The formal instruction of psychopharmacology in CACREP-accredited counselor education programs

Victoria I. Sepulveda

The University of Toledo

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A Dissertation

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The Formal Instruction of Psychopharmacology in
CACREP-Accredited Counselor Education Programs

by

Victoria I. Sepulveda

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the
Doctor of Philosophy Degree in Counselor Education

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May 2011
An Abstract of

The Formal Instruction of Psychopharmacology in CACREP-Accredited Counselor Education Programs

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Victoria I. Sepulveda

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The University of Toledo
May 2011

Counseling professionals and researchers have advocated for counselor training in psychopharmacology in order to heighten counselors’ awareness of client needs and treatment standards (Ingersoll, 2000; King & Anderson, 2004; Smith & Garcia, 2003). There has been a lack of this training within counselor education graduate programs (Buelow, Hebert, & Buelow, 2000), which has been validated through studies of mental health practitioners’ knowledge and self-reported training in psychopharmacology (Bentley et al., 1991; Brammer et al., 2000; Escobedo et al., 2001). The 2009 CACREP Standards (CACREP, 2008a) outline the need for counselors to have understanding in the area of psychopharmacology within three specialty areas of counseling; however, psychopharmacological coursework is not mandated for professional counselor licensure. Counselor educators must consider how formal instruction in the area of psychopharmacology will assist counselors within all specialties to (a) communicate with diverse client populations, (b) refer clients for pharmacological interventions when needed (Buelow et al., 2000), and (c) promote client welfare (ACA, 2005). An
The purpose of this study was to investigate what factors (institutional, demographic, or perceptional) predicted the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education programs. A 33-item questionnaire was developed that served as an extension of previous research completed by others who have investigated the area of psychopharmacology in human service educational programs (Bentley et al., 1991; Escobedo et al., 2001; Scovel et al., 2002). The survey was distributed as an online questionnaire through a secured website to a population of 232 CACREP program liaisons, and a total of $n = 101$ participants’ data were analyzed through logistic regression. Educators’ training in psychopharmacology, educators’ geographic region, and educators’ perceived need for training in psychopharmacology were revealed as factors that could be used to predict the availability of psychopharmacology within their CACREP-accredited programs.

Descriptive data also were collected to explore how psychopharmacology coursework was incorporated into the participants’ CACREP-accredited counselor education programs. The findings from this exploratory study may assist in conducting future research about the availability and necessity of psychopharmacology within counselor education.
This dissertation is dedicated to my sweet Lena, who I love more than life itself.

“My child…my precious child. Consider the sun, the moon, and the stars…the rain that comes down from above. For this is like love…this is like love.”

From “Speak to the Child of Love” by Allen Koepke

This dissertation also is dedicated to my family and friends who supported me throughout this journey. My mama (Suzanne), and daddy (Jim), and brother (Adam) – words cannot express my gratitude to you for your unending support and unconditional love. Jhonatan, my incredible husband – you are my best friend and I am glad we made it through our final round of graduate school. My Grandma, aunts, and uncles – your support and love mean so much. I am blessed to have friends that also are family, including Alison, Annie, Audie, Dave D., Jeannie, Miguel, Mary K., Jen J., Mandisa, Kevin, Kathie, Pearl, Matt, Amanda, Mike, and so many others. The support you have given is incomparable. My friends at CCRS – including Craig, Kelly, Al, Samantha, Trish, Tammy, Garry, Gerry, Brian, Judy, Jim, Dave, Denise, Taundra, Michelle, and Keith – thank you for your fellowship over the years.
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List of Abbreviations

ACA…………American Counseling Association
ACES…………Association of Counselor Education and Supervision
AMHCA……..American Mental Health Counselors Association
APA…………American Psychological Association
CACREP…….Council for Accreditation of Counseling and Related Educational Programs
CCMHC…….Certified Clinical Mental Health Counselor
C/MHC...........Community/Mental Health Counseling
CSWE.........Council on Social Work Education
NASW.........National Association of Social Workers
NBCC..........National Board of Certified Counselors
NCC..........National Certified Counselor
NCSC..........National Certified School Counselor
NP...............Advanced Practice Nurse or Nurse Practitioner
PA..............Physician’s Assistant
SC...............School Counseling
Chapter One

Introduction

The field of professional counseling has continued to develop in terms of educational quality, clinical knowledge, and professional identity (Council for Accreditation of Counseling and Related Educational Programs [CACREP], 2008a; West, Bubenzer, Brooks, & Hackney, 1995). With this development, licensure and credentialing standards for counselors have transformed from simply having experience in developing relationships with others to having degrees from counseling graduate programs (West et al., 1995). The coursework within these programs also has developed along with the requirements for knowledge in issues related to client care. This development includes knowledge of multicultural, clinical, and ethical issues, as well as therapeutic standards and needs (CACREP, 2008a). Professional counselors also may need to address clients’ needs as they relate to pharmacology. The term pharmacology is defined by Ingersoll and Rak (2006) as “the science of the preparation, uses, and effects of drugs” (p. 3). These drugs are generally referred to as psychotropic medications by practitioners, researchers, and educators (Ingersoll & Rak, 2006). Kaut and Dickinson (2007) asserted that counseling professionals “in diverse clinical settings are routinely confronted with pharmacological issues” (p. 204). Accordingly, there has been an increase in the number of counselors who work with clients who are prescribed psychotropic medications (Bentley & Walsh, 2001; Bradley, 2003; Ingersoll & Rak, 2006; King & Anderson, 2004). King and Anderson (2004) described the use of psychotropic medications as pharmacotherapy. These terms are used within scholarly
writings to provide a basis for understanding the medical and biological components of mental health treatment (Kaut & Dickinson, 2007).

Counseling professionals and researchers have advocated for counselor training in psychopharmacology in order to heighten counselors’ awareness of client needs and treatment standards (Ingersoll, 2000; King & Anderson, 2004; Smith & Garcia, 2003). The term *psychopharmacology* is used to define the area of pharmacology that is related to the “psychological effects of drugs and the use of drugs to treat symptoms of mental and emotional disorders” (Ingersoll & Rak, 2006, p. 3). The *2009 CACREP Standards* (CACREP, 2008a) outline the need for counselors to have understanding in the area of psychopharmacology within specialty areas of counseling, including (a) Addiction Counseling (CACREP, AC, Assessment, Section G.4); (b) Clinical Mental Health Counseling (CACREP, CMHC, Assessment, Section G.3); and (c) Marriage, Couple, and Family Counseling (CACREP, MCFC, Assessment, Section G.3). Several researchers (Escobedo et al., 2001; Scovel et al., 2002) have noted, however, that psychopharmacological coursework is not a mandated area for professional counselor licensure and is often not a requirement for counselor education students. Some counselors have even argued that they do not necessarily need mandated training in psychopharmacology to be effective practitioners (King & Anderson, 2004).

Researchers have supported the necessity of psychopharmacological training by exploring students’ and practitioners’ current knowledge of psychotropic medications and psychopharmacology. Bentley, Farmer, and Phillips (1991) surveyed social work undergraduate and graduate students regarding their knowledge of psychopharmacology and attitude toward psychotropic medications. The researchers found students’
professional and personal experiences (including length of paid employment, knowing someone with mental illness, and seeking help for oneself) to be independently related to their level of knowledge; however, they could not find a clear correlation between knowledge of and attitude toward psychotropic medications (Bentley et al., 1991). Similarly, another study was created to explore how both counselor education students and CACREP program chairs responded to questions about the need for psychopharmacology within counselor education (Escobedo, Beamish, Stump, & Krause, 2001). Escobedo et al. (2001) found a majority of students wanting specific coursework in psychopharmacology. In a study completed by Brammer, Haller, and Roberson (2000), practitioners were surveyed and tested in the area of psychopharmacology. Those who had coursework in the topic of psychopharmacology failed to score significantly higher than other participants, and those with more clinical experience and previous coursework in psychopharmacology believed medically-based coursework was necessary in the training of mental health practitioners (Brammer et al., 2000). Additionally, researchers in the field of counseling have explored counselors’ perceptions of available training in the area of psychopharmacology (Scovel, Christensen, & England, 2002) and the ethical implications of having this training available for students within counselor education programs (King & Anderson, 2004). Scovel et al. (2002) surveyed members of the American Mental Health Counselors Association (AMHCA) and reported the majority of those surveyed believed psychopharmacological training should be a part of the curriculum for students in counseling programs. King and Anderson (2004) reviewed numerous studies that supported counselors’ knowledge of psychopharmacology in order to ethically and effectively treat clients. Current research, however, is needed to
investigate how the subject of psychopharmacology is incorporated into counselor education coursework. Although there has been some study in this area in the past (e.g., Escobedo et al., 2001), a more recent study would offer counselor educators and researchers a greater understanding about the current extent of psychopharmacological training within CACREP-approved programs. Also, a comprehensive exploration would assist in understanding how these counselor education programs are incorporating psychopharmacological content in order to meet the 2009 CACREP Standards (CACREP, 2008a). Further, there has been a significant rise in the number of counselor education programs accredited by CACREP, from 116 programs in 2001 (CACREP, 2001) to 221 programs in 2008 (CACREP, 2008b). In early 2009, this number increased to 232 programs (J. Gunderman, personal communication, January 21, 2009). This increase supports the need for educators and researchers to investigate the current incorporation of psychopharmacological coursework within CACREP-accredited counselor education programs.

To adequately explore the subject of psychopharmacological training within counselor education, a review of this training within other human service professions is helpful to gauge the level of instruction in psychopharmacology provided to students within other human service training programs. Researchers have supported training in psychopharmacology for all mental health practitioners (Preston, O’Neal, & Talaga, 2005). This training is regarded as essential, as these practitioners are often expected to diagnose clients’ mental health disorders and make referrals for treatment, which often includes pharmacotherapy (Preston et al., 2005). Additionally, researchers have cited similar experiences regarding the lack of psychopharmacological education within fields
such as pharmacy, social work, and psychology (Bentley et al., 1991; Bentley, Walsh, & Farmer, 2005; Ingersoll, 2001; Kansanaho, Cordina, Puumalainen, & Airaksinen, 2005; Scovel et al., 2002).

While pharmacists are not mental health practitioners, there are professional guidelines pharmacists must follow regarding patient-centered services (Skau, 2007), including talking with patients about taking medications and being aware of the side effects of their prescribed medications (Puumalainen, Halonen, Enlund, Johnson, & Airaksinen, 2005). Additionally, the topic of patient care within the scope of pharmacy practice has been supported by researchers and practitioners within this field. Droege and Assa-Eley (2005) discussed how graduates of a doctoral program in pharmacy believed they had developed interpersonal skills through both training and practice. The authors also surmised this program assisted in “instilling confidence in graduates to provide direct patient care” (Droege & Assa-Eley, 2005, p. 294). Capoccia et al. (2004) reported pharmacist-patient interactions and interventions have been fruitful when examining the outcomes of patients’ mental health issues. In fact, pharmacists have been reprimanded by state pharmacy boards for failing to ensure that they have counseled patients about the medications they have been prescribed (Littrell & Ashford, 1995; McCoy & Brady, 2008). This reiterates the need for pharmacists to have both positive patient communication skills and pharmacological knowledge.

Both communication skills and pharmacological knowledge have been incorporated into the field of social work, as social workers often serve clients who are prescribed psychotropic medications (Farmer, Bentley, & Walsh, 2006). The profession of social work has been active for over 100 years, and social workers were originally
known for advocating for social justice and civil rights (National Association of Social Workers [NASW], n.d.). During the past half-century, social workers’ responsibilities also have included serving as educators and intermediaries in working with both clients and their prescribing medical professionals (Farmer et al., 2006; Slavin, 2004). Thus, there has been a shift in social workers’ roles from serving solely as client advocates to serving as practitioners with clinical responsibilities to both clients and other medical professionals (Farmer et al., 2006; Slavin, 2004). Although it may be necessary for social workers to talk with clients about their pharmacological needs, they may have only been trained in the area of psychopharmacology through on-the-job work experiences (Bentley et al., 2005; Farmer et al., 2006). In a recent study of social work programs, fewer than half reported offering training through coursework that incorporated psychopharmacological content; additionally, in many instances, this coursework was designated as elective (Farmer et al., 2006). However, when reviewing the NASW Code of Ethics (1996), it is indicated social workers must have appropriate training, supervision, and licensure in order to discuss pharmacological issues with clients and other professionals.

Similar to social workers, psychologists also must be appropriately trained in the field of psychopharmacology in order to discuss pharmacological issues (APA, 2002). Although it is not necessary for psychologists to have a full understanding of pharmacology to work effectively with clients, professionals within the field of psychology have advocated for psychopharmacological education (Gutierrez & Silk, 1998; Littrell & Ashford, 1995; Tulkin & Stock, 2004). Moreover, a number of psychologists also have supported expanding their scope of practice to include
prescribing psychotropic medications to clients (Gutierrez & Silk, 1998; Sechrest & Coan, 2002; Stambor, 2005). Pharmacological training has not always been required for graduate students’ degree completion in psychology (Smyer et al., 1993), yet the subject of psychopharmacology has been applied in therapeutic relationships between psychologists and their clients for many years (Gutierrez & Silk, 1998). Littrell and Ashford (1995) stated client medication issues may have to be discussed, particularly when communicating with clients’ other mental health professionals or prescribing physicians.

In the professions of counseling, pharmacy, social work, and psychology, it is evident there has been a shift in providing pharmacologically-related services to clients (Bentley et al., 1991). If professionals within these fields are expected to discuss pharmacological issues with their clients, it is reasonable to assume they should have the training to do so. When focusing on the field of counseling, it has been acknowledged that psychopharmacological training has been lacking within counselor education graduate programs (Buelow, Hebert, & Buelow, 2000). This has been validated through studies of mental health practitioners’ psychopharmacological knowledge and self-reported training experiences (Bentley et al., 1991; Brammer et al., 2000; Escobedo et al., 2001). The lack of psychopharmacological training within the field of counseling is a concern when addressing how practitioners talk with clients about their treatment, as well as their prescribed psychotropic medications. Littrell and Ashford (1995) discussed how “nonphysician members of the health care delivery system can discuss treatments, including medications, prescribed by physicians” (p. 238). However, counselors must practice within their areas of competence, which is based upon training, education,
credentials, and professional experience (American Counseling Association [ACA], 2005, C.2.a.). Therefore, if counselors are not trained in the area of psychopharmacology, it may be argued they are unfit to discuss pharmacological issues with their clients, which may hinder counselors’ potential for career growth and professional identity as mental health practitioners.

Statement of the Problem

The problem addressed in this study is the lack of knowledge regarding the state or extent of psychopharmacological training within graduate level counselor education curricula. While a majority of careers in the mental health field require understanding clients’ psychopharmacological needs (Bentley et al., 1991), there has been a lack of psychopharmacological training within counselor education graduate programs (Buelow et al., 2000; Escobedo et al., 2001; Foxhall, 2008; Scovel et al., 2002). This could negatively affect counselors’ ability to meet the needs of clientele who are prescribed psychotropic medications. The use of psychotropic medications to treat mental or emotional disorders has increased over the past decade; 89 percent of surveyed mental health practitioners reported working with clients who were prescribed psychotropic medications (Scovel et al., 2002). Nearly half (47.6%) of surveyed practitioners did not receive any psychopharmacology training within their graduate programs, and over 81 percent of those surveyed reported they were not required to take a psychopharmacology course at either the master’s or doctoral level (Scovel et al., 2002). Additionally, over 90 percent of the surveyed practitioners indicated psychopharmacology should be a required course within a counseling curriculum (Scovel et al., 2002). Brammer et al. (2000) had similar results in surveying mental health practitioners, who reported more
pharmacologically-based coursework should be offered to students in mental health training programs.

Within the CACREP Standards of both 2001 (CACREP, 2001) and 2009 (CACREP, 2008a), the area of psychopharmacological knowledge has been mentioned as a requirement within certain counseling specialty areas; however, a majority of counselor education programs have not required specific coursework in psychopharmacology (Escobedo et al., 2001). In the 2009 CACREP Standards (CACREP, 2008a), the terms “psychopharmacology,” “psychopharmacological,” and “medications” are listed within the Program Area Standards for (a) Addiction Counseling (CACREP, 2008a, AC, Assessment, Section G.4.); (b) Clinical Mental Health Counseling (CACREP, 2008a, CMHC, Assessment, Section G.3.); and (c) Marriage, Couple, and Family Counseling (CACREP, 2008a, MCFC, Assessment, Section G.3.). Those who concentrate in these program areas will be expected to demonstrate basic knowledge in the area of psychopharmacology, including the classifications and effects of different psychotropic medications (CACREP, 2008a). However, there is no mention of knowledge or training in psychopharmacology within the Professional Identity standards for doctoral level counselor education programs (CACREP, 2008a). Further, there is no mention of this knowledge within the master’s level Program Area Standards of Career Counseling and School Counseling, or the doctoral standards for Counselor Education and Supervision (CACREP, 2008a).

The lack of psychopharmacological education applies to students in school counseling programs, as these students are not mandated to take coursework in psychopharmacology, even as the number of students in schools who are prescribed
psychotropic medications continues to increase (Bauer, Ingersoll, & Burns, 2004; Foxhall, 2008). In one study, a majority of surveyed school counselors (81%) indicated they had been poorly prepared for dealing with issues related to psychotropic medications (Bauer et al., 2004). With this information, it is likely the current standards for training in counselor education programs do not meet the standards for psychopharmacological knowledge in working with clients.

Counselor educators must consider how formal instruction in the area of psychopharmacology will assist counselors within all specialties to (a) communicate with diverse client populations, (b) refer clients for pharmacological interventions when needed (Buelow et al., 2000), and (c) promote client welfare (ACA, 2005). An exploration of what factors predict the availability of psychopharmacology within counselor education programs is necessary in order to recognize how these programs are providing psychopharmacological education to students, and if counselor educators see this area as necessary to the counseling profession.

Purpose of the Study

The purpose of this research was to investigate what factors (institutional, demographic, or perceptional) predicted the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education programs.

Research Questions

1. Does the number of credits required for graduation within the nine individual CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?
2. Does the number of full-time faculty members in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?

3. Does the number of full-time equivalent faculty members (inclusive of counselor educators with full-time, part-time, or adjunct status) in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?

4. Does the total number of CACREP-accredited programs offered within institutional departments predict the availability of formal instruction in psychopharmacology?

5. Does educators’ expertise and the expertise of their fellow faculty members in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs?

6. Does educators’ geographic region predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs?

7. Does educators’ perceived need for training in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs?

**Significance of the Study**

The results of this study will assist in identifying the extent to which CACREP-accredited counselor education programs have offered coursework, training, or instruction in the area of psychopharmacology. The results may further assist in identifying if programs within certain geographic regions have been more likely than others to offer formal instruction in psychopharmacology. Further, the results may help
to identify the perceived significance of the area of psychopharmacology within CACREP-accredited counselor education programs. From this research, further exploration and implications can be made as to what curriculum changes, if any, could be made to accredited counselor education programs regarding coursework in psychopharmacology. Additionally, the findings from this study may assist counselor education researchers in conducting similar surveys with counselor educators, students, and department or program liaisons. Finally, the results of this study may be useful to counselor educators in interpreting and applying current program accreditation standards, as well as in developing future program accreditation standards.

**Organization of Chapters**

The first chapter of this dissertation contains the researcher’s rationale for the study, hypotheses, and the significance of the study. The second chapter includes a literature review highlighting how different human service professions have incorporated the teaching of psychopharmacology, and how counseling educators and professionals have integrated psychopharmacology into practice. This chapter also includes the ethical implications regarding counselors’ knowledge of psychopharmacology. The third chapter describes the methodology used for the study, including a description of the variables, participants, instrumentation, procedures, and data analysis. A brief description of the survey administered to the study’s participants also is given. The fourth chapter includes a description of the results, as well as the analysis used for the study. The fifth and final chapter contains a summary of the results and hypotheses, as well as a description of other data obtained in the study. Implications, limitations, and suggestions for future research are also included.
Chapter Two

Review of the Literature

Introduction

The majority of professional counselors are not mandated to take coursework in the area of psychopharmacology (King & Anderson, 2004). The number of clients who enter counseling already on psychotropic medications, however, would indicate a growing need within the counseling profession to incorporate psychopharmacological knowledge into the counselor education curriculum (King & Anderson, 2004). Unfortunately, it may still be some time before teaching psychopharmacology is the norm within counselor education.

Historically, there have been other professions in which the communication of psychopharmacological knowledge to clients was initially hindered and even prohibited. These professions include pharmacy, psychology, and social work (Farmer et al., 2006; Kansanaho et al., 2005; Tulkin & Stock, 2004). Professionals within each field have advocated for counseling clients regarding their pharmacological queries when appropriate. During the past half-century, the roles of pharmacists, psychologists, and social workers have shifted to incorporate the needs of patients and clients regarding psychotropic medications.

This review includes the histories of several helping professions as they pertain to the subject of psychopharmacology. These professions include (a) pharmacy, (b) psychology, (c) social work, (d) physician assisting, (e) advanced practice nursing, and (f) midwifery. This information will be compared with the history of counseling as it pertains to the incorporation of psychopharmacological knowledge into counseling
practice. The researcher’s intent for this literature review is to indicate the commonalities each of these professions share regarding the integration of psychopharmacology into everyday practice.

**History of Pharmacy and Psychopharmacology**

Professional guidelines for pharmacists regarding patient-centered services have evolved since first being published approximately a half-century ago (Skau, 2007). At that time, writers and researchers in the field of pharmacy agreed pharmacists should talk with patients about (a) how to take medication, (b) when to take medication, and (c) how to be aware of and manage side effects from medication (Puumalainen et al., 2005). Over the years, these guidelines have changed from simply informing patients about medications to counseling them about their prescribed medications.

Currently, “pharmacists need to know principles of patient counseling, health education and reflectivity and be able to implement these competencies into their practice” (Kansanaho et al., 2005, p. 20). Johnson and Boon (2007) stated how pharmacists are expected to serve as “drug experts” (p. 1) who counsel their patients about using medications safely and effectively. Gonzalez (2005) described the potential shift of pharmacists from standing behind pharmacy counters to serving as clinicians who communicate with “consumers of health care and…regulatory agencies, educating them about the clinical role that pharmacists fulfill in preventing and reducing the burden of acute and chronic illness by helping patients make the best use of their medicines” (p. 2040).

The need for pharmacists to build clinical relationships with patients has been the impetus behind change in pharmaceutical education as well, as pharmacy programs
transitioned from apprenticeship styles of learning to a scientifically-based learning discipline (Skau, 2007). Prior to the 1940s, most drugs (with the exception of some which were sold only with a prescription) were distributed at pharmacists’ discretion after consulting with consumers. These pharmacists were likely to be trained through experiential apprenticeships (Belden, 2007). In the 1950s, the focus of pharmaceutical training shifted to science and the origins of medications, as pharmacy was regarded as a “true science-based profession” (Skau, 2007, p. 1). This was due in part to legislation that restricted pharmacists’ responsibilities to merely distributing medications rather than finding medicines to cure patients’ ailments. Additionally, this legislation restricted more medications to prescription-only status (Skau, 2007). The scientific focus on pharmacy training led to the development of strong research programs, which eventually paved the way for doctoral degrees in pharmacy. The doctoral degree in pharmacy (or PharmD) eventually superseded apprenticeship training and is currently seen as the educational standard for pharmacists (Droege & Assa-Eley, 2005).

Although pharmacists are regarded as having a scientific foundation from which to practice, over the past 35 years there has been a paradigm shift from pharmacists merely purveying pharmaceutical products to providing patient care, as these professionals have “embraced pharmaceutical care as the focal point of a comprehensive re-professionalization strategy” (Droege & Assa-Eley, 2005, p. 290). One might argue this shift represents a blend between the personal and scientific aspects of pharmacy, where pharmacists are thought of as more than dispensers of prescribed medications. In fact, students in pharmacy are likely to take courses that focus on developing patient care techniques. Droege and Assa-Eley (2005) reported in their study of recent pharmacy
graduates the majority felt they had developed adequate interpersonal skills for working with patients and providing appropriate patient care. This evolution may be linked to the development of the pharmacy profession, as well as the liability pharmacists may incur if they do not provide patient counseling (McCoy & Brady, 2008).

Littrell and Ashford (1995) reported there have been numerous cases and lawsuits brought against pharmacists for failing to properly advise patients about adverse side effects, claiming pharmacists have a duty to warn patients about the effects of medications. The issue of pharmacists’ duty to warn has been debated for several years; what has since become the norm is the ability for pharmacists to discuss medications with patients. “The bottom line emerging from litigation and statutes…is that it is legal for nonphysicians to discuss physician-prescribed treatments” (Littrell & Ashford, 1995). In effect, these professionals may be required to discuss treatments that have been prescribed by other medical professionals (Littrell & Ashford, 1995). Most states require pharmacists to offer patient counseling when patients are receiving their prescription medications (McCoy & Brady, 2008). Patients can refuse this counseling; often these patients must sign their names when declining counseling as a safeguard for pharmacists should an adverse medication-related event later occur.

Regarding psychopharmacology and patient care standards, Capoccia et al. (2004) stated pharmacists “have the potential to improve the quality of care and outcomes by enhancing compliance, adjustment of medications, and monitoring and managing adverse effects” (p. 365). Further, Capoccia et al. (2004) indicated regular interactions and interventions between pharmacists and patients have assisted in improvements in outcomes of mental health issues such as depression. This reiterates the assertion that
students in training to become pharmacists must have well-rounded knowledge in both pharmacology and patient care, as pharmacists must have knowledge of medication levels and dosage, adverse reactions to medications, symptoms of relapse, as well as interpersonal skills (Capoccia et al., 2004).

**History of Psychology and Psychopharmacology**

Similar to pharmacists, psychologists have experienced a shift in the incorporation of psychopharmacology, as they have adapted their educational content and practices to meet the needs of persons who receive mental health care (Tulkin & Stock, 2004). Additionally, training and education has advanced in order for psychologists to remain clinically and professionally relevant. Gutierrez and Silk (1998) reported it is common practice for psychologists to incorporate psychopharmacological knowledge into their training, as this “interest and involvement…dates back at least 40 years” (p. 216).

Tulkin and Stock (2004) assessed training within the field of psychology and advocated for training psychologists in psychopharmacology. In fact, several states have endorsed legislation or regulations that emphasize psychologists’ training in psychopharmacology (Tulkin & Stock, 2004). This has come a long way in the past few years. Similar to pharmacists, the ability for psychologists to discuss medications with clients also has been disputed (Littrell & Ashford, 1995). In reviewing ethical codes pertaining to psychologists, the American Psychological Association’s (APA; 2002) ethical standards indicate “psychologists provide services, teach, and conduct research with populations and in areas only within the boundaries of their competence, based on their education, training, supervised experience, consultation, study, or professional
experience” (Section 2.01). Additionally, there has been legal support for nonphysician medical professionals, such as pharmacists and nurses, to talk with clients about their prescribed medications (Littrell & Ashford, 1995). Finally, Littrell and Ashford (1995) stated psychologists may have to discuss clients’ medication issues when coordinating care between two or more professionals. These factors support the assertion that, with appropriate pharmacological training, practice, and professionalism, psychologists have the skills necessary to discuss medication issues with clients.

With the growth of biomedical science, as well as pharmaceutical research and development, clients who seek mental health care have various options relating to psychotropic medications and psychotherapy (Gutierrez & Silk, 1998; Kaut & Dickenson, 2007). King and Anderson (2004) reported the concomitant use of psychotropic medications and psychotherapy is currently seen as “the standard of care for many mental health disorders” (p. 329). As there has been an increase in clients’ use of prescribed psychotropic medications within the past several decades, there also are numerous psychologists who have advocated for prescription privileges (Fox & Sammons, 1998; Gutierrez & Silk, 1998; Stambor, 2005). Currently, New Mexico and Louisiana have granted psychologists limited prescription privileges (Stambor, 2005). Legislation in other states has not been successful, yet members of the APA and supporters of psychologists’ prescription privileges continue to advocate strongly for this issue (Fox & Sammons, 1998; Gutierrez & Silk, 1998). This issue has been debated and contested for over 30 years, and consequently, the APA has developed model state legislation and an educational curriculum to support training psychologists for prescription privileges (Gutierrez & Silk, 1998).
Smyer et al. (1993) reported several years ago that while the majority of doctoral-level psychology programs offered coursework in psychopharmacology, it was not a required course for program completion. Eighteen percent of clinical psychology programs at that time also required a practicum with psychopharmacological training (Smyer et al., 1993). When surveying graduate training programs in psychology, Gutierrez and Silk (1998) noted psychopharmacology education was “deemed to be important in some…programs” (p. 216) and implied the field of psychology was ready to incorporate psychopharmacology training into educational standards. Recently, Tulkin and Stock (2004) suggested strategies to incorporate information and training relating to psychopharmacology, as well as disseminating information about psychotropic medications in courses that address treatment for clinical issues. Additionally, Tulkin and Stock (2004) also considered developing “content areas beyond basic psychopharmacology” (p. 152) as the field of psychology could potentially shift into a health profession as more psychologists obtain prescription privileges. With this information, it is evident there are advances being made regarding the incorporation of psychopharmacology into the field of psychology. However, there continue to be implications for improving the incorporation of this subject into psychological training.

**History of Social Work and Psychopharmacology**

The field of social work also has been affected by the incorporation of psychopharmacology into education and clinical practice. However, unlike psychologists, it appears social workers are not presently advocating for incorporating prescription privileges into regular social work practice. Farmer et al. (2006) reported that for approximately the past 50 years, social workers have worked closely with
medical professionals who prescribed psychotropic medications to their clients. At times, these social workers have been exposed to psychopharmacology through on-the-job training opportunities, or have taken on the role of client advocate when communicating with other medical professionals about client medical needs (Farmer et al., 2006).

Presently, social workers may work with clients “who are prescribed several medications concurrently, often to treat several overlapping mental disorders, which makes social work interventions all the more complex” (Farmer et al., 2006, p. 211). Slavin (2004) noted social workers also serve as educators and intermediaries in working with both prescribing professionals and clients. One may argue there has been a shift in social workers’ roles from serving as client advocates to serving as care providers who have clinical responsibilities and collaborative duties (Farmer et al., 2006; Slavin, 2004). With this shift, there has been an increase in social work-related publications in the area of psychopharmacology (Farmer et al., 2006).

Littrell and Ashford (1994) reported that the Council on Social Work Education (CSWE) has advocated teaching psychopharmacology to social workers. One example of this includes the CSWE’s collaboration with the National Institute of Mental Health to present a televised program about psychototropic medications for social worker audiences (Littrell & Ashford, 1994). Additionally, there have been several social work practitioners and researchers who have continued to advocate for social work issues relating to psychopharmacology (Bentley, et al., 1991; Dziegielewski, 1998; Farmer et al., 2006). Within the past several years, there have been articles written expressly for social workers about pharmacological interventions for mental health issues and disorders such as depression (Dziegielewski, 1998) and schizophrenia (Bentley, 1998).
Researchers in the social work field also have discussed the implications of psychotropic medications on adolescents and other specialized populations (Moses & Kirk, 2006).

Although professionals in the social work field continue to explore the subject of psychopharmacology as it relates to social work practice, several researchers have noted the need for improvement in psychopharmacological education and research within this field. Farmer et al. (2006) felt that courses in social work need to “routinely include more in-depth knowledge on psychopharmacology and provide a more critical social work-focused approach to this content due to the increasing complexity of social work practice” (p. 211). Additionally, Bentley et al. (2005) reported there has been little empirical research that “assesses what social workers are doing…with respect to psychiatric medication” (p. 295). These points align with Lacasse and Gomory’s (2003) implications about the dearth of psychopharmacological literature and course content within social work programs. In their study, Lacasse and Gomory (2003) analyzed syllabi from different social work graduate programs to determine if diverging viewpoints and empirical evidence about these viewpoints were included in coursework relating to four distinct mental health topics. These mental health topics were strongly related to the subjects of psychopathology and psychopharmacology (Lacasse & Gomory, 2003).

Similar to other mental health professions, social workers have held differing opinions regarding psychopharmacological treatment and, consequently, how the subject of psychopharmacology is taught to students in social work programs. Moses and Kirk (2006) reported how earlier social work literature often negatively depicted the use of psychotropic medications. This literature was more likely to focus on the negative
aspects of psychopharmacology, which include drug misuse, overmedication, and patient rights issues (Moses & Kirk, 2006). Farmer et al. (2006) discussed the incorporation of curriculum modules into social work education and described seven modules for integrating the subject of psychopharmacology into social work practice. Some aspects of these modules include the opportunity for master’s-level social work students to take “a more active role with regard to medications” (Farmer et al., 2006, p. 218).

Specifically, students can learn about integrating therapeutic strategies into psychotropic interventions, as well as understand collaboration with clients and prescribing professionals (Farmer et al., 2006).

Lacasse and Gomory (2003) advocated for teaching both positive and negative aspects of clients’ use of psychotropic medications, as well as the effects of medications. The position of these researchers has been to reach beyond the “apparent one-sided approach of mental health education in social work master’s-level psychopathology classes” (Lacasse & Gomory, 2003, p. 401) to offer balanced perspectives about mental health treatment, including the use of psychotropic medications. Bentley et al. (2005) noted there have been differing opinions about what is considered the “appropriate stance” (p. 302) for social workers to take. The authors indicated it is appropriate for social work professionals to have a critical perspective about the subject of psychopharmacology. Social workers can recognize how psychotropic medications can benefit both clients’ therapeutic outcomes and quality of life, but also “understand the strong influences of economic and political forces in prescription writing…and the possibility of related bias in research and marketing” (Bentley et al., 2005, p. 302).
The subject of psychopharmacological education in the field of social work is likely to be continually addressed by social work professionals and researchers alike. For those in need of current standards regarding psychopharmacology in social work, it may be most helpful to consult the NASW Code of Ethics (NASW, 1996), as the issue of social worker competence is addressed. The NASW Code of Ethics (NASW, 1996) states “social workers should provide services and represent themselves as competent only within the boundaries of their education, training, license, certification, consultation received, supervised experience, or other relevant professional experience” (Section 1.04.a.). Additionally, social workers should provide new treatment strategies or skills if they are “engaging in appropriate study, training, consultation, and supervision from people who are competent in those interventions or techniques” (NASW, 1996, Section 1.04.b.). These ethical standards indicate the necessity for social workers to have accurate training, credentialing, and supervision when planning to address pharmacological issues with clients. In consulting with other professionals, the NASW Code of Ethics (NASW, 1996) also specifies social workers should obtain the “advice and counsel of colleagues whenever such consultation is in the best interests of clients” (Section 2.05.a.). Moreover, social workers are to consult only with colleagues who have demonstrated expertise and competence in the area in which they seek consultation (NASW, 1996, Section 2.05.b.).

Students within graduate social work programs are most likely to learn about the NASW Code of Ethics (NASW, 1996) within related coursework; however, researchers have expressed concerns regarding how often students in these programs are educated about psychopharmacology. A study by Bentley et al. (2005) of social workers’ activities
regarding psychotropic medications indicated the majority of social workers learned about these medications through work-related experiences. Farmer et al. (2006) reported in a previous study, fewer than half of the surveyed social work programs reported offering courses with some psychopharmacological content, and many of these courses were elective in nature. Further, Farmer et al. (2006) implied there needs to be a clear attempt made to systematically survey the status of coursework in psychopharmacology for social work programs, as one of the last comprehensive surveys in this area was published in 1990. The issues of psychopharmacological coursework availability and the quality of this coursework will continue to be addressed by social work professionals who see this coursework as essential to the practice of social work.

**Psychopharmacology and Other Helping Professions**

Within the past four decades, physician assistants (PAs) and advanced practice nurses or nurse practitioners (NPs) have increased in visibility among medical professionals (Cipher, Hooker, & Guerra, 2006; Weston, 1984). Consequently, the ability of PAs and NPs to prescribe medications has risen steadily, as PAs have prescription privileges in 49 states (Boen, 2006) and NPs are able to prescribe in 49 states and the District of Columbia (Cipher et al., 2006; Towers, 2003). Researchers in the field of public health have noted although there is a lack of growth in the number of physicians in the United States, the demand for physician-related services continues to rise (Cipher et al., 2006; Cooper, Getzen, & Laud, 2003). The field of midwifery also has increased, as midwives have been recognized for delivering a wider range of women’s health services than care during pregnancy and childbirth (Practice Profile, 1997). Additionally, midwives are able to prescribe medications, often as a supplementary
prescriber (McKay, 2007). “Supplementary prescribing is a framework for prescribing and requires a partnership between an independent prescriber…the patient and the supplementary prescriber” (McKay, 2007, para. 10).

As PAs, NPs, and midwives continue to gain recognition as medical professionals, the issue of prescription privilege has been addressed by public health researchers and advocates for psychologists who seek the ability to prescribe medications. While Cipher et al. (2006) noted PAs and NPs will continue to prescribe medication “as enabling legislation improves” (p. 295), researchers have sought to find information about curriculum requirements among these medical professions.

Sechrest and Coan (2002) conducted a survey of medical professions related to criteria for admission as well as training in pharmacology. These researchers found PAs, NPs, and other medical professionals (including optometrists, dentists, and physicians) were required to have “extensive prerequisites in science—and even mathematics—for admission into training for all the prescribing professions” (Sechrest & Coan, 2002, p. 657). The curricula within many of these programs may include, but are not limited to, (a) organic and inorganic chemistry, (b) biology, (c) anatomy, (d) physiology, (e) physics, (f) microbiology, and (g) genetics (Sechrest & Coan, 2002). At the time of the study, the majority of PAs were required to take at least four semester hours in pharmacology, with NPs having at least three semester hours in this subject. This information validates the assertion that medical professionals who have the ability to prescribe have had substantial training in science-related subjects; this training has usually taken place at both baccalaureate and post-baccalaureate levels. For professionals (including those in mental health fields) who advocate for the ability to prescribe
medications, it may be valuable to explore the differences in curricula between professions who do and do not have the general ability to prescribe even a limited formulary. Sechrest and Coan (2002) noted psychologists who advocate for prescription privileges would need to re-examine undergraduate curriculum in order to prepare students in post-baccalaureate programs to develop competency in pharmacology education.

When considering this information as it relates to counselor education, it should be noted the researcher’s intent is not to advocate for prescription privileges for counselors. Rather, the intent is to address the levels of training necessary to demonstrate competence in mental health and medical professions. As counselors are apt to work with clients who are taking prescribed psychotropic medications under the supervision of medical professionals, it would be beneficial for counselors to have training about these medications. Scovel et al. (2002) found counselors are often more familiar with clients and their clinical issues than clients’ prescribing professionals. Additionally, counselors must understand they will serve in collaborative relationships with other professionals regarding client issues; they may be expected to have working knowledge of psychopharmacology or discuss clients’ medication issues with their prescribing professionals.

**History of Counseling and Psychopharmacology**

The subject of psychopharmacological knowledge in counseling has been increasingly addressed as counselors “are faced more than ever with a continually challenging client population” (Scovel et al., 2002, p. 36). This is due in part to the shift in non-medical practitioners’ responsibilities in working with clients who are prescribed
psychotropic medications (Bentley & Walsh, 2001; Bradley, 2003; Ingersoll & Rak, 2006). The role of psychopharmacology in mental health treatment has evolved over the past half-century, as it was once considered a specialty area for psychiatrists (Ingersoll & Rak, 2006). Prior to this evolution, mental health providers who were not medically trained could ethically practice without having training about psychotropic medications (Ingersoll & Rak, 2006).

With the growth of biomedical science, as well as pharmaceutical research and development, clients who seek counseling services have various options relating to both therapeutic and pharmacological treatment (Kaut & Dickenson, 2007). King and Anderson (2004) reported the concomitant use of psychotropic medications and psychotherapy is seen as “the standard of care for many mental health disorders” (p. 329). Bradley (2003) referred to this standard as the psychopharmacological triangle, as clients may receive psychotherapy and psychotropic medications from different clinicians. Psychotropic medications are often prescribed by physicians or psychiatrists, who also are responsible for monitoring their patients’ treatment (Littrell & Ashford, 1995). These patients are often seen by counselors or other clinical professionals within the mental health field (Kaut & Dickinson, 2007; Bradley, 2003).

When comparing the educational and training experiences of counselors with other clinical professionals, such as social workers and psychologists, it appears researchers in each of these three fields have acknowledged there has been a lack of psychopharmacological training (Bentley et al., 1991; Bentley et al., 2005; Ingersoll, 2001; Scovel et al., 2002). Preston et al. (2005) supported psychopharmacological training for all mental health practitioners, as clinicians are expected to accurately
diagnose mental health disorders and make appropriate referrals for treatment and pharmacotherapy. While a majority of careers in the mental health field require understanding clients’ pharmacological needs (Bentley et al., 1991), there continues to be a lack of psychopharmacological training within counselor education graduate programs (Buelow et al., 2000). Scovel et al. (2002) reported over 90 percent of surveyed mental health practitioners indicated education in psychopharmacology should be a requirement of mental health training programs. Of these practitioners, nearly half (47.6%) did not have pharmacological coursework offered in their training programs, and over 81 percent were not required to take this coursework at either the master’s or doctoral level. A strong majority (89%) of survey respondents, however, reported they worked with clients who were prescribed psychotropic medications (Scovel et al., 2002). Brammer et al. (2000) found similar results from practitioners who believed more pharmacologically-based courses should be made available to persons in mental health training programs.

An additional concern regarding the training and educational experiences of counselors and other mental health professionals includes the exploration of ethical issues (Ingersoll, 2001). However, there have been writings in support of mental health professionals’ discussion of psychotropic medications with clients (King & Anderson, 2004; Littrell & Ashford, 1995), which assist in clarifying the ethical implications regarding the ability to talk with clients about psychotropic medications.

**Ethical Implications Regarding Psychopharmacology**

Although the majority of counseling professionals will work with clients who are prescribed psychotropic medications (King and Anderson, 2004; Scovel et al., 2002), some professionals believe it is unethical for counselors to discuss medication issues with
their clients (Buelow et al., 2000). The *ACA Code of Ethics* serves as the standard for counselors when clarifying professional and ethical issues (ACA, 2005).

In reviewing the *ACA Code of Ethics* (ACA, 2005), several ethical standards would appear to support counselors’ abilities to address issues concerning psychotropic medications, if appropriately trained, credentialed, and supervised. As a safeguard, the *ACA Code of Ethics* states counselors must “practice only within the boundaries of their competence, based on their education, training, supervised experience, state and national professional credentials, and appropriate professional experience” (ACA, 2005, C.2.a., p. 9). Therefore, counselors must have pharmacological training and demonstrate competence in this area to ethically discuss these issues. Additionally, counselors’ utilization of continuing education opportunities is essential to maintain adequate knowledge of pharmacological issues, procedures, and best practices (ACA, 2005, C.2.f.). To ethically and effectively serve the counseling profession, counselors also must advocate for their clients’ needs (ACA, 2005, A.6.a.); specifically, counselors must examine the “potential barriers and obstacles that inhibit…the growth and development of clients” (p. 5). These barriers may include (a) counselors’ lack of experience or knowledge in psychopharmacology (Kaut & Dickinson, 2007); (b) clients’ need for understanding how they may benefit from the use of psychotropic medications (King & Anderson, 2004); and (c) clients’ use of substances that, when combined with prescribed medications, could have a negative effect on their health (Buelow et al., 2000). Counselors’ advocacy for issues such as these will help in modifying clients’ treatment or care when needed, as well as communicating with and making appropriate referrals to clients’ medical practitioners (Ingersoll, 2001). Additionally, communication between
counselors and medical professionals could help to gain “a greater understanding of clients’ responses to medications” (Ingersoll, 2001, p. 90).

**Professional Implications for Counselors Regarding Psychopharmacology**

While it is important for counselors to demonstrate appropriate ethical practices, it also is imperative they receive supervision and consultation from capable and ethical professionals. Ingersoll and Rak (2006) recognized the importance of supervision for counselors who discuss psychotropic medication issues with their clients, as supervisors should monitor (a) how counselors approach the use of medications with their clients, (b) how often counselors check in with their clients about their medications, (c) how counselors communicate and consult with clients’ physicians, and (d) how counselors advocate for their clients’ needs. Another area for counselors and supervisors to consider includes recognizing diversity issues as they relate to clients’ use of psychotropic medications (ACA, 2005, B.1.a.; Ingersoll & Rak, 2006). Ingersoll (2001) reported clinical professionals should explore the relevance of ethnicity, race, and other cultural variables in the study of psychopharmacology. These issues could be furthered through future research and advances in psychopharmacological coursework.

**Educational Implications for Counselors Regarding Psychopharmacology**

There have been notable studies that addressed the need for psychopharmacological training in counselor education (Bauer et al., 2004; Scovel et al., 2002), yet few researchers have investigated the extent to which counselor education programs currently offer required or elective coursework in psychopharmacology. Escobedo et al. (2001) surveyed CACREP-accredited counselor education programs about the availability of psychopharmacology courses and students’ perceptions of
training in psychopharmacology. These researchers indicated some counselor education programs did not offer specific courses in psychopharmacology, and students within these programs desired training in this subject (Escobedo et al., 2001). This study offered some implications for the need for psychopharmacological education; however, a newer study would benefit counselor educators and researchers in understanding the extent to which psychopharmacological coursework—both required and elective—is currently offered in CACREP-approved programs. Additionally, a comprehensive exploration of counselor education programs will assist in understanding what factors predict the availability of psychopharmacology education within accredited counselor education program. The extent of psychopharmacological education differs from the prediction of this education, as educators may incorporate some materials in other courses; however, they may not have the capability to offer an entire course in psychopharmacology due to institutional (or other) factors.

The necessity of psychopharmacological coursework within counselor education programs has been reassessed by counseling professionals and educators for the 2009 CACREP accreditation specialty standards (CACREP, 2008a). Within the 2009 CACREP Standards (CACREP, 2008a), counselor education students who specialize in (a) Clinical Mental Health Counseling (CACREP, 2008a, CMHC, Assessment, Section G.3); (b) Addiction Counseling (CACREP, 2008a, AC, Assessment, Section G.4); or (c) Marriage, Couple, and Family Counseling (CACREP, 2008a, MCFC, Assessment, Section G.3) will be expected to demonstrate knowledge in the area of psychopharmacology, including the classifications and effects of different psychotropic medications. These standards represent counselors’ and educators’ understanding of
clients’ needs as they correspond to mental health treatment. The addition of this area will affect students’ coursework and programming, as well as the standards for academic competence in counselor education programs.

As Buelow et al. (2000) and King and Anderson (2004) noted, some mental health practitioners believe psychopharmacological knowledge should be reserved for medical professionals. However, Kaut and Dickinson (2007) stressed the importance for counselors to understand all aspects of clients’ needs, including how feelings, thoughts, and behaviors are influenced by biological underpinnings. This supports the need for psychopharmacological coursework within counselor education programs. While it is not necessary for counseling professionals and students to have formal training in neuroscience, it is necessary to have a reasonable understanding of the brain, central nervous system, and the effects of psychotropic medications on persons with mental health issues (Kaut & Dickinson, 2007).

An important element in offering psychopharmacological coursework is ensuring the applicability of information will relate to clients’ pharmacological needs. When surveying mental health practitioners about their psychopharmacological knowledge, Brammer et al. (2000) found those who had taken a psychopharmacology course did not score significantly higher than respondents who had not taken coursework in this area. It is appropriate and reasonable to expect those counselors who have taken coursework in psychopharmacology would have an understanding of the medications used to treat mental health disorders, as well as how to refer clients for pharmacotherapy and communicate effectively with clients’ prescribing practitioners.
Similar to psychologists (Gutierrez & Silk, 1998) and social workers (Farmer et al., 2006), counselors may be more familiar with their clients’ mental health issues than clients’ prescribing physicians (Scovel et al., 2002), or be directly involved in observing clients’ responses or reactions to psychotropic medications (Preston et al., 2005). They also may serve as intermediaries, informing physicians of clients’ reported side effects, observed behaviors, or issues related to dosing and administration (Buelow et al., 2000; King & Anderson, 2004). Counselors may further assist in educating clients about their medications or advocating for their needs when visiting with physicians (King & Anderson, 2004); thus, knowledge of pharmacology is necessary for counselors to effectively serve both clients and other professionals.

An additional implication regarding psychopharmacological coursework includes the consideration of how it relates to training in school counseling. While the 2009 CACREP Standards (CACREP, 2008a) have addressed the necessity of pharmacological knowledge in other areas of professional practice, school counseling training programs are not included. This may be an issue for school counselors, as there “has been a steady increase in the number of visits children make to pediatricians and in the number of psychotropic prescriptions these doctors write” (Ingersoll, Bauer, & Burns, 2004, p. 338). With this increase, it is likely school counselors will work with children who have been prescribed psychotropic medications; however, school counselors may not have the training necessary to adequately comprehend students’ medication issues. When surveying school counselors about the training they received in psychopharmacology; over half of the respondents (53%) indicated they had no formal training and 96 percent of the respondents agreed coursework in psychopharmacology would improve their
efficacy as school counselors (Bauer, Ingersoll, & Burns, 2004). While it is not a guarantee school counselors would have to address psychotropic medication issues with students, they may be seen as a source of education and information for parents and teachers. Bowley and Walther (1992) and Schwiebert, Sealande, and Tollerud (1995) reported school counselors can act as liaisons between teachers, parents, and other mental health professionals, or assist in the referral process for children in need of mental health assessments or diagnoses. At least one course specifically designated for the study of psychopharmacology, as well as the discussion of psychopharmacology in other relevant counseling courses, may be needed within all counselor education programs to ensure students will have the educational components necessary to demonstrate knowledge and competence in this area.

In order to support the incorporation of psychopharmacology into all areas of counselor education, credentialing bodies must recognize the necessity of this subject. Coursework in psychopharmacology is a requirement for some advanced credentials, such as the Certified Clinical Mental Health Counselor (CCMHC) credential through the National Board of Certified Counselors (NBCC; 2008a). When reviewing the educational criteria necessary to qualify for the National Certified Counselor (NCC; NBCC, 2008b) and National Certified School Counselor (NCSC; NBCC, 2008c) credentials, however, it appears the area of psychopharmacology is not a requirement. Accreditation organizations, including CACREP, and credentialing bodies, including the NBCC, can assist in promoting the subject of psychopharmacology within professional counseling by incorporating pharmacological coursework into the educational criteria necessary for counselor education programs and counseling credentials.
As it is important for professional counseling organizations, including CACREP and the NBCC, to recognize the necessity of psychopharmacological education in counselor education, it is equally important for counselor education faculty to advocate teaching this subject. Escobedo et al. (2001) reported in their study that the majority (66%) of reporting counselor education programs did not offer specific coursework in psychopharmacology. Additionally, only 13 percent of the counselor education programs in this study reported psychopharmacological coursework was required, while only 21 percent of programs offered this coursework as an elective even though the majority of the programs surveyed were at the doctoral level (Escobedo et al., 2001). Further, as this study was completed over seven years ago, the number of CACREP-accredited programs has doubled, from 116 programs in 2001 (CACREP, 2001) to 232 programs in 2009 (R. Urofsky, personal communication, February 4, 2009). Although this study provided some insight into the availability of psychopharmacological coursework within counselor education, there remains the need for current research in this area, especially as the 2009 CACREP Standards (CACREP, 2008a) become the benchmark for competence among counselor education programs.

**Summary**

There has been an explosion within the past several decades of the use of medication to treat behavioral, emotional, and mental disorders (Ingersoll & Rak, 2006; King & Anderson, 2004). It is evident practitioners, including pharmacists, psychologists, and social workers, have felt the shift of the incorporation of psychopharmacology within their respective professions. At one time, pharmacists were expected to serve as medication distributors (Gonzalez, 2005; Skau, 2007). Currently,
pharmacists may be held liable if they do not adequately provide patient counseling when dispensing medications, as this is an expected practice of these professionals (Littrell & Ashford, 1995; McCoy & Brady, 2008). Psychologists, when appropriately trained, have had the ability to talk with clients about medications (APA, 2002, Section 2.01; Littrell & Ashford, 2005), and have advocated for the ability to prescribe medications (Fox & Sammons, 1998; Gutierrez & Silk, 1998). Legislation has passed in two states that now allow psychologists to prescribe a limited amount of medications (Stambor, 2005).

Social workers were once advised about the negative effects of medications (Moses & Kirk, 2006); yet more recently, educators and researchers have advocated for students within social work programs to learn about psychopharmacology (Farmer et al., 2006). Additionally, social workers are not discouraged to discuss the topic of medications if they are appropriately educated and supervised, and also consult with qualified practitioners when necessary (NASW, 1996, Sections 1.04.b. and 2.05.b.). It will be interesting to see how psychopharmacology will be further incorporated into these fields, as what once may have been prohibited is now either permitted or expected. This movement also may be telling as to how the field of counseling will integrate the subject of psychopharmacology. Because of this trend within the human services field, the researcher intends to investigate what factors (institutional, demographic, or perceptional) predict the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education programs. These data will be used to determine whether counselor education students are being adequately prepared in this area, or if a greater emphasis needs to be placed on training in psychopharmacology.
Chapter Three

Method

The purpose of this research was to investigate the factors (institutional, demographic, or perceptional) that predicted the availability of formal instruction in psychopharmacology within counselor education programs; specifically, programs accredited by CACREP. The following research questions and hypotheses were addressed:

1. Does the number of credits required for graduation within the nine individual CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?
   Null hypothesis: The number of credits within the nine current individual CACREP-accredited counselor education programs did not predict the availability of formal instruction of psychopharmacology.

2. Does the number of full-time faculty members in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?
   Null hypothesis: The number of full-time faculty members in CACREP-accredited counselor education programs did not predict the availability of formal instruction in psychopharmacology.

3. Does the number of full-time equivalent faculty members (inclusive of counselor educators with full-time, part-time, or adjunct status) in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?
Null hypothesis: The number of full-time equivalent faculty members in CACREP-accredited counselor education programs did not predict the availability of formal instruction in psychopharmacology.

4. Does the total number of CACREP-accredited programs offered within institutional departments predict the availability of formal instruction in psychopharmacology? Null hypothesis: The total number of CACREP-accredited counselor education programs offered within institutional departments did not predict the availability of formal instruction in psychopharmacology.

5. Do educators’ expertise and the expertise of their fellow faculty members in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs? Null hypothesis: Educators’ expertise and the expertise of their fellow faculty members in psychopharmacology did not predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs.

6. Does educators’ geographic region predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs? Null hypothesis: Educators’ geographic region did not predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs.

7. Does educators’ perceived need for training in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs?
Null hypothesis: Educators’ perceived need for training in psychopharmacology did not predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs.

**Variables**

In this study, the criterion (dependent) variable in each of the seven research questions was the availability of formal instruction in psychopharmacology within CACREP-accredited programs, which was determined in categorical terms (yes or no). Listed below are the seven predictor variables within their respective research questions:

1. The number of credits required for graduation within each current available program, including (a) Career Counseling; (b) College Counseling; (c) Community Counseling; (d) Gerontological Counseling; (e) Marital, Couple, and Family Counseling/Therapy; (f) Mental Health Counseling; (g) School Counseling; (h) Student Affairs; and (i) Counselor Education and Supervision (CACREP, 2001, Section II.C.).

2. The number of full-time faculty members within CACREP-accredited counselor education programs.

3. The number of full-time equivalent faculty members within CACREP-accredited counselor education programs.

4. The total number of CACREP-accredited programs offered within institutional departments.

5. Educators’ expertise and the expertise of their fellow faculty members in psychopharmacology.

6. Educators’ geographic region.

7. Educators’ perceived need for training in psychopharmacology.
In the first research question, the number of credits identified by the participants was made into a categorical variable, with 0 meaning the program was not offered, 1 meaning the program required 48 to 59 credits for completion, and 2 meaning the program required 60 credits or more for completion.

In the second research question, the number of full-time faculty members who taught in CACREP-accredited counselor education programs served as a continuous variable. The range of values was dependent upon the participants’ respective programs.

Within the third research question, the number of full-time equivalent faculty members who taught in CACREP-accredited counselor education programs also served as a continuous variable. Again, the range of values depended on the responses given by the participants.

In the fourth research question, the total number and types of CACREP-accredited programs offered within participants’ respective departments served as a continuous variable. The range of values was dependent upon those participants who responded to the study.

Within the fifth research question, counselor educators’ reporting of their own and faculty members’ expertise in psychopharmacology was answered as one item in categorical terms (yes or no). The researcher also asked participants to indicate how they had gained this expertise, including formal education, continuing education, and on-the-job training; these categories were considered individual predictors.

In the sixth research question, geographic region was categorical and defined by participants choosing which region applied to where they were serving as CACREP program liaisons at the time of the study. The specific regions within this survey were
identical to the regions as defined by the Association for Counselor Education and Supervision (ACES; 2005): North Atlantic, North Central, Rocky Mountain, Southern, and Western. The researcher was hopeful the survey responses could be generalized to the CACREP-accredited counselor education programs within each region.

There were nine survey items that pertained to the seventh research question. The perceived need for training in psychopharmacology was answered by participants in continuous terms through a 4-point Likert-type scale (0 meaning “strongly disagree” and 3 meaning “strongly agree”). As stated by Creswell (2005), this type of continuous scale has “theoretically equal intervals among responses” (p. 168).

Participants

The target group for this study consisted of the 232 counselor education programs in the United States that were CACREP-accredited between March 29, 2009, and May 28, 2009, as reported by CACREP (CACREP, 2008b; J. Gunderman, personal communication, January 21, 2009). The participants were the CACREP program liaisons from these accredited programs. There were \( n = 116 \) participants who responded to the survey (response rate of 50%), and 15 participants’ responses were removed from the analysis because these participants either disclosed they were current graduate students (which made them ineligible for participation in the survey) or abandoned the survey before completing it. As a result, there were \( n = 101 \) participants who were eligible for participation and submitted completed surveys, for a usable response rate of 43.5%. Participants varied in age, gender, and ethnicity. All the participants were assumed to have obtained advanced degrees and served in counselor education program-related roles, thus being in good health and of normal cognitive functioning. A list of CACREP-
accredited counselor education programs and each program’s liaison were obtained from the CACREP website (http://www.cacrep.org). The researcher contacted staff members at CACREP to verify this list was current and accurate at the time of the study, and confirmed the list could be used for institutional research purposes (R. Urofsky, personal communication, February 4, 2009).

**Instrumentation**

Salyers, Ritchie, Luellen, and Roseman (2005) explored the inclusion of substance abuse training in CACREP-accredited counselor education programs, and created a 15-item questionnaire to explore how this training was included within counselor education curricula. Similarly, the researcher in this study focused on the inclusion of formal instruction in psychopharmacology in counselor education programs (as opposed to substance abuse counseling). For this study, a 33-item questionnaire was developed that incorporated themes similar to those on the questionnaire used by Salyers et al. (2005). The questionnaire served as an extension of previous research completed by others who have investigated the area of psychopharmacology in human service educational programs (Bentley et al., 1991; Escobedo et al., 2001; Scovel et al., 2002).

Alreck and Settle (2004) suggested online surveys are “feasible” (p. 38) for populations who routinely use the Internet; for this study, the researcher believed an online survey would be feasible for CACREP program liaisons that most likely use e-mail and the Internet as part and parcel of their employment. The reliability of survey data “depends on the size of the sample obtained, and not the number of surveys sent” (Alreck & Settle, 2004, pp. 36-37), and in order to increase the size of the sample, the
researcher sent the survey to the potential participants on multiple occasions and offered an incentive for participants to take the survey.

After answering eight demographic questions, participants were given a general definition of the term ‘psychopharmacology’ as defined by Ingersoll and Rak (2006). The purpose of this was to ensure participants had a clear understanding of this term in order to maximize internal validity. Following the definition, participants were asked if they were familiar with the term psychopharmacology as this term was frequently used throughout the survey. All participants reported they were familiar with this term.

Regarding the readability of the survey, it was assumed all participants were fluent in English. In order to minimize threats to internal validity related to instrumentation (Creswell, 2005), the survey was written with wording that was consistent with the 2009 CACREP Standards (CACREP, 2008a). Additionally, as the survey instrument was created by the researcher, consideration was taken to maximize internal validity and decrease instrumentation issues. This was done by incorporating the theme of the study conducted by Salyers et al. (2005), in which counselor educators were surveyed about the inclusion of substance abuse training into counselor education programs. In this study, the researcher emulated the phrasing of several survey items found in the substance abuse training survey to develop a sense of consistency among surveys, as the participants may have contributed to the research conducted by Salyers et al. (2005).

A threat to external validity is response bias, which would have occurred if the responses did not accurately represent the sample being surveyed (Creswell, 2005). To monitor this, participants’ answers were checked for either overly negative or positive answers, as well as for inconsistent answers within similar questions. To evaluate the
content validity of the survey, or to ensure the questions are representative of “all the possible questions that a researcher could ask about the content” (Creswell, 2005, p. 164), the researcher met with faculty members who were experienced in the areas of (a) psychopharmacology, (b) counselor education, and (c) CACREP accreditation standards. Additionally, the researcher met with the creator of the survey used in the study by Salyers et al. (2005) on the inclusion of substance abuse training in CACREP programs. This was significant to the creation of the survey, as portions of the questionnaire were similar to the themes of the study completed by Salyers et al. (2005).

To collect data necessary for answering the research questions, survey items asked participants to identify (a) what CACREP-accredited programs were offered within their counselor education departments, (b) how many total credit hours were necessary for students’ program completion, (c) how many psychopharmacology courses were offered within these programs, (d) if students were required to take any courses in which psychopharmacology was the primary focus, and (e) how many of these courses were students required to take. Additionally, the participants were asked if students were offered the option to take psychopharmacology courses in other departments within the participants’ institution. If students were offered this option, participants were asked to indicate the departments that offered psychopharmacology coursework to counselor education students. The questions that did not directly pertain to the research questions were asked in order to obtain descriptive data and gauge the number of programs that planned to adapt to meet the 2009 CACREP Standards (CACREP, 2008a).

Table 1 below is a summary of the alignment of the survey items with the seven research questions and variables.
<table>
<thead>
<tr>
<th>Research question</th>
<th>Variables</th>
<th>Corresponding survey item</th>
</tr>
</thead>
</table>
| 1. Does the number of credits required for graduation within the 9 individual CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology? | **Criterion Variable**: The availability of formal instruction of psychopharmacology (a categorical variable).  
**Predictor Variable**: The number of credits required for graduation within the programs (a categorical variable). | 18                         |
| 2. Does the number of full-time faculty members in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology? | **Criterion Variable**: The availability of formal instruction of psychopharmacology (a categorical variable).  
**Predictor Variable**: The number of faculty members within each CACREP-accredited counselor education program (a continuous variable). | 18                         |
| 3. Does the number of full-time equivalent faculty (full-time, part-time, or adjunct status) in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology? | **Criterion Variable**: The availability of formal instruction of psychopharmacology (a categorical variable).  
**Predictor Variable**: The number of full-time equivalent faculty within each CACREP-accredited counselor education program (a continuous variable). | 18                         |
| 4. Does the total number of CACREP-accredited programs offered within institutional departments predict the availability of formal instruction in psychopharmacology? | **Criterion Variable**: The availability of formal instruction of psychopharmacology (a categorical variable).  
**Predictor Variable**: The total number of CACREP-accredited programs offered within institutional departments (a continuous variable). | 18                         |
<table>
<thead>
<tr>
<th>Research question</th>
<th>Variables</th>
<th>Corresponding survey item</th>
</tr>
</thead>
</table>
| 5. Does educators’ expertise and the expertise of their fellow faculty members in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs? | **Criterion Variable**: The availability of formal instruction of psychopharmacology (a categorical variable).  
**Predictor Variable**: Counselor educators’ expertise and the expertise of their fellow faculty members in psychopharmacology (a categorical variable). | 18 24 |
| 6. Does educators’ geographic region predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs? | **Criterion Variable**: The availability of formal instruction of psychopharmacology (a categorical variable).  
**Predictor Variable**: Geographic region (a categorical variable). | 18 9 |
| 7. Does educators’ perceived need for training in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs? | **Criterion Variable**: The availability of formal instruction of psychopharmacology (a categorical variable).  
**Predictor Variable**: Educators’ perceived need for training in psychopharmacology (a continuous variable). | 18 25 26 27 28 29 30 31 32 33 |

**Procedures**

The proposal and questionnaire for this study were reviewed and approved by the Institutional Review Board at the University of Toledo (see Appendix D). The researcher piloted the survey to doctoral counselor education students and counselor educators who reported previously serving as CACREP program liaisons. The researcher believed the pilot sample was appropriate due to the sample’s familiarity with terms used within the counselor education field and CACREP-accredited counselor education programs.
Members of the pilot sample also expressed familiarity with survey research, which assisted the researcher in refining specific survey items. The researcher distributed the pilot questionnaire through a secured website (http://www.SurveyMonkey.com) in order to check for readability, as well as to ensure ease of the survey’s online administration.

After the survey was piloted and necessary revisions were made (e.g., typographical errors), the survey was made available to all CACREP program liaisons. The program liaisons’ mailing addresses were obtained from the CACREP-accredited program list on the CACREP website (http://www.cacrep.org). The program liaisons’ e-mail addresses were obtained from their respective department websites. Each liaison received an e-mail from the researcher that included a link to a secured website (http://www.SurveyMonkey.com) where the survey was administered. Additionally, all program liaisons received a mailed letter informing them of the survey and they would receive an e-mail message with the website address for the survey (see Appendix A).

Once participants entered the secure survey website, they were directed to a letter of informed consent (see Appendix E). The letter discussed (a) the purpose of the research, (b) a description of procedures, (c) potential risks and benefits of the research, (d) confidentiality of the questionnaire, (e) a description of voluntary participation, and (f) contact information for the researcher.

The participants were offered an incentive by participating in a drawing for one of the three $50.00 gift cards. After completing the survey, participants were directed to a page in which the researcher’s e-mail address was located. Participants had the option to e-mail their name, telephone number, and e-mail address to the researcher. In order to maintain confidentiality regarding the identity of the participants, the researcher informed
each individual winner they had won a gift card and did not publicize who won the
drawing. The researcher kept the identities of those who entered the drawing
anonymous. In order to give consent to the study, participants selected a box labeled “I
agree” on the page with the letter of informed consent. Only those who agreed to
participate in the study were directed to the survey questions. If participants chose not to
participate, they selected a box labeled “I disagree,” which directed them to the final page
of the survey that had a statement thanking them for their consideration of the survey.
Only one participant chose this option.

After the first two weeks of survey administration, the participants received a
reminder postcard by mail (see Appendix B), as well as a second e-mail message
containing the link to the survey website. A third e-mail message (which also included a
link to the survey website) was sent to the participants two weeks after the second notice
was sent, and a second postcard (see Appendix C) also was sent. The researcher intended
to complete this study over a six-week period, but extended the study for two additional
weeks in order to maximize the number of respondents; thus, a fourth e-mail message
was sent two weeks after the third e-mail message had been sent. The survey collection
period commenced with the first e-mail and letter to the CACREP program liaisons and
was completed two weeks after the fourth e-mail was sent to the participants.

**Data Analysis**

Data were collected from March 29, 2009, to May 28, 2009. The data were
collected and tabulated electronically for analysis by the researcher. Data were analyzed
using the Statistical Package for the Social Sciences (SPSS), Version 15.0.0.
The data analysis for this study consisted of binary logistic regression, as this type of analysis assists in predicting the probability of events for dichotomous dependent (or criterion) variables (Hosmer & Lemeshow, 2000; SPSS, 2009), and “emphasizes the probability of a particular outcome for each case” (Tabachnick & Fidell, 2001, p. 517). Binary logistic regression analysis was used to investigate the factors that predicted the availability of psychopharmacology instruction with CACREP-accredited counselor education programs. In this study, the criterion variable was the availability of formal instruction of psychopharmacology within CACREP-accredited programs, which was determined in categorical terms (yes or no). The predictor variables included (a) the number of credits required for graduation, (b) the number of full-time faculty members, (c) the number of full-time equivalent faculty members, (d) the total number of CACREP-accredited programs offered, (e) educators’ expertise and the expertise of their fellow faculty members in psychopharmacology, (f) geographic region, and (g) educators’ perceived need for training in psychopharmacology.

Statement of Limitations

As the data for this study were collected through an online survey, it was necessary for the researcher to be aware of the general limitations of both online data collection methods and survey research. One limitation was the suitability of dispensing a survey through e-mail. Granello and Wheaton (2004) and Pealer and Weiler (2003) indicated response rates may be favorable if online surveys are distributed to populations who are known to have regular access to Internet and individual e-mail accounts. The researcher anticipated program liaisons had regular and reliable access to the Internet as they represented accredited educational programs within institutes of higher education.
Additionally, the researcher attempted to elicit a higher response rate by creating a visibly simple format while also making it easy to comprehend, as elaborate designs are confusing to those responding to online surveys (Dillman, Tortora, Conradt, & Bowker, 1998). These factors alone, however, cannot yield a high survey response rate and the overall response rate to this survey may have been affected by the researcher’s decision to distribute it online.

By sending the survey to all 232 CACREP-accredited counselor education programs, it was the researcher’s intent for at least 50 percent of the potential participants to contribute to the study. The survey was electronically distributed to the entire population of CACREP program liaisons; however, this did not guarantee there would be generalizability of this study to all colleges and universities that have CACREP-accredited programs. A structural limitation to the study was the non-representation of counselor education programs that were not CACREP-accredited, which was expected as only CACREP-accredited programs were involved in the study.

Several items within the questionnaire had a narrow scope in reference to the definition of coursework in psychopharmacology and related terms. This may have affected the study’s generalizability in relation to counselor education programs that only offer courses loosely related to psychopharmacology and not stand-alone courses in psychopharmacology. To minimize this effect, the researcher included a question about the availability of counselor education courses that included at least some content in which psychopharmacology was discussed, even if it was not the primary subject matter (see Appendix E).
The success of an online survey includes more than ensuring its simple design and accessibility to an entire population, as there may have been limitations relating to the nature of survey research. Umbach (2005) discussed four types of errors in survey research: (a) coverage error, (b) sampling error, (c) measurement error, and (d) nonresponse error.

Coverage error could have occurred if a sampling frame did not match the population, particularly if some potential participants were not offered the chance to be part of the sample (Umbach, 2005). In order to ensure each member of the population had an equal opportunity to be included, the researcher obtained the contact information for each of the counselor education programs that were accredited by CACREP at the time of the study (R. Urofsky, personal communication, February 4, 2009); this included both postal and e-mail addresses. As the entire population was informed of the study through both mailings and e-mail messages, coverage error was not seen as a threat to the study.

Sampling error occurs if a sample does not match a sampling frame (Umbach, 2005). Creswell (2005) described sampling error as “the difference between the sample estimate and the true population score” (p. 598). Issues regarding sampling error were not likely in this study, as the study consisted of a survey distributed to all current CACREP program liaisons. Additionally, the data were screened for participants who identified as anything other than CACREP program liaisons. During the study, it appeared one potential participant did not recognize the indicated sample within the study (current CACREP program liaisons) and appeared to distribute his or her e-mailed survey link to students. The researcher realized five graduate students attempted to complete the
survey, as these participants identified as current students within a counselor education program. These responses were excluded and discarded from the results.

Measurement error commonly results from poorly written questions and inadequately constructed surveys (Umbach, 2005). To lessen the likelihood of measurement error, the researcher piloted the questionnaire with doctoral students and counselor educators in order to check for clarity, brevity, and reliability (Andrews, Nonnecke, & Preece, 2003; Granello & Wheaton, 2004; Umbach, 2005). The researcher gathered feedback from those who piloted the survey. Additionally, the researcher asked former CACREP program liaisons to take the online survey, as specific questions (such as the number of full-time equivalent faculty members) may be known by the program liaisons as they relate to their position. Further, the researcher defined the objective of the study in order to keep the research questions consistent with the survey questions (Umbach, 2005); this assisted in maintaining a relatively concise survey that could be easily completed by participants.

Alreck and Settle (2004) reported online surveys are subject to “very substantial levels of nonresponse and the bias and error associated with it” (p. 37). Nonresponse error is defined as having two types of error: unit nonresponse and item nonresponse (Umbach, 2005). Unit nonresponse happens when a member of a population (or sample) does not respond to a survey (Umbach, 2005). Item nonresponse occurs when a participant does not answer all the items on a survey; in order to reduce this error, it is necessary to write clear questions participants can readily answer (Umbach, 2005). As such, the researcher attempted to keep all survey questions concise. To safeguard against unit nonresponse, the researcher offered an incentive (through a drawing for three $50.00
gift cards) in order to maximize the survey response rate. Additionally, the researcher contacted the population at least five times throughout the study; this includes sending (a) introductory letters; (b) initial messages about the survey and an Internet-based link to the survey; (c) reminder postcards during the study; and (d) a second, third, and fourth e-mailing of the survey to the population. To ensure each CACREP program liaison answered the survey only once, the survey was inaccessible to participants after they finished and exited the survey. This was problematic for one participant, who reported she had trouble accessing the survey website. However, it appeared she had closed the survey and attempted to open it again. This participant e-mailed the researcher, who re-administered the participant’s access to the survey through the survey’s hosting website; however, this still could have served as a factor for either nonresponse or early termination of the survey.

The electronic administration of the survey may have served as a threat in the areas of response rate, as some participants may not have been able to complete the survey due to technical difficulties or lack of Internet access. Other participants may have found the questionnaire tedious to complete due to its Internet-based format or length, and abandoned the survey. It also is possible participants abandoned the survey as they did not find the survey to be meaningful to them. Participants were encouraged to contact the researcher by e-mail or telephone, and one participant personally e-mailed the researcher to share her opinions and reasons for not completing the survey. This self-disclosed participant stated she believed the researcher “inquired only about programs that had entire courses dedicated to psychopharmacology.” This was not the intent of the survey, nor the entire scope of the survey, as item 17 in the survey asks researchers, “Do
any required counselor education courses within your department include at least some content in which psychopharmacology is discussed, even if it is not the primary subject matter?” Participants also had the option to explain their responses to the 9 Likert-type questions (items 25 through 33) regarding the inclusion of psychopharmacology within their respective programs. This would have given participants whose programs did not offer a stand-alone course in psychopharmacology means to discuss the availability of psychopharmacology education within their programs. The participant also stated the survey seemed “to have a bias toward a pre-determined outcome” and stated this was the reason she would not complete the survey. The survey was created for participants to report the extent of psychopharmacological training within CACREP-accredited counselor education programs and offered multiple opportunities for participants to report their programs’ offerings. Although the researcher attempted to make every consideration for programs that did or did not offer stand-alone courses in psychopharmacology, it may have been possible the participant did not fully understand the survey.
Chapter Four

Results

The findings within this chapter were the result of obtaining completed surveys from a sample of 101 CACREP program liaisons. The researcher distributed the survey to a sample of 232 potential participants (the total number of CACREP liaisons at the time of the study who were contacted by both e-mail and postal mail about the survey. Surveys were completed online through a secure website where the survey was administered (http://www.SurveyMonkey.com), and the researcher received a total of \( n = 116 \) surveys. After carefully screening the data, 15 of the completed surveys were either found to be incomplete or not representative of the sampling frame; 5 surveys were completed by participants who identified as being graduate students within a counselor education program. After the surveys were screened, the researcher had a final usable sample of \( n = 101 \), or a usable return rate of 43.5 percent of the population.

Demographic Information

In terms of gender, 45 out of the \( n = 101 \) participants (44.5%) identified as male, 55 (54.5%) identified as female, and 1 participant (1%) identified as transgender male-to-female. Regarding race and ethnicity, a majority of the respondents (84.2%) identified as either White or European American, and 7.9% identified as Black or African American. Two participants each identified as Asian (2%) or multiracial (2%). One participant (1%) identified as Hispanic/Latino. Three respondents (3%) declined to answer. In terms of age, 41 participants (40.6%) reported being within the ages of 50 and 59 years, 28 participants (27.7%) identified as being between the ages of 60 and 74 years, 18 participants (17.8%) indicated their age was between 40 and 49 years, and 9 participants
(8.9%) identified as being between the ages of 27 and 39 years. Five participants (5%) declined to indicate their age. When asked about their highest education level and the year they received their highest degree, 96 participants (95%) reported receiving their doctoral degree, and 5 participants (5%) reported having earned their master’s degree. Thirty-four of the respondents (33.7%) reported obtaining their degrees between 1990 and 1999, and 23 respondents (22.8%) reported receiving their degrees between 2000 and 2009. Twenty-two participants (21.8%) reported earning their degrees between 1980 and 1989, and 16 participants (15.8%) reported obtaining their degrees between 1970 and 1979. Six participants (5.9%) declined to respond to this question.

The researcher also asked participants to identify the region where they were serving as CACREP program liaisons at the time of the study. As previously explained, the study used the ACES’s definitions of specific regions. Thirty-nine of the respondents (38.6%) identified as CACREP liaisons in the Southern region (this is approximately 40 percent of the 97 total CACREP-accredited programs within this region). Nineteen participants (18.8%) identified as CACREP liaisons in the North Atlantic region, which had 39 CACREP-accredited programs at the time of the study; thus, there was a nearly 49 percent response rate from programs within this region. Eighteen participants (17.8%) identified as CACREP liaisons from the North Central region; however, the response rate of the total schools within this region was the smallest, as only 18 of the 60 CACREP-accredited programs (30%) were represented. Sixteen participants from the Western region made up 15.8 percent of the respondents and there were 20 CACREP-accredited programs within this region at the time of the study. Because of the number of CACREP-accredited programs within this region and the number of participants from
this region, the Western region had a response rate of 80 percent. The Rocky Mountain
ACES region, which had 16 CACREP-accredited programs at the time of the study, had 8
participants (7.9% of the sample) who completed the survey, and a regional response rate
of 50 percent. The demographic information for this study is summarized in Table 2.

Table 2

Demographic Information of Participants (n = 101)

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
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<tr>
<td><strong>Gender</strong></td>
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</tr>
<tr>
<td>Male</td>
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</tr>
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<tr>
<td><strong>Race / ethnicity</strong></td>
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<td></td>
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<td>1.0</td>
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<td>84.2</td>
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<td>2.0</td>
<td>2.0</td>
<td>97.0</td>
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<tr>
<td>I prefer not to answer</td>
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<td>3.0</td>
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</tr>
<tr>
<td>Total</td>
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<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Age by group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27-39 years</td>
<td>9</td>
<td>8.9</td>
<td>9.4</td>
<td>9.4</td>
</tr>
<tr>
<td>40-49 years</td>
<td>18</td>
<td>17.8</td>
<td>18.8</td>
<td>28.1</td>
</tr>
<tr>
<td>50-59 years</td>
<td>41</td>
<td>40.6</td>
<td>42.7</td>
<td>70.8</td>
</tr>
<tr>
<td>60-74 years</td>
<td>28</td>
<td>27.7</td>
<td>29.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>95.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
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<td></td>
</tr>
<tr>
<td><strong>Education level</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master’s degree</td>
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<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>96</td>
<td>95.0</td>
<td>95.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
The researcher asked participants to indicate their professional orientation(s). Participants were able to indicate multiple professions, as they may have more than one professional license or identified as mental health practitioners as well as CACREP liaisons. These professions are listed in Table 3. The majority of the participants (96 participants or 95%) identified as counselor educators, and 31 participants (30.7%) also identified as professional or clinical counselors. Thirteen participants (12.9%) identified as counseling psychologists, 12 participants (11.9%) identified as either psychologists or clinical psychologists, and 11 participants (10.9%) identified as school counselors. Three participants (3%) identified as chemical dependency counselors, and two (2%) indicated they were marriage, couple, and family counselors or therapists. One participant each identified as a college counselor (1%) and a counseling program administrator (1%).
Table 3

Reported Professional Orientations of Participants (n = 101)

<table>
<thead>
<tr>
<th>Profession orientation</th>
<th>Descriptive code</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselor educator</td>
<td>0 = No</td>
<td>5</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>96</td>
<td>95.0</td>
<td>95.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Professional or clinical</td>
<td>0 = No</td>
<td>70</td>
<td>69.3</td>
<td>69.3</td>
<td>69.3</td>
</tr>
<tr>
<td>counselor</td>
<td>1 = Yes</td>
<td>31</td>
<td>30.7</td>
<td>30.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Counseling psychologist</td>
<td>0 = No</td>
<td>88</td>
<td>87.1</td>
<td>87.1</td>
<td>87.1</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>13</td>
<td>12.9</td>
<td>12.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Psychologist/clinical</td>
<td>0 = No</td>
<td>89</td>
<td>88.1</td>
<td>88.1</td>
<td>88.1</td>
</tr>
<tr>
<td>psychologist</td>
<td>1 = Yes</td>
<td>12</td>
<td>11.9</td>
<td>11.9</td>
<td>100.0</td>
</tr>
<tr>
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<td></td>
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<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>School counselor</td>
<td>0 = No</td>
<td>90</td>
<td>89.1</td>
<td>89.1</td>
<td>89.1</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>11</td>
<td>10.9</td>
<td>10.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Chemical dependency</td>
<td>0 = No</td>
<td>98</td>
<td>97.0</td>
<td>97.0</td>
<td>97.0</td>
</tr>
<tr>
<td>counselor</td>
<td>1 = Yes</td>
<td>3</td>
<td>3.0</td>
<td>3.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Marriage, couple, and family</td>
<td>0 = No</td>
<td>99</td>
<td>98.0</td>
<td>98.0</td>
<td>98.0</td>
</tr>
<tr>
<td>counselor/therapist</td>
<td>1 = Yes</td>
<td>2</td>
<td>2.0</td>
<td>2.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>College counselor</td>
<td>0 = No</td>
<td>100</td>
<td>99.0</td>
<td>99.0</td>
<td>99.0</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>1</td>
<td>1.0</td>
<td>1.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>College program administrator</td>
<td>0 = No</td>
<td>100</td>
<td>99.0</td>
<td>99.0</td>
<td>99.0</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>1</td>
<td>1.0</td>
<td>1.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 below illustrates the crosstabulation of participants’ reported professional orientation by ACES region. Participants were able to select as many areas that applied to them. The majority of participants (95%) identified as counselor educators, and 30
participants (30%) identified as professional or clinical counselors. The Southern region had the largest proportion of participants (43.6%) who identified as professional or clinical counselors. The North Central region had the largest proportion of participants who identified as counseling psychologists (27.8%), and the Western region had the largest proportion of participants who identified as psychologists or clinical psychologists (25%).

Table 4

<table>
<thead>
<tr>
<th>Profession orientation</th>
<th>Descriptive code</th>
<th>North Atlantic</th>
<th>North Central</th>
<th>Rocky Mountain</th>
<th>Southern</th>
<th>Western</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselor educator</td>
<td>0 = No</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>19</td>
<td>18</td>
<td>7</td>
<td>38</td>
<td>13</td>
<td>95</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td>18</td>
<td>8</td>
<td>39</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>Professional or clinical counselor</td>
<td>0 = No</td>
<td>14</td>
<td>14</td>
<td>6</td>
<td>22</td>
<td>14</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>17</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td>18</td>
<td>8</td>
<td>39</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>Counseling psychologist</td>
<td>0 = No</td>
<td>16</td>
<td>13</td>
<td>8</td>
<td>37</td>
<td>13</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td>18</td>
<td>8</td>
<td>39</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>Psychologist/clinical psychologist</td>
<td>0 = No</td>
<td>16</td>
<td>16</td>
<td>7</td>
<td>37</td>
<td>12</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td>18</td>
<td>8</td>
<td>39</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>School counselor</td>
<td>0 = No</td>
<td>17</td>
<td>14</td>
<td>7</td>
<td>36</td>
<td>15</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>11</td>
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<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td>18</td>
<td>8</td>
<td>39</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td>Chemical dependency counselor</td>
<td>0 = No</td>
<td>18</td>
<td>17</td>
<td>8</td>
<td>38</td>
<td>16</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td>18</td>
<td>8</td>
<td>39</td>
<td>16</td>
<td>100</td>
</tr>
</tbody>
</table>
Data Screening

The data were screened and cleaned to ensure successful analyses. The researcher first amalgamated the programs that were to be combined in accordance with the 2009 CACREP Standards (CACREP, 2008a); specifically, College Counseling and Student Affairs programs were combined into a single group, and Community Counseling and Mental Health Counseling were combined into one group. Additionally, no participants indicated the Gerontological Counseling program; thus, this program was eliminated from the analyses. The researcher then reviewed the frequencies of program reporting. Of the six groups, only two (Community/Mental Health Counseling and School Counseling) had response rates that were considerable enough to analyze. A majority of the participants indicated having only these programs.

Logistic Regression Results

Binary logistic regression analysis was used to investigate what factors (institutional, demographic, or perceptual) predicted the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education.
programs. The researcher chose this analysis as it assists in predicting the probability of events for dichotomous dependent (or criterion) variables (Hosmer & Lemeshow, 2000; SPSS, 2009). For this study, the significance level was set at $p \leq .05$. Data were analyzed using SPSS, Version 15.0.0.

Item 18 within the survey asked the question: “Does your counselor education department offer any courses in which the primary subject matter is psychopharmacology, such as a ‘drugs and mental health’ course or a ‘psychopharmacology’ course?” This was coded as no (0) or yes (1) and served as the dichotomous criterion variable for all seven research questions. Within the classification tables, this variable is labeled as “Availability of formal psychopharmacological coursework.” As displayed in Table 5, the researcher coded this variable and obtained the frequency of responses.

Table 5

*Availability of Courses in which Psychopharmacology is Primary Subject Matter (n = 101)*

<table>
<thead>
<tr>
<th>Descriptors</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No (0)</td>
<td>60</td>
<td>59.4</td>
<td>59.4</td>
<td>59.4</td>
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<tr>
<td>Yes (1)</td>
<td>41</td>
<td>40.6</td>
<td>40.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

In this study, the predictor variables were (a) the number of credits required for graduation, (b) the number of full-time faculty members, (c) the number of full-time equivalent faculty members, (d) the total number of CACREP-accredited programs offered, (e) educators’ expertise and the expertise of their fellow faculty members in psychopharmacology, (f) geographic region, and (g) educators’ perceived need for training in psychopharmacology.
Research question 1.

The first research question was: Does the number of credits required for graduation within the 9 individual CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology? Table 6 illustrates the frequencies of the CACREP programs as reported by the participants.

Table 6

*Frequency of Participants’ Responses – CACREP Programs within Departments (n = 101)*

<table>
<thead>
<tr>
<th>CACREP Program</th>
<th>Credits required for graduation</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career counseling</td>
<td>No program</td>
<td>97</td>
<td>96.0</td>
<td>97.0</td>
<td>97.0</td>
</tr>
<tr>
<td></td>
<td>48-59</td>
<td>1</td>
<td>1.0</td>
<td>1.0</td>
<td>98.0</td>
</tr>
<tr>
<td></td>
<td>60+</td>
<td>2</td>
<td>2.0</td>
<td>2.0</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>99.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>101</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College counseling / Student affairs</td>
<td>No program</td>
<td>85</td>
<td>84.2</td>
<td>85.0</td>
<td>85.0</td>
</tr>
<tr>
<td></td>
<td>48-59</td>
<td>12</td>
<td>11.9</td>
<td>12.0</td>
<td>97.0</td>
</tr>
<tr>
<td></td>
<td>60+</td>
<td>3</td>
<td>3.0</td>
<td>3.0</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>99.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>101</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community / Mental health counseling</td>
<td>No program</td>
<td>13</td>
<td>12.9</td>
<td>13.3</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>48-59</td>
<td>34</td>
<td>33.7</td>
<td>34.7</td>
<td>48.0</td>
</tr>
<tr>
<td></td>
<td>60+</td>
<td>51</td>
<td>50.5</td>
<td>52.0</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>98</td>
<td>97.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>3</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>101</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counselor education and supervision</td>
<td>No program</td>
<td>85</td>
<td>84.2</td>
<td>91.4</td>
<td>91.4</td>
</tr>
<tr>
<td>(doctoral-level)</td>
<td>48-59</td>
<td>1</td>
<td>1.0</td>
<td>1.1</td>
<td>92.5</td>
</tr>
<tr>
<td></td>
<td>60+</td>
<td>7</td>
<td>6.9</td>
<td>7.5</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>93</td>
<td>92.1</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>8</td>
<td>7.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>101</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The first research question had $n = 98$ responses and three missing responses.

Table 7 illustrates the specificity and the sensitivity of the logistic regression. Regarding the specificity indicated below, of the 59 participants who reported not having formal coursework in psychopharmacology, 100 percent were predicted to have this coursework. In terms of sensitivity, of the 39 participants who reported having formal coursework in psychopharmacology, none were predicted to have this coursework.

Table 7

*Classification Table for Research Question 1 (n = 98)*

<table>
<thead>
<tr>
<th>Observed Availability of formal psychopharmacological coursework</th>
<th>Predicted Percentage correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>59</td>
</tr>
<tr>
<td>Yes</td>
<td>39</td>
</tr>
</tbody>
</table>

Overall percentage 60.2

Note: The cut value is .500

Table 8 indicates a test of the model with the predictor variable was not statistically significant as $\chi^2 (1, n = 98) = .452, p > .05$. This means the number of credits
within the indicated individual CACREP-accredited counselor education programs (specifically, Community/Mental Health Counseling and School Counseling) did not reliably predict the availability of formal instruction of psychopharmacology. The $p$ value was greater than the significance level of $p \leq .05$. The unstandardized regression coefficient ($B$) in the table below indicates the change in log odds of the availability of formal coursework in psychopharmacology for any 1-unit change in the predictor variable; in this case, the number of credits required for graduation (S. Beltyukova, personal communication, December 15, 2008). This indicates the log odds of the availability of this coursework are greater by .101 when considering the predictor variable, meaning there is a small positive relationship between the criterion and predictor variable, even if there is no significance. The odds ratio ($e^b$) is a means for comparing if the probability of an event is the same for two groups. “The odds ratio shows the strength of association...It can vary from 0 to infinity. If the odds ratio is one, there is no association” (Declerq, n.d., para. 3). If the odds ratio is greater than one, it is implied the event is more likely in the first group; if it is less than one, then it is less likely. The odds ratio of 1.106 suggests the odds of the number of credits within CACREP-accredited counselor education programs predicting the availability of psychopharmacological coursework could have been significant, but due to the statistical outcome it is not meaningful to the study.
Table 8

Summary of Logistic Regression Analysis for Research Question 1 (n = 98)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S.E.</th>
<th>e^b</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/MHC and SC programs</td>
<td>.101</td>
<td>.150</td>
<td>1.106</td>
<td>.501</td>
</tr>
<tr>
<td>Constant</td>
<td>-.547</td>
<td>.288</td>
<td>.579</td>
<td>.057</td>
</tr>
</tbody>
</table>

Research question 2.

The second research question was: Does the number of full-time faculty members in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology? The number of responses was n = 100 with one missing response, and the range of responses were 2 through 15 full-time faculty members. The mean number of full-time faculty members was 6.38, and the median number was 6. Almost three-quarters (73%) of the participants reported having 7 or fewer full-time faculty members within their programs. As indicated in Table 9, of the 59 participants who reported not having formal coursework in psychopharmacology, 100 percent were predicted to have this coursework. Of the 41 participants who reported having formal coursework in psychopharmacology, none were predicted to have this coursework.
Table 9

Classification Table for Research Question 2 (n = 100)

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted Availability of formal psychopharmacological coursework</th>
<th>Percentage correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Step 1</td>
<td>Availability of formal psychopharmacological coursework</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>59</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>41</td>
<td>0</td>
</tr>
<tr>
<td>Overall percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The cut value is .500

A test of the model with the predictor variable (number of full-time faculty members within CACREP-accredited counselor education programs) was not statistically significant as $\chi^2(1, n = 100) = .238, p > .05$ (see Table 10). Knowing the number of full-time faculty members did not reliably predict the availability of formal instruction of psychopharmacology.

Table 10

Summary of Logistic Regression Analysis for Research Question 2 (n = 100)

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
<th>$\chi^2$</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omnibus Tests of Model Coefficients</td>
<td>.238</td>
<td>1</td>
<td>.625</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S.E.</th>
<th>e^b</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of full-time faculty</td>
<td>.037</td>
<td>.076</td>
<td>1.038</td>
<td>.625</td>
</tr>
<tr>
<td>Constant</td>
<td>-.601</td>
<td>.528</td>
<td>.548</td>
<td>.255</td>
</tr>
</tbody>
</table>

Research question 3.

The third research question was: Does the number of full-time equivalent (FTE) faculty (including full-time, part-time, or adjunct status) in CACREP-accredited counselor education programs predict the availability of formal instruction in
psychopharmacology? The number of responses was $n = 89$ with 12 missing responses, and the range of responses was between 3 and 45 FTE faculty members. The mean number of FTE faculty members was 9.69 and the median number was 7. Nearly three-quarters (73%) of the participants reported having 10 or fewer FTE faculty members within their programs. As indicated in Table 11, of the 51 participants who reported not having formal coursework in psychopharmacology, 100 percent were predicted to have this coursework. Of the 38 participants who reported having formal coursework in psychopharmacology, none were predicted to have this coursework.

Table 11

*Classification Table for Research Question 3 ($n = 89$)*

<table>
<thead>
<tr>
<th>Observed Availability of formal psychopharmacological coursework</th>
<th>Predicted Availability of formal psychopharmacological coursework</th>
<th>Percentage correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>51 0</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>38 0</td>
</tr>
<tr>
<td>Overall percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The cut value is .500

After testing the model with the predictor variable (number of FTE faculty members within CACREP-accredited counselor education programs), the researcher found this variable also was not statistically significant as $\chi^2(1, n = 89) = .260, p > .05$ (see Table 12). The number of FTE faculty members did not reliably predict the availability of formal instruction of psychopharmacology. The odds ratio ($e^b$) of .938 signifies the odds of the number of FTE faculty members in CACREP-accredited counselor education programs predicting the availability of psychopharmacological coursework is not likely.

68
Table 12

Summary of Logistic Regression Analysis for Research Question 3 (n = 89)

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.260</td>
<td>1</td>
<td>.610</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S.E.</th>
<th>$e^b$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of FTE faculty</td>
<td>-.017</td>
<td>.035</td>
<td>.983</td>
<td>.616</td>
</tr>
<tr>
<td>Constant</td>
<td>-.126</td>
<td>.396</td>
<td>.882</td>
<td>.750</td>
</tr>
</tbody>
</table>

Research question 4.

The fourth research question asked: Does the total number of CACREP-accredited programs offered within institutional departments predict the availability of formal instruction in psychopharmacology? Table 13 identifies the frequency of the reported CACREP-accredited programs (n = 100). The programs that were most frequently offered (as reported by participants) were School Counseling (74.3%), Community Counseling (54.4%), and Mental Health Counseling (33.7%). Less than 3 percent of the participants reported offering Career Counseling programs, and less than 5 percent of the participants reported having College Counseling programs.

Table 13

Frequency of Reported Programs Offered (n = 100)

<table>
<thead>
<tr>
<th>CACREP programs</th>
<th>Frequency</th>
<th>Parameter coding (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School counseling</td>
<td>Program not offered: 25</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Program offered: 75</td>
<td>.000</td>
</tr>
<tr>
<td>College counseling</td>
<td>Program not offered: 94</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Program offered: 6</td>
<td>.000</td>
</tr>
<tr>
<td>Community counseling</td>
<td>Program not offered: 45</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Program offered: 55</td>
<td>.000</td>
</tr>
</tbody>
</table>
For this research question, the number of responses was \( n = 101 \). Table 14 indicates that of the 60 participants who reported not having formal coursework in psychopharmacology, 100 percent were predicted to have this coursework. Of the 41 participants who reported having formal coursework in psychopharmacology, none were predicted to have this coursework.

Table 14

Classification Table for Research Question 4 \((n = 101)\)

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted Availability of formal psychopharmacological coursework</th>
<th>Percentage correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Step 1</td>
<td>Availability of formal psychopharmacological coursework</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>41</td>
<td>0</td>
</tr>
<tr>
<td>Overall percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The cut value is .500

As indicated in Table 15, the predictor variable (total number of CACREP-accredited programs offered within institutional departments) also was not statistically
significant as \( \chi^2 (1, n = 101) = .164, p > .05 \), and did not reliably predict the availability of formal instruction of psychopharmacology.

Table 15

Summary of Logistic Regression Analysis for Research Question 4 (\( n = 101 \))

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.164</td>
<td>1</td>
<td>.685</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S.E.</th>
<th>( e^b )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of programs</td>
<td>.085</td>
<td>.209</td>
<td>1.088</td>
<td>.685</td>
</tr>
<tr>
<td>Constant</td>
<td>-.559</td>
<td>.485</td>
<td>.572</td>
<td>.250</td>
</tr>
</tbody>
</table>

Research question 5.

The fifth research question was: Does educators’ expertise and the expertise of their fellow faculty members in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs? The number of responses was \( n = 101 \). For this analysis, the researcher created two groups, coded 0 (no) and 1 (yes). Table 16 indicates that of the 41 participants who reported having formal psychopharmacological coursework within their programs, 70.7 percent were predicted to have this coursework. Of the 60 participants who reported not having this coursework, 75 percent were predicted to have formal coursework in psychopharmacology.
Table 16

*Classification Table for Research Question 5 (n = 101)*

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted Avail. of psychopharm. courses</th>
<th>Percentage correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of formal psychopharmacological coursework</td>
<td>45</td>
<td>15</td>
</tr>
<tr>
<td>Overall percentage</td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The cut value is .500

A test of predictors within the model indicated it was statistically significant as $\chi^2(7, n = 101) = 38.934, p < .001$ (see Table 17). This signifies that educators’ expertise and the expertise of their fellow faculty members in psychopharmacology predicted the availability of formal instruction of this subject within CACREP-accredited counselor education programs. Participants identified how they obtained training in psychopharmacology, and the frequency of their training is listed in Table 17. Sixty-nine participants (68.3%) reported they or their fellow faculty members had expertise in psychopharmacology. Seventy participants (69.3%) reported receiving training in psychopharmacology through continuing education, and 63 participants (62.4%) reported receiving on-the-job training in psychopharmacology. Nearly half of the participants (49.5%) reported receiving training in this subject through their doctoral studies. Doctoral training ($p < .05$) and expertise ($p < .005$) were found to be significant predictors of availability of formal coursework in psychopharmacology within CACREP-accredited programs. The odds ratio ($e^b$) of 21.286 signifies that the reported expertise of participants and their colleagues predicting the availability of psychopharmacological coursework is likely.
Table 17

Summary of Logistic Regression Analysis for Research Question 5 (n = 101)

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38.934</td>
<td>7</td>
<td>.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>B</th>
<th>S.E.</th>
<th>$e^b$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s training</td>
<td>6</td>
<td>.006</td>
<td>1.001</td>
<td>1.006</td>
<td>.995</td>
</tr>
<tr>
<td>Master’s training</td>
<td>28</td>
<td>.229</td>
<td>.538</td>
<td>1.257</td>
<td>.671</td>
</tr>
<tr>
<td>Doctoral training</td>
<td>50</td>
<td>1.005</td>
<td>.510</td>
<td>2.731</td>
<td>.049*</td>
</tr>
<tr>
<td>Continuing education</td>
<td>70</td>
<td>-.047</td>
<td>.658</td>
<td>.954</td>
<td>.943</td>
</tr>
<tr>
<td>On-the-job training</td>
<td>63</td>
<td>.032</td>
<td>.646</td>
<td>1.033</td>
<td>.960</td>
</tr>
<tr>
<td>None of the above</td>
<td>10</td>
<td>-17.770</td>
<td>12710.133</td>
<td>.000</td>
<td>.999</td>
</tr>
<tr>
<td>Expertise (Yes/No)</td>
<td>69</td>
<td>3.058</td>
<td>1.100</td>
<td>21.286</td>
<td>.005**</td>
</tr>
<tr>
<td>Constant</td>
<td>--</td>
<td>-3.433</td>
<td>1.160</td>
<td>.032</td>
<td>.003</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01

Research question 6.

The sixth research question was: Does educators’ geographic region predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs? Table 2 illustrated the frequency of participants’ responses regarding their geographic region. The number of responses was $n = 100$, with one missing response. As indicated in Table 18, of the 41 participants who reported having formal psychopharmacological coursework within their programs, 73.2 percent
were predicted to have this coursework. Of the 59 participants who reported not having this coursework, 61 percent were predicted to have formal coursework in psychopharmacology.

Table 18

*Classification Table for Research Question 6 (n = 100)*

<table>
<thead>
<tr>
<th>Observed Availability of formal psychopharmacological coursework</th>
<th>Predicted Availability of formal psychopharmacological coursework</th>
<th>Percentage correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>36</td>
<td>23</td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td>Overall percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The cut value is .500

As seen in Table 19, a test of all items within the model indicated it was statistically significant, as $\chi^2(4, n = 100) = 12.933, p < .05$. This signifies that educators’ geographic regions predicted the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs. The North Atlantic ($p < .05$) and Western ($p < .05$) regions were found to be significant predictors of availability of formal coursework in psychopharmacology within CACREP-accredited programs. The frequency of the participants’ identified ACES regions is listed in Table 19.
Table 19

*Summary of Logistic Regression Analysis for Research Question 6 (n = 100)*

<table>
<thead>
<tr>
<th>Omnibus Tests of</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Coefficients</td>
<td>12.933</td>
<td>4</td>
<td>.012</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>B</th>
<th>S.E.</th>
<th>$e^b$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Atlantic</td>
<td>19</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.021*</td>
</tr>
<tr>
<td>North Central</td>
<td>18</td>
<td>-.146</td>
<td>.682</td>
<td>.864</td>
<td>.831</td>
</tr>
<tr>
<td>Rocky Mountain</td>
<td>8</td>
<td>.201</td>
<td>.698</td>
<td>1.222</td>
<td>.774</td>
</tr>
<tr>
<td>Southern</td>
<td>39</td>
<td>-.762</td>
<td>.887</td>
<td>.467</td>
<td>.390</td>
</tr>
<tr>
<td>Western</td>
<td>16</td>
<td>-1.606</td>
<td>.641</td>
<td>.201</td>
<td>.012*</td>
</tr>
<tr>
<td>Constant</td>
<td>--</td>
<td>.251</td>
<td>.504</td>
<td>1.286</td>
<td>.618</td>
</tr>
</tbody>
</table>

*p ≤ .05

Research question 7.

The seventh research question is identified as: Does educators’ perceived need for training in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs? Nine survey items were utilized by the researcher to answer this research question. The number of participants who completed all nine survey items was $n = 94$. As shown in Table 20, of the 37 participants who reported having formal psychopharmacological coursework within their programs, 75.7 percent were predicted to have this coursework. Of the 57 participants who reported not having this coursework, 89.5 percent were predicted to have formal coursework in psychopharmacology.
Table 20

*Classification Table for Research Question 7 (n = 94)*

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted Availability of formal psychopharmacological coursework</th>
<th>Percentage correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of formal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>psychopharmacological coursework</td>
<td>No</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>9</td>
</tr>
<tr>
<td>Overall percentage</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note: The cut value is .500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As indicated in Table 21, the nine survey items were analyzed as categorical covariates. A test of all items within the model indicated it was statistically significant as $\chi^2(1, n = 94) = 8.994, p < .001$. This signifies that educators’ perceived need for training in psychopharmacology could be used to predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs. The frequency of participants’ responses regarding the need for training in psychopharmacology is listed in Table 21.

Table 21

*Summary of Logistic Regression Analysis for Research Question 7 (n = 101)*

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.994</td>
<td>8</td>
<td>.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>B</th>
<th>S.E.</th>
<th>$e^b$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>8</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.489</td>
</tr>
<tr>
<td>Disagree</td>
<td>38</td>
<td>.288</td>
<td>2.896</td>
<td>1.334</td>
<td>.921</td>
</tr>
<tr>
<td>Agree</td>
<td>39</td>
<td>1.465</td>
<td>2.654</td>
<td>4.327</td>
<td>.581</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>9</td>
<td>2.323</td>
<td>2.578</td>
<td>10.204</td>
<td>.368</td>
</tr>
<tr>
<td>Variable</td>
<td>Frequency</td>
<td>B</td>
<td>S.E.</td>
<td>$e^b$</td>
<td>$p$</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Item 26</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>.189</td>
</tr>
<tr>
<td>Disagree</td>
<td>12</td>
<td>6.301</td>
<td>3.434</td>
<td>545.235</td>
<td>.067</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>-1.740</td>
<td>1.082</td>
<td>.477</td>
<td>.494</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>4</td>
<td>-1.301</td>
<td>1.236</td>
<td>.272</td>
<td>.293</td>
</tr>
<tr>
<td>Does not apply</td>
<td>63</td>
<td>3.156</td>
<td>2.382</td>
<td>23.470</td>
<td>.185</td>
</tr>
<tr>
<td><strong>Item 27</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>.129</td>
</tr>
<tr>
<td>Disagree</td>
<td>32</td>
<td>-.778</td>
<td>2.103</td>
<td>.459</td>
<td>.711</td>
</tr>
<tr>
<td>Agree</td>
<td>37</td>
<td>-3.341</td>
<td>2.118</td>
<td>.035</td>
<td>.115</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>6</td>
<td>-4.179</td>
<td>2.202</td>
<td>.015</td>
<td>.058</td>
</tr>
<tr>
<td><strong>Item 28</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>.579</td>
</tr>
<tr>
<td>Disagree</td>
<td>33</td>
<td>-1.217</td>
<td>2.108</td>
<td>.296</td>
<td>.564</td>
</tr>
<tr>
<td>Agree</td>
<td>37</td>
<td>-.054</td>
<td>1.590</td>
<td>.947</td>
<td>.973</td>
</tr>
<tr>
<td>Strongly agree</td>
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**Summary**

As indicated by the results, three research hypotheses (5, 6, and 7) were found to be significant and these results predicted the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs. The survey administered to the participants was specifically constructed for this study, and some of the research hypotheses were affirmed by this study. Educators’ training in psychopharmacology, educators’ geographic region, and educators’ perceived need for training in psychopharmacology were revealed as factors that could be used to predict the availability of psychopharmacology within their CACREP-accredited programs. A discussion of these results, as well as implications and areas for future research, are addressed in the following chapter.
Chapter Five

Discussion

The purpose of this study was to investigate what factors (institutional, demographic, or perceptional) predicted the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education programs. The researcher’s intent was to identify the extent to which CACREP-accredited counselor education programs have offered coursework or instruction in the area of psychopharmacology, as well as to explore if geographic regions predicted the availability of this coursework. Additionally, the researcher wanted to identify how CACREP program liaisons perceived the importance of psychopharmacology within counselor education.

This study served as an extension of research completed by professionals and students who have investigated psychopharmacology training within programs for other human service fields (Bentley et al., 1991; Escobedo et al., 2001; Scovel et al., 2002). A survey was created and piloted specifically for this study, which incorporated themes similar to those on a questionnaire used by Salyers et al. (2005) who explored the inclusion of substance abuse training in counselor education. The survey was distributed as an online questionnaire through a secured website (http://www.surveymonkey.com) to all 232 CACREP program liaisons between March and May of 2009. Each program liaison was sent one letter and two follow-up postcards regarding the survey (see Appendices A, B, and C), as well as four e-mail messages. No e-mail messages were returned to this researcher, signifying the program liaisons’ e-mail addresses were valid.
A total of 116 surveys were submitted, and after screening, 101 completed surveys were found appropriate for analysis.

**Summary of Results**

Seven research hypotheses and seven null hypotheses were created for this study. A binary logistic regression was conducted to answer the seven research hypotheses:

1. Does the number of credits required for graduation within the nine individual CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?

   Null hypothesis: The number of credits within the nine current individual CACREP-accredited counselor education programs did not predict the availability of formal instruction of psychopharmacology.

   The researcher failed to reject the null hypothesis, as the test model of the predictor variable (number of credits required for graduation) was not statistically significant at the $p < .05$ level.

2. Does the number of full-faculty members in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?

   Null hypothesis: The number of full-time faculty members in CACREP-accredited counselor education programs did not predict the availability of formal instruction in psychopharmacology.

   The researcher failed to reject the null hypothesis, as the test model of the predictor variable (number of full-time faculty members in CACREP-accredited counselor education program) was not statistically significant at the $p \leq .05$ level.
3. Does the number of full-time equivalent faculty members (inclusive of counselor educators with full-time, part-time, or adjunct status) in CACREP-accredited counselor education programs predict the availability of formal instruction in psychopharmacology?

Null hypothesis: The number of full-time equivalent faculty members in CACREP-accredited counselor education programs did not predict the availability of formal instruction in psychopharmacology.

The researcher failed to reject the null hypothesis, as the test model of the predictor variable (number of full-time equivalent faculty members in CACREP-accredited counselor education programs) was not statistically significant at the \( p < .05 \) level.

4. Does the total number of CACREP-accredited programs offered within institutional departments predict the availability of formal instruction in psychopharmacology?

Null hypothesis: The total number of CACREP-accredited counselor education programs offered within institutional departments did not predict the availability of formal instruction in psychopharmacology.

The researcher failed to reject the null hypothesis, as the test model of the predictor variable (total number of CACREP-accredited programs offered within institutional departments) was not statistically significant at the \( p < .05 \) level.

5. Do educators’ expertise and the expertise of their fellow faculty members in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs?
Null hypothesis: Educators’ expertise and the expertise of their fellow faculty members in psychopharmacology did not predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs.

The null hypothesis was rejected, as the test model of the predictor variable (educators’ reported expertise and the expertise of their fellow faculty members in psychopharmacology) significantly predicted the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education programs at the $p \leq .001$ level.

6. Does educators’ geographic region predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs?

Null hypothesis: Educators’ geographic region did not predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs.

The null hypothesis was rejected, as a test model of the predictor variable (educators’ reported geographic regions) significantly predicted the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education programs at the $p \leq .05$ level.

7. Does educators’ perceived need for training in psychopharmacology predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs?

Null hypothesis: Educators’ perceived need for training in psychopharmacology did not predict the availability of formal instruction of psychopharmacology within CACREP-accredited counselor education programs.
The null hypothesis was rejected, as a test model of the categorical predictor variable (educators’ perceived need for training in psychopharmacology) significantly predicted the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education programs at the $p \leq .001$ level.

For the seventh research question, nine Likert-type scale items were created to measure one construct (counselor educators’ perceived need for training in psychopharmacology; see Appendix E). Participants had the option to further explain their responses in a text box adjacent to each item. The researcher coded and categorized these responses; although the number of participants who submitted written responses was low, the data gleaned from these responses assisted the researcher in exploring (a) participants’ perceptions of student preparedness upon graduation and program completion; (b) participants’ opinions regarding how, and to whom, the topic of psychopharmacology should be taught; and (c) barriers to the incorporation of psychopharmacology into the curriculum of CACREP-accredited counselor education programs.

**Participants’ perceptions of student preparedness.**

Survey item 25 read, “Upon graduation from the master’s-level counselor education programs in my department, I believe students have sufficient training in the area of psychopharmacology.” Sixteen participants provided written responses to this item, and 8 participants provided feedback to survey item 26: “Upon graduation from the doctoral-level counselor education program in my department, I believe students have sufficient training in the area of psychopharmacology.” Five participants reported they did not think students had sufficient training, as one said, “I think all students would
benefit from having a course in Drug and Alcohol Counseling or DSM-IV/Psychopharmacology, but it isn’t required for all of our tracks (unfortunately). I see this as a major oversight by CACREP. For the students who take one or both of these courses, they’re well prepared. For the students who do not, they are undertrained.”

Another participant stated both master’s and doctoral-level students would “benefit from more preparation in the area” of psychopharmacology. Another supported students’ knowledge of psychopharmacology, writing, “Graduates should have a thorough understanding of the various classes of medications and should know especially the side-effects so as to work efficiently with MDs and other medical professionals as a help agent in preventing health issues and other issues that can be prevented if someone who sees the client more regularly has a clue.” Approximately one-quarter of the responding participants reported mental health or community counseling students receiving training, but this was elective for school counseling students. At least two reported school counseling students were not in need of this training. Three of the participants who answered item 26 reported students are recommended to take psychopharmacology in doctoral programs if they had not taken it at the master’s level. In support of doctoral psychopharmacology coursework, one participant stated, “I would like to see the level of psychopharm taken to the ‘next level’ where students are required to understand how psychotropics functions at the molecular level. I do some of this in a doc level course but would like to see a stand-alone course.”

**Participants’ opinions regarding the teaching of psychopharmacology.**

Many of the participants who responded to the necessity of coursework in psychopharmacology believed a stand-alone course was not necessary. Survey item 27
read, “I do not believe students need to take a course in psychopharmacology because there are ample alternatives for learning this material.” Out of the 13 written responses to this item, 9 participants agreed students gained knowledge in psychopharmacology from other courses, or that this topic could be covered in courses such as abnormal psychology, psychopathology, diagnosis, assessment, or drug treatment. Regarding survey item 28: “I believe students who take courses in which psychopharmacology is the primary subject matter have a better educational experience than students who do not take this coursework,” only eight participants gave written responses. One participant stated psychopharmacology was more important for community and family counselors than school counselors, and another participant stated, “I don’t think career or student affairs counselors need an entire course in the topic area.” One respondent reported the term “better educational experience” was too vague, and another stated the question was too broad; however, this researcher’s intent was to delineate between the participants who did or did not believe the addition of coursework in psychopharmacology made for a better educational experience for students.

Eight participants responded to survey item 31: “I believe students need coursework in which psychopharmacology is the primary subject matter to be effective counselors.” The responses were mixed, as one participant stated that “an understanding of psychopharmacology may undermine students’ beliefs in the efficacy of counseling, especially if we learn too much from the pharmaceutical companies and biological psychiatry,” while another stated, “We are working within a system that prescribes medication regularly for mental health problems. If we do not understand the benefits and problems with psychopharmacology, we will not be effective advocates for our
clients.” Other respondents were supportive of the topic of psychopharmacology and research on its efficacy with students in counselor education; one participant supported school counselors’ knowledge in this area “as more students come to school with drug histories.” Item 32 was similar to item 31, as the researcher asked participants to answer: “I believe students need coursework in which psychopharmacology is the primary subject matter to be effective counselor educators.” Four participants responded to this item; two stated this coursework would be helpful, and two stated it was not necessary for there to be a stand-alone course as long as students in counselor education were prepared to teach it.

**Barriers to incorporating psychopharmacology into curricula.**

The integration of a stand-alone course is only one barrier to incorporating the topic of psychopharmacology into counselor education curricula. Of the 13 participants who gave written feedback to item 29 (“I believe graduate students in counselor education programs should take at least one course in which psychopharmacology is the primary subject matter.”), 5 participants stated psychopharmacology was only necessary for students in community or mental health counseling programs and a course in this subject was not necessary for students within school counseling programs. This opinion is representative to the 2009 CACREP Standards (CACREP, 2008a) that do not specify students within school counseling programs to have specific coursework in psychopharmacology. Additionally, three participants stated the difficulty of adding another course, and one participant said, “…other things may be sacrificed if forced to offer this course.” One participant wrote that students in school counseling programs need to be acquainted with basic pharmacology, but other courses, including addictions
and techniques for counseling children, should be added instead. One participant strongly opposed the incorporation of psychopharmacology, stating, “Counselors need to focus on the wellness model and need to stop being coerced into the medical model. We need to advocate for what we do, not what others do.” Only three participants responded to item 30, “I believe graduate students in counselor education programs should take at least two courses in which psychopharmacology is the primary subject matter.” One respondent stated that students should have at least drug and alcohol counseling and a DSM-IV-specific class, such as psychopathology. Another respondent said, “One is enough.” When asked to give their opinions regarding item 33, “I believe CACREP should require graduate students in counselor education to take a course in which the primary subject matter is psychopharmacology,” 12 participants responded. The theme of five participants who responded was that psychopharmacology was necessary but it did not have to be covered in a stand-alone course and could be woven into other courses; one participant stated, “I think that the whole spirit of the 2009 Standards is to list required knowledge and skills/competencies but to leave it to programs to create experiences, which may or may not include ‘stand-alone’ courses, to have students meet/demonstrate these required knowledge and skill sets.” Four participants stated they believed school counseling students did not need to have this coursework as much as students in mental health counseling programs. One participant outright wrote about CACREP, stating, “CACREP has too many rules as it is. They should back off and allow counselor educators to make more decisions independently.”
Other Data Relevant to the Study

There were items included in the study that were useful to the researcher to further explore the current availability of psychopharmacology within CACREP-accredited programs but were not included as research questions, as the data did not assist in predicting the availability of this coursework. Items 19 and 20 were created to gauge the number of respectively required and elective stand-alone courses in psychopharmacology available to counselor education students (see Appendix E).

Within the 85 Community and Mental Health Counseling programs, 27 (31.8%) programs offered at least one required course (one program offered two required courses), and only 3 (27.3%) out of the 11 Marriage, Couple, and Family Counseling programs required a course in this subject. Four programs (5.4%) out of the 74 School Counseling programs required a stand-alone course in psychopharmacology. Elective courses in this subject appeared available, as 21 (24.7%) of the 85 Community and Mental Health Counseling programs offered elective coursework in psychopharmacology, and 21 (28.4%) of the 74 School Counseling programs did as well. Four (36.3%) of the 11 Marriage, Couple, and Family Counseling programs also offered elective coursework in psychopharmacology, as did 6 (40%) of the 15 College Counseling/Student Affairs programs. Out of \( n = 99 \) programs, a total of 37 (37.3%) programs reported offering coursework in psychopharmacology, and 62 (62.6%) programs did not; of these, 26 programs (41.9%) offered students the option to take psychopharmacology courses within other departments. Twenty-five departments (25.3%) reported offering students the option to take coursework in psychopharmacology within psychology or clinical psychology departments. Seven departments (7.0%)
reported utilizing other counseling programs or departments, including rehabilitation counseling and counseling psychology, to offer students this coursework. Four departments (4.0%) reported offering students this coursework through professional health programs or departments, including nursing and pharmacy; three departments (3.0%) reported students can take a pharmacology course within social work programs or departments.

The majority of the participants (n = 98) also reported which CACREP-accredited programs their departments were planning to offer in accordance with the 2009 CACREP Standards (CACREP, 2008a). Table 22 below illustrates the frequencies of the seven CACREP programs offered in accordance with the new standards.

Table 22

Participants’ Identified and Planned Counselor Education Programs in Accordance with 2009 CACREP Standards (n = 98)

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<tr>
<td></td>
<td>Total</td>
<td>101</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Another area of interest to the study was the frequency of psychopharmacology courses within the participants’ identified ACES regions. Table 23 identified the number of programs within each region who had stand-alone coursework in psychopharmacology. While the Southern region had the highest number of responses, only eight programs (20.5%) reported offering stand-alone coursework in this subject. The North Central region, who had the lowest representation of participants, reported 11 programs out of 18 (61.1%) having stand-alone coursework in psychopharmacology.
Table 23

*Crosstabulation of Participants’ Identified ACES Regions and Availability of Stand-Alone Coursework in Psychopharmacology (n = 100)*

<table>
<thead>
<tr>
<th>Identified ACES Regions</th>
<th>Stand-alone psychopharmacology course(s)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>North Atlantic</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>North Central</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>Rocky Mountain</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Southern</td>
<td>31</td>
<td>8</td>
</tr>
<tr>
<td>Western</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>41</td>
</tr>
</tbody>
</table>

Table 24 indicates the frequency of CACREP-accredited counseling programs offered per ACES region as reported by the participants. These frequencies are inclusive to all programs identified by participants and do not include the reported credits required for graduation from each program.

Table 24

*Frequency of CACREP-Accredited Counseling Programs within Participants’ Identified ACES Regions (n = 99)*

<table>
<thead>
<tr>
<th>Programs</th>
<th>North Atlantic</th>
<th>North Central</th>
<th>Rocky Mountain</th>
<th>Southern</th>
<th>Western</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career counseling</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>College counseling</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Community counseling</td>
<td>7</td>
<td>13</td>
<td>5</td>
<td>23</td>
<td>7</td>
<td>55</td>
</tr>
<tr>
<td>Counselor education and supervision (doctoral-level)</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>15</td>
</tr>
</tbody>
</table>
Table 25 reflects the reported CACREP-accredited programs that counseling departments were planning to offer in accordance with the *2009 CACREP Standards* (CACREP, 2008a) at the time of the study per ACES region. There were four missing responses for a total of $n = 97$ responses.

### Table 25

*Identified and Planned CACREP-Accredited Programs in Accordance with the 2009 CACREP Standards ($n = 97$)*

<table>
<thead>
<tr>
<th>Programs</th>
<th>North Atlantic</th>
<th>North Central</th>
<th>Rocky Mountain</th>
<th>Southern</th>
<th>Western</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marriage, couple, and family counseling / therapy</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Mental health counseling</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>11</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td>School counseling</td>
<td>16</td>
<td>16</td>
<td>5</td>
<td>29</td>
<td>9</td>
<td>75</td>
</tr>
<tr>
<td>Student affairs</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>13</td>
</tr>
</tbody>
</table>
### Programs North Atlantic North Central Rocky Mountain Southern Western Total

<table>
<thead>
<tr>
<th>Programs</th>
<th>North Atlantic</th>
<th>North Central</th>
<th>Rocky Mountain</th>
<th>Southern</th>
<th>Western</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marriage, couple, and family counseling</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>School counseling</td>
<td>15</td>
<td>14</td>
<td>5</td>
<td>33</td>
<td>10</td>
<td>77</td>
</tr>
<tr>
<td>Student affairs and college counseling</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

**Implications of the Study**

Counselor educators must understand the necessity of psychopharmacology within the context of both counselor education and professional counseling paradigms. As the number of CACREP-accredited counselor education programs continues to increase and the *2009 CACREP Standards* (CACREP, 2008a) are implemented into more programs, knowledge of psychopharmacology will be required for many counselor education students. Currently, this knowledge is required for students in three specific counselor education programs: (a) Addiction Counseling (CACREP, AC, Assessment, Section G.4); (b) Clinical Mental Health Counseling (CACREP, CMHC, Assessment, Section G.3); and (c) Marriage, Couple, and Family Counseling (CACREP, MCFC, Assessment, Section G.3). Within these counseling areas, professional counselors will most likely experience working with clientele who are prescribed psychotropic medications for mental health needs (Escobedo et al., 2001; Scovel et al., 2002). In order to ethically serve clients who are dealing with issues involving pharmacotherapy or psychotropic medications, counselors must have appropriate training, supervision, and competence in this area (ACA, 2005, C.2.a.; Ingersoll & Rak, 2006; Preston et al., 2005).
Counselor education, credentialing, and licensure.

When reviewing the educational criteria necessary to qualify for the National Certified Counselor (NCC; NBCC, 2008b) and National Certified School Counselor (NCSC; NBCC, 2008c) credentials, education in psychopharmacology is not required. To maintain consistency within the field of professional counseling, organizations such as CACREP and the NBCC, as well as state counseling licensure boards, can assist in promoting the subject of psychopharmacology by incorporating pharmacological coursework into the educational criteria necessary for program completion, credentialing, and licensure.

As it is important for professional counseling organizations to recognize the necessity of psychopharmacological education in counselor education, it is equally important for counselor education faculty to advocate for teaching this subject. According to the 2009 CACREP Standards (CACREP, 2008), core faculty members in accredited counselor education programs typically have earned their doctoral degrees in counselor education or other closely-related fields; although it is preferred they have received degrees from CACREP-accredited programs (Section IV.A.3.). If these faculty members are preferred to have graduated from CACREP-accredited programs and are responsible for teaching in program areas in which knowledge in psychopharmacology is recommended, then appropriate training for future counselor educators is advantageous for CACREP-accredited programs and the counseling profession.

Escobedo et al. (2001) reported in their study the majority (66%) of reporting counselor education programs did not offer specific coursework in psychopharmacology. In the current study, the majority of CACREP program liaisons reported specific
coursework in psychopharmacology was not offered in 60 (59.4%) of the programs. Based on these data, it appears more programs (41 or 40.6% of the programs in this study) are offering this coursework than before; however, the majority of reporting programs still do not have a stand-alone course in psychopharmacology. In these programs, it is assumed the topic of psychopharmacology is incorporated into other courses, as 92 (91.1%) of the current study’s participants reported having required counselor education courses that include some content in which psychopharmacology is discussed but is not the primary subject matter.

A small majority of the survey’s participants (52.1%) indicated students who take courses in psychopharmacology could have a better educational experience than students who do not take this coursework. A majority also reported a stand-alone course in psychopharmacology could be useful to counselor education students (54.3%), and most participants (91.1%) indicated this topic is incorporated into other courses. These results signify the necessity of psychopharmacology within counselor education. However, anecdotal data (as evidenced by participants’ written feedback) suggested that counselor educators may not see the need for psychopharmacology within school counseling programs or may not have the capability to incorporate it into current curricula.

**School counseling and the incorporation of psychopharmacology.**

As indicated by past and current literature, few advances have been made toward integrating the topic of psychopharmacology within school counseling. The reason for this is yet to be understood as school counselors work with populations who are often prescribed medications. Additionally, school counselors are likely to be seen as a source of education and information for parents and teachers when children are diagnosed with
behavioral or mental health issues; oftentimes, these diagnoses are concomitantly treated
with counseling and psychotropic medications. School counselors also act as liaisons
between teachers, parents, and other mental health professionals, or assist in the referral
process for children in need of assessment and diagnosis for mental health issues
(Bowley & Walther, 1992; Schwiebert et al., 1995). At times, school counselors look to
mental health counselors for assistance and consultation with these issues (Hall and
Gushee, 2000). Consultation is an integral part of both school and mental health
counseling; however, it is essential that school counselors are competent in understanding
childhood diagnoses and treatment options. Part of this competence includes school
counselors’ knowledge in the areas of psychotropic medications and pharmacotherapy. A
course devoted to psychopharmacology would assist school counselors with this
necessary information.

Limitations of the Study

Online surveys may have generalizability issues and difficulties in design to
maintain consistency (Granello & Wheaton, 2004). The survey was designed for
participants to complete it only once in order to prevent duplicate survey responses. This
was problematic for one participant, who reported she had trouble accessing the survey
website. However, it appeared she had closed the survey and attempted to open it again.
The participant e-mailed the researcher, who fixed the issue; however, this still could
have served as a factor for either nonresponse or early termination of the survey. By
distributing the survey to all 232 current CACREP program liaisons through electronic
means, it was the researcher’s intent for at least 50 percent of the potential participants to
contribute to the study. After data screening, the study’s response rate was 43.5 percent,
which is close to the researcher’s projection; however, a higher response rate could have been beneficial to the study’s generalizability and representation. Thirty percent of the North Central region’s CACREP-accredited counselor education programs and 80 percent of the Western region’s accredited programs responded to this study. It appeared the North Central region was underrepresented and the Western region was overrepresented in this study, which could affect the study’s generalizability. The other regions (North Atlantic, Rocky Mountain, and Southern) varied with response rates between 40 percent and 50 percent.

Additionally, many of the survey items had a narrow scope in reference to the definition of coursework in psychopharmacology and related terms, which may have affected the study’s generalizability. It is possible counselor education programs that did not offer stand-alone courses in psychopharmacology were not able to report more about their course offerings that include varying degrees of psychopharmacological education. It may have been beneficial to include a survey item in which participants could write in paragraph form about the courses within their programs that integrate the subject of psychopharmacology, as well as what percentage of these courses involve concrete discussion or teaching of psychopharmacology.

Alreck and Settle (2004) noted that survey participants often are “likely to be those with the strongest positive or negative feelings and those with higher levels of involvement with the topics of the survey” (p. 37). As such, there may have been nonresponse from potential participants who had neither positive nor negative beliefs regarding the topic of psychopharmacology within counselor education. The generalizability of this study may be limited as participants may have had strong opinions
for or against the incorporation of psychopharmacology within counselor education programs. It is likely the majority of those who gave written feedback to the survey had strong viewpoints regarding this topic; many participants who provided feedback were either supportive of the incorporation of psychopharmacology in CACREP-accredited counselor education programs or voiced their opposition to this. While the feedback was helpful in discussing specific participants’ points of view, the researcher did not consider this feedback to be generalizable to either the sample or the population.

Umbach (2005) and Creswell (2005) reported about the difficulty of sampling error within survey research. Although the survey was distributed to current CACREP program liaisons that were designated as the sample for this study, the survey was completed by a few self-disclosed graduate students. The researcher indicated the intent of this study, as well as a description of the sample, on several occasions through letter and postcard mailings and e-mail messages. It appeared one potential participant did not recognize the indicated sample and distributed his or her e-mailed survey link for graduate students to complete. The researcher was able to filter the students’ completed surveys and discard these responses from the results. It seemed this sampling error was eliminated prior to it affecting the survey’s results.

Suggestions for Future Research

The curriculum changes made to the 2009 CACREP Standards (CACREP, 2008a) may affect how counselor education departments educate master’s-level students. As previously stated, those students who concentrate in Addiction Counseling (CACREP, 2008a, AC, G.4.), Clinical Mental Health Counseling (CACREP, 2008a, CMHC, G.3.) and Marriage, Couple, and Family Counseling (CACREP, 2008a, MCFC, G.3.) will be
expected to demonstrate knowledge in the area of psychopharmacology. Therefore, changes may be made within the departments or programs that offer these specific concentrations in order to incorporate psychopharmacological knowledge. Some participants indicated it would be difficult to add other courses, and one participant indicated other aspects of counselor education may be sacrificed if a psychopharmacology course were added to a program’s curriculum. As psychopharmacology continues to evolve with the incorporation of newer psychotropic medications and the elimination of dated medications, one stand-alone course in psychopharmacology is not the panacea for graduate students’ knowledge in this subject. Rather, a general course in psychopharmacology could prove to be a foundation for students’ knowledge about classes of medications, neurobiology, and pharmacology (Preston et al., 2005), as well as incorporating psychopharmacology topics into other relevant course areas, including psychopathology, personality assessment, mental health and diagnoses, addiction counseling, professional issues in counseling, and counseling ethics. A study in which the topic of psychopharmacology is explored within these course areas is necessary to gauge the level of psychopharmacological education currently provided to students.

Additionally, it may be helpful to survey counselor education students and newly practicing counselors regarding psychopharmacology and whether or not they found their educational experience, if any, regarding this subject to be beneficial. The opinions of school counseling students and practicing school counselors could also be explored to gauge the perceived necessity of this topic within the school counseling paradigm. These populations may have a different insight into the topic of psychopharmacology education
than the population from this study and could provide accreditation bodies such as CACREP with feedback regarding their educational experiences and the relevance of this subject in counselor education curricula.

**Conclusion**

The research conducted in this study identified (a) educators' expertise and the expertise of their fellow faculty members in psychopharmacology, (b) educators’ reported geographic region, and (c) educators' perceived need for training in psychopharmacology as factors for predicting the availability of psychopharmacology within CACREP-accredited counselor education programs. Although this study was exploratory in nature, it served as an extension to previous studies in which CACREP-accredited programs’ inclusion of specific coursework into counselor education curricula were investigated. The findings from this study may assist in conducting future research about the availability and necessity of psychopharmacology within counselor education.
References


Association of Social Workers [online version]. Retrieved from
http://www.socialworkers.org/pubs/code/code.asp

National Association of Social Workers (n.d.). *Social work history*. Retrieved from
http://www.socialworkers.org/pressroom/features/general/history.asp

National Board for Certified Counselors. (2008a). *Certified Clinical Mental Health
Counselor Credential, 2009 Application*. Retrieved from
http://www.nbcc.org/certifications/ccmhc/Default.aspx

Credential, 2009 Application*. Retrieved from
http://www.nbcc.org/certifications/ncc/Default.aspx

National Board for Certified Counselors. (2008c). *National Certified School Counselor
Credential, 2009 Application*. Retrieved from
http://www.nbcc.org/certifications/ncsc/Default.aspx

health risk behavior survey: Lessons learned from the University of Florida

Practice profile of members of the American college of nurse-midwives: Findings of a


Appendix A

Initial Letter to CACREP Program Liaisons
March 1, 2009

Dear Name,

We are surveying CACREP-accredited programs to determine what factors predict the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education master’s and doctoral programs. Within the next three days, you will be e-mailed a link to a survey titled Exploring Psychopharmacology in CACREP-Accredited CE Programs. We respectfully request that you or another member of your department complete this confidential survey. In our pilot study, it took participants approximately 10 to 15 minutes to complete the survey.

There are no known risks from participating in this research project. A direct benefit to you if you participate in this research may be that you will contribute to the development of training for counselor education students. The data from this survey also may assist in identifying how the topic of psychopharmacology is regarded by counselor educators.

If you choose to participate in this survey, you may be eligible to win one of three $50 Barnes & Noble gift cards. Three participants will be chosen randomly and will be notified through e-mail that they have won a gift card. At the end of the survey, you will have the option of sending an e-mail from your private e-mail account in order to enter your name in the drawing for the gift cards. Your name and e-mail address will not be connected to your responses, and your responses will remain anonymous.

If you have any questions or would like a copy of the findings of this survey, please contact Ms. Victoria Sepulveda at victoria.se pulveda@gmail.com or at 419-377-5836.

Thank you in advance for your consideration of our survey. We look forward to hearing from you!

Warm regards,

Nick J. Piazza, Ph.D.
Professor
The University of Toledo

Victoria Sepulveda, M.A.
Doctoral Candidate
The University of Toledo
Appendix B

Reminder Post Card to CACREP Program Liaisons
REMINDER—CURRENT CACREP LIAISON PARTICIPANTS ARE NEEDED!

Hello!

We are surveying current CACREP program liaisons to determine what factors predict the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education master’s and doctoral programs. We respectfully ask for you, the current CACREP program liaison from your institution, to complete this confidential survey. In our pilot study, it took participants approximately 10 to 15 minutes to complete the survey.

Survey link: https://www.surveymonkey.com/s/xEpNneFt=Q3iBEoEBQ_3d_3d

(Note: You should have received a link to this survey in an email, allowing you to simply click on it to take. You will receive a second e-mail by Wednesday, April 15, 2009.)

If you have already completed the survey, we thank you for your participation and ask you to please disregard this mailing.

There are no known risks from participating in this research project. A direct benefit to you if you participate in this research may be that you will contribute to the development of training for counselor education students. The data from this survey also may assist in identifying how the topic of psychopharmacology is regarded by counselor educators.

If you choose to participate in this survey, you will be eligible to win one of three $50 Barnes & Noble gift cards. If you have any questions or would like a copy of the findings of this survey, please contact Ms. Victoria Sepulveda at victoria.sepulveda@gmail.com.

Thank you for your participation and we look forward to hearing from you!

Warm regards,

Nick J. Fizza, Ph.D.             Victoria Sepulveda, M.A.
Professor                    Doctoral Candidate
The University of Toledo      The University of Toledo
Appendix C

Final Reminder Post Card to CACREP Program Liaisons
FINAL REMINDER—CURRENT CACREP LIAISON PARTICIPANTS ARE NEEDED!

Greetings,

We are surveying current CACREP program liaisons to determine what factors predict the availability of formal instruction in psychopharmacology within CACREP-accredited counselor education master’s and doctoral programs. We respectfully ask for your, the current CACREP program liaison from your institution, to complete this confidential survey. Currently we have a 35% response rate, and more participants would be greatly appreciated. We hope you will find the time for this survey, as it should take only 10 to 15 minutes to complete.

Survey link: https://www.surveymonkey.com/s.aspx?su=vePNonFkQkHnBnOuETQ_3d_3d
(Note: You should have received a link to this survey in an email, allowing you to simply click on it to take. You will receive a third and final email by Wednesday, May 30th.)

If you have already completed the survey, we thank you for your participation and ask you to please disregard this mailing.

There are no known risks from participating in this research project. A direct benefit to you if you participate in this research may be that you will contribute to the development of training for counselor education students. The data from this survey also may assist in identifying how the topic of psychopharmacology is regarded by counselor educators.

You also have a chance to win one of three $50 Barnes & Noble gift cards if you participate in this survey!

If you have any questions or would like a copy of the findings of this survey, please contact Ms. Victoria Sepulveda at victoria.sepulveda@gmail.com.

Thank you again for your participation and we look forward to hearing from you!

Warm regards,

Nick J. Plazza, Ph.D. Victoria Sepulveda, M.A.
Professor Doctoral Candidate
The University of Toledo The University of Toledo
Appendix D

IRB Approval
To: Nick Piazza, Ph.D. and Victoria Sepulveda  
Department of Counseling Education & School Psychology

From: Barbara K. Chesney, Ph.D., Chair  
Wesley Bullock, Ph.D., Vice Chair

Signed: [Signature]  
Date: March 19, 2009

Subject: IRB #106396  
Title: Investigating the Formal Instruction of Psychopharmacology in CACREP-Accredited Counselor Education Programs

On 03/19/09, the above research was reviewed and approved as Exempt (category 2b) by the Chair and Chair Designee of the University of Toledo (UT) Social Behavioral & Educational Institutional Review Board (IRB). The requirement to obtain a signed consent/authorization for use and disclosure of protected health information form has been waived as this research is determined to be minimal risk and a signed consent/authorization document would be the only record linking the subject to the data. It was determined that this waiver for signed consent/authorization will not adversely affect the rights and welfare of the participants. This action will be reported to the committee at its next scheduled meeting.

Please Note: A consent form is not required for this study. However, an Information Sheet regarding the study should be distributed to potential participants. This Information Sheet should include the name and telephone number of a contact person in case the subjects need additional information. It is also strongly encouraged that the study be explained verbally to potential subjects.

Items Reviewed:
- IRB Application Requesting Exempt Review
- Survey

Designated as EXEMPT RESEARCH on: 03/19/2009

Please read the following attachment detailing Principal Investigator responsibilities.
Appendix E

Survey Instrument
Exploring Psychopharmacology in CACREP-Accredited CE Programs

INFORMED CONSENT

You are invited to participate in the research project titled, "Investigating the Formal Instruction of Psychopharmacology in CACREP-Accredited Counselor Education Programs," which is being conducted at the University of Toledo under the direction of Dr. Nick J. Piazza (Dissertation Advisor) and Victoria Sepulveda (Doctoral Candidate). The purpose of this study is identifying the extent of psychopharmacological training within counselor education programs. If you agree to participate, you will be asked to complete a brief questionnaire about this topic as well as answer demographic questions. The questions are geared toward your experiences as a CACREP Program Liaison and training as a counselor educator. This survey is estimated to take approximately 10 to 15 minutes.

RISKS AND DISCOMFORTS:
There are no known risks from participating in this research project.

POTENTIAL BENEFITS:
A direct benefit to you if you participate in this research may be that you will contribute to the development of training for counselor education students. The data from this survey also may assist in identifying how the topic of psychopharmacology is regarded by counselor educators.

If you choose to complete this survey, you will be eligible to win one of three $50 Barnes & Noble gift cards. Three participants will be chosen randomly and will be notified by the researcher (through e-mail) that they have won a gift card. At the end of the survey, you will have the option of sending an e-mail from your private e-mail account in order to enter your name in the drawing for the gift cards. Your name and e-mail address WILL NOT be connected to your responses, and your responses will not be identifiable.

CONFIDENTIALITY
The researchers will make every effort to prevent anyone who is not on the research team from knowing that you provided this information, or what that information is. The data from this study will be stored in a secured database. Confidentiality will be maintained on this website through the use of Secure Sockets Layer (SSL) protocol. Although we will make every effort to protect your confidentiality, there is a low risk that this might be breached. As with any type of Internet communication, there may be risks related to the transfer of information from one party to another.

By clicking the "I Agree" button below, you agree that you understand the procedures, risks, and benefits involved in this research. Your refusal to participate in this study will involve no penalty or loss of benefits to which you are otherwise entitled and will not affect your relationship with The University of Toledo. In addition, you may discontinue participation at any time without any penalty or loss of benefits. Your responses will be kept anonymous and are confidential. Your privacy will be protected as you will not be identified by name as a voluntary participant in this research project.

Before you decide to accept this invitation to take part in this research project, you may contact the researchers with any questions that you might have. If you have any questions at any time before, during, or after your participation, or experience any physical or psychological distress as a result of this research, you may contact a member of the research team (Dr. Nick J. Piazza, Dissertation Advisor and Professor, 419-530-4721, n.piazza@utoledo.edu, or Victoria Sepulveda, Doctoral Candidate, 419-377-5836, victoria.sepulveda@gmail.com). If you have questions beyond those answered by the research team or your rights as a research participant or research-related injuries, please feel free to contact the Chairperson of the SBE Institutional Review Board, Dr. Barbara Chesney, at 419-530-2844.

Your clicking "I Agree" below indicates you have read the information provided above, you have had all your questions answered, and you agree to take part in this research.

1. Do you agree to the consent information listed on this form?
   - YES, I AGREE to the above consent form.
   - NO, I DO NOT AGREE to the above consent form.
2. Please list your highest education level.
   - Bachelor's Degree
   - Master's Degree
   - Doctoral Degree
   - I prefer not to answer
   - Other (please specify)

3. In what year did you receive your highest degree? Please respond in YYYY format.

4. Please indicate the area in which you received your highest degree(s).
   - Counselor Education (or Counselor Education & Supervision)
   - Counseling Psychology
   - Social Work
   - Psychology
   - Other (please specify)

5. Please indicate your practice area(s) below. Select all that apply.
   - Counselor Educator
   - Professional or Clinical Counselor
   - School Counselor
   - Chemical Dependency Counselor
   - Counseling Psychologist
   - Social Worker
   - Psychologist
   - Educational Psychologist
   - School Psychologist
   - I prefer not to answer

6. Please indicate your age.
Exploring Psychopharmacology in CACREP-Accredited CE Programs

7. Please indicate your gender.
- Female
- Male
- Other (please specify)

8. Please indicate your race/ethnicity. Select all that apply.
- American Indian or Alaska Native
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Pacific Islander
- White
- I prefer not to answer
- Other (please specify)

9. Please indicate the ACES geographic region in which you serve as a CACREP liaison.
- North Central (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Wisconsin)
- Rocky Mountain (Colorado, Idaho, Montana, New Mexico, Utah, Wyoming)
- Southern (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, West Virginia)
- Western (Alaska, Arizona, California, Hawaii, Nevada, Oregon, Washington)
- I prefer not to answer
- Other (please specify)
Exploring Psychopharmacology in CACREP-Accredited CE Programs

Please answer the following questions based on your role as CACREP Program Liaison.

The term psychopharmacology is used to define the area of pharmacology that is related to the "psychological effects of drugs and the use of drugs to treat symptoms of mental and emotional disorders" (Ingersoll & Rak, 2006, p. 3).


10. Are you familiar with the term "psychopharmacology" as defined above?
   - Yes
   - No

11. What CACREP-accredited programs does your department offer? Please choose all that apply.
   - Career Counseling
   - College Counseling
   - Community Counseling
   - Counselor Education and Supervision (doctoral-level only)
   - Gerontological Counseling
   - Marital, Couple, and Family Counseling/Therapy
   - Mental Health Counseling
   - School Counseling
   - Student Affairs

12. For each program you currently offer, please indicate the number of credit hours necessary for students’ program completion.

<table>
<thead>
<tr>
<th>Program</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Career Counseling</td>
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<td>College Counseling</td>
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<tr>
<td>Community Counseling</td>
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<tr>
<td>Counselor Education and Supervision</td>
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<td>Gerontological Counseling</td>
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<td>Marital, Couple, and Family Counseling</td>
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<tr>
<td>Mental Health Counseling</td>
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<tr>
<td>School Counseling</td>
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<td>Student Affairs</td>
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</table>
13. Are these credit hours defined as "semester credit hours" or "quarter credit hours"?
- Quarter Credit Hours
- Semester Credit Hours

Other (please specify)

14. What CACREP-accredited program(s) is/are your department planning to offer in accordance with the 2009 CACREP Standards? Please choose all that apply.
- Addictions Counseling
- Career Counseling
- Clinical Mental Health Counseling
- Counselor Education and Supervision (doctoral-level only)
- Marriage, Couple, and Family Counseling
- School Counseling
- Student Affairs and College Counseling

15. In the box below, please indicate the number of full-time (i.e., tenure-track) faculty within all of the counseling programs your department offers.

16. Counting your department's full-time, part-time, and adjunct professors, please indicate the number of full-time equivalent faculty who teach in your counseling programs.
Exploring Psychopharmacology in CACREP-Accredited CE Programs

Please answer the following questions based on your role as CACREP Program Liaison.

17. Do any REQUIRED counselor education courses within your department include at least some content in which psychopharmacology is discussed, even if it is NOT the primary subject matter?
   - Yes
   - No

18. Does your counselor education department offer any courses in which the PRIMARY SUBJECT MATTER is psychopharmacology, such as a “drugs and mental health” course or a “psychopharmacology” course?
   - Yes
   - No

19. How many REQUIRED stand-alone courses in the area of psychopharmacology (in which psychopharmacology is the primary subject matter) are offered in each of your department’s CACREP-accredited program(s)?

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<tr>
<th>Course</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<td>Career Counseling</td>
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<td>Counselor Education and Supervision (doctoral-level only)</td>
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<td>Mental Health Counseling</td>
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### Exploring Psychopharmacology in CACREP-Accredited CE Programs

Please answer the following questions based on your role as CACREP Program Liaison.

**21. If your counselor education department DOES NOT offer any courses in which the PRIMARY SUBJECT MATTER is psychopharmacology, do students within your department have the option to take courses in OTHER departments at your institution (such as Psychology, Social Work, or Pharmacy)?**

- [ ] Yes
- [ ] No
- [ ] Does not apply. My program offers a course in psychopharmacology.

**22. If you answered YES to item 20, please indicate the department(s) in which students are offered the option to take a course(s) in which the PRIMARY SUBJECT MATTER is psychopharmacology.**

- [ ] Psychology
- [ ] Social Work
- [ ] Educational Psychology
- [ ] School Psychology
- [ ] Clinical Psychology
- [ ] Counseling Psychology
- [ ] Pharmacy

Other (please specify):
Exploring Psychopharmacology in CACREP-Accredited CE Programs

Please answer the following questions related to your training as a counselor/counselor educator.

In this section, the phrase "formal instruction in psychopharmacology" is defined as completing educational courses where the PRIMARY SUBJECT MATTER is psychopharmacology (such as completing a "drugs and mental health" course or a "psychopharmacology" course).

23. Do you consider yourself, or any of your department faculty members, to have any expertise (by way of training, formal instruction, or experience) in psychopharmacology?
   
   - Yes
   - No

24. Please indicate the statements that apply to how you and your department members have gained experience in the subject of psychopharmacology. Select all that apply.

   - Formal instruction in psychopharmacology during bachelor’s-level training.
   - Formal instruction in psychopharmacology during master’s-level training.
   - Formal instruction in psychopharmacology during doctoral-level training.
   - Participated in continuing education or training in psychopharmacology.
   - On-the-job experience or training.
   - None of the above apply to my department faculty members or myself.

Please use this space to further explain your response, if needed.
Exploring Psychopharmacology in CACREP-Accredited CE Programs

Please answer the following questions related to your training as a counselor/counselor educator.

In this section, "coursework in psychopharmacology" is defined as academic courses in which psychopharmacology is the main subject.

Please indicate to what degree you agree with the following statements:

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

25. Upon graduation from the master's-level counselor education programs in my department, I believe students have sufficient training in the area of psychopharmacology.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Please use this area to explain your response, if needed.

26. Upon graduation from the doctoral-level counselor education program in my department, I believe students have sufficient training in the area of psychopharmacology.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree
- Does not apply. My department does not have a doctoral-level counselor education program.

Please use this area to explain your response, if needed.
Exploring Psychopharmacology in CACREP-Accredited CE Programs

27. I DO NOT believe students need to take a course in psychopharmacology because there are ample alternatives for learning this material.
- [ ] Strongly Disagree
- [ ] Disagree
- [ ] Agree
- [ ] Strongly Agree

Please use this area to explain your response, if needed.

28. Students who take courses in which psychopharmacology is the primary subject matter have a better educational experience than students who do not take this coursework.
- [ ] Strongly Disagree
- [ ] Disagree
- [ ] Agree
- [ ] Strongly Agree

Please use this area to explain your response, if needed.

29. I believe graduate students in counselor education programs should take AT LEAST ONE course in which psychopharmacology is the primary subject matter.
- [ ] Strongly Disagree
- [ ] Disagree
- [ ] Agree
- [ ] Strongly Agree

Please use this area to explain your response, if needed.
30. I believe graduate students in counselor education programs should take AT LEAST TWO courses in which psychopharmacology is the primary subject matter.

☐ Strongly Disagree
☐ Disagree
☐ Agree
☐ Strongly Agree

Please use this area to explain your response, if needed.

31. I believe students need coursework in which psychopharmacology is the primary subject matter to be effective COUNSELORS.

☐ Strongly Disagree
☐ Disagree
☐ Agree
☐ Strongly Agree

Please use this area to explain your response, if needed.

32. I believe students need coursework in which psychopharmacology is the primary subject matter to be effective COUNSELOR EDUCATORS.

☐ Strongly Disagree
☐ Disagree
☐ Agree
☐ Strongly Agree

Please use this area to explain your response, if needed.
33. I believe CACREP should require graduate students in counselor education to take a course in which the primary subject matter is psychopharmacology.

- [ ] Strongly Disagree
- [ ] Disagree
- [ ] Agree
- [ ] Strongly Agree

Please use this area to explain your response, if needed.
Exploring Psychopharmacology in CACREP-Accredited CE Programs

**OPTIONAL DRAWING ENTRY**

Thank you for completing this survey!

If you would like to be entered into a drawing for one of three $50 Barnes & Noble gift cards, please e-mail your name and a valid e-mail address or phone number to Victoria Sepulveda, Doctoral Candidate, at victoria.sepulveda@gmail.com. Your name, e-mail address, and any other personal information WILL NOT be linked to your survey responses.

Each winner will be randomly chosen and will be notified at the conclusion of the study. Only those who have won the gift cards will be contacted by e-mail or phone. Your information will only be used to contact you if you are selected as a winner of a gift card. If you are a winner, you will have the option of having a gift certificate e-mailed to you or having a gift card mailed to your primary address.

Please note that if you win a gift card, your name, e-mail address, or any other personal information WILL NOT be publicized by the research team. Therefore, each winner will be notified individually that s/he has won a gift card, and the names of all who have entered the drawing will be kept confidential.
You have reached the end of the survey. Please click "Done" to submit your responses.