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## Medical Cannabis and Counselor Education: Examining the Relationship Between Counselor Education Curriculum and the incorporation of Medical Cannabis

Anne Catherine Adrian  
anneadrian34@gmail.com

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## ABSTRACT

### MEDICAL CANNABIS AND COUNSELOR EDUCATION: EXAMINING THE RELATIONSHIP BETWEEN COUNSELOR EDUCATION CURRICULUM AND THE INCORPORATION OF MEDICAL CANNABIS

Anne Adrian, PhD  
Department of Counseling and Higher Education  
Northern Illinois University, 2021  
Adam W. Carter, Director

The focus of this study was to examine the status of medical cannabis instruction in counselor education curriculum programs. There is evidence to indicate that medical cannabis use may be beneficial in mental health care. However, there is limited research on medical cannabis in counselor education. The following research questions provided a framework of investigation for this study: What is the status of the inclusion of medical cannabis content in counselor education curriculum programs and what are the plans to incorporate this content in the future?

In this study, a nonexperimental design was used to describe or examine associations between variables. In this study, an online survey was generated by Qualtrics. Descriptive statistics were designated as the analysis methods to examine the data. Results indicated that counselor education programs have begun to incorporate medical cannabis into the curriculum. More research is needed to determine the specifics of how counselor education programs should provide medical cannabis instruction to students.

*Keywords:* medical cannabis, counseling curriculum, counselor education

NORTHERN ILLINOIS UNIVERSITY  
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MEDICAL CANNABIS AND COUNSELOR EDUCATION: EXAMINING THE  
RELATIONSHIP BETWEEN COUNSELOR EDUCATION CURRICULUM  
AND THE INCORPORATION OF MEDICAL CANNABIS

BY

ANNE CATHERINE ADRIAN  
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A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL  
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Doctoral Director:  
Adam W. Carter

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## DEDICATION

I would like to dedicate my dissertation to all counselor educators, license clinicians, and counselors-in-training. May you always remember to advocate for this profession and be progressive for all new practices in our counseling community.

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## Chapter 1

### **INTRODUCTION**

Cannabis has been demonstrated throughout history to have medicinal benefits, as early as 4000 B.C., particularly for rheumatic pain, gout, malaria, and muscle spasms (Mikuriya, 1969; Touw, 1981). As cannabis began to grow in popularity throughout the United States, Nixon declared a war on drugs, placing cannabis in the highest schedule of drugs “with no currently accepted medical use and a high potential for abuse” (United States Drug Enforcement Administration, 2018). Yet, in recent years, individual states have begun to legalize cannabis either in recreational, medical, or both capacities.

The National Conference of State Legislatures released a report reviewing the legislation among states concerning marijuana using current data as of July 2019. Eleven states have legalized recreational use: Alaska, Washington, Oregon, California, Nevada, Colorado, Illinois, Michigan, Maine, Vermont, and Massachusetts and the District of Columbia. Twenty-six states, including the District of Columbia, have decriminalized small amounts of cannabis. Also, at least fifteen states have passed laws to address the expungement of marijuana convictions (National Conference of State Legislatures, 2019).

Philpot et al. (2019) found that primary care providers suggest a need for closing the gaps in knowledge, exploring opportunities for communicating information between dispensaries and medical practices, and increasing knowledge of the impact medical cannabis has on the patient's quality of life. Clinicians reported low knowledge regarding medical cannabis and the need for

more information and support for medical cannabis educational and training opportunities as a part of the healthcare provider curriculum.

### **Statement of the Problem**

Although research has indicated that medical-grade cannabis has the potential to reduce mental health symptoms including anxiety, depression, and Posttraumatic Stress Disorder (Bohnert et al., 2018; Krosiba et al., 2019; Piper et al., 2017; Walsh et al., 2017; and Yau et al., 2019), there is a dearth of research to identify the impact on counseling education curriculum. Specifically reviewing the literature on the effect of medical cannabis on education and training, there is a plethora of evidence from other healthcare disciplines demonstrating the need for ongoing education, training, and instruction (Carlini et al., 2017; Philpot et al., 2019; and Ziemianski et al., 2015). Programs and collegiate-level degrees have developed in recent times to begin the process of cannabis instruction, including the University of Washington's Medicinal Cannabis and Chronic Pain: Science-Based Education in Time of Legalization (Carlini et al., 2017), Northern Michigan University's undergraduate degree in medicinal plant chemistry (Northern Michigan University, 2019), and a nonaccredited certificate training from the Holistic Cannabis Academy, approved by multiple credentialing agencies for continuing education (Healthy Hemp Oil, 2020). Yet, there is a deficiency of research examining medical cannabis and its implications in mental health, particularly in the area of instruction in counselor education. Intent to update curriculum tends to be excluded from evidence-based studies.

### **Statement of Purpose**

This study examined the current status and future plans of medical cannabis instruction in counselor education programs in the United States. The population for this study was faculty and

adjunct counseling instructors. I reviewed programmatic and demographic factors and how they related to the incorporation of medical cannabis content into counselor education curriculum. The purpose of this study was to identify any plans or intent to expand counselor education curriculum to include content on the use of cannabis and any programmatic or geographical trends.

### **Research Questions**

The primary research questions of this study were constructed as follows: What is the status of the inclusion of medical cannabis content in counselor education curriculum programs and what are the plans to incorporate this content in the future?

### **Theoretical Framework**

Because of various uses of medical cannabis to treat people dealing with mental health diagnoses, there may be an impact on how counselor educators are addressing this paradigm shift in their instructional behaviors. For that, it is imperative to look at pedagogy. According to Zogla (2018), pedagogy, within the field of education, was first discussed in the 1950s. Pedagogy is comprised of the actions and activities that foster learning and develop instruction through the use of the subject matter as the tool. Teaching and learning represents a cooperative and communicative approach, emphasizing the possibility of increasing knowledge as an educational goal. Specific to pedagogy in counselor education, Nelson and Neufeldt (1998) suggested an important skill is to promote student development through the refinement of their skills to assist identification of client concerns. Examples of activities that promote development include case conceptualization, which fosters development of students' cognitive skills.

### **Significance of the Study**

The significance of the study is to expand the scope of medical cannabis curriculum research by examining demographical and programmatic factors and how these factors are associated with medical cannabis curriculum (e.g., school's location, size of program, if medical cannabis is currently covered in curricula, type of course medical cannabis is discussed in; a complete list of both demographic and programmatic factors is listed in Chapter 3, Methodology, See Appendix D for specific survey questions.). Previous studies have focused on necessary training in other medical disciplines, but there is a dearth of research regarding counselor education curricula specifically. Through this study, I intended to contribute to both medical cannabis literature and mental health instruction by exploring it from a new angle. More precisely, the outcomes of this study may assist counseling programs to understand the impact of medical cannabis on current and future curriculum. Additionally, some findings may be useful to educate counselor educators and mental health providers in developing specific education and training instruction.

### **Definition of Terms**

Posttraumatic Stress Disorder (PTSD): According to the American Psychiatric Association's (2013) *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5), Posttraumatic Stress Disorder is classified as a trauma and stress-related disorder. Criteria for diagnosis include actual or threat of exposure to death, serious injury, or sexual violence with intrusive symptoms; avoidance of traumatic-associated stimuli; negative mood, cognition, arousal, and reactivity alterations; disturbance duration more than one year; significant clinical

distress of life-area functioning; no attribution to substance physiological effects or other medical condition (American Psychiatric Association, 2013).

**Medical cannabis:** In this study medical cannabis is defined as medicinal use of phytocannabinoids from either an *C. Indica*, *C. Sativa*, or hybrid cannabis plant. These phytocannabinoids are introduced into the body by various absorption and dosing means. Specifics of the absorption and dosages are defined in the methodology chapter.

**Cannabis Use Disorder (CUD):** According to the American Psychiatric Association's (2013) *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5), cannabis-related disorders are classified as substance-related addictive disorders. There are four cannabis diagnoses: Cannabis Use Disorder, Cannabis Intoxication, Cannabis Withdrawal, and Unspecified Cannabis-Related Disorder. In other chapters, cannabis-induced disorders share phenomenology: Cannabis-Induced Psychotic Disorder; Cannabis-Induced Anxiety Disorder, and Cannabis-Induced Sleep Disorder. In specifically reviewing Cannabis Use Disorder, the DSM-5 lists criteria for diagnosis as a twelve-month period of patterned cannabis use leading to clinical impairment manifested by at least two of the eleven indicators (American Psychiatric Association, 2013).

### **Organization of the Dissertation**

This dissertation was organized into five chapters. Chapter 1 identified the problem statement, purpose statement, research questions, conceptual framework, significance of the study, and definition of terms. Chapter 2 provides a review of literature in areas of history of cannabis, the endocannabinoid system, a meta-analysis of cannabis uses on mental health, medical cannabis and Posttraumatic Stress Disorder, cannabis and substance use disorders,



multicultural access to cannabis, counselor higher education and supervision training, and statistical data. Chapter 3 outlines the research methodology, including research design, population and sample, instruments, procedures, and limitations of the study. Chapter 4 discusses the findings based on data collection about counseling programmatic and geographical factors and their impacts on cannabis curriculum. Chapter 5 presents a summary of the entire study, drawing conclusions from the data collected as well as including implications for the field of medical cannabis and mental health and recommendations for further research.

## Chapter 2

### **REVIEW OF LITERATURE**

With the emerging research available, there appears to be a dearth of research as it relates to identifying the impact of medical cannabis on counselor education. Specifically, there may be a link between programmatic and demographic factors to counselor education. Before determining what these influences are on counseling curriculum, it is crucial to understand the current research surrounding medical cannabis. Understanding the historical components of cannabis, the migration into the United States, and the physiological element in the human body creates a general framework. Then, moving more specifically on the impact of medical cannabis and mental health leads into further knowledge behind why further research is necessary for counselor education and curriculum development.

Scientific studies and medical doctors now confirm the medicinal value of cannabis. Research shows that medical cannabis can help treat many conditions, including pain and nausea (Mantel et al., 2017). Cannabis use for Hodgkin lymphoma patients treated at Tel-Aviv Medical Center indicated improvement in pain, general well-being, appetite, and nausea (Sarid et al., 2018). An Israeli study concluded that of 383 participants, 94% reported pain relief through the treatment of medical cannabis (Habib & Avisar, 2018). Another study of 62 medical providers found that the majority (>50%) believed medical cannabis is helpful to treat cancer, pain, and terminal illnesses (Philpot et al., 2019). A California study indicated that medical practitioners view cannabis as a helpful treatment for chronic pain but expressed concern with mental health

exacerbation (Cooke, 2019). Therefore, this chapter will discuss the foundational components of medical cannabis from the lens of mental health, building up towards the need for this study to be conducted.

### **History**

Cannabis has been in use since 4000 BCE. In fact, the earliest evidence of cannabis cultivation comes from China, a village called Pan-p'o. The Chinese considered cannabis to be one of the five grains farmed as a major food crop and cannabis aided in the production of textiles, oil, paper, and rope. The first record of its medicinal use was in Pen-ts'ao ching. It was recognized that cannabis was useful for over 100 ailments such as rheumatic pain, gout, and malaria. Cannabis was also found in India where it was used for religious purposes and medicinal benefits: anti-inflammatory, antibiotic, and anticonvulsant (Touw, 1981).

In 1839, an Irish physician, William O'Shaughnessy, published *On the Preparations of Indian Hemp or Gunjah*. O'Shaughnessy studied the effects of various forms of cannabis on animals to evaluate the toxicity. Confident that the drug was safe, he then provided extracts to humans. With positive results and great success in calming muscle spasms caused by rabies, other physicians began to pick up the medicine, spreading widely through Europe and North America (Mikuriya, 1969). In 1860, the Committee on Cannabis Indica of the Ohio State Medical Society reported successful medicinal use to treat many ailments such as gonorrhea, asthma, and intense stomach pain. In the early nineteenth century, cannabis could be readily found in over-the-counter pharmaceuticals like Piso's Cure, a "one day cough cure."

Legal restrictions limited the amount of medical cannabis available, causing a decline in use. In 1937, the Marihuana Tax Act was passed, requiring users to register and pay tax of a

dollar an ounce for medicinal purposes and 100 dollars per ounce for any other uses. Cannabis was removed in 1941 from drugstores after the Supreme Court gave states the right to control commercial transactions. Then, recreational use in cannabis rose significantly in the 1970s; 5% of people reported having used cannabis in 1967 compared to 44% in 1971 (Zuardi, 2006). The recreational use increase in the short timespan brought cannabis into the spotlight. At a White House Rose Garden event in March 1971, Richard Nixon declared a “War on Drugs.” He declared drug use as a “national emergency.”

The passing of the Controlled Substance Act of 1970 placed marijuana in the most restrictive category of drugs (Schedule I) with no permissible use in medical practice (Siff, 2014). Drugs, substances, and certain chemicals used to make drugs are classified into five categories’ called schedules. The abuse rate is a determining factor in the scheduling of a drug. Schedule I drugs are defined by the DEA (Drug Enforcement Administration) as “drugs with no currently accepted medical use and a high potential for abuse.” Some examples of Schedule I drugs are heroin, lysergic acid diethylamide (LSD), marijuana (cannabis), 3,4-methylenedioxymethamphetamine (ecstasy), methaqualone, and peyote (U.S. DEA, 2018).

### **Endocannabinoid System**

Now that the history of medical and recreational cannabis has been discussed, my focus shifts to the endocannabinoid system and its relationship to mental health practice. The endocannabinoid system naturally occurs in the body. This system has been shown to be involved in a wide variety of physiological processes, including regulation of motor activity, cognitive processes, neuroprotection, immune function, inflammatory responses, and maintenance of homeostasis (Lee, 2010). Numerous researchers have shown endocannabinoid

concentration rises when one is injured, which suggests that endocannabinoid system contributes to neuroprotection (Hampson et al., 1998; Jin et al., 2000; Parker et al., 2002; Schmid et al., 1995; Shen & Thayer, 1998). The endocannabinoid system is composed of endogenous lipid ligands that mimic pharmacologic action of THC, their receptors, and related metabolic systems which are involved in different physiologic abilities regarding stress recovery and homeostasis maintenance (Xie et al., 2007). Homeostatic balance is responsible for neuroprotection, modulation of nociception, regulation of motor activity, control of certain memory phases, modulating immune and inflammatory responses, effects on the cardiovascular and respiratory systems, and antiproliferation of tumor cells (Xie et al., 2007). Endocannabinoids are lipophilic in nature, which means that they can cross the cell's membrane and can be stored in vesicles. Endocannabinoids can be released on demand in response to a variety of physiological stimuli and are transmitters at the synaptic level. In short, the endocannabinoid system aims to bring our bodies back to homeostasis.

An important discovery in the early 1990s was the cloning of the first cannabinoid receptor in 1990 and first endocannabinoid discovered in 1992. The endocannabinoid system is an endogenous (internal body) signaling system. The system is comprised of CB1 and CB2 receptors, ligands (the endocannabinoids) proteins for endocannabinoid synthesis and inactivation, and molecular targets. Endocannabinoids are lipophilic in nature and therefore can diffuse through the plasma membrane of cells, allowing for cellular reuptake.

Receptor sites throughout the body allow for naturally occurring endocannabinoids to attach. In 1988, the receptor site CB1 was discovered. This discovery was then followed by another discovery of the CB2 receptor site. CB1 receptors are localized mainly in the central

nervous system. Studies have shown CB1 is expressed in multiple brain areas (Viveros, 2007). The level of expression varies among different brain regions. It has been widely known that CB1 regulates GABA release. GABA is a neurotransmitter that helps send messages between the brain and the nervous system. The highest levels of CB1 receptors are found on the terminals of GABA. CB2 receptors are localized on immunological tissues and therefore are expressed in immunological functioning. They have also been found within the central nervous system, expressing mainly related to inflammation.

In relation to mental health, the brain's distribution of cannabinoid receptor CB1 is involved in regulating emotional activity. CB1 receptors are expressed in brain structures such as the amygdala, hippocampus, and neocortex. In the hippocampus, cannabinoids are involved in the regulation process of the stress response system (Viveros, 2007). Within the amygdala, synaptic plasticity plays a crucial role in the acquisition, storage, and extinction of memories. Endocannabinoids facilitate the extinction of adverse memories through selective inhibitory effects.

### **Phytocannabinoids**

A better understanding of the endocannabinoid system and phytocannabinoids is needed by individuals in the counseling and counselor education professions. Through the understanding of these cannabinoids, educators can have a better idea of how the body brings itself back into homeostasis, aids for cognitive processing, and how CB1 receptor sites are expressed in key mental health brain areas. In addition, understanding phytocannabinoids including indica/hybrid strains and THC/CBD medicinal benefits may also help counselor and counselor educators.

Phytocannabinoids are defined as “any cannabinoid that is naturally occurring within the cannabis family of plants” (Healthy Hemp Oil, 2020). These types of cannabinoids are broken into three strains: indica, sativa, and hybrid. Indica strains tend to provide sedative and relaxing effects while sativa strains typically provide uplifting and invigorating effects. Hybrids tend to fall in between indica and sativa due to inherited traits from their parent strains. Cannabis strains are the sum of smaller parts. Both indica and sativa strains have unique, individual attributes, including morphology (appearances), flowering type (maturation cycles), yields (production amounts), and flavor profiles. Terpenes are the aromatic oils secreted from a cannabis plant and these produce their own unique effects on an individual. Structural formation of a cannabis plant is influenced by genetics and environment. The genotype acts as the blueprint of growth while the environment affects its phenotype (color, shape, smell, etc.). Cannabis plants can be male, female, or both (hermaphrodite). The phytocannabinoid consumed comes from a seedless female plant (sinsemilla; The Leafly Team, 2017).

Phytocannabinoids are associated with numerous benefits because of the effect they have on the endocannabinoid system. One type of cannabinoid is known as cannabidiol (CBD). CBD is nonpsychoactive, whereas THC, tetrahydrocannabinol, is a psychoactive cannabinoid (Parker et al., 2002). Cannabinoid drugs have been shown to have antiemetic and antinausea effects for numerous species including humans, cats, dogs, ferrets, and pigeons (Parker et al., 2002). Lab research has demonstrated that CBD may prevent or inhibit the psychotogenic and memory-compromising effects of THC (Swift et al., 2013). THC-A is nonpsychoactive and shows medicinal and neuroprotective properties (Swift et al., 2013). Another phytocannabinoid, CBG, is the second most abundant phytocannabinoid and acts as a partial agonist on CB1 and CB2

receptors, a highly potent adrenoceptor agonist and moderately potent serotonin-1A antagonist, which suggests potential antidepressant properties for CBG (Swift et al., 2013). Another phytocannabinoid, CBC, is a trace nonpsychotropic phytocannabinoid that has been shown to modulate THC effects by inhibiting endocannabinoid cellular reuptake while also showing activation of TRPA1 receptors with analgesic and anti-inflammatory effects (Swift et al., 2013). These phytocannabinoids can assist the endocannabinoid system when absorbed into the body using specific dosages and strains.

### **Strains, Absorption, and Dosage**

There are hundreds of strains available to patients depending on their symptoms and complaints. However, some strains may be more beneficial for mental health concerns in comparison to other debilitating conditions. Specifically, Bubba Kush is an indica-based strain with subtle notes of chocolate and coffee. It is known to aid in stress and subsiding depression moods. Blue Cheese, another indica strain, mixes the Blueberry male plant with the the U.K. Cheese female plant. This strain is known to provide a reduction in stress. Berry White is another indica strain offering relief from anxiety and reduction in stress (The Leafly Team, 2019). It is recommended to start with lower doses regardless of what strain patients are trying. Not every strain works for each person and therefore it is highly recommended to speak to a specialist who works at the dispensary for details on each strain.

Just like pharmaceutical medication, it is important that mental health practitioners know what cannabis strains, absorption methods, and dosage that their clients are taking. There are a variety of cannabis absorption methods to administer for symptom relief. Tinctures are primarily oil-based liquids that are administered under the tongue. The onset is two hours and lasts



approximately eight to ten hours. This product is typically used as a sleep aid as it is longer lasting than other methods of absorption. When most people think of cannabis, they tend to think of the dried flower (bud) form of cannabis. There are a variety of ways to absorb the flower, including inhalants, tinctures, lotions, and edibles (The Leafly Team, 2019). Unlike tinctures, absorption of the flower takes only a few minutes to start working and last in the system for four to six hours. Edibles are also a common method of absorption for patients. These products begin working a half hour to one hour after consumption and their effects last around six hours. Finally, there are topicals such as lotions, which take approximately one hour to begin working and last four to six hours. It is important to speak with the dispensaries' specialists to determine the best individual treatment recommended. All these treatments are available for a variety of conditions, including mental health concerns.

### **Using Medical Cannabis for Mental Health Concerns**

Research is showing evidence of medical cannabis implications specifically in mental health conditions and symptoms. Piper et al. (2017) evaluated the effects of substituting medical cannabis for opioids and other psychoactive medications. They asked members of a New England, USA, dispensary (n = 1,513) to complete an online survey regarding their medical cannabis experience. This survey was developed after discussions with patients, dispensary staff, and literature reviews. Piper et al., (2017) found that about one-quarter (25.5%) of patients reported posttraumatic stress disorder as their qualifying condition. Results indicated that use of cannabis resulted in a reduction in antidepressant use (37.6%), alcohol intake (42.0%), anti anxiety medications (71.8%), and sleep medications (65.2%; Piper et al., 2017).

Another study found how medical cannabis can assist with mental health concerns. Penn (2019) reviewed the existing evidence of the treatment of schizophrenia, anxiety, autism, PTSD, and insomnia using CBD. Penn discussed the idea of “entourage effect,” chemicals within the cannabis plant that work concurrently with one another. For example, CBD works with THC, limiting the psychotropic effect of THC while, in small amounts, THC optimizes the effect of CBD. Penn found articles of human trials examining the use of high-dose CBD in the treatment of schizophrenia, social anxiety, behavioral issues in child autism, eating disorders, and depression. The author noted the entourage effect of specifically CBD to THC enhanced the therapeutic outcomes, particularly low doses of THC (Penn, 2019).

In addition to PTSD, schizophrenia, autism, and insomnia concerns, Krosiba et al. (2019) conducted a systematic review of empirical studies on patient-reported cannabis use for pain, depression, and anxiety. Overall meta-analysis determined pain (64%), anxiety (50%), and depression (34%) were common reasons for medical cannabis use. Thirteen eligible studies were used with a total of 6,759 participants. The overall anxiety prevalence for medical cannabis use across these studies was 51.7% and 34.7% for depression. A specific study of 367 patients from Arizona found that 83% of anxiety sufferers and 82% of depression sufferers reported “a lot or almost complete relief” using medical cannabis (Krosiba et al., 2019, p. 187). It should be noted that self-reporting data indicated anxiety symptoms may increase following the discontinuation of medical cannabis, and a further study is needed. The authors recommend additional research in the long-term implications of medical cannabis use for anxiety and depression (Krosiba et al. 2019).

Additional research identifies specific mental health characteristics for those who use medical cannabis. Yau et al. (2019) recruited 100 adult medical cannabis users from a cannabis dispensary in Vancouver, Canada, to determine characteristics of mental health in cannabis users. The results found mental illness rates may be high in medical cannabis dispensaries. Fifty percent of the participants experienced a past major depressive episode with 3% of participants currently in a major depressive episode. Thirty-three percent of participants were diagnosed with Major Depressive Disorder in the past with 3% currently having Major Depressive Disorder. Participants using medical cannabis to treat conditions represented with 77% anxiety/stress, 47% depression, and 53% insomnia. The anxiety group were more likely to use tinctures or capsules and CBD on an “as-needed” basis. The depression group were more likely to use CBD capsules (Yau et al., 2019).

In addition to research identifying specific mental health concerns and characteristics of users, literature also provides information on motives for using cannabis. Bohnert et al. (2018) evaluated cannabis motives on physical health functioning and mental health functioning among 116 adult medical cannabis patients in Michigan between February 2014 and June 2015 using the 36-item Comprehensive Marijuana Motives Questionnaire (CMMQ). Participants rated the frequency of cannabis use for each of 36 items using a scale from 1 (almost/never) to 5 (almost always/always). Results found distinct motives associated with cannabis use and physical and mental health. Enjoyment and sleep were significantly associated with frequency of cannabis use. Also, greater frequency of cannabis use was associated with sleep-related motives. Therefore, the authors concluded that the results suggest cannabis consumption for coping and sleep may be important influential factors for health and wellness (Bohnert et al., 2018).

Finally, the research examining how mental health overall is incorporated into mental health use provides evidence of different influences for wanting to use cannabis. Walsh et al. (2017) reviewed the potential influences of cannabis use for mental health purposes. Thirty-one articles identified the prominence of mental health conditions was among the reasons for cannabis use. Evidence suggests that cannabis for therapeutic treatment (CTP) may be potentially beneficial for the treatment of PTSD. However, the results also suggested that CTP use may be problematic for psychotic disorders. The CTP use with mood disorders, according to the authors, remains unclear. Additional evidence from this review suggested that cannabis use does not increase risk of harm to self or others.

Relaxation and anxiety relief were the most widely reported motives for cannabis use for therapeutic purposes. For Social Anxiety Disorder (SAD), individuals are more likely to use cannabis to relieve anxiety symptoms than other anxiety-disorder individuals. The authors also found that CBD administration was associated with decreased anxiety symptoms for SAD participants. Seven articles in this study specifically found mood improvement for depressed mood and cannabis use. There was no association between the rate of completed suicides and the number of medical cannabis registrants, which may suggest that CTP could decrease suicide attempts. Walsh and colleagues' research also did not find any studies that indicated a correlation between CTP and violence (Walsh et al., 2017). These studies provide a framework of how medical cannabis is currently used in mental health overall. There is also a component to this research of how brain development is affected by using medical cannabis.

## **Brain Development**

A common question posed by mental health clinicians is, What are the effects of medical cannabis on brain development, both in pediatric and adult populations? Passie et al. (2012) noted evidence-based research of brain functions for PTSD sufferers as well as cannabinoid receptor site effects on the brain. Patients with PTSD tend to show hyperactivity of the amygdala, a decrease in hippocampal volume of gray matter, and dorsal ACC (involved in emotional regulation) over-activation. Both THC and cannabidiol (CBD) bind to CB<sub>1</sub> and CB<sub>2</sub> receptor sites throughout the body and brain. CB<sub>1</sub> receptors mediate the influence of anxiety while CB<sub>2</sub> and G-protein receptors may possibly decrease anxiety. CBD has anxiolytic, antipsychotic, and anticonvulsant effects and antagonizes THC. Neuroimaging showed CBD changed brain activity in emotional response regions. Studies show low doses of THC decreases anxiety-related responses in animal models (Passie et al., 2012).

In addition to brain receptor sites and brain function of PTSD, Stanslowsky et al. (2017) researched the neurobiological changes, influencing brain functioning and behavior, by a well-known cannabinoid  $\Delta^9$ -tetrahydrocannabinol (THC) on human-induced pluripotent stem cells. Results found higher doses of THC significantly decreased neuronal functionality, specifically found through reduction in ion currents and synaptic activity. Low concentrations of THC had no shown effect on dopaminergic or neuronal maturation. Results also indicated no significant effect on DNA methylation in promoter regions, which are important for neuronal function. The authors concluded that there are concentration dependencies on neuronal functioning (Stanslowsky et al., 2017). This research provides a glimpse into how medical cannabis affects

brain development overall. There is also emerging research to explain how the brain development of child and adolescent populations is affected by medical cannabis use.

### ***Child and Adolescent Populations***

In addition to adult brain development using cannabis, there are various studies specifically in pediatric populations. Campolongo et al. (2011) examined behavioral consequences through exposure to cannabinoids during pregnancy and/or lactation. Preclinical studies suggested behavioral abnormalities in exposed offspring. These behavioral developments resulted in atypical locomotor activity and cognitive impairments. Preclinical findings also reported hyperactivity and altered emotional behavior in humans during pregnancy and/or lactation. This study had difficulty with a conclusion regarding long-term effects. They suggest different protocols (i.e., exposure time, administration routes, etc.) could account for alternative findings (Campolongo et al., 2011).

In addition to brain development in pregnancy, research has also begun to identify the role of medical cannabis in adolescent populations, specifically with Cannabis Use Disorder (CUD). Hooper et al. (2014) studied the neurocognitive performance in adolescents with Cannabis Use Disorder (CUD) in full remission (n=33), psychiatric disorders without a substance use disorder history (n=37), and adolescents (n=43). Within the psychiatric disorders group, regardless of CUD, adolescents performed significantly lower than healthy teens in academic achievement. No group showed differences in IQ, attention, or executive functioning. Younger ages of CUD onset were associated with lower academic achievement and overall neurocognitive functioning. Results suggest neurocognitive deficiencies could relate to outside

factors (i.e., residual drug effects, pre-existing cognitive functioning, concurrent substance use, or psychopathology (Hooper et al., 2014).

Another study examined an additional component of adolescent brain development with cannabis use: mood symptoms. Lichenstein et al. (2017) studied the effects of cannabis use frequencies with altered neural functioning and with mental health mood symptoms. Twenty-year-old men (n = 158) provided functional magnetic resonance imaging (fMRI) and substance use data from the ages of 14-19 for this study. The researchers identified three trajectory groups of adolescent cannabis use: stable high, escalating, or stable low use. Results indicated the escalating group showed a negative functional connectivity between the NAcc and prefrontal cortex (PFC), linked to higher levels of depression and lower levels of education attainment by age 22. This study concluded cannabis frequency use in adolescents could have consequences with mood symptoms via altered neural functioning (Lichenstein et al., 2017).

There is also research available specifically reviewing chronic cannabis use on pre-puberty populations. Ehrenreich et al. (1999) tested the idea that chronic cannabis use during pre-puberty causes brain alterations in humans. Visual scanning (i.e., the ability to visually scan and identify critical stimuli, to search visually in a systematic manner left to right or up and down) along with other attentional functions was used. Healthy cannabis users were selected (n=99), free of past and present drug use with no history of neuropsychiatric diseases. The results indicated an early age (before age 16, n = 48) predicted impaired reaction times in visual scanning. However, late-onset (after age 16, n = 51) did not differ from controls. The data suggested cannabis use during early adolescence may lead to enduring effects on adulthood attentional functioning. The results provided support that early use of cannabis (before 16 years)

is associated with visual scanning impairment in adult life (Ehrenreich et al., 1999). The verdict is still out there, and more research may need to be conducted to determine if cannabis does, in fact, cause brain damage or hinder brain development. However, there is more research pertaining to medical cannabis and a specific mental health condition, PTSD.

### **Medical Cannabis and PTSD**

Research has also provided evidence that in addition to medical cannabis having implications with mental health symptoms and brain development, it may also aid in assisting those who struggle with PTSD. Drost et al. (2017) reviewed the types of cannabis PTSD patients perceive to be effective for relieving their symptoms. This study was conducted through a Canadian licensed provider with data collected at baseline, 4 months, and 10 months from patients diagnosed with PTSD (n = 647). An online survey was developed with consultation from healthcare professionals on knowledge of medical cannabis. Data was collected between January 2015 and December 2016. “At baseline, the four most commonly reported symptoms for all patients including those with PTSD were pain (74.3%), anxiety (74.0%), sleep problems (71.4%), and depression (60.4%)” (Drost, 2017, p. 417); 77.2% of PTSD patients reported improvement of symptoms of depression (77.6%), anxiety (78.3%), and sleep (70.4%) after medical cannabis use at 4 and 10 months. Slightly more than 4% (4.2%) of participants expressed they no longer experienced sleep problems.

Another study from the United States also reviews how medical cannabis has assisted those struggling with PTSD. The Division on Substance Abuse at Columbia University Medical Center’s Department of Psychiatry reported that PTSD patients report cannabis use helped with anxiety, stress, and insomnia. CB-1 receptors are in amygdala-hippocampal-cortico-striatal



circuits. CB-1 receptors specifically in the hippocampus region mediate fear memories. The author reports that cannabidiol (CBD) has been shown to attenuate the amygdala fearful response by binding to CB-1 receptors (Knopf, 2015).

Sleep assistance appears to be a repeating component with medical cannabis and PTSD research. Bonn-Miller et al. (2014) aimed to find if medical cannabis users with PTSD used cannabis to improve sleep compared to those without PTSD. One hundred seventy participants were included in this study. The results indicated that individuals with PTSD reported greater motivation for cannabis use to help with sleep and coping compared to those without PTSD. It should be noted that this study was not cross-sectional and future work should employ more samples of the medical cannabis population (Bonn-Miller et al., 2014). There appears to be research providing evidence that medical cannabis may assist with PTSD. Additional research is also reviewing specifically how alcohol and substance use is effective in PTSD sufferers who are using medical cannabis as a treatment.

### ***Alcohol and Substance Use***

Like anxiety, depression, and sleep concerns that occur with PTSD, Shicheng et al. (2017) examined whether alcohol and tobacco use in PTSD veterans of military and police service (average length of service = 16.2 years) changed after medical cannabis use. Data was collected between January 2014 and April 2016 of 101 patients from New Brunswick, Canada. Medical cannabis was dosed at 1 g/day, self-titrated, until patients' desired results were met, but not to exceed 10 g/day. Absorption rates differed among participants, including vaporization (82.5%), smoking (79.4%), and edibles (64.9%). At baseline, 81.2% of participants consumed alcohol (8.1 drinks/week) and 84.2% smoked tobacco (cigarettes, 2.7 packs/week). At the

follow-up, 67.3% consumed alcohol (5.5 drinks/week) and 67.3% smoked tobacco (2.5 packs/week). Results indicated that medical cannabis use was associated with reduction of tobacco and alcohol use. It should be noted that statistical significance was not reached ( $p = 0.65$  and  $p = 0.11$ ). These results suggested medical cannabis use may be effective in reducing tobacco and alcohol consumption in veterans with PTSD. The authors suggest further research on long-term effects of medical cannabis use on alcohol and tobacco use (Shicheng et al., 2017).

There is also research identifying patterns of substance and alcohol use for those with PTSD using medical cannabis. Lucas et al. (2019) assessed the patterns of medical cannabis use, including the impact of cannabis on participants' prescription, substance, alcohol, and tobacco uses. A survey was administered in January 2017 to Canadian medical cannabis patients ( $n = 2,032$ ). Mental health conditions accounted for 83.7% ( $n = 1,700$ ) of respondents. Results indicated the most substituted use was for prescription medication (69.1%,  $n = 953$ ), alcohol (44.5%,  $n = 515$ ), tobacco (31.1%,  $n = 406$ ) and illicit substances (26.6%,  $n = 136$ ). Of the prescription medication, antidepressants (21.5%,  $n = 371$ ) accounted for all prescription drug substitutions. The authors suggest "that increased regulated access to medical and recreational cannabis can result in a reduction in the use of and subsequent harms associated with opioids, alcohol, tobacco, and other substances" (Lucas et al., 2019, p.1). There is evidence in research suggesting that those with PTSD may find benefit in medical cannabis treatment while also taking into consideration alcohol and substance use. This research was primarily focusing on the adult population with PTSD. There is also research providing evidence of medical cannabis treatment with child and adolescent populations diagnosed with PTSD.

### ***Child and Adolescent***

Research has specifically reviewed pediatric use of medical cannabis and its effects on PTSD. Shannon and Opila-Lehman (2016) presented a case study of a pediatric patient receiving cannabidiol (CBD) oil and its effects on her mental health concerns. CBD is a naturally occurring phytocannabinoid found in the cannabis plant and its cousin hemp plant. This ten-year-old female client presented with sexual abuse and minimal parental supervision. Additional issues included anxiety, insomnia, self-destructive behaviors, suicidal ideation, and outbursts at school. Pharmaceutical medication provided some relief but did not allow for long-lasting results coupled with major side effects. According to the authors, research supports the use of CBD as a safe treatment, assisting in areas such as anxiety and improving sleep. CBD supplements (25 mg) at bedtime and sublingual spray (6-12 mg) as needed during the day were administered. Scores on the Sleep Disturbance Scale for Children and Screen for Anxiety-Related Disorders demonstrated a gradual increase in quality and quantity of sleep and a decrease in overall anxiety. After a five-month period, the patient was noted to be sleeping most nights in her own room and no difficulties at school. Findings suggest CBD oil may be effective to reduce anxiety and insomnia for PTSD sufferers. It should be noted no complaints or discomfort came from the patient while using CBD, no pharmaceutical treatment was received during the trial period, the CBD oil presented in this study did not indicate if it came from the cannabis or hemp plant, and the authors noted long-term effects of CBD need additional studying (Shannon et. al., 2016).

Although the previous study examined a case study of a child with PTSD, Passie et al. (2012) presented a case study of a teenage male with severe PTSD symptoms, uncontrolled flashbacks, impulse for self-harm, and panic attacks. This patient showed improvement, with

condition dramatically stabilizing over the next few months. These improvements could not be explained by other means by the staff at an inpatient treatment center. Cannabis smoking decreased intensity, maintaining cognitive control. This article did not discuss medical, recreational, or strain usage by the patient but did make mention that the cannabis resin was from Turkey, containing equivocal amounts of THC and CBD (Passie et al., 2012). Along with adult populations, there appears to be evidence that medical cannabis may also benefit child and adolescence PTSD populations. There is also research showing how specific phytocannabinoids may assist those with PTSD.

### ***Phytocannabinoids***

Phytocannabinoids have been shown to assist in bringing the endocannabinoid system back to balance. Research now could provide how specific phytocannabinoids aid in PTSD. Roitman et al. (2014) evaluated the tolerance and safety of oral tetrahydrocannabinol (THC) for chronic PTSD. Ten outpatient adults with chronic PTSD received 5 mg of THC orally, twice daily as an add-on treatment for three weeks. The results indicated overall improvement in global symptoms, sleep quality, and decrease in nightmares and hyperarousal symptoms. “Two participants (20%) attained complete remission of nightmares by week 3” (Roitman et al., 2014, p. 589). The authors concluded THC was safe and well tolerated for patients with chronic PTSD. It should be noted that all patients were on psychopharmacological treatment throughout the trial (Roitman et al., (2014).

Along with THC, there is evidence to suggest that phytocannabinoid CBD may also be beneficial for PTSD treatment. Elms et al. (2019) examined the effect of CBD on symptoms of PTSD with 11 adult patients at an outpatient psychiatry clinic over an eight-week period,

between February 2016 and May 2018. Oral CBD was administered in flexible dosing with concurrent psychiatric medication and psychotherapy treatment. PTSD symptoms were assessed every four weeks using the PTSD Checklist (PCL-5) questionnaire. Results indicated 91% decrease in PTSD symptoms; mean baseline score on the PCL-5 of 51.82 dropped down to 37.14. According to Elms et al. (2019), the pathology of PTSD has not yet been defined but, one hypothesis points to dysregulated memory retrieval. However, research also finds the endocannabinoid system aids in the process of aversive memory extinction through CB1 receptors. The patients in this study were instructed to take CBD once or twice a day, most patients increasing their dose to maximize symptom reduction. The CBD was well tolerated. Patients noted improvement specifically with nightmares, a symptom significantly related to PTSD. The authors concluded further work could include the length of time this effect continues and if there is ever a reversal, or return to baseline (Elms et al., 2019). It appears that specific phytocannabinoids may be helpful for PTSD symptoms, like THC and CBD. There is also evidence that suggests medical cannabis may be helpful for veterans struggling with PTSD.

**Veterans.** Evidence in research has found medical cannabis to aid the veteran population dealing with PTSD. Betthausen et al. (2015) reviewed published evidence (n=11) of how cannabis use addressed symptoms of Posttraumatic Stress Disorder (PTSD) among military veterans. PTSD pathophysiology is thought to be related to increased sympathetic nervous system activity due to trauma and changes in memory processing. Increased levels of norepinephrine and activity at  $\alpha_2$ -adrenergic receptors are linked to physical manifestations of PTSD. CB-1 receptors are distributed within the central nervous system and are the primary target for modification of PTSD symptoms. Cannabinoids are highly lipophilic and therefore can

rapidly cross lipid membranes and the blood-brain barrier, leading to fast onset. The active compounds in cannabis link to cannabinoid receptors as endocannabinoids, producing the same activity in messenger systems (Bethausser et al., 2015).

In addition to how medical cannabis works in the brain for veterans with PTSD, Elliot et al. (2015) used focus groups and interviews to study cannabis use and other substance use of veterans (returning to New York City) with PTSD (n=20, 6 females, 14 males). Participants reported PTSD symptoms benefited from cannabis use, sharing that treatment mitigated stress and anxiety, providing relaxing effects. They felt cannabis had a wide-range value rather than a short-term distraction. Participants also stated that cannabis provided an antidepressant quality and prevented unwanted dissociative flashbacks, acting as a buffer to disruptive memories. Self-medicating with cannabis was chosen over the use of psychopharmaceuticals or alcohol. From this study, the authors suggested that cannabis use may do more than just alleviate of symptoms, but be an approach to coping. Elliot et al. (2015) suggested that ongoing research to assess dosage and frequency could be beneficial. In addition to the various positive effects of cannabis use, there are also significant concerns. It appears that research has provided evidence that medical cannabis may assist the veteran population with PTSD. Although it appears to have benefits in mental health with some populations, research also provides some evidence to show medical cannabis could affect Cannabis Use Disorder and substance use disorders.

### **Cannabis and Substance Use Disorders**

Another question is the implications of medical cannabis use and substance use disorders. Williams et al. (2017) compared rates of marijuana use and Cannabis Use Disorder (CUD) across various age groups while accounting for 23 states with medical programs (n = 8) or

nonmedical programs (n = 15). A nationwide cross-sectional survey from the National Survey of Drug Use and Health (NSDUH) was used to indicate the prevalence of marijuana use per state, per year (2004-2013, n ~ 67,500; ages 12-17, 18-25, 26+). Adults 26 and older in nonmedical states increased marijuana use, skewing to greater heavy marijuana use after medical legalization was enacted. However, no increase in CUD for any age group was found during this study. There was no increase in marijuana use in states with medical programs and no increase in adolescent or young adult use once programs were enacted. There was a reduction in heavy use among adolescent users in medical states. The authors concluded only 26+ and older populations showed an increase in marijuana use for nonmedical states (Williams et al., 2017).

As the previous study provided information on varying age groups, Kim et al., (2018) examined whether cannabis use disorder in adolescence predicted future medical cannabis card status among high-risk youth. Medical cannabis card status is the process of obtaining a medical card in a state for the legal use of medical cannabis for a specific debilitating condition. Adolescent participants, 13-19 years of age (n=654), were chosen from a treatment program for youth with serious substance and conduct problems as well as youth from the Colorado criminal justice system. Sixteen percent (n=102) of the sample reported having a medical cannabis card at the follow-up. The authors noted factors that predicted medical cannabis card status included Cannabis Use Disorder diagnosis in adolescence and male sex. Factors that failed to predict medical cannabis card status included specific substance use disorders, major depression, ADHD, and Generalized Anxiety Disorder. There was a significant difference in general health between those with and without medical cannabis cards (Kim et al., 2018). It appears research has provided evidence towards how medical cannabis use affects Cannabis Use Disorder and

substance use disorders among varying populations. There is also research to suggest there may be precursors and characteristics associated to cannabis substance abuse.

### **Precursors and Characteristics**

When focusing on the incidence of substance use disorders and medical cannabis use, research has determined various precursors and characteristics to cannabis substance abuse treatment. Christiansen and Bretteville-Jensen (2018) analyzed physical, psychological, and psychosocial indicators of patients for cannabis (principal diagnosis) treatment (n= 3,951) in Norway from 2009-2010. Results indicated cannabis patients tend to be younger males with less highly educated parents compared to the control group. Almost half of participants had psychological comorbidity including diagnoses of depression, social anxiety, and Attention Deficit Disorder. Cannabis patients were less educated compared to the control group. Positive trends to working towards higher education or employment at the end of follow-up were due to treatment at a young age, more than secondary education completed, a highly educated mother, and no comorbidity. There were fewer married cannabis patients (5%) than found in the controlled group; this is supported by previous findings that found that cannabis users reported lower relationship satisfaction, lower perception of interpersonal skills, lower education levels, lower likelihood of working and studying, and poor school performance (Christiansen & Bretteville-Jensen, 2018).

In addition to research providing evidence of precursors and characteristics to cannabis substance abuse, more research has found characteristics of Substance Use Disorder relating to PTSD-D. Mergler et al. (2017) reviewed the clinical characteristics of patients with Substance Use Disorder (SUD) and their relationship with Dissociative subtype of PTSD (PTSD-D). Data



was collected from 14 addiction treatment centers in Germany. Those with PTSD-D ( $n = 32$ ) reported significantly more depressive symptoms, suicidal ideation, anxiety, and suicide attempts. Patients with SUD showed higher amounts of early, complex trauma, including substantial rates of childhood sexual abuse. The PTSD-D group reported higher drug use, higher need for treatment, and higher frequency of lifetime drug overdoses. The authors believe lifetime drug overdose may be due to higher amounts of suicidal thoughts and attempts. The study showed no relationship between PTSD-D and specific forms of SUDs. It should be noted that PTSD symptoms were based on the DSM-4 due to the specific instruments used were not available for DSM-5 criteria at time of data collection.

There is also research reviewing how Cannabis Use Disorder is related to younger populations. Kosty et al. (2017) aimed to identify Cannabis Use Disorder (CUD) trajectory classifications for participants age 14 to 30, as well as review characteristics, risk factors, and psychosocial outcomes within these classifications. Eight hundred sixteen participants were selected at random from nine high schools in western Oregon. Three CUD trajectory classes emerged: persistent increased risk over time; maturing-out, marked by increased risk to approximately 20 years and then risk decline thereafter; and nonabusing and nondependent, shown by stable low risk over time. Risk factors demonstrated that males showed higher odds of persistent increasing risk over time. Growing up in a dual-parent household related to lower odds of the maturing-out category, and externalizing psychiatric disorders occurring prior to age 14 were associated with higher odds of the persistent increasing over time category. Childhood maltreatment related to higher odds of both the persistent increasing group and the maturing-out class. Psychosocial outcomes showed those in the persistent increasing class had higher

likelihood of externalizing disorder, greater levels of psychotic symptoms, lower likelihood of being married and higher odds of divorce or separation, and poor social adjustment. Psychosocial outcomes also showed the maturing-out class had fewer educational years, more unemployment weeks, and higher likelihood of internalizing and externalizing disorders. Overall, the persistent increasing category demonstrated initial CUD onset and CUD duration (Kosty et al., 2017).

Finally, research has reviewed precursors to not only SUD or CUD in specific populations but also included additional variables such as alcohol and tobacco use. Lee and Brook (2018) looked at precursors to CUD, assessing alcohol use, tobacco use, and depressive symptoms over the span of 15 years. Of the 816 participants, about half were African American and half were Puerto Rican. Research suggested that early cannabis use and regular use during adolescence can be potential risk factors to CUD. The results found individuals with moderate alcohol use, high tobacco use, and depressive symptoms had 10 times greater risk for CUD. Members who reported low alcohol use, no tobacco use, and high depressive symptoms had no association with CUD. The study also found that African Americans have a greater likelihood of CUD compared to Puerto Ricans. The authors recommended further studies to include other ethnicities (Lee & Brook, 2018). There appears to be evidence that suggests there are precursors and characteristics of CUD and SUD with specific age groups and with additional variables like tobacco and alcohol use. There is also research reviewing proximity and the effects of cannabis use.

### **Proximity to Dispensaries and Cannabis Use**

Research has examined how proximity affects cannabis use in varying geographical areas and races. Everson et al. (2019) aimed to identify the effects of access to cannabis at local

cannabis dispensaries and the use of cannabis in adults in the state of Washington. Their results indicated that adult cannabis use increased in areas that were within 18.4 miles of a cannabis retailer; there were more significant increases when individuals lived within .8 miles of a dispensary. The study also found that local jurisdictions and policies can limit retail access in various community locations. Therefore, evidence suggests that the closer that adults live to a dispensary, the more likely they will use it (Everson et al., 2019). There are other factors that influence use, as well.

There are specific community demographics that have been found to influence cannabis use. Thomas and Freisthler (2016) examined the relationship between community demographics and compactness of dispensaries in Los Angeles, CA. Researchers found that the percentage of Black, Asian American, and youth residents (under the age of 20) in communities were not related to the density of dispensaries. However, communities with high Hispanic populations had more copious amounts of dispensaries. Also, higher retail rates were found in commercial zone areas, higher off-premises alcohol outlet areas, and a highway with at least one on/off ramp. Schools, parks, and libraries were not related to the density of dispensaries. These results indicate that Los Angeles tends to have dispensaries in densely Hispanic-populated areas (Thomas & Freisthler, 2016). Overall, research has provided evidence on how proximity affects cannabis use. There is also evidence on how multiculturalism is associated to cannabis use.

### **Multicultural Components to Cannabis Use**

Other research specifically has focused on the relationship between multicultural components and cannabis use. Nguyen and Newhill (2016) reviewed the impact of religion on marijuana use among African American, Asian American, White, and Hispanic adolescents.

Findings of this study suggested that religion does have deterrent effects on all groups and marijuana use. The results indicated that the higher the level of religious participation, the less likely participants were to use marijuana. Through these findings, the authors recommended community members utilize religious beliefs with youth to help guide decision making about substance use (Nguyen & Newhill, 2016).

Another multicultural area to address is how race impacts Cannabis Use Disorder. The aim of the McElrath et al. (2016) study was to examine race (Black/White) differences in cannabis abuse diagnosis versus cannabis dependence diagnosis and referrals to treatment by the criminal justice system. The results of the study found that Blacks who were referred to mental health treatment by the criminal justice system were significantly less likely to be diagnosed with cannabis dependence than Whites but more likely than Whites to be diagnosed with cannabis abuse. Interestingly, Blacks who were referred by the criminal justice system were less likely to have psychiatric problems and more likely employed in part- or full-time work. It should be noted that this study used DSM-4 criteria, although DSM-5 has removed dependence and abuse and now only has Cannabis Use Disorder. While diagnosis of Substance Use Disorder has been changing, statistics indicate that the cannabis use is increasing. The purpose of including these findings in this study is to review current research on multicultural aspects to cannabis, insofar as part of counseling curriculum focuses on multiculturalism. Research has also provided statistical data on current and past cannabis use.

### **Statistical Data on Cannabis Use**

The National Survey on Drug Use and Health (NSDUH) is a household survey that collects information related to substance use, Substance Use Disorder, mental health, and

treatment for mental health disorders. Data was collected from interviewees speaking to civilians, noninstitutionalized populations, and individuals age 12 years or older; the 2019 survey included 67,5000 individuals. Interviews excluded those in the active military, long-term hospital residents, prison populations, and unsheltered homeless individuals. The sample included all 50 states and Washington, D.C. Results indicated marijuana rates increased in adolescent use, rates remained the same for the 18-25 age group, and rates increased in adults aged 26 or above since 2017. There was a small decline in men's use but a continued increase in women. Results also found an increase in Cannabis Use Disorder in adults ages 18-25. In pregnant women, there was a significant decline compared to other years: 161,000 in 2017 to 111,000 in 2018. There was a decrease in marijuana use with diagnoses of mental illness from no mental illness = 26.5M to any mental illness =13.9M then to serious mental illness = 4.4M. Compared to those who do not use marijuana, those who do use also showed an increase in opioid use, alcohol use, cocaine use, methamphetamine use, major depression, and serious mental illness. In other words, the more marijuana used, the more likely to engage in other substance use or experience a serious mental health condition (Substance Abuse and Mental Health Services Administration, 2019). It should be noted that there is no distinction between recreational versus medical cannabis use for symptom management in this study.

According to the National Institute of Justice (U.S. DoJ, 2019), “Marijuana is the most commonly used illicit drug in the U.S.” (p.5). In 2017, 26 million Americans reported using marijuana according to the NSDUH, approximately 9.6% of the population. Marijuana use, according to the study, is accessed through illicit domestically produced product, state-approved

use, and foreign-produced trafficked into the U.S. The NIJ anticipated increased marijuana trafficking due to the passing of Canada's legalization (U.S. Department of Justice, 2019).

Additional statistical data illustrates criminal offenses of marijuana. The United States Sentencing Commission provided a Quick Fact report of marijuana trafficking offenses in 2018. According to that document, 18,964 drug trafficking cases were reported to the Sentencing Commission. Of those cases, 11.5% involved marijuana. There has been a decrease in marijuana cases since 2014 by 44.9% (3,973 cases in 2014 to 2,190 in 2018; 86.8% of the marijuana cases were men, 71.9% of marijuana trafficking offenders were Hispanic, 12.3% were Black, 11.5% were White, and 4.3% were other races. The average age was 33, and 61.1% had little or no prior criminal history (Criminal History Category I) while 2.2% were career offenders (U.S Sentencing Commission, 2018). Given these statistical findings, it may be concluded that marijuana use is on the rise. Which also leads to the question of legislation and decriminalization..

### **Decriminalization**

Due to the reform on legalization across America, there is another component, decriminalization. Scherf (2015) noted possession arrest rates confirm a high racial bias towards Blacks, four times higher than Whites. He aimed at identifying decriminalization effects from state to state. Oregon was the first state to pass a decriminalization law for small possession of marijuana. Other states have followed, including Minnesota, Massachusetts, and Washington, D.C. Research shows that state and local governments spent about \$25 billion annually to enforce prohibition laws on marijuana. The article finds states spend less money with decriminalization laws in place. For example, Massachusetts (a decriminalization state) spent \$9

million in comparison to Texas spending \$251 million on prohibition enforcement. For states that have decriminalized marijuana possession, there is a decrease in arrests for all races, including Blacks. Through decriminalization efforts, Massachusetts decreased its arrest rates of Blacks by 83% from 2008 to 2010 (Scherf, 2015).

Specific to Illinois, a variety of community organizations and groups aim to address decriminalization. The Norml Illinois chapter, a non-profit 501 4c organization, is dedicated to reforming marijuana laws and lobbying for a Chicago decriminalization ordinance. They are passionate about providing community-based education to patients, medical professionals, and voters. Over the past 15 years, Norml has taken a stance on legal consumption and growth, increasing state revenue and providing tax revenue. They are currently active throughout Illinois, traveling to Springfield to lobby for legalization reform and commuting to community events in hopes of spreading the word to the public (NORML Illinois, 2016).

The Marijuana Policy Project (MPP), a U.S.-based organization established in 1995, aims to make reform of U.S. marijuana laws. It is their mission to increase public support for marijuana laws and policies and to help reduce, if not eliminate, penalties associated with marijuana use. Their primary objective is to work with the government and lobby for a change in laws across the U.S. They led various initiatives, including legalization, regulation, and taxation in Colorado (2012), Alaska (2014), Nevada (2016), and Michigan (2018). Specific to decriminalization, one of the MPP's current campaigns is known as Mandatory Madness. This project focuses on mandatory minimums. According to their research, by taking the sentencing power from judges, drug offenses have increased from 25% of the total inmate population (1981)

to 60% (2001). The MPP aims to fight against mandatory minimums in the effort of decriminalization (MPP., 1995).

Darby Beck, a criminal justice activist from the Law Enforcement Action Partnership, discussed her views on decriminalization and the issues facing law enforcement. In an interview conducted on October 29, 2019, Ms. Beck stated the current issue facing marijuana charges is like “the new jim crow” (per comm.). The Law Enforcement Action Partnership takes a stance on a variety of issues, including regulation and control on drugs, criminal justice reform, and “being able to make a difference.” The organization was established in 2002 by five police officers. They felt that drug arrests are more of a punishment instead of finding treatments, education, and prevention efforts for individuals. For those individuals who have received criminal judgments, Ms. Beck noted offenders are less likely to give up addictions, cannot find a job, receive student loans or other loans (i.e., home and vehicle), and are a waste of police resources. She does feel that there is a shift in police opinions surrounding marijuana possession, especially with more educational presentations and conversations surrounding this topic (D. Beck, pers. comm., October 29, 2019).

### **Medical Cannabis Training and Education**

There is a push and need for medical education on cannabis. Ziemianski et al. (2015) conducted a study to assess Canadian physician education needs as Canada has recently passed the legalization of recreational marijuana. A needs assessment was administered to Canadian physicians to address common factors involved in decision making for cannabis use. Four hundred twenty-six physicians indicated their highest concern was understanding the potential risks, safety, warning signs, and precautions. Perhaps this study is an indication of the need to



develop resources and educational programs for healthcare professionals, including mental health providers.

### **Curriculum Themes from Other Disciplines**

Although there may be little instructional curriculum pertaining to counselor education specifically, other disciplines currently include information on medical cannabis in their curricula. There are a variety of universities developing programs and courses to achieve this outcome. This includes the University of Washington, which created *Medicinal Cannabis and Chronic Pain: Science-Based Education in Time of Legalization* to inform and provide practice guidelines for health professionals on the use of medical cannabis for treating chronic pain (Carlini et al., 2017). Northern Michigan University has developed an undergraduate degree program so that students can now major in medical cannabis. The program is called *Medicinal Plant Chemistry* and is designed with rigorous science and business courses including organic chemistry, plant physiology, botany, genetics, financial management, and accounting (Northern Michigan University, 2019).

Pharmacists are also requesting additional education and instruction. First-, second-, and third-year students at a private midwestern university were surveyed to determine knowledge, attitudes, and beliefs of medical cannabis. Overall results indicated there was a lack of confidence in the domains pertaining to medical cannabis. Students reported a need for medical cannabis to be incorporated in the current curriculum to address the knowledge gap. Similarly, pharmacy students from the University of Kansas expressed little to no education on medical marijuana in their curriculum and that there was low confidence in knowledge and comfort level in answering consumers' questions related to medical marijuana (Moeller & Woods, 2015).

After reviewing the literature, there appears to be curricula developing in other medical disciplines, like pharmacy, and through university degree program that could lead to potential ideas of how counseling programs may develop and implement cannabis instruction.

Research has indicated that medical cannabis may be helpful for medical and mental health conditions, dating back as early as 4000 BCE. With the discovery of both the endocannabinoids system and CB1 and CB2 receptor sites, research has provided evidence that absorbing phytocannabinoids into the body may reduce symptoms, including those for PTSD, anxiety, and depression. However, healthcare disciplines are expressing the need for ongoing education and training of medical cannabis. Given that there is a lack of research specifically addressing the field of counseling is addressing the need for education and training, this study explores current landscape of counselor education programs' intent to incorporate medical cannabis into their curricula.

## Chapter 3

### **METHODOLOGY**

Through the review of current literature surrounding medical cannabis and its implications on mental health, it has become evident that more research is necessary for understanding the impacts on counselor curriculum. Research has shown the physiological properties once phytocannabinoids have been absorbed into the human body. Specifically, researchers have found a link between phytocannabinoid absorption and positive effects on mental health symptoms (Elms et al., 2019; Roitman et al., 2014). Given that various medical disciplines are incorporating medical cannabis education into their curricula, I aimed to uncover a better understanding of the extent of curricular coverage of medical cannabis in counseling programs across the United States.

The purpose of this study was to examine the relationship between medical cannabis instruction and programmatic and demographic factors. The following research questions were used to conceptualize a framework of inquiry for this study:

1. What is the status of the inclusion of medical cannabis content in counselor education curriculum programs?
2. What are the plans to incorporate this content in the future?

I used a nonexperimental survey design to gather descriptive information about cannabis curriculum development and programmatic and demographic variables. The programmatic variables include whether content related to medical cannabis is currently offered in any course

and what those courses are, when medical cannabis was added to the curriculum, how much time is dedicated to medical cannabis, what areas related to the use of medical cannabis are addressed, the types of courses in which medical cannabis content is incorporated, the type of instructor (e.g., tenured faculty, tenure-track faculty, adjunct instructor) teaching medical cannabis content, is there a plan to incorporate medical cannabis in the future, is there an elective course in medical cannabis, what are the barriers to inclusion of medical cannabis content, and what are the most important medical cannabis topics to include (from high importance to least importance). The program traits include the state the school is in, the size of the program, if a doctoral program is offered, number of faculty and instructors, CACREP entry-level specializations offered, if psychopharmacology is offered, if there is a religious affiliation, and the type of legalization in the school's state (e.g., recreational or medical).

According to Sousa et al. (2007), a nonexperimental design describes or examines associations between variables. In this type of design there is no control group or random assignment since this is for observational purposes. The positive of using a nonexperimental design is that the variables are not manipulated, and the researcher observes what is occurring naturally, without intervention (Sousa et al., 2007).

### **Cross-Sectional Survey Design**

I used cross-sectional survey research in this study to collect information from counseling programs regarding the discussed variables. According to Creswell and Guetterman (2019), "Survey research designs are a set of research procedures in which investigators administer a survey to a sample or the entire population of people to describe the attitude, opinions, behaviors, or characteristics of the population" (p. 385). This study used a survey design instead of an

experimental design because this study does not involve a treatment given to participants, meaning the survey does not experimentally manipulate the conditions or explain cause and effect. The advantage of using cross-sectional survey design is it can measure the current attitudes, beliefs, and opinions of counselor educators to update the current cannabis curriculum. The use of a cross-sectional design in this study also allowed me to evaluate cannabis curriculum in counseling programs, providing useful information for future curriculum development (Creswell & Guetterman, 2019).

### **Methods of Data Collection**

This section will discuss the participants, recruitment methods, instruments, and sample respondents.

#### **Participants**

The target population for this study were counselor educators (i.e., faculty and adjunct instructors) from master's and doctoral degree programs in counseling within the United States.

#### **Recruitment**

Recruitment of respondents included an email request to faculty and adjunct instructors listed on CACREP- and MPCAC-accredited counseling websites and through the counseling [LISTSERV CESENET-L@listserv.kent.edu](mailto:LISTSERV_CESNET-L@listserv.kent.edu) (5,616 recipients). Participants were provided with the following criteria for participation: (1) currently employed as faculty or adjunct instructor at a designated college or university, (2) possess familiarity with the department's counseling curriculum and statistical data of the program (e.g., size of the program, number of faculty and instructors), (3) possess awareness of the state's marijuana program regulations and laws (i.e., medical, recreational, both, neither). This study did not just rely on CACREP-accredited

programs, primarily because there are no medical cannabis standards listed in the most recent (2016) CACREP Standards (CACREP, 2015).

In this study, I gathered responses from a wide net of counseling programs to gain insight into current and future planning of medical cannabis curriculum. Convenience sampling was used to administer the survey for this study. Convenience sampling is a type of nonprobability sampling where participants of the target population are readily available. The main assumption with convenience sampling is that members of the population are homogeneous, meaning there will be no difference in results obtained from a random sample (Etikan et al., 2016). In my study, the sample of the population was a convenience sample due to the nature of recruitment of participants through existing listservs and the open invitation to any qualified participant regardless of institutional affiliation. Convenience sampling was the most appropriate method for this study as it allowed for a larger sample than other methods would have enabled. A copy of the email can be found in Appendix A.

In addition to convenience sampling, I also used snowball sampling to recruit participants. According to Etikan et al. (2015), snowball sampling is a type of nonrandom sampling. Snowball sampling begins with an initial set of participants (wave 1) who then in turn recruit another set of participants (wave 2) and so on and so forth so that the sample population grows like a snowball. The list of counseling programs in the U.S. may be difficult to generate and therefore snowball sampling was suitable. One limitation to snowball sampling is that the first wave of respondents may reach out to recruit the second wave of participants who themselves with similar characteristics, hence potential bias may generate in addition to skewness in data (Etikan et al., 2015).

Participants were given assurance that their responses would be anonymous and that the data would be maintained in a secure database that would be password protected. The password was known only to my dissertation chair and myself. Permission to begin the research study and distribute the survey was obtained through NIU's Institutional Review Board (IRB). A copy of the IRB approval is in Appendix F. Respondents were informed that they may exit the survey at any time. A copy of the informed consent can be found in Appendix C.

### **Instrumentation**

The instrument used in this study was a questionnaire adapted from a study conducted by Smithberger et al. (2019). The study, titled *Evaluation of Medical Marijuana Topics in the PharmD Curriculum: A National Survey of Schools and Colleges of Pharmacy*, reviewed the status of medical cannabis incorporation in PharmD curriculum as well as future plans of incorporating medical marijuana content (Smithberger et al., 2019). Sixty-eight United States colleges of pharmacy completed the anonymous survey; with 62% included medical cannabis content into the curriculum and 23% were planning to include medical cannabis topics within the next year. Approval to use this study can be found in Appendix E.

As noted in Chapter 2, there is a dearth of research addressing the inclusion of medical cannabis content in counselor education programs. However, literature is showing that various medical disciplines are requesting more education and training tying medical cannabis into the respected areas of study. Pharmacology appears to have a plethora of research surrounding this topic, including the Smithberger et al., (2019) study.

Questions from the survey used by Smithberger et al. (2019) were reviewed and it was determined that some of the questions were not appropriate for the current study based on the

purpose of this study and some of the questions were modified to fit the counseling field specifically, as needed. Additional questions were also developed beyond those from Smithberger et al. (2019) study. The purpose of the additional questions was to formalize a comprehensive view of the medical cannabis curriculum specific to counseling programs. These questions include institutional characteristics (e.g., school's state, size of program, number of faculty and instructors) and programmatic factors (e.g., if medical cannabis is currently taught in curricula, what type of course it is taught in, future plans to develop curricula related to medical cannabis). I gathered descriptive information about medical cannabis curricula and reviewed it to understand if there are any comparisons between different demographic and programmatic variables.

### **Survey Platform**

This study used an online survey format by Qualtrics software (Qualtrics, Provo, UT) to gather information regarding programmatic and institutional factors specific to the incorporation of medical cannabis content into curricula. Qualtrics is an online survey platform that allows respondents the ability to complete the survey and for the researcher to analyze collected data. The survey took approximately 5-10 minutes to complete, either through a mobile device or on a computer. Respondents were informed that no identifiable information would be published and they could exit the survey at any time and for any reason. They also were presented with an informed consent prior to beginning the survey, which can be found in Appendix C. Respondents received an email (Appendices A and/or B) introducing the survey, explaining eligibility requirements, and describing of the survey itself.



### **Procedure for Data Analysis**

I used descriptive statistics via Excel (Version 15.40) to summarize the results in a meaningful way. Descriptive statistics allow for simple summary and interpretation of the results. These descriptive statistics included frequencies, percentages, ranking, and graphical representation. Using the descriptive data, emerging patterns were identified as well as how specific data sets may relate or not relate to each other. Also, descriptive statistics allow for an understanding of potential future studies and implications of the study.

### **Summary**

In this chapter, the programs, recruitment methods, and sample respondents were discussed. Specific discussion on data collection and instrumentation was defined. The study was conducted on a Qualtrics online survey including a demographic questionnaire and specific programmatic and demographic questions based on Smithburger et al. (2019) adapted for the study. Descriptive statistics were used to analyze programmatic and demographic factors specific to the incorporation of medical cannabis into counselor education curricula.

## Chapter 4

### **RESULTS**

The medical cannabis and counselor education survey was open to responses from February 17, 2021, through March 12, 2021. A total of 117 responses were received through Qualtrics. The data was cleaned up by removing all responses that either did not consent (n=2) or did not answer any or no more than the demographic section of the survey questions (n=19). The total number of respondents who consented and completed the survey was n=96 from 34 of 50 state, and the District of Columbia (see Table 1).

#### **Demographics**

##### **Program Size**

The responses from the survey revealed a wide range of program sizes. One participant from a school in Florida did not indicate the size of the program (Table 1). Of these schools, participants were asked if the school offered a doctoral program (Table 2). Of the 94 responses to this question, two participants in Texas did not indicate whether a doctoral program was offered; 53% (n=50) did not offer a doctoral program and 47% (n=44) did offer a doctoral program. Fifteen percent of the participants (n=14) indicated that their institutions were religiously affiliated and 85% (n=82) of the institutions were not religiously affiliated (Table 2).

Table 1

## Frequency Distribution of Demographic Information

State Responses		Faculty & Instructors		Type of Program		Legalized Program		Program Size (# Students)	
Range	<i>f</i>	Range	<i>f</i>	Value	<i>f</i>	Value	<i>f</i>	Range	<i>f</i>
1-2	21	1-10	52	Addiction	1	Medical	38	≤ 50	18
3-4	7	11-20	Cl	Clinical	21	None	21	51-100	38
5-6	4	21-30	7	Rehabilitation	3	Recreational	5	101-150	20
7-8	1	31-40	2	School	2	Rec & Med	21	151-200	3
9-10	0	41-50	1	Multiple	66			≥ 201	16
11-12	0	51+	0						
13-14	1								

Table 2

Frequency Distribution of Demographic Information (Yes/No Responses)

Doctoral Program		Religious Affiliation	Psychopharmacology
Value	<i>f</i>	<i>f</i>	<i>f</i>
Yes	44	14	46
No	50	82	49

### Faculty Size

The survey also asked how many full-time faculty members and full-time and part-time instructors are in the program (see Table 1). Fifty-two respondents reported 1-10 faculty and instructors in the program, 26 participants noted 11-20 faculty and instructors, 7 responses indicated 21-30 faculty and instructors, 2 replied with 31-40, and 1 respondent noted 40-51 faculty and instructors. Of the 88 responses, no participant reported greater than 51 full-time faculty and full-time and part-time instructors.

It should be noted that three participants from New Hampshire, Florida, and Colorado indicated a non specific number (50+, 40+, and 30+ respectively; these respondents were not included in the frequency distribution. One participant from Pennsylvania indicated that they had 300 full-time and part-time faculty for the program. This appears to be an outlier in the data and therefore was not included in the frequency distribution. Additionally, three participants did not know the total number of faculty and instructors on staff and one participant (New York) did not respond to this question.

### **Entry-Level Specializations and Courses**

Next, participants were asked what entry-level counseling specializations are offered in their program (see Table 1). Multiple answer selection included addiction counseling, career counseling, clinical rehabilitation counseling, clinical mental health counseling, rehabilitation counseling, college counseling and student affairs, marriage, couples and family counseling, school counseling, and counselor education and supervision. These specializations were from the CACREP list of counseling specialties. Ninety-three participants indicated information on the programs offered while three other participants from schools in Oregon and two from Pennsylvania did not list the type of counseling specialty offered. Of the participants who did provide their specializations, 66 offered multiple programs, and 27 offered only one counseling specialty (n=1 addiction counseling, n=21 clinical mental health counseling, n=3 rehabilitation counseling, and n=2 school counseling).

### **Psychopharmacology Course**

Another category addressed in the demographic section was identifying which schools offered a psychopharmacology course (see Table 2). The question was included in the survey because psychopharmacology courses offer students the opportunity to learn about medication treatments to assist with diagnoses. Given that medical cannabis is researched as a medication treatment for diagnoses, the topic of medical cannabis may be incorporated into a psychopharmacology course. A total of 95 participants responded to this question; 48% (n=46) indicated they do not offer a psychopharmacology course while 52% (n=49) stated that they did. One participant from a school in New York did not provide a response.

### **Current State's Legalized Marijuana Programs**

Before segueing into medical marijuana and counselor education curriculum, the demographic section of the survey concluded by asking participants to identify the type of marijuana their state currently legalized (see Table 1). The options to choose from were recreational, medical, recreational and medical, none, and I don't know. Of the participants who answered this question (n= 85), 45% (n=38) identified as a medical state, 25% (n=21) noted their state as recreational and medical, 6% (n=5) marked their state as recreational, and 25% (n=21) identified as none. It should be noted that no participants entered "I don't know" as a response but 13% (n=11) left this question blank.

Additionally, some participants marked their state's current legalization status incorrectly. For example, an Illinois participant marked "recreational," yet the state's current status (as of March 17, 2021) is legalized medical and recreational use. Figure 1 identifies, as of March 2021, marijuana legalization by state (DISA Global Solutions, 2021). It should be noted that this map currently shows South Dakota as fully legalized; however, it is still in the process of being voted in.

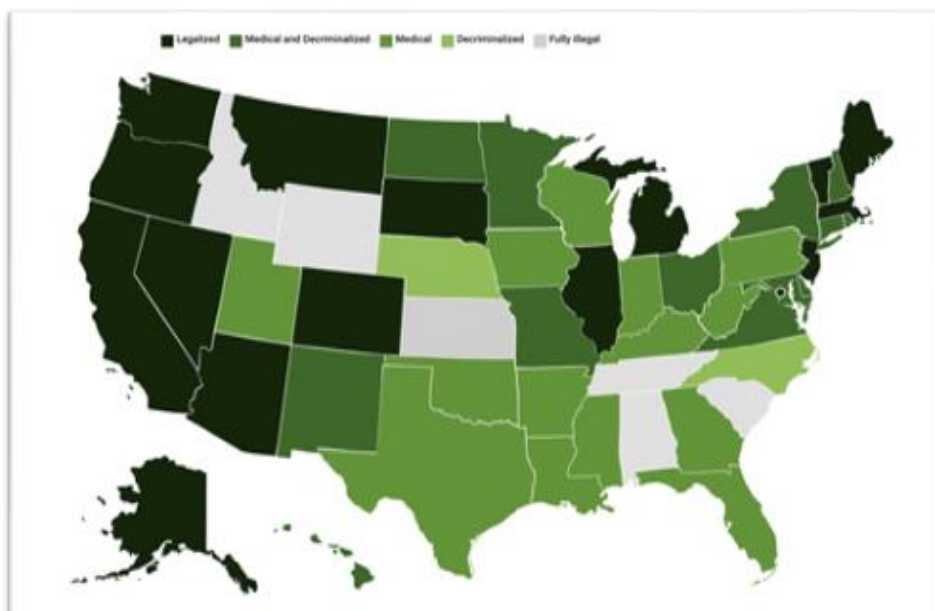


Figure 1: Marijuana Legalization by State as of March 2021

*Note.* This figure is a map of marijuana legalized by state in 2021. Black indicates states that are fully legalized (both recreational and medical), dark green indicates states of medical only, light green indicates decriminalization but not medical or recreationally legalized, and gray indicates states that are fully illegal. Of the responses indicating “none” (n=21), two states are in fact legalized in some fashion (New York and Louisiana are both medically legal).

### Medical Marijuana and Counselor Education Curriculum

After the demographic section of the survey, respondents were asked a series of questions directly related to medical marijuana and its incorporation into counselor education curriculum. First, counselor educators were asked if medical cannabis was offered in any course curriculum in the program (Table 3). Of the total responses (n=95), 27% responded “yes” (n=26), 54% stated “no” (n=51), and 19% responded “other” (n=18).

Table 3

## Frequency Distribution of Current Medical Marijuana Instruction

Currently Offered		Entry-Level Specialization		"Other" Courses		Number of Years Added	
Value	<i>f</i>	Value	<i>f</i>	Value	<i>f</i>	Range	<i>f</i>
Yes	26	Assessment & Testing	1	Addiction	10	≤ 1	9
No	51	Electives	13	Psychopharm	7	1-2	9
Other	18	Human Growth & Development	3	Unsure	4	3-4	7
		Social & Cultural Diversity	3	Miscellaneous	4	5+	5
		Ethics	1				
		Other	26				

If participants responded “other,” they were given the option to provide a qualitative statement on why they selected “other.” Of the 18 “other” responses, two participants chose not to provide additional information. Thirteen respondents stated they were unsure of the reason their programs did not include this content. Some examples include the following:

Honestly, I'm not sure. It may be something we need to discuss. We have a substance abuse course, but not sure Medical Marijuana is discussed. – Utah

Not that I'm aware of, but some faculty may mention it. - Virginia

Three participants replied with additional comments, including the following:

Not a planned part of the curriculum but does come up in discussions/supervision - Pennsylvania

This is a new change in state law with a number of issues still being resolved. Until then any reference to it is mostly informal. – Arkansas

We have an adjunct professor who covers the addiction elective. I believe he covers vaping and marijuana use - I don't know about medical marijuana. – Wisconsin

### Schools That Do Offer Medical Cannabis in Curriculum



Those participants who indicated they did offer medical cannabis in course curriculum were then asked to identify what course(s) medical cannabis is covered in. The course options included Professional Counseling and Ethical Practice, Social and Cultural Diversity, Human Growth and Development, Career Development, Counseling and Help Relationships, Group Counseling and Group Work, Assessment and Testing, Research and Program Evaluation, Electives, or Other. These selections were determined from the eight common core areas listed in the CACREP Standards (CACREP, 2015).

### ***Responses***

Sixty-one percent of responses (n=59) did provide a response to this question. Of the 59 responses, one respondent indicated medical cannabis is covered in assessment and testing, 13 participants indicated the topic is covered in electives, 3 responded medical cannabis is covered in human growth and development, 3 participants stated it's covered in social and cultural diversity, 1 respondent noted it is covered in professional counseling orientation and ethical practice, and 26 responded "other" (Table 3).

### ***"Other" Responses***

Of the 24 responses, 42% (n=10) indicated medical cannabis is or may be covered in some form of an addictions course, 29% (n=7) stated the topic is covered in a psychopharmacology course, and 17% (n=4) noted they were unsure what specific course medical cannabis was discussed. Miscellaneous courses (n=4) indicated include health psychology, psychedelic-assisted therapies elective course, medical aspects of disability, and cognitive neuroscience course.

### **Medical Cannabis Added to Curriculum**

Next, participants indicated when medical cannabis was added to curriculum. Options for this question included  $\leq 1$  year, 1-2 years ago, 3-4 years ago, and 5+ years ago. Thirty respondents provided a response (Table 3). Results indicated 30% of responses (n=9) included medical cannabis in the curriculum  $\leq 1$  year ago, 30% of the participants (n=9) added it 1-2 years ago, 23% of the participants (n=7) included this topic 3-4 years ago, and 17% of the respondents (n=5) added medical cannabis to the curriculum 5+ years ago. Twenty percent did not respond to this question (n=6).

### **Time Dedicated to Medical Cannabis Instruction**

Participants were also asked to indicate how much time was devoted to medical marijuana. Options included a section in a course or an entire course (Table 4). One hundred percent of the responses (n=34) stated that only a section in a course is devoted to covering medical marijuana.

Table 4

## Frequency Distribution of Detailed Responses of Medical Cannabis Instruction

Time Devoted		Areas Addressed		Type of Course		Type of Instructor	
Range	<i>f</i>	Value	<i>f</i>	Value	<i>f</i>	Value	<i>f</i>
Section of Course	34	Ethics	14	Other	4	Tenured	18
Entire Course	0	Reg/Legal	16	Ind. Study	1	Tenure-Track	12
		Medical Chemistry	7	Electives	15	Clinical Prof	8
		Psychopharm	24	Core Course	21	Instructor	2
		Other	6	Practicum	2	Adjunct	8
				Internship	3	Other	3
						Multiple Types	10

**Addressed Areas of Medical Cannabis in Curriculum**

Additionally, participants were asked to identify which content areas related to medical marijuana were addressed in the curriculum. Options included ethics, regulations/legal, medicinal chemistry, pharmacotherapeutics, and other (Table 4). Thirty-two total responses were reported. Forty-two percent noted ethics (n=14), 48% indicated regulations/legal (n=16), 21% stated medicinal chemistry (n=7), 72% noted pharmacotherapeutics (n=24), and 16% indicated other (n=6). Of the 32 participants, 63% (n=20) noted they address multiple addressed areas in the curricula. Two respondents who marked “other” stated that addictions were covered as an area of medical marijuana while the other five participants indicated they were unsure. Four total

respondents (Kentucky, Wisconsin, South Dakota, and New York) chose not to respond to this question.

### **Type of Course Incorporating Medical Cannabis**

The survey also questioned the type of course in which medical cannabis content is integrated. Options to select from included independent studies, electives, core courses, practicum, internship, and other (Table 4). A total of 32 responses were received. Sixty-four percent of responses (n=21) indicated that it is incorporated into a core course, 45% of respondents (n=15) stated medical cannabis is covered in an elective course, 9% (n=3) noted it is included in an internship course, 6% of participants (n=2) reported the topic is a part of practicum, and 3% of the responses (n=1) reported medical cannabis is covered in an independent studies course. Of the 32 total responses, 34% (n=11) indicated multiple courses integrated medical cannabis in curriculum. Four respondents chose “other” and reported either unsure (n=2), in an “advanced required course” (n=1), or “not applicable” (n=1). Four participants did not respond to this question (New York, South Dakota, Utah, and Massachusetts).

### **Type of Instructor Teaching Medical Cannabis**

The final question for respondents in the programs where medical cannabis is addressed was the rank of the instructor who taught this course. Options included tenured faculty, tenure-track faculty, clinical professor, instructor, adjunct, or other (Table 4). A total of 33 responses were received for this question. Fifty-three percent (n=18) stated tenured faculty taught medical cannabis, 35% of the participants (n=12) reported tenure-track faculty instructed information on

this topic, 24% of the responses (n=8) noted it is taught by clinical professors, 6% (n=2) of the respondents stated instructors teach on this topic, and 24% of the participants (n=8) reported medical marijuana is instructed by adjuncts. Of the 33 total responses, 30% (n=10) indicated there are multiple instructor types in their program that teach medical cannabis in the curriculum. Three participants, from North Carolina, Virginia, and District of Columbia, reported “other,” noting they were unsure the type of instructor who taught medical cannabis.

### Future Inclusion Plans

The next section of the survey was to identify future plans of including medical cannabis into counselor education curriculum. The first question asked participants if they have any future plans to include medical marijuana into the curriculum (Table 5). Eighty participants provided their answer to this question. Sixteen participants chose not to respond. Respondents were to select either “yes” or “no.” Sixty percent of the participants (n=48) indicated “no” while 40% of the responses (n=32) stated “yes,” they do have future plans to include medical cannabis into counselor education curriculum.

Table 5

Frequency Distribution of Future Inclusion Plans

Future Inclusion		Future Elective Courses		Barriers	
Value	<i>f</i>	Value	<i>f</i>	Value	<i>f</i>
Yes	32	Yes	10	1	10
No	48	No	61	2	13
		Other	11	3	41
				4	25

*Note.* Barriers values: 1=Due to our state’s legalities, we believe the topic is not necessary for our students, 2=It’s being discussed with faculty but not yet implemented, 3=We do not have training and therefore are unsure how to train our students, 4=other.

### Future Offering as an Elective Course

Next, respondents were to identify if medical cannabis would be offered as an elective in the future. Again, 82 respondents provided responses to this question (see Table 5). Options to select for this question included “yes,” “no,” or “other.” Of the 82 total responses, 75% (n=61) noted that they would not provide an elective course in medical cannabis. Twelve percent of the participants (n=10) stated “yes,” they would provide an elective option. Fourteen respondents did not participate in providing their answer to this question. Fourteen percent of the respondents (n=11) reported “other.” Some respondents mentioned their opinions on specific courses or ways that medical cannabis could be included in curriculum:

We don't at this time, but this may be something as a topical area we need to address better, both from a treatment standpoint and stigma standpoint. – Utah

I'm adjunct so it wouldn't be in my courses. I would if I taught a psychompharm -New York

Workshop has been offered – Washington

I don't know a whole course could be dedicated to this, unless focusing more on cannabis-assisted therapy. Or in the context of psychedelic-assisted therapies. -Illinois

Two participants made mention of lack of time or space in the program:

Maybe, if I saw the relevance to the profession and it seemed like more of a priority than other electives we offer. Our college is really tightening our ability to offer electives, so its a fight every time. – Georgia

We do not have room for elective courses in our curriculum, so a discussion of MM [medical marijuana] would have to be integrated into an existing course. - Oregon

Three participants specifically responded that they were unsure:

Not sure – New York

May at some point in the future but not currently. - South Dakota

Maybe – Ohio

### **Barriers to Instructing Medical Cannabis**

Respondents were then asked to identify the barriers to not including medical cannabis in the curriculum. Multiple answer options were as follows: due to our state’s legalities, we believe the topic is not necessary for our students, it’s being discussed with faculty but not yet implemented, we do not have training and therefore are unsure how to train our students, and other. Seventy-six participants responded to this question (Table 5). Thirteen percent of responses (n=10) indicated that due to their state’s legalities, they do not believe the topic is necessary for their students, 17% of participants (n=13) are currently discussing with faculty but not yet implementing, and 53% of respondents (n=41) noted that they do not have training and therefore are unsure how to train students. Twelve of the responses contained multiple responses to the question. Thirty-three percent of participants (n=25) marked “other.” Respondents were also able to provide additional thoughts pertaining to the barriers of not including medical cannabis into curriculum. One common theme spoke of not enough space or time in the program:

Our program is already packed with required courses and only one elective. -  
Louisiana

We already have too much to cover for the licensing tests. - Texas

Not seen as important compared to other topics we already have little time for -  
Maryland

No room in the curriculum for a course. As medical use increases in our state we may begin discussions on adding a portion of a course. –Pennsylvania

Have many other topics to cover per CACREP – New Jersey

I think medical marijuana has to jockey for position with other topics in counseling such as human sexuality and neuro-counseling. It's not that our faculty would be opposed to it, but just how much can you cram into a 60 credit hour curriculum. – Virginia

Can be a part of course, but too many other topics are considered more important - New York

As I mentioned above, we are experiencing push back to creating new electives for budgetary reasons –Georgia

Three participants indicated that this would be up to individual faculty/instructors:

It's up to the instructor to incorporate. - Illinois

Academic freedom allows me to teach this - Ohio

It is really up to individual faculty; it is not a programwide issue at this point - Massachusetts

Four responses indicated opinions on discussions:

It is discussed with students but not built into the curriculum - Pennsylvania

We haven't discussed it - New Jersey

I've not been part of any discussion of this topic – New York

We have not discussed it yet as a faculty, but I imagine all of us would be open to integrating it into our curriculum given the scientific evidence for MM's efficacy - Oregon

Three respondents had miscellaneous statements:

Why would we offer a class in this? -New Hampshire

Due to the fact it is illegal, it is unethical to encourage students to have clients using an illegal substance – Tennessee

We prepare school counselors to work with K-12 students and therefore do not find it relevant to our programming. – Wisconsin

The remaining comments (n=5) fell under a theme of unsure or none of the above:

None of the above - Michigan

UKN - North Carolina

Adjunct so unsure - New York



None - South Dakota

Not sure - District of Columbia

### **Ranking of Important Topics to Medical Cannabis**

Participants were asked to rate the importance of medical marijuana topics in counselor curriculum. These specific topics were ethics, regulation/legal, medicinal chemistry, and pharmacotherapeutics. Sixty-nine participants responded to this question (Table 6). For the ethics category, 46% of the responses (n=32) rated it to be the highest in importance, followed by 20% (n=14) to be second highest, 20% (n=14) to be third highest, and 13% (n=9) to be the least important. For the regulation/legal category, 20% of the respondents (n=14) stated regulation/legal would be the highest importance, followed by 36% (n=25) noting this category would be second highest, 24% (n=17) thought regulation/legal would be the third highest, and 19% (n=13) believed this category would be the least important. For the category of medicinal chemistry, 1% (n=1) of the participants found this to be the highest importance, 20% (n=14) found this to be the second highest in important, 27% (n=20) thought medicinal chemistry would be the third highest of importance, and 46% of responses (n=32) found this category to be the least importance. The next category was pharmacotherapeutics. In this category, 32% of respondents (n=22) noted it to be the highest priority, 23% of participants (n=16) marked it as the second highest, 25% (n=17) stated pharmacotherapeutics would be third highest, and 20% (n=14) found it to be last in priority.

Table 6  
Ranking of Important Topics

	Highest	Second Highest	Third Highest	Least Important
Ethics	32	14	14	9
Regulations/Legal	14	25	17	13
Medicinal Chemistry	1	14	20	32
Pharmacotherapeutics	22	16	17	14

Respondents were able to select “other” as a final category to rate. Respondents were given the option of providing their additional comments of what “other” topics could be included. Only one participant included additional information: “relationship to practice” (New Jersey). It should be noted that 27 respondents chose not to respond to this question.

### **Qualitative Responses to Additional Comments on Survey**

The final question in this survey asked if there was anything else not included in the study that the respondents would have liked to be asked. Four participants responded with wanting more questions in the survey pertaining to individual views and attitudes:

I don't think the questions should have been asked about the program as a whole. My own views are not represented by my department, and there is a wide variation in views amongst faculty despite our departmental stance. Also, there should be an option for "haven't discussed" the topic - Missouri

Maybe this was beyond the scope, but for future studies perhaps explore faculty attitudes toward medical marijuana. You could also do the same for students as well. -Virginia

My opinion of the use of medical marijuana. It's important to note that I do not know anything about whether or not anyone teaches anything on this topic. I have briefly discussed in my class. I teach psychopathology regarding diagnoses and treatment of broad array of disorders. - New York

Probably assessing individual attitudes versus institutional attitudes regarding the integration of medical marijuana into the curricula – New York

Alongside this theme of individual attitudes, two participants noted that responses should be more for department chairs or administration:

No, my responses are as an adjunct and this survey felt like it should be for department chairs as I don't know the broader curriculum discussions. - New York

Position. I'm adjunct faculty so not aware of administrative focus on curriculum at this time. I also reside in Virginia and teach at a school in Georgia so that might make a difference. My students are also in a variety of states. - Georgia

Seven respondents responded around the theme of specific focus of instruction:

I am very unfamiliar with this topic. This is not an area that I am well versed in. I would not feel comfortable teaching a course. Thus, I would bring in an outside expert. I definitely would like more information on working with diverse populations. -Louisiana

As a Licensed Professional Counselor, a few of my clients have been using CBD oil to help with anxiety. A few clients use marijuana illegally, with deleterious side effects. - Texas

Discussion of marijuana as a federal Schedule 1 substance and the social/cultural consequences of that designation. - New York

Even though medicinal marijuana is legal in our state, there is a fine line between counselors having the knowledge related to work with clients and making the recommendations for use. We have to be very careful to not make recommendations that could be construed as medical advice. - Texas

I think we should not cover this until it becomes an actual medication bought through a pharmacy and in pill form. This is unethical. - Tennessee

I would have liked to be asked about the relevance to programming. I think this depends on the type of counseling program offered - we just teach school counseling students and therefore do not see the relevance of discussing medical marijuana. Marijuana usage is an important area of discussion, but not specifically medical marijuana. - Wisconsin

It seems you are more focused on the pharmacological uses of cannabis. I'd suggest looking at how it can be incorporated into cannabis-assisted therapy. Or parallels, like cannabis yoga. - Illinois

Two participants provided comments surrounding the theme of training:

Source of information or training from which current knowledge is gained – South Carolina

What specific issues/disorders is it helpful for? A well researched training? - Colorado

Finally, one respondent provided what appears to be an emotional response to this final question:

This seems really silly to me. - New Hampshire

### **Conclusion**

All in all, a total of 97 responses were received for this study, with one respondent dropping out after answering demographic questions. Therefore, specific questions pertaining to medical marijuana and counselor education curriculum were addressed by 96 respondents. Information received spanned from specific topics and areas of medical cannabis covered in courses to barriers and timelines of future planning. Chapter 5 will present a discussion describing how these variables come together to answer the two research questions: What is the status of medical cannabis instruction in counselor education curriculum programs? What is the future plan for inclusion of medical cannabis instruction in counselor education curriculum?

## Chapter 5

### DISCUSSION

The purpose of this study was to examine the status of medical cannabis instruction in counselor education curricula. This chapter will provide a summary of the study, beginning with a review of the problem and the research question. Next will be a review of the methodology, summary of results, and discussion of the findings. Following will be a section of the implications, limitations, and recommendations for future studies. Finally, the chapter will end with concluding thoughts.

#### **Summary of the Study**

The purpose of the study was to explore the current and future plans of medical cannabis in counselor education curricula. In literature, there has been evidence to show support for medical cannabis to assist a variety of mental health diagnoses (Bohnert et al., 2018; Krosiba et al., 2019; Penn, 2019; Piper et al., 2017; Walsh et al., 2017; Yau et al., 2019). Specifically, research suggests medical cannabis can assist with PTSD (Bonn-Miller et al., 2014; Drost et al., 2017; Knopf, 2015), including struggling veterans (Betthausen et al., 2015; Elliot et al., 2015). Additionally, the literature identifies various medical disciplines currently in need of additional training and education, as pharmacology and medical physicians (Moeller & Woods, 2015; Ziemianski et al., 2015).

Although research shows medical cannabis assists with symptom management of mental health conditions as well as a need of training and education in other healthcare fields, there is lack of evidence demonstrating the current and future forecast of medical cannabis incorporated into counselor education curricula. The following research questions were used as a framework of inquiry for this study: What is the status of medical cannabis instruction in counselor education curriculum programs and what are the future plans of medical cannabis instruction in counselor education curriculum?

### **Review of Methodology**

This study aimed to explore the current and future plans of medical cannabis incorporated into counselor education curricula. A nonexperimental survey design was used to gather descriptive information about cannabis curriculum development. Specific programmatic and demographic variables were identified throughout the survey. Programmatic variables included currently offered medical cannabis content and type of courses, specifically addressed areas to the use of medical cannabis (i.e. ethics, legal, chemistry, pharmacotherapies, and other), type of instructor teaching medical cannabis content, future plans of inclusion, elective course offered, barriers, and important topics to include. The demographic section asked respondents that state their program is in, size of the program, if a doctoral program is offered, number of faculty and instructors, CACREP entry-level specializations, offered psychopharmacology, religious affiliation, and state's current legalized cannabis program (e.g., recreational or medical).

Recruitment of participants occurred through direct emails from schools listed from CACREP and MPCAC accreditation websites. Additionally, two emails were sent to the CESNET Listserv. Snowball sampling was also used to recruit responses, allowing initial

participants to recruit additional respondents to participate in the survey, and so on and so forth, so long as they met the criteria of the study. All 50 states were recruited to participate in the survey, including the District of Columbia.

### **Instrumentation**

The survey for this study was adapted from Smithberger et al. (2019) titled *Evaluation of Medical Marijuana Topics in the PharmD Curriculum: A National Survey of Schools and Colleges of Pharmacy*. Smithberger's study reviewed current medical cannabis incorporation in PharmD curricula, including future plans. Questions from this survey were either used verbatim, adjusted to fit counselor education, or not used at all. Additional questions were asked to create a comprehensive view of medical cannabis incorporation into counselor education programs.

The survey was administered through Qualtrics, taking approximately 5-10 minutes to complete. All respondents were required to sign an informed consent and meet to the following criteria to take the survey: (1) must be a counselor educator (i.e., faculty and adjunct instructors) and (2) must work in master's and doctoral degree programs in counseling within the United States.

### **Summary of Results**

Participants from a total of 34 states participated in the study, along with one participant from the District of Columbia. There was a wide range of program sizes, the largest being 51-100 students. There was an even distribution of yes/no responses from programs that offered a doctoral program and psychopharmacology course, yet there was a significant difference in programs that were religiously affiliated versus not (most participants indicated not religiously

affiliated). When reviewing the frequent distributions of demographic data, the majority of the states had one or two responses and most responses had 1-10 faculty and instructors. Most participants indicated their department offered multiple programs and most states indicated that they were medically legal for cannabis.

A review of the data, as it pertains specifically to medical cannabis incorporated into counselor education curricula, shows specific information in medical cannabis in coursework, time devoted, areas addressed, types of courses, types of instructors, future inclusion, barriers, ranking, and qualitative comments. Overall, almost double the number of the programs are not including medical cannabis into the course. Those that are have primarily introduced the topics within the last two years.

Many participants reported the topic is covered the highest in core courses, with the highest scored area as psychopharmaceutic. Tenured faculty had the highest frequency of type of instructor teaching medical cannabis in curriculum. Sixty percent of responses do not have plans of including medical cannabis into future curriculum, most participants indicating they do not have plans to develop an elective course in the topic either.

The highest scoring barrier to including medical cannabis curriculum was not having enough training and therefore unsure how to train their students. Finally, the results indicated the highest ranking medical cannabis topic that was most important for instruction was ethics, followed by regulations and legal.



## **Discussion of the Findings**

### **Demographics**

This nationwide study consisted of 34 survey respondents, including District of Columbia. Responses varied regarding program size, number of faculty, religious affiliation, and doctoral program offered. Most participants offered multiple programs from the selection of CACREP entry-level counseling specializations. When compared to the five ACES regions (Association for Counselor Education and Supervision, 2021), there was no pattern or specific data set for a region. It appeared that the data varied from state to state and region to region. The findings suggest that current counseling education programs are offered across the nation, varying in size and type of programs and courses offered.

### ***Institutional Religious Affiliation***

Specifically reviewing the question addressing institutional religious affiliation, responses from those participants who indicated their institutions do have religious affiliation (n=14) did not show any connection to not offering medical cannabis in the curriculum given their religious affiliation. Only one-half of the participants from religiously affiliated institutions responded to the question related to the presence of medical-cannabis-related content in their program. Of those seven responses, four participants indicated that they do not deliver this content and three participants indicated that they did include this content. When reviewing qualitative responses of these participants, there is no response that suggests they are not offering this topic in the curriculum because of religious affiliation. In fact, their responses were in line with those programs that do not have religious affiliation. For example, the participants that

marked they have religious affiliation but are not offering medical cannabis in the curriculum is because of lack of training and their state's legalities. Therefore, this data set suggests that there is no connection between religiously affiliated programs and participants' responses to incorporating medical cannabis into curriculum.

### ***State's Legal Program and Responses to Survey***

Survey responses indicated that many identified their state as having legalized medical and/or recreational cannabis, which is in line with the current statistics in literature. There appears to be a connection between the state's marijuana legalities and the responses given in the survey. For example, Tennessee, a state that has not legalized marijuana use for either medical or recreational use, found that instructing on medical cannabis is "... unethical to encourage students to have clients using an illegal substance." Meanwhile, a participant from Washington, recreational and medical legalized state, noted they have offered a workshop on the topic.

### **Type of Instructor**

Also, the study found that medical cannabis content is primarily being taught by tenured faculty. There is evidence in research that indicates nontenure-track faculty typically teach more introductory classes and general education (Kezar & Maxey, 2012). Other research, including an article by Webster (n.d.), suggests that tenure allows professors more academic freedom to teach a wider range of topics in part due to job security. Also, tenured faculty are considered experts in the field, allowing them to make decisions about curriculum and coursework (Webster, n.d.). The results of this study are in line with the research. Given the current stigma of medical

cannabis or cannabis in general, perhaps tenured faculty (due to academic freedom) feel more secure to teach such a topic.

### ***Individual Basis***

It appears that offering this topic as part of the curriculum is more on an individual basis. When reviewing statements from participants, Virginia mentioned that some faculty members may mention it: Illinois noted “it’s up to the instructor to incorporate”; and Massachusetts stated, “It is really up to individual faculty.” Right now, the landscape for incorporating medical cannabis into a specific class that is approved and agreed upon by the department is just not there yet. Medical cannabis is being addressed, just on an individual level. This may be an indication as to why the survey results were not consistent in the answers provided.

### ***Adjunct Responses***

This study asked for responses not only from faculty but adjunct instructors as well. The purpose was to potentially receive a full scope of information that encompasses all types of instructors. Adjuncts noted that they tend to not be included in discussions with faculty on this topic, or because they were adjunct, they did not teach medical cannabis. For example, New York stated, “I’m adjunct so it wouldn’t be in my courses. I would if I taught a psychompharm.” Georgia noted, “Position. I’m adjunct faculty so not aware of administrative focus on curriculum at this time.”

### **Medical Cannabis Recently Added to Curricula**

There is a lack of research examining the current status of counseling education programs incorporating medical cannabis into curricula. However, this study suggests there is a current

movement of including medical cannabis in curricula across the nation. Results show that close to a third (n=26) of the respondents are currently covering medical cannabis in coursework. If this is reviewed in combination with states that have legalized use (over 40 states have legalized either medical and/or recreationally; DISA Global Solutions, 2021), not every program is offering coverage on this topic even though their state is legal to some capacity. Additionally, the study found that schools are in the beginning stages of incorporating the topic, most (n=18) adding it  $\leq 1$  year to 2 years ago. Therefore, medical cannabis is new in counselor education curriculum.

### ***Taught in Section of Course***

Also, 100% of the respondents who are currently teaching medical cannabis indicated that medical cannabis is only being taught as a section of the course (n=31) and primarily in core courses (n=21). No participant in this survey has yet to offer this topic as an entire course. When comparing this data to whether schools plan to offer medical cannabis as an elective course, most participants stated they would not. There were numerous participants who indicated there are too many topics in too short a time to try to include medical cannabis. For example, Oregon mentioned, “We do not have room for elective courses in our curriculum, so a discussion of MM (medical marijuana) would have to be integrated into an existing course.” Georgia indicated budgetary constraints: “...we are experiencing push back to creating new electives for budgetary reasons.”

### **Areas Addressed and Ranking of Topics**

Given that results indicated medical cannabis content is beginning to appear in courses, the study then aimed to identify specific areas addressed within these courses. The study found that most participants (n=24) addressed pharmacotherapeutics as the primary area of medical cannabis instruction, followed by legal regulations and then ethics. There also was a small number of respondents who indicated medicinal chemistry is another topic discussed. When compared to the current course that is offering this topic, most respondents (n=10) addressed this topic in an addictions course, followed second by a psychopharmacology course (n=7). This data set suggests that pharmacotherapeutics is the primary area in which medical cannabis is addressed, yet an addictions course is the primary course covering the topic.

However, when asked to rank, in order of importance, medical cannabis topics, results indicated that participants found ethics to be the most important topic to address, followed by legal regulations. Psychopharmacology did not appear to be the highest ranked topic in any of the four ranked positions. Yet, only one participant reported that the topic of medical cannabis is covered within the ethics and legal course. Results of this study indicate that participants believe ethics and legal medical cannabis topics are highest in importance, but only one respondent indicated that this topic is being taught in the ethics and legal course.

### ***Psychopharmacology***

There also was a close split between programs that do and do not offer a psychopharmacology course. As Ingresoll (2000) notes in research, mental health providers should have a general working knowledge of psychopharmacology to help their clients better

understand treatment options as well as understand the link between clients taking medication and their progress in counseling sessions (Ingresoll, 2000). This study asked participants if their programs specifically offered a psychopharmacology course, as it may be an appropriate course to instruct medical cannabis treatment. Of the respondents who answered this survey question, 72% responded that they address the area of medical cannabis in pharmacotherapeutics.

However, if linking this question to another question in the survey (asking participants what entry-level specialization course medical cannabis is offered in), responses found that an addiction course of some type was the most relevant course offering this topic. These results may be an indication that there is an idea of where to offer medical cannabis in the program (in a psychopharmacology course or addiction course), yet the specifics have not yet been determined by the respondents to the survey.

### **Future Plans**

Finally, the study looked at examining the future plans of including medical cannabis into counselor education curriculum. Overall, the study found that close to two-thirds of the respondents do not have future plans to include this topic into the program's curriculum despite some of these states already having legalized cannabis to some capacity. When reviewing the qualitative responses from instructors, it appears there are a variety of variables involved in this decision, including budgetary constraints, the number of topics to fit in the curriculum, the current legalization of one's state, not seen as important compared to other topics offered, has not yet been discussed in the department, and the relevance does not fit in school counseling curricula.

### *Elective Course*

As it pertains to offering an elective on this course, three-fourths of the respondents to this question stated that they do not plan to offer a course on medical cannabis as an elective. This may possibly be linked to schools currently teaching this topic as a section of a course. It seems that participants now view medical cannabis as a relevant topic to be addressed within a course, but not dedicated to an entire course itself. Again, it appears that the theme for the answers given is due to budgetary constraints and number of topics necessary to include in the overall counseling curriculum.

### *Additional Qualitative Feedback*

At the end of the survey, participants were asked to provide any additional information related to medical cannabis and its incorporation into counselor curriculum. The responses seem to be like overall themes from the questions in the survey. For example, a participant from Missouri wrote that individual attitudes might be the focus at this point, indicating, "My own views are not represented by my department, and there is a wide variation in views amongst faculty despite our departmental stance." This statement was also indicated by participants in New York and Virginia. Another statement from a participant in New York pointed out the need for future discussions of " ...the social/cultural consequences." Perhaps this statement is alluding to medical cannabis incorporating multiculturalism, social justice, and decriminalization subject areas.

## *Stigma*

In addition, there is clear evidence of stigma attached to medical cannabis, as made apparent by a few different participants. Stigma, unfortunately, continues to be a factor of future inclusion. One respondent from Tennessee wrote, “I think we should not cover this until it becomes an actual medication bought through a pharmacy and in pill form. This is unethical.” It should be noted that Tennessee is currently an illegal state. Another participant from Wisconsin wrote, “Marijuana usage is an important area of discussion, but not specifically medical marijuana.” Again, like Tennessee, it should be noted that Wisconsin is still an illegal state. Illinois, a medical and recreational legal state, stated, “I’d suggest looking at how it can be incorporated into cannabis-assisted therapy. Or parallels, like cannabis yoga.” And, in keeping with the theme of stigma, New Hampshire very bluntly wrote, “This seems really silly to me.”

## **Implications to Counselor Education Programs**

### **Ongoing Discussions Needed**

Based upon the results of this study, there are a few suggested implications for counselor education programs. First, given that states have and continue to legalize cannabis to some degree, there is a need for ongoing discussions among counselor educators. These discussions among counselor educators should involve faculty but also include both part-time instructors and adjunct teachers. It appears that individual educators have begun to incorporate medical cannabis into a section of their courses; however, the program itself may need to continue to define the specifics of incorporating medical cannabis. It is recommended that the goal is that the



program, especially for those states that have already legalized, have a clearly defined plan on how it will incorporate medical cannabis into curriculum moving forward.

### **Statements from Accrediting Bodies**

Perhaps now may be the time for counseling accrediting bodies, like CACREP and MPCAC, to release a statement for all states that have legalized (either medical or recreational) to include some type of instruction on medical cannabis. It does not appear that the AMA, APA, ACA, ACES, CACREP, or MPCAC have released statements to date in support of the use of cannabis for medicinal purposes. In fact, the AMA and APA released statements opposing the use and benefits of medical cannabis even though there are numerous studies providing evidence that medical cannabis has assisted in symptom management treatment. Due to the number of topics that need to be covered, if the accrediting bodies do not release a statement, the likelihood of counselor education programs including medical cannabis in their programs may be low.

### **Teaching in Sections of Courses**

If more time were allotted for additional topics to be addressed, medical cannabis may be offered as an entire course or as an elective. Based upon the common theme that emerged from the qualitative responses in this data set, there are already too many topics to include in the program; thus, it appears that medical cannabis may not easily fit into existing curricula. How then can counselor education programs fit this topic into the curriculum if there is little space and budgetary constraints? One suggestion is to continue to cover it in a section of a course.

### ***Psychopharmacology and Addictions Courses***

Specially, it is recommended that this course be a psychopharmacology course. As noted in the literature (Ingresoll, 2000), a psychopharmacology course allows students to better understand treatment options for symptom management. Seeing as medical cannabis has been shown in the literature as a treatment option that produces positive results, a psychopharmacology course may be the best course to teach this topic. However, if a program does not offer a psychopharmacology course, the next best course would be an addiction or substance abuse course. In this course, educators can not only instruct on the benefits of symptom management but also identify characteristics of misuse, dependency, and addiction of medical cannabis. That way, students are getting an overall understanding of not only treatment use but also when clients might show signs of abuse.

### ***Professional Counseling and Ethical Practices Course***

Based upon the results of this study, counselor educators may also want to include medical cannabis discussions in their Professional Counseling and Ethical Practice course. Results indicated that educators found the topics of ethics and legal regulations to be the highest-ranked topic areas for medical cannabis. If that is the case, then counselor educators should include medical cannabis instruction in the ethics course. Some areas to focus on could be based upon the state's current legalized program, what is and is not ethical to discuss in a counseling session. Perhaps counselor educators could refer to the ACA or APA code of ethics and address how medical cannabis is incorporated into specific ethical codes.

### *Multicultural Course*

Given the qualitative statements presented in this study addressed the need for medical cannabis content to address multicultural and social justice components, perhaps medical cannabis should be incorporated into the multicultural course. Potential areas of focus include multiculturalism, social justice, and decriminalization subject areas. As part of the multicultural course, students can identify their own self-awareness as it pertains to this topic. Stigma can be noted in this course in terms of how medical cannabis is viewed in society but also, for those clients who are using it, as a medical treatment for symptom management. Finally, literature identifies an ongoing movement of decriminalization and social justice (MPP., 1995, NORML Illinois, 2016, and Scherf, 2015). The multicultural course could review these areas in terms of how the state and counselor profession are currently addressing these issues.

### **Training for Counselor Educators**

When asked what type of barriers have caused participants to not include medical cannabis into curricula, the overwhelming majority of respondents stated it was due to not having enough training themselves and therefore did not feel adequate to instruct the topic with their students. Tenured counselor educators are seen as experts in the field and, therefore, there is no requirement now to receive ongoing continuing education units, unlike their practicing counselors in the field. If counselor educators do not need to receive ongoing education and training, how then do counseling students receive education in current and progressive movements in counseling, like medical cannabis in treatment? It appears that receiving training would need to take place on an individual level. It then makes sense that counseling departments

have not yet come together to determine how medical cannabis will be incorporated into the curriculum, especially if their state is legal.

### ***Training as States Legalize***

Perhaps as time goes by and more training is offered to counselor educators, the number of programs offering medical cannabis in courses will increase. There is a current movement of individual states legalizing cannabis use either medically and/or recreationally. As legalization progresses, there may be a transition in counselor education programs to offer education and training to both students and instructors. By the time counseling students have graduated and are practicing in the field, they should feel prepared and trained to help clients in addressing their concerns. If a state is legal, counselors may have clients coming into their offices noting that they are using legal cannabis. Therefore, our counselors should feel equipped to having these discussions with background knowledge that they learned from their program.

### ***Other Ways for Education and Training***

As educators, making sure we feel adequately training so that we can educate our students is important as time goes on and more states legalize cannabis use. For those programs in which no faculty feel prepared to teach content related to medical cannabis, it is suggested that the program provide their faculties with training, perhaps by reaching out to a counselor educator who specializes in this area, offering a workshop to both instructors and students, or allowing for a specialist to assist in developing the medical cannabis curriculum for the program.

## **Advocacy Role**

Finally, it is recommended that counselor educators should be mindful in their role of advocacy. One area of advocacy is for counselor educators to advocate in their state to ensure proper regulations for medical cannabis are put in place at the state level and they can encourage similar advocacy efforts in their students. It is the ethical duty of all counselors to ensure client safety. Another section of advocacy is to make sure counselor educators are receiving adequate education and training by an unbiased expert in the field of medical cannabis. Due to the nature of the negative stigma and biased research related to medical cannabis, it is essential that counselors honor their Code of Ethics and remain unbiased when discussing medical cannabis use with their clients. Finally, educators can advocate for their students, to make sure they are provided with the most up-to-date information of medical cannabis as it pertains to mental health counseling, especially if their state is a legalized state. Counselor educators should make sure their counselors going out into the field know how to handle conversations with clients who are using legally and for medicinal purposes.

## **Limitations**

Although this study has provided contributions to counselor education programs pertaining to incorporating medical cannabis into curriculum, some limitations exist. First, participants were recruited through a listserv and emailing. Therefore, this study may have excluded additional participants employed in counseling programs not identified through the snowball method. It is possible that a fully represented sample population was not obtained. Also, given that this study was a nonexperimental design, collected through a survey, and that responses were based on participants perceptions, the self-reported nature of the data is a

limitation. Also, although confidential, participants may have provided responses given the social stigma associated with marijuana and the legality of individual states. Finally, given that participants did not indicate their school, there is a potential for over-representation and multiple responses from one program.

### **Recommendations for Future Studies**

With a new understanding of how counseling education programs are currently incorporating (or not incorporating) medical cannabis into their curricula, it would be important for future research to explore individual attitudes both from educators but also counseling students. Also, developing this study into a longitudinal study may be helpful to continue to identify the landscape of counseling education and cannabis instruction as individual states legalize or the nation becomes federally legalized. Finally, a future study could be developed to determine what specific courses and topic areas are best to include in the counselor curriculum as it pertains to medical cannabis.

### **Conclusion**

This nationwide survey provided a framework for have a better understanding of how counselor education programs are currently incorporating medical cannabis into the curriculum and their future plans for inclusion of this content in their programs. The results of this study contributed to existing literature on incorporating medical cannabis instruction into various healthcare disciplines' curricula. Furthermore, this is the first study to specifically identify how counselor education programs nationwide are updating curriculum to include medical cannabis.

In conclusion, this study aimed to explore the current state and future plans of counseling education programs incorporating medical cannabis into curricula. The results provided evidence that counseling programs have recently begun the process of adding this topic into the curriculum. There is little determination yet on the specifics of how counselor education programs should provide medical cannabis instruction to students, given educators do not feel adequate to teach such a topic due to a lack of training themselves. This study contributes to the gap in research regarding counseling education programs incorporating medical cannabis instruction into curriculum and this research is necessary with an increase in individual states continuing to legalize cannabis in some fashion. Therefore, developing comprehensive medical cannabis curriculum in counselor education programs will aid in the ongoing efforts of counselor education, research, advocacy, leadership, and supervision.

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APPENDIX A

INDIVIDUAL RECRUITMENT EMAIL



Dear Dr. {NAME},

As a doctoral candidate in Northern Illinois University's Counselor Higher Education and Supervision program, for my dissertation, I am researching medical cannabis and its incorporation into counselor education curricula. I hope this study will contribute to the current literature on including medical cannabis into curricula across many healthcare disciplines and help to identify the major factors involved in developing or adjusting current and future counselor education curriculum.

Your willingness to participate in this study would be appreciated. The survey will take no longer than 5 minutes to complete, containing a demographic section, specific questions on current and future plans for incorporating medical cannabis into curriculum, and open-ended questions to get a better sense of your opinions and experiences on this subject matter.

Participation is voluntary, and you are free to discontinue at any portion in the survey. No specific potentially identifying information will be used in the dissertation and your information will be held in strict confidentiality. Participants may obtain the results of the study upon request after it has been completed.

The requirements to complete this survey include:

Must be a counselor educator (i.e., faculty and adjunct instructors)

Must be from master's and doctoral degree programs in counseling within the United States.

Please be advised that the completion of this survey implies your consent to participation. Should you decide to participate, please click on the link below to bring you to the survey. If you have any questions or concerns, please feel free to contact me by email.

[https://niu.az1.qualtrics.com/jfe/form/SV\\_5u5bbTSOvpPLvkV](https://niu.az1.qualtrics.com/jfe/form/SV_5u5bbTSOvpPLvkV)

I appreciate your consideration in participating and thank you in advance for your time completing this survey.

Please feel free to share this survey with any counselor educator you may know.

Best,

Anne

Anne Adrian (Shragal), MA, LCPC, PEL-SC, ACS

PhD Candidate

Counselor Higher Education & Supervision

Dissertation Chair: Dr. Adam Carter

APPENDIX B

FIRST AND SECOND REQUEST RECRUITMENT EMAIL TO [CESNET-L@listserv.kent.edu](mailto:CESNET-L@listserv.kent.edu)

Dear Counselor Educator,

As a doctoral candidate in Northern Illinois University's Counselor Higher Education and Supervision program, for my dissertation, I am researching **medical cannabis and its incorporation into counselor education curricula**. I hope this study will contribute to the current literature on including medical cannabis into curricula across many healthcare disciplines and help to identify the major factors involved in developing or adjusting current and future counselor education curriculum.

Your willingness to participate in this study would be appreciated. The survey will take **no longer than 5 minutes** to complete, containing a demographic section, specific questions on current and future plans for incorporating medical cannabis into curriculum, and open-ended questions to get a better sense of your opinions and experiences on this subject matter.

Participation is voluntary, and you are free to discontinue at any portion in the survey. No specific potentially identifying information will be used in the dissertation and your information will be held in strict confidentiality. Participants may obtain the results of the study upon request after it has been completed.

**The requirements to complete this survey include:**

- 1 **Must be a counselor educator (i.e., faculty and adjunct instructors)**
- 2 **Must be from master's and doctoral degree programs in counseling within the United States.**

Please be advised that the completion of this survey implies your consent to participation. Should you decide to participate, please click on the link below to bring you to the survey. If you have any questions or concerns, please feel free to contact me by email.

[https://niu.az1.qualtrics.com/jfe/form/SV\\_5u5bbTSOvpPLvkV](https://niu.az1.qualtrics.com/jfe/form/SV_5u5bbTSOvpPLvkV)

I appreciate your consideration in participating and thank you in advance for your time completing this survey.

**Please feel free to share this survey with any counselor educator you may know.**

Best,

Anne

Anne Shragal, MA, LCPC, PEL-SC, ACS

PhD Candidate

Counselor Higher Education & Supervision

Dissertation Chair: Dr. Adam Carter

APPENDIX C  
INFORMED CONSENT

## Informed Consent

Title of Study: MEDICAL CANNABIS AND COUNSELOR EDUCATION: EXAMINING  
THE RELATIONSHIP BETWEEN COUNSELOR EDUCATION CURRICULUM  
AND THE INCORPORATION OF MEDICAL CANNABIS

### **Investigators:**

Principle Investigator: Anne Shragal, MA, LCPC, PEL-SC, ACS Dept of Counseling & Higher  
Education

Dissertation Chair: Adam Carter, PhD Dept of Counseling & Higher Education

### **Key Information:**

- This 5-10 minute, voluntary survey involves answering multiple choice, yes/no, and ranking questions.
- The benefits include obtaining further information on curriculum design and attitudes of medical cannabis. The information collected may not benefit the participant directly but may be helpful to others. There are no foreseeable risks while completing this survey.

### **Description of the Study:**

The purpose of this study is to understand curriculum design and updates as it pertains to medical cannabis in counseling higher education. If you agree to participate in this study, you will be asked to do the following things: answer multiple choice, yes/no, ranking, and open-ended questions. The survey will take approximately 5-10 minutes to complete.

### **Risks and Benefits:**

As mentioned above, there are no foreseeable risks associated with this survey. The benefits may not directly impact the participant however, the information provided by participants' responses will assist the researcher in better understanding if there are correlations to update medical cannabis curriculum.

**Confidentiality:**

- The records of this study will be kept confidential using coding and password protection.
- We will not include identifiable information in any reporting that may be published.

**Your Rights:**

The decision to participate in this study is entirely up to you. You may decline to take part in the study at any time. Your decision will not result in any loss of benefits to which you are otherwise entitled. You have the right to skip any question or research activity, as well as to withdraw completely from participation at any point in the process.

You have the right to ask questions about any part of this research study and to have those questions answered before, during, or after the research. If you have any further questions about the study, at any time, feel free to contact the researcher, Anne Shragal or the dissertation chair, Dr. Adam Carter. If you have any questions about your rights that have not been answered by the researcher or if you have any problems or concerns that occur as a result of your participation, you may contact the Office of Research Compliance, Integrity, and Safety.

Northern Illinois University policy does not provide medical treatment or compensation for treatment of injuries that may occur as a result of participation in research activities. The



preceding information shall not be construed as a waiver of any legal rights or redress which the participants may have.

**Future Use of Research:**

After removing all identifying information from your data, the information could be used for future research studies or distributed to another investigator for future research studies without additional informed consent from you.

APPENDIX D

SURVEY

## Medical Cannabis & Counselor Education Curriculum

### Start of Block: Default Question Block

**Q29 By clicking "yes, I consent" below, you are indicating that you have decided to volunteer as a research participant for this study and that you have read and understood the information provided below. [Informed consent](#)**

Do you consent to participate in this research study?

- Yes, I consent (1)
- No, I do not consent (2)

*Skip To: Q9 If Q29 = Yes, I consent*

*Skip To: End of Survey If Q29 = No, I do not consent*

Q9 This is a demographic section to better understand your counseling program.

Q6 In which state is your school located?

▼ Alabama (1) ... I do not reside in the United States (53)

Q1 What is the size of your program? (number of total master-level and doctoral-level students)

- ≤ 50 Students (1)

- 51-100 Students (2)
- 101-150 Students (3)
- 151-200 Students (4)
- $\geq 201$  Students (5)

Q2 Do you have a doctoral counseling program?

- Yes (1)
- No (2)

Q3 What is the number of full-time faculty and full-time and part-time instructors in your program?

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Q4 What Entry-Level Counseling Specializations do you offer? (please select all that apply)

- Addiction Counseling (1)
- Career Counseling (2)
- Clinical Rehabilitation Counseling (3)
- Clinical Mental Health Counseling (4)
- Rehabilitation Counseling (5)
- College Counseling and Student Affairs (6)
- Marriage, Couple, and Family Counseling (7)
- School Counseling (8)

- Counselor Education and Supervision (9)

Q32 Does your program offer a psychopharmacology course?

- Yes (1)
- No (2)

Q32 Are you a religious-affiliated college?

- Yes (1)
- No (2)

Q26 What type of marijuana program has your state currently legalize?

- Recreational (1)
- Medical (2)
- Recreational & Medical (3)
- None (4)
- I don't know (5)

Q12 This section pertains to specific medical marijuana and counselor education curriculum.

Q13 Is medical marijuana covered in any course curriculum offered in your program?

- Yes (1)
- No (2)

- Other (3) \_\_\_\_\_

*Skip To: Q14 If Q13 = Yes*

*Skip To: Q19 If Q13 = No*

Q14 In which course(s) is the topic of medical marijuana included in the curriculum?

- Professional Counseling Orientation and Ethical Practice (1)
- Social and Cultural Diversity (2)
- Human Growth and Development (3)
- Career Development (4)
- Counseling and Helping Relationships (5)
- Group Counseling and Group Work (6)
- Assessment and Testing (7)
- Research and Program Evaluation (8)
- Other (9) \_\_\_\_\_
- Electives (10)

Q15 When was medical marijuana added to the curriculum?

- ≤ 1 year (1)
- 1-2 years ago (2)
- 3-4 years ago (3)
- 5+ years ago (4)

Q16 How much time is devoted to medical marijuana?

- A section in a course (1)
- An entire course (2)

Q34 What areas of medical marijuana are addressed in the curriculum? (Select all that apply)

- Ethics (1)
- Regulations/Legal (2)
- Medicinal Chemistry (3)
- Pharmacotherapeutics (4)
- Other (5) \_\_\_\_\_

Q35 The topic of medical marijuana is integrated into what type of course? (please select all that apply)

- Independent Study (1)
- Electives (2)
- Core Courses (3)
- Practicum (4)
- Internship (5)
- Other (6) \_\_\_\_\_

Q38 Medical marijuana has been instructed by: (please select all that applies)

- Tenured faculty (1)
- Tenure-track faculty (2)
- Clinical Professor (3)
- Instructor (4)
- Adjunct (5)
- Other (6) \_\_\_\_\_

Q19 Do you have future plans to include medical marijuana into the curriculum?

- Yes (1)
- No (2)

Q36 Would you/do you offer an elective course in medical marijuana?

- Yes (1)
- No (2)
- Other (3) \_\_\_\_\_

Q20 Are any of the following considered barriers to not including medical marijuana into the curriculum yet? (Please select all that apply)

- Due to our state's legalities, we believe the topic is not necessary for our students (1)
- It is being discussed with faculty but not yet implemented (2)
- We do not have training and therefore are unsure how to train our students (3)
- Other (4) \_\_\_\_\_



Q18 Please rate the importance of the following medical marijuana topics in counselor

curriculum with 1 = High Importance; 5 = Low importance

\_\_\_\_\_ Ethics (1)

\_\_\_\_\_ Regulations/Legal (2)

\_\_\_\_\_ Medicinal Chemistry (3)

\_\_\_\_\_ Pharmacotherapeutics (4)

\_\_\_\_\_ Other (5)

Q8 Is there anything not included in this study that you would have liked to have been asked?

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Q37 If you would be interested in receiving more information on medical marijuana or be

involved with future studies in mental health and medical marijuana, please feel free to

leave your email address below.

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**End of Block: Default Question Block**

APPENDIX E

PERMISSION TO USE SMITHBERGER ET AL., (2019) STUDY: *EVALUATION OF*

*MEDICAL MARIJUANA TOPICS IN THE PHARMD CURRICULUM: A NATIONAL*

*SURVEY OF SCHOOLS AND COLLEGES OF PHARMACY*

**Seeking Approval From Study**

Mon 3/23/2020 2:31 PM

Hello Dr. Smithburger,

My name is Anne Shragal and I am a doctoral student in the Counselor Higher Education and Supervision program at Northern Illinois University. I have copied my dissertation chair, Dr. Adam Carter, on this email.

I can across your article titled *Evaluation of Medical Marijuana Topics in the PharmD Curriculum: A National Survey of Schools and Colleges of Pharmacy* while conducting my literature for my dissertation.

I was so excited to find your study since it is right in line with what I am looking to research within the counseling field. It has become the keystone article for my research. While conducting a literature review, I have found a dearth of research and instrumentation in my particular field of study.

I am writing to seek approval to base my study using your instrument survey. I, of course, will make sure to give credit and properly cite/reference to your work.

Will you grant me approval to use your instrument for my study? I would very much appreciate it.

Best,

Anne

Anne Shragal, MA, LCPC, PEL:SC

Doctoral Student

Northern Illinois University

On Apr 8, 2020, at 1:57 PM, Meyer, Susan Marie wrote:

Anne:

See below. You have our permission to use the instrument referenced in our publication, *Evaluation of Medical Marijuana Topics in the PharmD Curriculum: A National Survey of Schools and Colleges of Pharmacy*, with attribution.

Please let me know if you have any questions.

Susan M. Meyer

Susan M. Meyer, PhD, FNAP Director, Interprofessional Center for Health Careers

Co-director, Pitt Center for Interprofessional Practice and Education

Associate Dean for Education, Pharmacy

University of Pittsburgh

**From:** Smithburger, Pamela L Havrilla Sent: Wednesday, April 8, 2020 2:45 PM To: Meyer,

Susan Marie Subject: RE: RESPONSE REQUESTED: Medical Marijuana Survey

Instrument

I do not have a problem at all. I am swamped with the pandemic and the remote APPE. I am days behind on emails.

Thanks Susan.

Pam

*Pamela L. Smithburger, PharmD, MS, BCPS, BCCCP, FCCP, FCCM*

*Associate Professor of Pharmacy and Therapeutics*

*University of Pittsburgh School of Pharmacy*

*Program Director, PGY2 Critical Care Pharmacy Residency*

*Clinical Specialist, Critical Care, UPMC Presbyterian*

APPENDIX F

INSTITUTIONAL REVIEW BOARD APPROVAL

**IRB Exemption Notice**

Patricia S Wallace

Wed 2/17/2021 11:29 AM



NORTHERN ILLINOIS UNIVERSITY

**Office of Research Compliance,  
Integrity & Safety**

*Division of Research & Innovation Partnerships*

**Exempt Determination**

17-Feb-2021

Anne Shragal (01787477)

Counseling, Adult and Higher Education

**RE: Protocol # HS21-0237 "MEDICAL CANNABIS AND COUNSELOR EDUCATION:  
EXAMINING THE RELATIONSHIP BETWEEN COUNSELOR EDUCATION  
CURRICULUM AND THE INCORPORATION OF MEDICAL CANNABIS"**

Dear Anne Shragal,

Your application for institutional review of research involving human subjects was reviewed by the Office of Research Compliance, Integrity, and Safety on **17-Feb-2021** and it was determined that it meets the criteria for exemption 2.

Although this research is exempt, you have responsibilities for the ethical conduct of the research and must comply with the following:

Amendments: You are responsible for reporting any amendments or changes to your research protocol that may affect the determination of exemption and/or the specific category. This may result in your research no longer being eligible for the exemption that has been granted.

Record Keeping: You are responsible for maintaining a copy of all research related records in a secure location, in the event future verification is necessary. At a minimum these documents include: the research protocol, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to participants, all correspondence to or from the IRB, and any other pertinent documents.

Please include the **protocol number** (**HS21-0237**) on any documents or correspondence sent to the IRB about this study.



If you have questions or need additional information, please contact the Office of Research Compliance, Integrity, and Safety at 815-753-8588.

**Please see the RIPS website for guidance on the impact of COVID-19 on research (including face-to-face data collection) <https://www.niu.edu/divresearch/covid/index.shtml>**

Patty Wallace

Compliance Coordinator

Office of Research Compliance & Integrity

Northern Illinois University