average duration of substance abuse treatment when comparing men and women.

(RQ2*)* Is there a difference in treatment duration based on presence or absence of a canine presence during treatment?

(H_a2) There will be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine. Canines will increase the duration of substance abuse treatment.

($H_0$2) There will not be a statistically significant difference inthe average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine.

(RQ3): Is there a gender by canine presence or absence interaction where there is a differential degree of treatment duration based on the combined treatment or independent variable?

(H_a3) There will be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine and for men and women

($H_0$3) There will not be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine and for men and women.

Theoretical Framework for the Study

The theoretical framework for this study was the theory of contextualism (Dixon & Lerner, 1992). Earlier researchers combined this theory with those of Skinner, Watson, and Pavlov involving behaviorism, but also attachment theory of Bowlby (Melson, 2002). This theory does not focus on humans as animals, or animals as humans, but instead, humans with animals, that have a relationship and are cohesive as one unit (Melson, 2002). Melson (2002) discusses this theory and its approach to people with pets and how they "act on one another in dynamic interaction" (p. 350). Additional literature has shown that animals can play a significant role in individuals feeling more

comfortable and protected while having other human interactions. This quantitative analysis conducted by Melson (2002) showed that human beings can attach and have a bonding relationship with animals that enhances one's quality of life. Individuals that have no family or have been without individuals to support them with their mental illness can find peace and independence with the support of an emotional support animal.

Nature of the Study

The nature of this study was a quantitative study. The design was a quasi-experiment with two independent variables (presence or absence of a canine during treatment, and gender as male or female). Each was independently compared with a *t*-test, but then a 2 X 2 ANOVA was appropriate to test for the main effects of pet ownership and gender and allows for a test of the interaction of these variables.

The sources of data I used for this study were review of charts of clients, male and female, who have completed treatment with and without their canines accompanying them to treatment. The quantitative measurement I completed was to review client's charts upon completion of substance abuse treatment. Survey forms were filled out with information obtained from these charts. These forms included gender, time in treatment approved by insurance, time client stated in treatment and if a canine was brought to treatment with the client. Independent Variables' are canine presence and absence, and gender, male and female. Dependent Variable is treatment duration.

Definitions

Animal Assisted Therapy: A form of animal-assisted interventions that is goal oriented, and a therapeutic intervention that focuses on "enhancing physical, cognitive,

behavioral, and socio-emotional functioning of the human recipient" (Schramm, Hediger, and Lang, 2015, p. 192).

Dual Diagnosis: "Clients who have coexisting chronic mental illness and substance abuse diagnoses" (Polcin, 1992, p. 30).

Harm Reduction: A modern post-2000 form of treatment for substance abuse founded to reduce the spread of HIV. This model is designed to meet individuals where they are in their current treatment. (Bayles, 2014).

Recovery: SAMHSA (2017) defines recovery as a process of change in which a person improves their health, but also have self-direction and strive to meet their full potential.

Substance Use Disorder: Recurrent use of drugs and alcohol that causes a clinical and functional impairment, along with failure to meet responsibilities involving school, work, home, family, etc. (SAMHSA, 2017).

Assumptions

The proposed study is based on the following six assumptions. First, I assumed that all participants in the study were clients in a substance use disorder treatment facility. I can account for this assumption by obtaining the preexisting data directly from the substance use disorder treatment facilities.

Second, I assumed that all participants have a diagnosis of substance use disorder. The preexisting documentation involving clinical diagnosis obtained from the substance use disorder facilities will provide me the ability to account for this diagnosis, and therefore this assumption.

Third, I assumed that all participants had their own canine animal with them that they brought into treatment. I can account for this assumption by looking at admission and clinical paperwork that will state an animal is present with the participant.

Fourth, I assumed that assessment tools utilized are appropriate for the participants based on the 2X2 that must be completed for appropriate comparison.

Fifth, I assumed that all data that is obtained for this study will be preexisting data from clinical charts at substance use disorder facilities and will be as accurate as possible based on diagnosis and documentation from licensed staff.

Sixth, I assumed that confidentiality and anonymity will be preserved due to utilizing preexisting data. This also addresses any ethical concerns due to these participants having completed their admission to such programs.

Scope and Delimitations

Involving the scope of the study, along with the area involving the study and all it encompasses, along with the result. A study must apply to the field of study that it is completed in. This particular study was sought to predict treatment outcomes, and it is bound to the field of psychology and looks particularly at substance use disorder treatment. This study was of importance not only in substance use disorder but also any area related to psychology.

Limitations

There are other possible areas of weakness not including collected data. These might affect the accuracy of the results obtained for the study. These include the following:

- Human error during clinical documentation by clinical staff
- Biases in a collection of patient's information by personnel
- The method of analysis not sufficient for the quantitative data that is going to be analyzed.
- Non-inclusion of the following variables: age, race, number of times in treatment, drug of choice, amount of times in treatment, number of substance's used, mental health diagnosis

Significance

This research will fill a gap in care of clients who suffer from substance abuse addiction and support in treatment by their pet accompanying them to treatment. In this research I addressed an area of treatment that has been significantly overlooked. Although there is research discussing the importance of relationships with canines for those with mental illness and physical disabilities, there has not been research conducted that shows the improvement of time in treatment and success or failure in rehab with clients who are accompanied by their canines to treatment. This study will provide insight and alternative treatment and support of recovery from substance use disorder. This was important, as research has shown that some individuals choose not to take medication, refrain from therapy and suffer from their addictions and related issues. This affects their quality of life and can cause isolation due to lack of acceptance in society (Wisdom et al., 2009)

Summary

In this chapter, I provided an overview of the study as well as a description of the approach that I took. When looking at substance use disorder and treatment, it is important to consider this issue more in depth. This is necessary because the findings could promote how clinicians address this population in treatment, along with their intervention strategies. This will assist clinicians in providing treatment and providing support to communities and can provide a more efficient type of treatment and prevention. This was the introduction to the subsequent chapters that will deal with the research in greater detail.

Chapter 2 includes the literature review, which was precedent in this study. The literature review includes works previously done in the field of psychology involving substance use disorder. Chapter 3 includes the research design of this study and the methodology that I used. Chapter 4 includes the results of the study upon completion, and Chapter 5 includes my interpretations of the results.

Chapter 2: Literature Review

Introduction

The previous chapter included detailed information and an overview of the problem that was being studied. It also included the research questions along with the hypotheses that was measured. Although there is current literature on human-animal relationships involving the positive effects of pets, this study contributed to human-animal relationships involving canines and substance use disorder specifically. The way this study will enhance substance abuse treatment is in two areas.

The first is the recognition that mental health and substance use disorder go hand and hand. This is not just because these are illnesses recognized for diagnosis in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association, 2013), but that dual diagnosis is a severe issue. To individualize these as two separate issues is failing to provide proper treatment to the clients in this field. The Substance Abuse Mental Health Services Administration (2016) reported that in 2015, their national survey on drug use and health revealed that there are 8.1 million adults with co-occurring disorders of any mental illness and substance use disorder. There was only 48% of this population that received services for either mental illness or substance abuse. Furthermore, the treatment that was received was either for mental health or substance abuse, but not a dual diagnosis. This is a significant issue and creates a gap in treatment.

The second issue is recognizing that animals, particularly canine animals, provide a necessary emotional and social support to those who lack familial support with their

substance use disorders. For these individuals to have support in treatment, they may need their canine with them to provide support. Schramm et al., (2012) discussed how Animal Assisted Therapy is an important part of physical, behavioral and social-emotional functioning. Wisdom et al., (2009) provided research that showed that dogs gave a type of family support for individuals with mental illness who do not have family support. Furthermore, companion animals can serve as a source of attachment and love in stressful times (Barlow, Cromer, Caron & Freud, 2012). Substance use disorder treatment is difficult for clients, but having no support and going through it alone can complicate matters and cause a relapse.

Past Research

This literature review was completed to address the issues as mentioned above that is the basis of the study. When looking at the issue of individuals and time they stay in treatment, dual diagnosis or comorbidity of mental illness and substance use disorder is significant. There is very little current research that addresses this issue even though substance use disorder is a clinical diagnosis. Past studies have shown that people with severe mental illness are at risk for substance use disorder (Drake, 2000). In 2000, 17% of the general population had substance use disorder. This was in comparison to 48% of persons with schizophrenia and 56% of people with bipolar disorder. Past studies have also suggested that individuals with severe mental illness manifest substance use disorders within the last 6 months of diagnosis, at a percentage of 25 to 35% (Drake, 2000). The Substance Abuse and Mental Health Services Administration (SAMHSA) (2016) estimates that four million of the 17.5 million people with mental health disorders

struggle with the dual diagnosis with substance use disorder (Dual Diagnosis, 2017). Attention must be brought to this significant issue to show that those working in the field of psychology or mental health need to be recognizant so that proper treatment can be given to addressing both issues, not just one. Treatment for individuals suffering from dual diagnosis cannot be focused on one or the other but must be a dual program. Research suggests that separation of services is ineffective and that integration of treatment for both diagnoses are important and offer longer remission for these issues (Drake, 2000).

Substance Use Statistics

The National Institute on Drug Abuse (2017) stated that the abuse of tobacco, alcohol, and illicit drugs is a significant cost in the United States. There are over $740 billion annually in costs that are related to not only health care, but also crimes committed for drug abuse and work productivity that is lost due to addiction. These numbers are significant. In 2009 there were over 23.5 million people ages 12 and older who needed treatment for alcohol and illicit drug abuse. Of the 23.5 million people, 2.6 million people received treatment. This is an increase from 2008 in which there were 1.8 million admissions into treatment (National Institute on Drug Abuse, 2017). These statistics show that individuals with substance use disorder are seeking treatment to help with their addiction.

Need for Additional Research

Current literature shows that there is assistance available to those with mental illness and also substance use disorder. However, no research discusses utilizing a canine

animal while attending substance abuse treatment. Schramm et al. (2012) researched attachment animals along with animal assisted therapy (AAT). Their research involved mindfulness cognitive behavioral therapy (MCBT) along with AAT. This research involving MCBT has been found to be particularly useful in patients who are at risk for relapse, and who have a history of instability along with trauma. Schramm et al. (2012) was an open pilot study containing six participants ages 18 to 70. All patients were stabilized on depression medication for at least 3 weeks before the research, and it was confirmed before the beginning of the study if they had experienced trauma. The program was accompanied by eight canine animals. The canines were familiar with human interaction, and they were monitored for stress during their interactions with the participants. The patients were given the Beck Depression Inventory (BDI-II). The BDI-II measurement was the primary measurement of a secondary outcome rating utilizing the Response Style Questionnaire (RSQ). Lastly, the participants were given the Kentucky Inventory of Mindfulness Skills (KIMS-D). Schramm et al. (2012) found that AAT is not an independent intervention but is a therapeutic process. This Therapeutic process enhances physical, behavioral and social-emotional functioning. Five of the six patients had improvement in their symptoms of depression. The result of this research study shows that canine animals can bond with human beings and relieve depression symptoms. Although this research does not address substance use disorder, it discusses a mental health diagnosis which can be part of the dual diagnosis of a patient. Depression could be a triggering factor to patients who have substance use disorder.

In the last decade, there has been a significant amount of research that has highlighted the positive and therapeutic effects of animal-human interactions and relationships. Some of these research areas are autism, medical issues or difficulties, behavior, and lastly for emotional support or well-being (Schramm et al., 2012).

Wisdom, Saedi, and Green (2009) researched pet ownership and recovery of severe mental illness. This research involved 177 participants, both genders, who had mental illness and were stratified on diagnosis (Wisdom et al., 2009). Participants were between the ages of 16 and 84. Participants were assessed with the Colorado Symptom Inventory (CSI). Researchers also utilized the single item Wisconsin Quality of Life Inventory to evaluate differences in social support. The results showed there was no difference in measures regarding gender, age, social support, annual income or social classes. Pet owners were found to be mostly bipolar disorder diagnosis patients versus schizophrenia-spectrum diagnosis patients. Over 78% of the pet owners reported that their pets "were very important to them" (Wisdom et al., 2008, p. 432), while non-pet owners stated they wished they had a pet. A significant finding of this research is that pet owners were more likely to have a co-occurring addiction. Although this may appear to reflect adverse outcomes of pet ownership, it shows that pets are comforting and provide some support to those with addictions. This displays the necessity to have this further evaluated.

Therapy can provide a significant amount of peace and coping skills while in the therapeutic setting. Once patients are returned to their environment, they can become depressed and have an adverse social effect and issues in social situations. Although

animals in the therapeutic setting are beneficial, they are found to be more helpful when the client takes the animal home with them as a form of continued therapy (Wisdom, et al., 2009). Researchers have demonstrated that pets reduce stress, improve quality of life, improve health, and improve social outcomes for those who shy away from social interaction. The research mentioned above showed that mental illness along with animal-assisted therapy could produce positive treatment outcomes.

Upon review of research involving substance use disorder, researchers showed that there are models, such as twelve steps, along with different programs to assist with this issue. Bayles (2014) discussed the severe vulnerability of this specific population along with the psychological and emotional issues that negatively impact their quality of life. Although there is a treatment for this population, there is a significant amount of relapse involving substance use disorder. There is also a clear majority of clients who leave treatment before successful completion. Bayles (2014) qualitative research produced a result that twelve-step programs are essential in treatment and are also necessary to support recovery.

Marhe, Waters, Wetering, and Franken (2013) discussed relapse, and it is a significant issue in drug addiction treatment. They also drew attention to the number of clients who leave before even completing detox. There are over 50% of substance use disorder patients that seek treatment. Marhe et al. (2013) completed earlier research that contained 68 heroin-dependent inpatients who were in detoxification at an addiction treatment center. Patients carried around a personal digital assistant (PDA) that they could complete up to four random assessments per day while carrying the PDA for 1

week. They also recorded their urge to use during this period. Their findings showed that attentional biases and implicit attitudes toward drugs affected their recovery and relapse. These researchers did not utilize a canine animal; however, the research results show that distractions and keeping one occupied when they are at risk for relapse are an essential part of the sobriety success.

Detoxification Period

There is a significant percentage of patients leaving treatment before completing detoxification from the illicit substance they are abusing. The detoxification period is the most uncomfortable but the most important part of recovery (Drug Abuse, 2017). Medical detoxification is important to overcome physical dependence on substances. When leaving during this process, the next step in treatment is not completed. When this occurs, individuals can relapse or be unable to sustain sobriety.

There is research, that will be discussed below, that discusses treatment methods for substance use disorder, but there is not research that implements a canine animal into the treatment process to ensure that the client/patient feels comfortable and content in their program. There are more intimate alternative treatment models that are not twelve-step programs but are more inclined to concentrate on harm reduction versus abstinence (Bayles, 2014). This places importance on the reduction of negative consequences for substance use disorder, with the implementation of focus on staying alive, one's health, and getting better from addiction. Although this is a new type of treatment modality, it still leads individuals to wonder when an addict gives up on themselves or is introverted due to years of being unaccepted by their family or in public, there isn't a lot of support

offered to them. If a family member or friend cannot be the necessary support, perhaps a canine can.

History of Animal Therapy

For many years' animals have created peace and positive outcomes for individuals with all sorts of ailments (Schramm et al. 2013). These include physical, mental, or emotional illnesses. There is very little research where researchers address the companionship and relationships with animals. Most research in this area is more than 5 years old, which shows a lack of information in this area, and therefore as clinicians not providing all possible modalities of treatment.

In the current research I provide a foundation for animals and their companionship that can lead to other research in this area. There are over 77 million dogs and 93 million cats in the United States, with 62% of households owning a pet (McConnell, Brown, Shoda, Stayton, & Martin, 2011). There is the implication that pets create positive psychological outcomes for individuals that are going through significant life challenges and change (McConnell et al., 2011). This is relevant information as it shows that pets can comfort those struggling. For example, individuals who have had a heart attack and own a pet are less likely to die within the first year than those without a pet. Medicare patients with pets have fewer visits to the doctor per year (McConnell et al., 2011). Individuals receive social support from their animals along with improvement in physiological and psychological health (McConnell et al., 2011). This information displays the ability for a pet to provide positive psychology to those who are struggling with issues.

McConnell et al. (2011) conducted research involving attachment styles, along with a patient's view of themselves, and how they believe society views them. The sample for this research consisted of 217 participants who answered a university advertisement regarding personalities and pets. The participant population was 79% women, with a total income of $77,000, along with a mean age of 31 years.

The participants used a secure internet URL to complete an anonymous study. The majority of participants were graduate students and were aware that the research involved measurement of pet and non-pet owners. Measures consisted of well-being, individual-difference measures, pet specific items, inclusion and support measures, and other pet-specific items. The results of this research showed that people experience benefits involving well-being from owning a pet. A few of these benefits were healthier personality characteristics, along with less negative feelings of oneself. A secondary finding was that pet's decrease depression and loneliness, and increased happiness. Lastly, McConnell et al. (2011) research found that a pet owner is less inclined to be affected by negativity and social rejection due to the alleviation of these feelings because of the presence of their canine companion. In closing, this research proves that there is evidence that pets can be a social support for their owners.

Literature Search Strategy

The databases that I used to obtain the literature discussed were obtained through the Walden University Library. Search engines used were PsychINFO, PsychARTICLES, Thoreau Multi-Database Search, Google, and Google Scholar. II used terms, phrases, and keywords to search for literature. These keywords consisted of: *Companion animals,*

mental health diagnosis, substance use disorder, relapse, substance use disorder treatment, animal assisted therapy, severe mental illness treatment, dual diagnosis, dual diagnosis with substance use disorder, treatment for dual diagnosis, substance use percentages, substance use prevention, family support for mental illness, family support for substance use disorder.

The literature review contains articles primarily within the last 5 years. However, when searching for articles to address this particular issue, it was found that there was not a sufficient amount of information within the previous five years. Therefore, some articles are dated back to the year 2000. The primary search was 2011 to 2016. Upon finding lack of literature, a general search was conducted finding articles starting with 2000. That year then became the earliest year searched for articles. To obtain current statistics involving drug use, Google was utilized to detect statistical data for this study. Upon a Google search, a further search was completed after findings of government sites such as Substance Abuse and Mental Health Service Administration (SAMHSA) (2016), National Institute on Drug Abuse (2017), and Drug Abuse (2017). These specific sites provided significant data on the research issue.

The seminal research articles for this research involved companion animals. The articles specifically were Schramm et al., (2012) involving attachment animals and animal-assisted therapy (AAT), Wisdom et al., (2009) which researched individuals with mental illness and the support they received from their animals which decreased social isolation. Lastly, the research by Barlow et al., (2012), and Crawford et al., (2012) argued

that companion animal and human relationships can be stronger than bonds between to people. The current peer-reviewed literature discussed animal and people relationships, along with animal companionship and how it enhances the lives of those with mental illness (Wisdom et al., 2009).

Theoretical Foundation

The theoretical framework for this study was Dixon and Lerner's (1992) theory of contextualism. This theory has been combined with those of Skinner, Watson, and Pavlov involving behaviorism, but also attachment theory of Bowlby (Melson, 2002). This theory does not focus on humans as animals, or animals as humans, but instead, humans with animals (Melson, 2002). Melson (2002) discussed this theory and its approach to people with pets and how they "act on one another in dynamic interaction" (p. 350). Additional literature has shown that animals can play a significant role in individuals feeling more comfortable and protected while having other human interactions.

Dixon and Lerner (1992) theorized that human beings could attach and have a bonding relationship with animals that will enhance one's quality of life. Individuals that have no family or have been without individuals to support them with their mental illness can find peace and independence with the support of an emotional support animal. The animal human-centered framework will be beneficial in research involving substance use disorder treatment and canine animals. This is because this theory imposes that human beings and animals can have a bond stronger than human to human. This can play a significant role in people attending substance use treatment because they will have

support throughout the program. For those individuals who do not want to connect with other clients will have the companionship and bond with their canine. The research questions for this research study do not challenge this theory but builds upon the connection between canine and human.

Literature Review Related to Key Variables and Concepts

The Substance Abuse Mental Health Services Administration (2016) reported that in 2015, their national survey on drug use and health revealed that there are 8.1 million adults with co-occurring disorders of any mental illness and substance use disorder. There was only 48% of this population that received services for either mental illness or substance abuse. This information displays that there is a significant issue involving mental illness and substance use disorder, or dual diagnosis. Another concern is the statistical data that presents the seriousness of the SUD. Stanforth, Kostiuk, and Garriott (2015) discussed the self-reported behaviors of individuals in drug type behaviors. Across the United States, there is a high percentage of individuals that use illicit drugs. The information was obtained by drug screening completed in Chicago (84%), (92.9%) in New York; also, there was 87.7% positive screenings in Sacramento and lastly (38.1%) in Washington D.C. This information shows the significance of the SUD involving the population of the United States coast to coast (Stanforth et al., 2015). There is a significant issue with substance abuse treatment in the United States. One reason for this is because there is a large percentage of individuals who have SUD, also have an interrelated behavior of distribution to help support their habits (Stanforth et al., 2015). This forces individuals to sell illicit drugs to support their practices. This, in turn, forces

them to treatment only if they are incarcerated for their criminal behavior. But what about those who suffer from SUD but do not have interrelated illegal behaviors? Or they have not been caught or jailed for such actions?

When an individual is presented with these issues is there a place for them to go for treatment? When they don't have a family to support them, are they able to continue through the process, knowing they have no one to stand by them? These are issues that individuals face every day when deciding to go to treatment for SUD. Research has shown that not only do canines provide support to individuals who suffer from severe trauma, but they also help individuals with a variety of psychological conditions (Barlow, Cromer, Caron, & Freyd, 2012). Barlow et al., (2012) research showed that individuals who have psychological conditions, and substance use disorder, can find peace with canine animals. In addition to order, there is a decrease in negative feelings such as loneliness, and isolation. Barlow et al., (2012) found that this bond can start as early as preschool and teach compassion and affection and can continue through adolescence and illustrate the value of friendship. This research displays that a strong bond can develop between human and canine. For individuals who have no family to support them in treatment, this may be the only link to keep them sober and in treatment.

Forant and DeRubeis (2013) discussed the predictive relationship that occurs with pretreatment and anxiety along with depression. Their research revealed that specific interventions must be facilitated due to change in medications and psychotherapy. This plays a significant role in the treatment of SUD as mental illness plays a vital role in those suffering from SUD. Polcin (1992) discussed the issues of dual diagnosis involving

mental illness and substance abuse. This was a substantial issue for mental health professionals in 1992 and continues to be an issue currently (Goodman, McKay & DePhilippis, 2013). Part of this issue is the lack of monitoring treatment of dual diagnosis along with those in substance abuse treatment (Goodman et al., 2013). Although clinicians deal with dual diagnosis and must stay on top and adopt practices to deal with this population, it has not occurred. No consistency involves the measurement of treatment, along with feedback that gives those working in the field of mental health the opportunity to improve treatment outcomes (Goodman et al., 2013). Goodman et al., (2013) discussed those previous meta-analyses that have shown that progress monitoring has been successful monitoring treatment progress. The issues with these meta-analyses referenced in this research are that it is focused on mental health, but not dual diagnosis or SUD. This is a significant issue because how can clinicians provide the necessary care if there is no measurement or progress monitoring to discuss treatment outcomes and improvements needed. Although this research aimed to address this gap in research, there was nothing involving companionship of canines implemented along with treatment programs. There was also no implementation of change concerning the outcomes of SUD treatment.

Harm Reduction in Treatment

When looking at SUD treatment, there is the need to look at harm reduction therapy. An individual who has internalized emotional or psychological pain, and who may have physical pain is most likely not concerned about the effects of drugs or alcohol on their bodies. When looking at harm reduction and SUD, there is an issue with the

common twelve-step model. The twelve-step model has no margin for error (Bayles, 2014). This creates a problem because there are a significant number of individuals in substance abuse treatment that leave early and relapse causing more drug abuse. Although the twelve steps are the foundation of recovery from addiction, it will not cure someone. It is important that there is support provided that can help these individuals continue through treatment and move on to the next steps in their recovery for success. Bayles (2014) draws attention to the issue of relapse being a failure and how it negatively affects the recovery process. Breaking this stigma of relapse as failure will help individuals to move forward and focus on the here and now, not the pain of the past that draws them out of remission. Although there is significant research involving SUD, there is none that addresses a client bringing their canine to treatment. There is a substantial weakness on any companionship that may assist those in SUD treatment. There is a significant amount of research that supports CBT, DBT, along with medication for mental health. However, all of the previous research reviewed did not implement anything other than what can be provided by the clinician. Of course, the client must put in the effort also, but when psychotherapy and medication are the norms, and the client isn't responding, there must be something else implemented.

The strength of the aforementioned research is that it is focusing on helping with SUD and addressing where there is lack of support by clinicians in this area. The research also discusses new approaches (Bayles, 2014), along with the failure to support and recognize the need for dual diagnosis assistance (Polcin, 1992). Now moving to the future, it is time to implement something that is unique. Goodman et al., (2013) discussed

the issue with dual diagnosis. They considered what is missing in this area and provided significant research; however, this is not enough to assist this population moving forward.

Research Variables

The variables for this research were chosen because there is a significant deficit in this area. The independent variables for this research were canine presence and absence, and gender. The justification for the canine presence and absence is the failure to implement this into research in the past. Prior research has not included a canine to provide additional support for those going into SUD treatment. Performing this additional type of support is necessary to see how clinicians can promote positive change in this area. There is no research on this topic for comparison. This shows there is a deficit in this area.

The variable of gender is also important because men and woman do not process or work through issues the same. It is essential to analyze and adequately measure both genders. Not all races, cultures, and genders deal with situations the same. It is important to include male and female differences to see what would be best for both populations. When analyzing the current variables research has shown the gender differences in treatment. Tull, Gratz, Coffe, Weiss, and McDermott (2013) looked at comorbidity of PTSD and SUD. This research revealed there was a significant interaction between PTSD, gender, and DT. Post hoc analyses indicated that a significantly lower number of men finished SUD treatment. Otiniano-Verissimo, Gee, Ford, and Iguchi (2014) found that gender differences occur involving men and women in substance use disorder treatment. The research also showed that having multiple minority statuses may cause

unique and disadvantages but can also lead to different experiences that one gender cannot relate to the other. This can manifest issues in the way people view their substance use disorders, along with the way they are seen in the eyes of society, along with their own ethnic groups. This research also discussed their findings involving the idea that gender affects coping skills. Men are more likely to be maladaptive when dealing with issues. Men's coping patterns cause them to be more likely to turn to drugs and alcohol when coping with stress. This is in comparison to women who can cope better with stress and other issues.

Although this research looks at gender differences involving stress and coping skills that lead to substance abuse issues, it is essential to recognize that the variable canine is not implemented into this study or any of the studies mentioned above. This research provided data regarding gender and coping skills, to validate the need for research in this area, but there is not research involving gender differences and canine attendance in SUD treatment. This needs to be measured to be able to help this population better. Gender differences can be the issue involving success or failure for those in SUD treatment. As previously mentioned the variable canine, regarding absence and presence is essential because this needs to be measured. Will canine presence provide support for those in SUD treatment?

Chosen Research Questions

The research questions for this study were chosen to help provide adequate measurement and support for those in SUD treatment. The first research question is there a difference in substance abuse treatment duration based on gender, looks at gender

differences in treatment. This is important because of the research completed by Otiniano-Verissimo et al., (2014). This research displayed the issues involving gender differences in coping skills. This is significant because, to maintain sobriety, a person must have coping skills acquired in therapy. When a man is unable to deal with stress and other issues and is lacking coping skills, this raises their percentage of relapse and failing at sobriety and recovery. A woman may have the same problems, but this research showed that it is more commonly the man that suffers in this area. This research also discussed gender differences and the Hispanic culture. The current study is participants with no random assignment. These participants vary in a culture which will give an overall measurement of gender differences without cultural bias. Although Bayles (2014) discusses mindfulness and moving past the issues that cause addictions and focus on here and now, coping skills are necessary to progress. This reiterates the fact that gender plays a role in this area.

The second research question involves treatment duration. Is there a difference in treatment duration based on the presence or absence of a canine during treatment? Schramm et al., (2012) research involving attachment animals and AAT discussed how AAT is not an independent intervention. It needs to be a process that enhances multiple functional areas. For it to improve physical, social and behavioral functioning, it needs to be utilized along with other therapy types. This research displays that a canine cannot be used independently and there be an expectation of significant results in all areas. Therefore, combining AAT with SUD treatment can be successful. The research from Wisdom et al., (2009) discussed STARS and its positive effect on mental illness. This has

positive attributes and enhancements in a person's life. This can help support those with dual diagnosis that are in SUD treatment.

The final research question in this research involved if there is a gender by canine presence or absence interaction affecting the differential degree of treatment duration. This is based on the combined treatment or independent variables. Because of the reasons above, this also needs to be measured. This places canine and gender at the forefront of this research and provides the opportunity for an overall measurement of the variables. This measurement encompasses the research involving Bayles (2014) with regards to treatment and twelve-step programs. Twelve-step programs are utilized in SUD treatment to help facilitate the recovery process. Otiniano-Verissimo et al., (2014) looked at gender differences in SUD. This is important because it displays and helps paint the picture of gender differences and coping skills that cause lack of sobriety success. Lastly, when utilizing animals to support recovery, it is imperative that there is the understanding that they don't work alone (Schramm et al., 2012).

Summary and Conclusion

There is a significant amount of research that shows that substance use disorder is a significant problem. This can be SUD alone, or also involving dual diagnosis with mental health issues. When evaluating clients for treatment options, it is crucial that clinicians address both problems. This should occur individually and together. Research conducted by Barlow et al., (2012) and Crawford et al., (2012) discussed mental health

issues and how it plays a significant role in a person's quality of life. Not only is this because of their inability to connect with others, but their inability to go out into society and live a positive protective life.

Schramm et al. (2012) researched the utilization of Animal Assisted Treatment (AAT) for those with severe mental illness. This research showed that animals play a significant role in the comfort of those with mental illness. Although this research touched on a significant issue and explained that animals present a very positive outlook for those with severe mental illness, there is little research that shows how utilizing canines with SUD treatment may offer similar outcomes. Since severe mental illness and SUD often accompany each other, this should be considered further. Additional research has shown that SUD varies among ethnic groups, but also gender. Research conducted by Otiniano-Verissimo et al., (2014) looked at gender differences in treatment for SUD. Their findings were that women are more inclined to receive treatment or services, due to their ability to put their pride aside, and their lack of concern for other's perceptions. This is significant as both genders need treatment in these areas. This research looked explicitly at Hispanic and Latino populations, but it did address gender differences in treatment. This research displayed that it is important to analyze gender to ensure that treatment can be provided to support both genders.

Although the research mentioned above has displayed that research has been completed involving severe mental illness, substance use disorder, gender differences in treatment, and utilizing canine animals to provide benefits to those with mental illness, no research discusses and measures the utilization of canines in SUD treatment. To close the

gap in this research and to ensure that this dual diagnosis population receives the necessary treatment, this needs to be addressed. Although there is research addressing these specific issues, there isn't any measuring the problems together that can create positive change and enhance the lives of others.

To reduce the statistics of substance abusers and to ensure their success in treatment it is vital that clinicians look at all options. Implementing canines into the treatment of SUD could provide answers to what can give further support for success, but also be the missing link to bring peace to those who are suffering.

Chapter 3: Research Method

Introduction

The purpose of this study was to complete an evaluation on whether gender and dog companionship affect the time a person stays in substance abuse treatment. Previous research indicates that multiple issues can change the time a client remains in treatment. Research has also shown upon implementation of a canine animal into therapy, clients have additional support and can maintain better mental health. Although there are a significant amount of researchers that looked at mental health and canine comfort, there are no researchers that discuss or investigate how this relationship can help provide support to individuals completing substance abuse treatment programs. The preponderance of data I reviewed shows the use of canines when utilizing animal assisted treatment. The question for evaluation in this study was: Does gender and the presence of a canine companion in substance abuse treatment extend the time a client stays in a treatment program? An additional question was: Does gender play a role in the time a client remains in a substance abuse treatment program? The amount of time involving canine presence in treatment includes admission into a substance abuse treatment program, with the canine animal. The canine animal is readily accessible to the patient for all activities as the patient feels is needed. The patient may choose to have the canine attend group with them, go on outings with them, etc. If the patient does not wish to take the canine with them, that is acceptable.

Research Design and Rationale

I used a quantitative method with a quasi-experimental design with two independent variables, (presence or absence of a canine during treatment, and gender; male and female). The quasi-experimental design for this research was the Posttest-Only Analysis. Posttest-Only Analysis has two groups and is a posttest-only measure of the variables. These two groups had distributions that involve an average and variation of the group. Researchers have used this specific design to employ the comparison of two variables. The researchers then compared the variables to each other, X_1 versus X_2. Creswell (2009) discussed quasi-experiments as no random assignment to conditions, which is the case here. Specifically, gender cannot be randomly assigned, and the client determined whether or not to have a canine present during their treatment. Given two independent categorical variables, analysis of variance (ANOVA), specifically a, 2 (gender) X 2 (canine presence or absence) ANOVA was appropriate to test for the main effects of pet ownership and gender and allows for a test of the interaction of these variables.

To complete this quantitative study, I obtained archival data that I evaluated for my hypotheses on whether the presence of canine animal's effect the duration of time spent in substance abuse treatment.

RQ1: Is there a difference in substance abuse treatment duration based on gender?

H_a1: There will be a statistically significant difference in the average duration of substance abuse treatment when comparing men and women.

$H_0$1: There will not be a statistically significant difference in the average duration of substance abuse treatment when comparing men and women.

RQ2*:* Is there a difference in treatment duration based on presence or absence of a canine presence during treatment?

(H_a2) There will be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine. Canines will increase the duration of substance abuse treatment.

($H_0$2) There will not be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine.

RQ3: Is there a gender by canine presence or absence interaction where there is a differential degree of treatment duration based on the combined treatment or independent variables?

($H_{a3)}$ There will be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine and for men and women.

($H_0$3) There will not be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine and for men and women.

Time and Resource Constraints

This was a quasi-experimental study involving one group of participants. A time constraint involving this design was the possibility of not having enough clients who enrolled in treatment to review clinical documentation. This also could have resulted in resource constraint. The way I limited time and resource constraints was to utilize one large, well renowned treatment facility to ensure that enough archival data was obtained for timely completion. The posttest design allowed the opportunity to measure results upon completion of treatment. This measurement provided data that will advance knowledge to this discipline due to finding if there is success or failure. The findings of this research allow researchers and clinicians to move forward with the ability to provide better support.

Research Design and Advancing Discipline

The current research design is conducive to advancing the discipline of psychology. Research conducted by Bastini et al. (2016) utilized a comparison group. This research discussed substance use disorder, and the researchers of this design found that there was a lack of adequate methodological features in other studies due to not using a comparison group. In the two-group experimental posttest design, there is an assumption of probabilistically equivalent groups. The design will also allow researchers to see if the two groups are different after a program, which in this research there is a program involved (Trochim, 2006).

Methodology

The target population for this research was substance abusers who have completed inpatient substance abuse treatment. These participants were over the age of 18 and consist of any race, and culture. The population selected will meet these criteria. Target population size will be approximately 65 men and 65 women who had presence and absence of canine while in substance abuse treatment.

The sampling procedure strategy that I used was convenience sampling. Creswell (2014) states that convenience sampling or nonprobability samples are selected based on the convenience and availability of the participants (p. 158). Convenience sampling wasappropriate because all ages and cultures suffer from substance use disorder. The National Survey on Drug Use and Health estimated 23.9 million people, of all cultures, have used illicit drugs in the past month. This is for the last five years, with some leading to substance use disorder (Stanforth, Kostiuk, & Garriott, 2015, p. 138).

The procedure for obtaining the convenience sample, I met with a substance abuse facility in Southern California that allowed canine animals to accompany clients to treatment. Clients charts were reviewed to collect the sample number of gender (men, women) and with or without canine while in treatment. Upon reviewing the client's charts, the sample will be broken down into four groups. These groups were men with canine, women with canine, men without canine, and women without canine. There was no inclusion and exclusion of sample framing. This is due to the criteria of attending treatment requires an individual to be over the age of 18, and there are no limitations regarding culture and ethnicity. Intake procedures and biopsychosocial interviews are

conducted by treatment facility staff upon client entering treatment. This ensures that there is the appropriate diagnosis and criteria met for substance use disorder.

Power Analysis

The pet companion studies of Wisdom et al. (2009) and Peacock et al. (2012) were used to determine the power analysis for this study's sample. The study of Faul, F., Erdfelder, E., Buchner, A., and Lang, A.G., (2009) was used for the G* Power software The first study completed by Wisdom et al. (2009), which is most similar to the present study computed, Cohens's d from the information provided in the article. Specifically, the mean and standard deviation of the study conducted by Wisdom, et al., (2009) was put into an effect size calculator for *t*-test. The M of the average number of addiction comorbidities of participants with pets was 0.38, with an sd of (0.61). The M for the number of addiction comorbidities of participants without pets was 0.21 with a sd of (0.41). When the researchers placed the data in G*Power, a *t*-test was completed and the results produced for Cohen's d was d = (0.21 – 0.38) / 0.519711 = 0.327105. The Cohen's d result of 0.3 indicated a small effect size. This translated into a sample size of 54, with alpha at .05 and power at .80. The Peacock article found a moderate effect for companion animal attachment. This study used regression, so the R-square change for the companion animal step of the analysis was used, and it resulted in an estimate of the sample size of 145 with alpha at .05 and power at .80. Therefore, the target sample for this study will be 145, but in data collection has challenges, a minimum sample of 54 might detect differences given the study design.

Archival Data

For this quantitative research, I utilized archival data retrieved from substance abuse treatment facilities located in California. This archival data are extracted from client's charts. These charts contained clinical documentation that was completed by licensed therapists at the substance abuse facility. This documentation included the client's gender, if a canine was brought with them to the facility, approved number of days in treatment by insurance, and how long the client stayed in treatment. a

To gain access to the data mentioned above, I conducted a meeting with a substance abuse facility in Southern California that allowed clients to bring their canine animals to treatment. I requested permission to review the archival data from clients who completed treatment. A clinical staff member at the chosen facility submitted the requested information to myself in an excel sheet that had all necessary information for the research. This documentation is included in the appendix of the dissertation.

Data Analysis Plan

I took data for the independent variables (i.e., gender, and canine presence and absence) along with dependent variable treatment duration and entered it into the software program SPSS, version 21. The RQ's evaluated included the following:

RQ 1: Is there a difference in substance abuse treatment duration based on gender?

RQ 2: Is there a difference in treatment duration based on presence or absence of a canine presence during treatment?

RQ 3: Is there a gender by canine presence or absence interaction where there is a differential degree of treatment duration based on the combined treatment or independent variable?

The statistical test utilized to test the hypotheses was a *t*-test. Each variable could be compared with a *t*-test. However, if there were approximately equal numbers than a 2X2 ANOVA is appropriate to test for the main effects (pet ownership and gender). This also allowed for a test of the interaction of these variables to address RQ3.

Threats to Validity

Caldwell (2008) discussed external validity that involved the characteristics, setting, or timing involving the sample. I used a quasi-experimental design because this specific design employs the comparison of two specific variables gender, and canine. There was no testing of the sample to have testing reactivity. This was a posttest-only design, so there was no pretest that could cause reactivity. There were no threats of reaction to experimental arrangements, or multiple treatment interferences. There was no testing; only archival data was utilized so there was no external validity issues to address. No threats arose that needed be addressed according to the type.

Internal validity involves treatments or participant's experiences that threaten the research (Creswell, 2008). There were no issues concerning internal validity as there were no tests being completed in the proposed research. There were no instruments used, experimental mortality was not an issue because I used archival data, so there was no way for participants to drop out. Due to the use of archival data, there was no selection maturation interaction threat. None of these issues needed to be addressed.

Construct validity refers to threats involving the researcher's ability to measure variables. This includes statistical validity. There were no issues with construct validity to report.

Ethical Procedures

An agreement was obtained to gain access to the data of the clients who have attended treatment with their canine animals. The agreement was signed by both the data provider and recipient to ensure that permission was granted for the use of the dataset from the Substance Use Facility. Upon completion of the data use agreement, the information will be placed in Appendix A. The information obtained from these archival clinical records will be participants numbered, gender and if a canine animal was brought to substance abuse treatment with them.

This study will not involve any interactions or observations of the human subjects. I obtained permission from Institutional Review Board (IRB). I then completed an application and ensured that the ethical principles were upheld for the study. There were no ethical concerns related to data collection and or intervention activities as the data obtained was archival data. There was no contact with the participants.

The data obtained was confidential. There were no concerns regarding confidentiality as the information received was numbered versus patient’s initials. Upon completion of collecting archival data, the documentation was placed in a locked box that can only be opened with a key. I am the only one with the key to this box. The box will be in my possession. The data was coded into SPSS for statistical analysis into my personal computer that is password protected. This computer is protected by numerous

types of software that prevent viruses and access to my computer. Upon completion of the study, the data will be held for five years as required by Walden University. Upon the end of the five-year period, the data will be placed in a secure shredding bin and disposed of. The SPSS electronic files will be erased from the computer also. Currently there are no concerns regarding studying in my own work environment, any conflicts of interest, power differentials and use of incentives.

Summary

In this chapter, I presented information regarding the methodology of this study and the use of a quantitative approach with a quasi-experimental design to analyze archival data. The design of this research was a posttest-only analysis. This posttest had two groups and was a comparison of two specific variables. The ANOVA 2 X 2 design looked at gender, and Canine presence or absence. The ANOVA 2 X 2 allowed for the testing of the interaction of these variables. I also looked at the absence and presence of Canine animals, along with gender, to see if it affects the time in treatment for people in substance abuse treatment. This design facilitated the testing of the hypotheses on whether or not there is a statistical significance involving gender and use of canines in Substance Abuse Treatment. The methodology was discussed, along with the sampling procedure, and the power analysis that was utilized to obtain the sample size. I then discussed obtaining the archival data and the procedures that ensured that it is ethical and explained there would be no contact with human participants. I then addressed threats to internal, external, and construct validity and how they were addressed.

Lastly, I discussed the secure storage of data and recognized that it must be protected for five years. I then explained disposal of this data when that time frame is completed. The next chapter looks at the data collection of the study and finally the results of said study.

Chapter 4: Results

The purpose of this quantitative study was to examine if the utilization of canine animals increases the time in rehab for substance abuse users. This study was conducted to answer three research questions. These questions are there a difference in substance abuse treatment duration based on gender? Is there a difference in treatment duration based on presence or absence of a canine presence during treatment? Is there a gender by canine presence or absence interaction where there is a differential degree of treatment duration based on the combined treatment or independent variables?

This chapter will discuss data collection, characteristics of the sample along with the data findings and study results.

Data Collection and Characteristics of the Sample

Data Collection

Patients who were receiving substance use disorder treatment were the sample for this study. A total of 130 patients, 65 males and 65 females, from a substance use disorder treatment center in Southern California were used for the sample. One treatment center was utilized to obtain the sample. The data is archival, and as a result, additional demographic data beyond gender was not in the archive, and therefore cannot be included in this study. Any patient in the substance abuse treatment facility qualified for inclusion in this study. Data from the consulting treatment center was documented following the IRB approval. This researcher obtained study data within 5 days of the consulting treatment center completing the data sheet and acquired the information. There were no issues in obtaining the information, and the data collection process went as proposed.

Characteristics of Sample

All participants from the substance use disorder treatment facility had a diagnosis of substance use disorder and were approved for treatment by their insurance companies. Criteria for inclusion in the study was presented to the facility, and archival data was given to this researcher of participants that met the criteria. All participant data was provided anonymously, and all participants had the appropriate diagnosis that was listed for approval of treatment from participant's insurance companies. The characteristics of the sample were as follows: 65 male participants, and 65 female participants. Of the participant sample (N = 130), 66 did not have a canine in treatment, while 64 did have a canine in treatment. An evaluation of statistical assumptions was completed. There were no violations of the statistical assumptions.

Data Screening

Prior to data analysis, data were screened to ensure that participants of the substance use disorder facility met selection criteria. The consulting SUD facility provided an excel spreadsheet of the relevant participant data. Study criteria were as follows: participants had to have a diagnosis of substance use disorder, had to be in Inpatient substance use disorder treatment and be over the age of 18. This information was utilized to complete a 2X2 ANOVA involving canine and gender.

Data Analysis Results and Findings

The research questions were examined using a 2 x 2 (ANOVA). the independent variables of canine (presence and absence) and gender (male and female), and the

dependent variable of time in treatment. I evaluated Research question one by the main effect of gender, research question two by the main effect of canine presence or absence, and research question three from the evaluation of interaction of gender and canine presence or absence.

This statistical analysis revealed there is no statistically significant effects on time in treatment based on gender and presence or absence of canine. There was no statistical significance between variables, F (1,1.29) = 1.52, p = .220, R^2_{adjusted} = -.007. The ANOVA is summarized in Table 1.

Table 1

Statistics for Gender and Canine

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	431.330	1	431.330	.392	.532	.003
Canine	137.269	1	137.269	.125	.724	.001
Gender*Canine	1672.592	1	1672.592	1.521	.220	.012
Error	138572.139	126	1099.779			
Total	320888.000	130				

R Squared = .016 (Adjusted R Squared = -.007)

Mean results were female with no canine 43.64, female with canine 34.41, male with no canine 32.82, and male with canine 37.94. The mean scores for the independent variables are shown in table 2.

Table 2

Statistics for Gender and Canine

Gender	Canines	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
F	N	43.636	5.773	32.212	55.061
	Y	34.406	5.862	22.805	46.008
M	N	32.818	5.773	21.394	44.243
	Y	37.938	5.862	26.336	49.539

There is a significant relationship between the amount allotted by insurance and the insurance variable for time in treatment. The mean and *SD* for time in treatment were 37.23 and 33.04, while the mean and SD for time allotted by insurance was 42.85 and 30.87. The statistical findings are shown in Table 3.

Table 3

Descriptive Statistics for Time Allotted by Insurance

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Time In Treatment	130	1.00	180.00	37.2154	33.04214
Time Allotted by Insurance	130	7.00	180.00	42.8538	30.87412
Valid N (listwise)	130				

Correlational analyses were used to examine time in treatment and time allotted by insurance. Results indicate a significant positive association between time in treatment and time allotted by insurance $r = .96$. This is based on $N = 130$ participants, with a two-tailed significance, $p = <.001$. These results are reflected in Table 4.

Research Question 1

Research Question 1 was addressed for the difference in duration in substance abuse treatment when comparing gender.

H_a1-There will be a statistically significant difference in the average duration of substance abuse treatment when comparing men and women.

H_01- There will not be a statistically significant difference in the average duration of substance abuse treatment when comparing men and women.

When I completed the analysis, the univariate ANOVA found no significant difference in the average duration of substance abuse treatment when comparing men and

women (F .392, df = (1), p = 0.532, $R^2_{adjusted}$ = -.007. Due to the statistical findings of research question 1 there was a failure to reject the null hypothesis.

Research Question 2

Research question 2 was addressed for the average duration of substance abuse treatment while measuring the effect of presence of and absence of canine.

H_a2- There will be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine. Canines will increase the duration of substance abuse treatment.

$H_0$2- There will not be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine.

The Between Subjects ANOVA found no significant difference (F = .125, df = (1), p = .724, $R^2_{adjusted}$ = -.007) between presence or absence of canine presence during treatment. Due to the statistical findings of research question 1 there was a failure to reject the null hypothesis.

Research Question 3

Research question 3 addressed by the main effect of canine presence or absence, along with treatment duration combined with the independent variable.

H_a3- There will be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine and for men and women.

$H_0$3-There will not be a statistically significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine and for men and women attending treatment.

A 2 X 2 ANOVA found no significant difference in the average duration of substance abuse treatment when comparing people who attend treatment with their canine compared to those who do not attend treatment with a canine and for men and women (F (1,1.29) = 1.52, p = .220, R^2_{adjusted} = -.007). Due to the statistical findings of research question 1 there was a failure to reject the null hypothesis.

Analysis of Time in Treatment Involving Men and Women

Although the length of time in treatment for men and women saw no significant difference, it is possible that due to patients having the responsibility of paying a substantial amount of money to attend treatment, that this played a role in the time the patient stayed in treatment. Insurance may only allow the insured to attend treatment so many episodes per policy in which the patient will need to stay for the allotted time. If the patient does not complete treatment, they will not be able to attend again. This could also

involve days in treatment, with a specific number allotted by insurance. Once the number of days has been used, the patient may have to pay out of pocket.

Summary

Based on the findings of these analyses, the null hypothesis could not be rejected for the three research questions explored, which examined the relationship between, gender, presence and absence of canine, and time in treatment. There was a significant finding involving men in treatment, along with allotted time in treatment.

Findings did not support the hypotheses that there was a difference in substance abuse treatment duration based on gender, a difference in treatment duration based on presence or absence of a canine presence during treatment, a gender by canine presence or absence interaction where there is a differential degree of treatment duration based on the combined treatment or independent variables. Chapter 5 will include a summary of this study and an explanation of why and how the study was conducted. Conclusions based on the results and impacts of the above conclusions will be presented also. The implications of this study will be discussed, along with recommendations for future research in this area.

Chapter 5: Discussion, Conclusion, and Recommendations

Study Overview

The purpose of this study was to examine if gender, along with the presence or absence of canine in treatment affected time in treatment. There is no research regarding a canine accompanying a patient to substance use disorder treatment. There is a significant amount of research that discusses animal assisted therapy for mental health support (Schramm et al., 2012, & Wisdom, 2009). Results of this study revealed that canine animals do not change the time in treatment for substance use disorder treatment patients. The current study also showed that males without a canine stay in treatment longer than females; however, there were no significant differences. The research results showed that patients in treatment are very likely to stay the amount of time that is allotted by insurance.

This quantitative study was justified by the lack of information regarding canines and substance use disorder attendance. Because of the lack of research and literature in this area, it was necessary to conduct a study to cover this lack of information and provide insight on implementing canines into substance use disorder treatment. This chapter includes the purpose for this study, along with the research questions, and an interpretation of the findings. In this chapter I will also describe the limitations of the study, recommendations for further research and finally the implications for social change.

Interpretation of Findings

The data analysis I conducted was to answer the three research questions addressing gender, canine presence and absence, and time in treatment. When interpreting the data analysis, the results showed no statistical significance involving the independent and dependent variables. The findings did not support the hypotheses for the research questions for the current research. However, when looking at gender and time in treatment, it was found that men stayed longer, and the time a patient stayed in treatment was very consistent with time allotted by insurance.

The statistical analysis revealed there is no statistically significance on time in treatment based on gender and presence or absence of canine. There was no statistical significance between variables either. The findings show that gender does play a role in time spent in treatment. Males stayed longer than females when the statistical analysis was completed. Even though males stayed longer than females, the canine did not play a role in the time spent in treatment. Therefore, the hypothesis was rejected.

Females stayed less time than males and I also found that the canine did not play a role in them staying in treatment. One interesting thing about this research is that patients stayed the entire, or almost the entire, allotted amount of time in treatment. There could be many reasons for this, but the effect size for this finding was extremely high, This finding is also listed in the limitations section, because the patients whose data was obtained for this research were not low socioeconomic status patients. Patients with Medicaid or medicare were not included in this study.

Although the analysis showed that canines did not play a role in time in treatment, we now know that males will stay longer than females. This research also showed that when looking at private pay or private insurance patients in substance use disorder treatment, that they will stay all, or almost all, of the time allotted by their insurance. This shows that their treatment was successful. Although the hypotheses of all questions has been rejected, there is not information available that was not known prior to the research being conducted.

Literature Review and Research Findings

During this study I addressed the lack of research regarding canines and time in treatment based on Dixon and Lerner (1992) theory of contextualism. This theory has been combined with the theories of Skinner, Watson, and Pavlov involving behaviorism, but also attachment theory of Bowlby (Melson, 2002). The theory of Melson (2002) focuses on humans with animals.

Additional research has shown that animals can play a significant role in individuals feeling more comfortable and protected while having human interactions. Schramm et al. (2012) researched attachment to animals along with ATT. Although their research showed an improvement in depression symptoms with the presence of canines, and does not measure substance use disorder, canines help human beings feel better. The study by Schramm et al. (2012) demonstrates a positive relationship between canines and human emotional states. The current research implies this by showing that several patients wanted to attend treatment with the support of the own canine. Because

depression can be a contributing factor or be part of a co-morbid condition involving substance use disorder, the connection between the two is evident.

Wisdom et al. (2009) researched pet ownership and recovery from severe mental illness. Their findings were that people are very close to their pets and that their pets are "very important to them" (Wisdom et al., 2009, p. 432). This research parallels the current research because there was a significant number of patients who took their pets to substance use disorder treatment with them.

Marhe, et al. (2013) showed that relapse is a significant issue in substance use disorder treatment, and that patients do not stay in treatment for a significant amount of time. Results of the current research showed that patients stayed in treatment for the majority of the time, along with staying in treatment almost the entire time the insurance allotted for time in treatment.

When reviewing the literature, I observed that there are similarities between the need of canine companionship and mental health issues. All reviewed research reported positive interactions with canines regardless of the mental health issue. Although substance use disorder was not discussed, the need for canine companionship for good mental health is very evident. The current study also displays this connection by the time in treatment along with a patient wanting to have their canine present.

Theoretical Framework and Research Findings

The theoretical framework for this study was contextualism. This theory has been combined with the theories of Skinner, Watson, and Pavlov involving behaviorism, but also attachment theory of Bowlby (Melson, 2002). The theory of Melson (2002) focuses on humans with animals and focuses on the human animal relationship.

The theory of contextualism shows pets play a significant role in a person's life. These relationships can be life changing, but also lifesaving. This theory shows that psychologically, a canine can produce positive life changes and life outcomes for those with mental health issues of all types. The theories of Bowlby (Melson, 2002), Skinner, Watson and Pavlov, provide evidence of positive roles of animals in a human's life. This theoretical lens in which canines and human beings share a bond and relationship, allow others to evaluate if canines can provide a non-medication approach to healing from mental illness. The relationship between canine and human being is non-judgmental, supportive, and does not require much communication between the canine and the human being. Often the canine is able to pick up on feelings that are coming from the human being or handler, that encourages interaction between the two. Not only can this occur in individuals who are diagnosed with a disability and have a registered service canine, but also with individuals who have no diagnosis. Because of the support from the canine, the human being is able to relax and feel supported in an environment where they may normally not feel socially accepted. This positive interaction should further prompt individuals working with this delicate population to see if this is a directional approach that can enhance the lives of others.

Limitations of the Study

One limitation of this study was that the sample was drawn from one substance use disorder treatment center in California, and did not adequately represent all the substance use disorder treatment centers in the United States. The patients for this study were from a substance use treatment facility in Southern California in which private insurance or private pay is the method of payment for treatment. Because of this, there is a possible limitation that the reason the patients stayed in treatment was because their options for treatment at a later date are limited, or they had to pay a co-payment or significant financial cost out of pocket that encouraged them to stay the time allotted in insurance.

Another limitation is that this research did not measure individuals who are low income or have no co-pay to attend treatment. When there is no financial responsibility for the patient, this could provide a true measure of their desire to be in treatment, with money not being a motivator to stay. For example, patients who have Medicare insurance or Medicaid, would have their stay covered after authorization was approved. There would be no financial cost to these patients if they were to leave treatment early. This would show their dedication to completing treatment, and the canine animal truly assisted with this process.

The non-inclusion of the following variables presents a limitation to this study, but provides the opportunity for a more in-depth research possibility for a later time. These variables are age, race, number of times in treatment, drug of choice, number of substances used, along with whether the patient has a mental health diagnosis. Obtaining

information regarding a mental health diagnosis is important because research shows that substance use disorder, and mental health disorders are comorbid diseases. Patients with mental health issues often self-medicate instead of obtaining a prescription as needed for their mental illness (Boughner, & Frewen, 2016). It should also be recognized, that a limitation of this study is the possibility of human error while clinical staff obtained patient information, and transferred this information to the data sheet that was provided to me.

Implications for Social Change

Implications for social change include assessing the impact and efficacy of canines accommodating patients to substance use disorder treatment. Much of the existing research on canines and mental health disorder has focused on improvement of symptoms, but also positive life change. In this study I focused on canines, gender, and substance use disorder treatment. The reason for this research was to measure if canine's accompanying patients attending substance use disorder treatment changed the time in treatment. There is research on canines and mental health disorders, and also the positive life changes outcomes.

Research completed by Barlow el al. (2012) discussed the therapeutic effects of companion animals on mental health. In their research Barlow et al. (2012) found that canines do facilitate a decrease in symptoms such as loneliness. Not only do negative symptoms decrease, but there was also an increase in positive mood. This research displayed that companion animals are an emotional benefit with mental health patients due to the companionship and nonjudgmental relationship between the two. Schramm et

al. (2015) found that animal-assisted therapy, when combined with other forms of therapy, improved patient's mental health, their quality of life, and also helped to decrease the patient's sense of isolation and loneliness (p. 192).

Although the aforementioned research provides a positive foundation for canines and mental health patients, there is no research that addresses taking your personal canine to substance use disorder treatment. This could play a significant role in healing, and having the ability for the patient to feel supported, and not alone while processing and dealing with such significant issues. It is important that the treatment centers monitor when a patient brings their canine, how long they stay, along with obtaining other pertinent information. Previous research shows that the reason individuals leave treatment is due to not having support. Research reviewed for this research study, showed that canines provide support and positive outcomes. Therefore, the intent of this study focused on canines, gender, and time in treatment in substance use disorder patients.

Lastly, this research adds to the literature of research conducted based on the impact of canines attending substance use disorder treatment. This research can provide social change by providing new information for professionals working in this area (substance use disorder treatment), along with preventing relapse, and those leaving treatment due to lack of support. Addiction is a very prevalent societal problem and leads to criminal behaviors and death. When looking at the comorbidity of mental health and substance abuse issues (Boughner, & Frewen, 2016), it is important to recognize that canines help those with mental health diagnoses. Since mental health patients tend to self-

medicate, it makes sense to review how it can support a person with these two disorders. Due to the significant amount of people suffering from these disorders, the research provides another option of treatment, or an addition to current treatment modalities.

Recommendations for Future Research

Although the current study has increased the understanding of substance use disorder, along with canine animals and mental health disorder, it is recommended that there is additional research completed in this area. In the current study I utilized quantitative measures, and it would be recommended that additional quantitative studies be completed to measure outcomes on all socioeconomic status patients in substance use disorder treatment.

Results indicated that several patients brought their canine to treatment and stayed a significant amount of time in treatment. Future research should focus on patients that are not required to pay for their own treatment or a significant financial cost to attend treatment. This is because this would display that money is not a motivating factor for them to stay in treatment, and not relapse.

As research has previously shown, canines are very helpful and provide positive outcomes for all sorts of severe mental illness. The use of canines in treatment is effective, safe, and supportive. Additional research is needed in the areas of (a) social economic status, and (b) mental health diagnosis, along with substance use diagnosis (c) drugs of choice, (d) times patient has been to treatment. This additional research will show how beneficial canines can be across all populations attending substance use

disorder treatment. It will also show whether drug of choice, and/or the amount of times a patient has attended treatment is affected by the presence of a canine.

Future research will be able to provide answers to these questions, along with provide additional data on other factors that might influence time in treatment. Additional research may also be able to provide reasons why a person leaves treatment, and does the drug of choice play a factor?

Recommendations for Practice

Although there are a significant number of clinicians that help treat substance use disorder, or comorbidity involving substance use disorder, not all are in private practice, and some may treat these specific issues.

It is recommended that clinicians who practice in these areas look at the availability of canines for this patient population, and see if having a canine is a possibility. Although substance use disorder causes a significant amount of family trauma, criminal issues, along with medical issues, it should be noted that treatment of the disease itself is what begins the process. Also, patients with substance use disorder should be handled with an integrated care approach due to the other medical issues that occur due to years of abuse and neglect on one's body. Also, patients with IV drug use history should be tested accordingly to protect the population from communicable diseases.

Treating those with substance use disorder treatment have the ability to get the things they need for their integrated care, as long as they are in recovery and can focus on

recovery itself. Canines prove to play a significant role in the lives of those with SMI, so utilizing them to assist those in recovery suffering from trauma and other issues will be beneficial. If a patient isn't able to have to have a canine animal as a pet, then an evaluation should be completed to see if they qualify to have a service animal to assist with their discomfort.

Conclusion

The current study focused on a sample of 130 patients receiving treatment for substance use disorders. The research was designed to utilize preexisting data from a substance use facility in Southern California. The results of the study did not show statistical significance with canines attending treatment with patients. However, the findings of this study do suggest that canines are important to individuals when being treated for such a significant health and mental health issue. We know this because these patients took their canine to treatment with them.

Results from this study also suggest that there is more to be explored in this profession regarding canines and individuals going to treatment for substance use disorder. Because SUD patients are not able to connect to a lot of those in their lives due to the possible criminal elements, and pain with family and friends, they do need support to maintain sobriety and stay in treatment. The study shows that canines are important to patients that are seeking this treatment, and that support is provided in some way or the patient would not desire to bring their canine with them.

Results of this study also suggest that finances can be a motivational factor in staying in treatment because the utilized facility accepts private pay and private insurance

patients only. A quantitative study looking at a lower social economic status population could greatly change these results to the initial hypothesis proposed. Further research can give a voice to this population and show the importance of canines in treatment as America fights an epidemic that takes many lives each year. I hope that the findings help others to see that canines can be useful and a supportive tool for those who struggle with connection to others. Also, canines are utilized for so many different medical issues, mental health issues, along with search and rescue. Canines have many gifts to provide to humans in this unique relationship and it is important that all avenues of their ability to provide and connect be assessed.

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Appendix A: Data Use Agreement

DATA USE AGREEMENT

This Data Use Agreement ("Agreement"), effective as of 08/01/18. ("Effective Date"), is entered into by and between Rikki L Schwab ("Data Recipient") and Cliffside Malibu ("Data Provider"). The purpose of this Agreement is to provide Data Recipient with access to a Limited Data Set ("LDS") for use in research in accord with the HIPAA and FERPA Regulations.

1. Definitions. Unless otherwise specified in this Agreement, all capitalized terms used in this Agreement not otherwise defined have the meaning established for purposes of the "HIPAA Regulations" codified at Title 45 parts 160 through 164 of the United States Code of Federal Regulations, as amended from time to time.

2. Preparation of the LDS. Data Provider shall prepare and furnish to Data Recipient a LDS in accord with any applicable HIPAA or FERPA Regulations

Data Fields in the LDS. **No direct identifiers such as names may be included in the Limited Data Set (LDS).** The researcher will also not name the organization in the doctoral project report that is published in Proquest. In preparing the LDS, Data Provider or designee shall include the **data fields specified as follows**, which are the minimum necessary to accomplish the research: Gender of patient, length of stay in treatment, canine present during treatment, length of stay approved by insurance.

3. Responsibilities of Data Recipient. Data Recipient agrees to:

   a. Use or disclose the LDS only as permitted by this Agreement or as required by law;

   b. Use appropriate safeguards to prevent use or disclosure of the LDS other than as permitted by this Agreement or required by law;

   c. Report to Data Provider any use or disclosure of the LDS of which it becomes aware that is not permitted by this Agreement or required by law;

   d. Require any of its subcontractors or agents that receive or have access to the LDS to agree to the same restrictions and conditions on the use and/or disclosure of the LDS that apply to Data Recipient under this Agreement; and

   e. Not use the information in the LDS to identify or contact the individuals who are data subjects.

4. Permitted Uses and Disclosures of the LDS. Data Recipient may use and/or disclose the LDS for its research activities only.

5. Term and Termination.

   a. Term. The term of this Agreement shall commence as of the Effective Date and shall continue for so long as Data Recipient retains the LDS, unless sooner terminated as set forth in this Agreement.

   b. Termination by Data Recipient. Data Recipient may terminate this agreement at any time by notifying the Data Provider and returning or destroying the LDS.

   c. Termination by Data Provider. Data Provider may terminate this agreement at any time by providing thirty (30) days prior written notice to Data Recipient.

   d. For Breach. Data Provider shall provide written notice to Data Recipient within ten (10) days of any determination that Data Recipient has breached a material term of this Agreement. Data Provider shall afford Data Recipient an opportunity to cure said alleged material breach upon mutually agreeable terms. Failure to agree on mutually agreeable terms for cure within thirty (30) days shall be grounds for the immediate termination of this Agreement by Data Provider.

   e. Effect of Termination. Sections 1, 4, 5, 6(e) and 7 of this Agreement shall survive any termination of this Agreement under subsections c or d.

6. Miscellaneous.

   a. Change in Law. The parties agree to negotiate in good faith to amend this Agreement to comport with changes in federal law that materially alter either or both parties' obligations under this Agreement. Provided however, that if the parties are unable to agree to mutually acceptable amendment(s) by the compliance date of the change in applicable law or regulations, either Party may terminate this Agreement as provided in section 6.

   b. Construction of Terms. The terms of this Agreement shall be construed to give effect to applicable federal interpretative guidance regarding the HIPAA Regulations.

   c. No Third Party Beneficiaries. Nothing in this Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

   d. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

e. Headings. The headings and other captions in this Agreement are for convenience and reference only and shall not be used in interpreting, construing or enforcing any of the provisions of this Agreement.

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

DATA PROVIDER

Signed: _____

Print Name: Tracy Hill

Print Title: CADC II

DATA RECIPIENT

Signed: _____

Print Name: Rikki Schwab

Print Title: Walden Student Researcher