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Relationship Between Self-efficacy and Attitudes Toward Evidence-based Practice in Psychology

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RELATIONSHIP BETWEEN SELF-EFFICACY AND ATTITUDES TOWARD EVIDENCE-BASED PRACTICE IN PSYCHOLOGY

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ABSTRACT

As a result of a fierce debate about the most important factors of effective therapy, the American Psychological Association (APA) defined Evidence-Based Practice in Psychology (EBPP) as "an approach to clinical practice which integrates best available research with clinical expertise in context of patient characteristics, culture, and preferences." (APA, 2006, p. 273). Research suggests that positive attitudes toward EBPP are related to use of EBPP (Nelson & Steele, 2007). This study utilized a social cognitive theory (Bandura, 1986) framework to examine the relationships between counseling self-efficacy, research self-efficacy, past training experiences, knowledge of EBPP, and attitudes toward EBPP. The participants were doctoral interns in the field of psychology who completed an online survey. Data analysis included MANCOVA and mediated regressions. The results highlight the importance of research self-efficacy in predicting components of EBPP, and the role of classes taken on EBPP in that relationship. The results also suggest that students coming from a PhD program had higher research self-efficacy as compared to students from PsyD programs. Research self-efficacy was a significant predictor of two subscales of the scale measuring attitudes toward evidence-based practice in psychology. Additionally, research self-efficacy was significantly predicted by number of classes in EBPP. Significant correlations among the variables added to our knowledge of relationships between the above- mentioned factors.

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CHAPTER I

INTRODUCTION

Evidence-based practice in psychology (EBPP) is "the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences" (American Psychological Association [APA], 2006, p. 273). Although the EBPP movement is relatively new, the idea of basing practice on best available evidence started within the medical field, and is well-established. EBPP emerged as a result of development of evidence-based medicine (EBM). Professionals within the field of psychology have disagreed on the relative importance of different types of scientific evidence in the treatment of clients. For example, some professionals are in favor of the common factors approach in treatment of clients, while others prefer empirically supported treatments (ESTs). Considering that EBPP is a best practice approach and an ethical obligation, researchers have examined what accounts for enactment of EBPP among mental health professionals. Positive attitudes towards EBPP have been linked to engagement in these practices and more research is needed to explore the factors that influence these attitudes. This study will provide further insight into factors that may be influencing attitudes toward EBPP among psychology interns to better understand the best practices in training future psychologists.

In Chapter 1, I discuss the history and current status of EBPP and provide an overview of the research and controversies accompanying the movement. I detail the criticisms of and provide supporting evidence for both the common factors approach and the approach favoring ESTs. I also introduce the theoretical model and how different types of self-efficacy may be related to attitudes toward and competence in EBPP. Lastly, I outline the importance of EBPP in education and training, and identify the significance of the proposed study.

History of Evidence-Based Practice in Medicine

Although ideas in EBM date back to 1900's, the modern development of EBM can be traced back to 1900s (Claridge & Fabian, 2005). New technology and contemporary techniques for creating software databases produced innovative methods of disseminating research and relevant information to healthcare professionals. A seminal paper on effectiveness and efficiency and the importance of good research, including randomized controlled trials (RCTs) in evaluating medical interventions, was written in 1972 (Cochrane & Fellowship, 1972). Due to the need for research regarding effectiveness and efficiency, the Cochrane Collaboration was developed.

The Cochrane Collaboration created a database dedicated to providing up to date information on systematic reviews and RCTs of treatments in all areas of medicine, including psychology. Following Cochrane's research and efforts, Sackett and his team at McMaster University in Canada coined the term *evidence-based medicine* in the early 1990s (Claridge & Fabian, 2005). These authors defined EBM as "a systemic approach to analyze published research as the basis of clinical decision making" (Claridge & Fabian, 2005, p. 547). In 1996, Sackett and colleagues expanded the term to incorporate

"conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 71).

Emergence of Empirically Supported Treatments in Division 12

Division 12 is the Society of Clinical Psychology within the APA. Within this division, the Task Force on Promotion and Dissemination of Psychology Procedures initiated efforts in promoting an EBPP approach (Chambless et al., 1993). The Task Force outlined the requirements for well-established and probably efficacious treatments. The outline was largely influential in terms of psychologists becoming more familiar with and utilizing ESTs in practice. According to the Division 12 Task Force on Promotion and Dissemination of Psychology Procedures (Chambless et al., 1993), well-established treatments are characterized by having at least two group design studies conducted by different investigators indicating that the treatment is superior to pill, psychological placebo, or another treatment; or that it is equivalent to a treatment that has already been recognized as effective (Chambless et al., 1993). A treatment is also considered well-established if it has a large series of single case design studies that are conducted with treatment manuals with well-defined client sample characteristics (Chambless et al., 1993). Along with well-established treatments, there are also probably efficacious treatments. The guidelines for probably efficacious treatments are not as stringent as ESTs. These treatments consist of one of the following: two studies showing the treatment is more effective than a wait list control group, two studies meeting criteria but conducted by the same investigator, or at least two good studies demonstrating effectiveness with a flawed sample (Chambless et al., 1993). With more research

examining effective psychological procedures, the EST movement was ongoing and met with a considerable amount of skepticism within the field of psychology.

Common Factors and Empirically Supported Treatments Debate

A debate of what accounts for effective therapy outcomes emerged along with Division 12's emphasis on ESTs. Psychologists have differing beliefs regarding the utility of ESTs and common factors in the therapy process and client outcomes. For example, some professionals argue that the most important components of therapy are the common factors, which are largely focused on the therapeutic relationship (Laska, Gurman & Wampold, 2014; Messer & Wampold, 2002; Wampold, 2001). Other professionals in the field maintain that specific well-researched treatment approaches (ESTs) are the reasons for positive outcomes (Hunsley, 2007; Lambert & Ogles, 2014). There is an ongoing debate regarding the relative importance of common factors and ESTs. This debate is problematic as it prevents beneficial dialogue which could advance the field of psychology (Asnaani & Foa, 2014).

Common Factors and Critiques. A common factors approach to therapy is described as a "socially constructed and mediated healing practice," which does not emphasize one particular theoretical lens as a requirement for therapy (Wampold, 2001). The common factors approach to therapy highlights the relationship between the therapist and the client. Therapists utilizing a common factors approach view therapeutic outcome as something that can be mainly predicted by relationship factors. These relationship factors include empathy, goal and consensus collaboration, therapeutic alliance, and positive regard (Laska et al., 2014). The therapeutic relationship is defined as "feelings

and attitudes that therapist and client have toward one another, and the manner in which these are expressed" (Norcross & Lambert, 2011, pp. 5).

Although it is highlighted, the therapeutic relationship is not the only component of common factors. Individuals who prefer a common factors approach to therapy believe that it does not make a difference what treatment technique is utilized as long as all of the components of the common factors are present. Furthermore, the advocates of common factors posit that these factors alone are both necessary and sufficient for therapeutic change (Laska et al., 2014). Moreover, it is suggested that more variance in treatment outcome is explained by therapist variables rather than nature of the treatment (Messer & Wampold, 2002).

Common Factors Critiques. The proponents of a ESTs approach have differing beliefs regarding the utility of common factors (Lambert & Ogles, 2014). It is suggested by those favoring an ESTs approach that common factors should not be considered a stand-alone, effective EBPP as this approach is used differently by many people (Lambert & Ogles, 2014). In other words, common factors alone are not necessary and sufficient for change (Hoffman & Barlow, 2014). Additionally, it is proposed that therapists use the term common factors only to describe the relationships variables and not all of the variables outlined above.

Overall, the opinion among researchers within the ESTs side of the debate is that common factors are well taught in training programs and the importance of teaching ESTs should not be understated in the field. These researchers also believe that many clinicians are not taking advantage of ESTs in psychotherapy (Lambert & Ogles, 2014).

Empirically Supported Treatments and Critiques. ESTs are defined as "clearly specified psychological treatments shown to be efficacious in controlled research with a delineated population" (Chambless & Hollon, 1998, p. 7). The 1993 Division 12 Task Force on Promotion and Dissemination of Psychological Procedures developed clearly defined requirements for treatments to qualify as being empirically supported (Chambless et al., 1993). Additionally, in 2002, Principles of Empirically Supported Interventions in Counseling Psychology were published and emphasized counseling psychology principles as they relate to ESTs (Wampold, Lichtenberg, & Waehler, 2002).

Empirically Supported Treatments Critiques. The main critiques of ESTs include research issues, problems with generalizability, limited scope of presenting problems considered, and a lack of effectiveness (Hunsley, 2007). Additionally, there is a concern that managed care companies will misuse ESTs and practitioners will be limited in the number of treatments they can use. This will result in practitioners not being able to use psychotherapies that are not designated, which will in turn limit number of treatments and inhibit clinical innovation (Chambless & Ollendick, 2001). Some individuals are also concerned that ESTs will make practitioners more susceptible to malpractice suits. Furthermore, EST research is based on treatment manuals that may diminish the quality of psychotherapy by ignoring important aspects, like relationship building (Chambless & Ollendick, 2001).

The greatest concern with ESTs is related to limitations in research design and statistics (Chambless & Ollendick, 2001; Hunsley, 2007). For example, some believe that participants in the published treatment studies are not similar enough to practice settings and, therefore, the results do not generalize. Another critique of research on

ESTs is that studies rarely utilize clients from diverse cultural backgrounds or those who have comorbid diagnoses. A review of literature, which included empirical papers cited on psychologicaltreatments.org, found that of the 338 studies, 315 did not examine any gender differences (Callahan, Heath, Aubochon-Endsley, Collins, & Herbert, 2013). Additionally, only five of the studies considered race/ethnicity as related to effectiveness of the treatment. Only four of those studies evaluated socioeconomic status as a function of treatment efficacy (Callahan et al., 2013). Another issue with EST research is that it is done on a limited set of presenting problems. Additionally, most of the studies within the ESTs research utilize Cognitive Behavioral Therapy (CBT) approaches, as they are manualized and easier to measure. With all of these issues taken into consideration, Waehler and colleagues (2000) urged counseling psychologists to "be vigilant about protecting issues that traditionally have been foci within counseling psychology, including respect for issues of diversity, de-emphasis on diagnostic labeling and attention to career counseling, psychoeducation, developmental concerns, and prevention programs," and to not lose sight of patient variability and therapist skill (Waehler, Kalodner, Wampold, & Lichtenberg, 2000, p. 662).

Empirically Supported Interventions. As a result of the critiques outlined above, Principles of Empirically Supported Interventions in Counseling Psychology were published in 2002 (Wampold et al., 2002). This document outlined seven principles of empirically supported interventions (Wampold et al., 2002). One such principle is that level of specificity should be considered in evaluation of outcomes and should not be restricted to diagnosis. Additionally, the principles state that scientific evidence must be studied in its entirety and should be collected properly. Furthermore, evidence for

"absolute and relative efficacy" is needed (Wampold et al., 2002, p. 207). These principles state that "causal attributions for specific ingredients should be made only if the evidence is persuasive" (Wampold et al., 2002, p. 208). Outcomes are to be judged appropriately, broadly, and locally. Finally, freedom of choice by the therapist in picking a treatment approach should be recognized (Wampold et al., 2002).

The aforementioned principles urge the clinician to consider client variables such as "ethnicity, gender, attitudes and values, preferences, willingness, general life functioning," and perspective (Wampold et al., 2002, p. 206). They also encourage weighing the costs and benefits of particular therapeutic approaches, and being cognizant of best research. The principles posit that if multiple interventions are equal or nearly equal the client and therapist should have the freedom of choice in picking an intervention, even if it is not the "superior" treatment as determined by Division 12 research. The fifth principle warned about the scientific problems with making causal attributions, and recognizing that common factors may be responsible for outcomes through supporting the specific factors. The counseling psychology principles highlight the importance of client characteristics and clinical expertise in choosing ESTs and engaging in EBPP.

Responses to Empirically Supported Treatments Critiques. Many of the aforementioned critiques have been addressed in the literature in an effort to clarify misunderstandings. In order to maintain the integrity of the research and minimize error, strict guidelines and evidence hierarchies were created for establishing treatments as empirically supported (Chambless et al., 1993). Evidence hierarchies, from lowest to highest, are as follows: expert opinions, case studies, research designs that have threats to

internal validity, studies that have a high degree of internal validity, and systematic reviews of well-designed studies (Hunsley, 2007). Additionally, studies reporting on efficacy and effectiveness show that ESTs are effective in clinical practice as much as they are in research (Hunsley, 2007). Callahan and colleagues (2013) examined the studies that included gender, ethnicity, race, and SES in the literature review previously mentioned. They concluded that, aside from one specific therapy, there were no overall significant differences in the studies that included gender. A total of five studies which addressed treatment efficacy differences across ethnicity and race found that there were no notable differences between groups. Similar conclusions were made in regards to the research on treatment efficacy and SES (Callahan et al., 2013). Considering that these findings were based on limited studies, it is also important to consider that there is research focused on adaptations of specific therapies to address culture, SES, linguistics, and other individual differences (Hunsley, 2007).

Adaptations of Evidence Supported Treatments. There are different frameworks created which are meant to help clinicians adapt ESTs to different populations. For example, there is a framework that incorporates ecological validity and cultural sensitivity that was created for use with Latino/a populations (Bernal, Bonilla, & Bellido, 1995). This framework consists of eight dimensions of interventions including: "language, persons, metaphors, content, concepts, goals, methods, and context (Bernal et al., 1995, p. 67)." There is also a framework for adapting therapy to Asian American immigrants (Bernal, Jimenez-Chafey, & Domenech Rodriguez, 2009). Models for utilizing culturally responsive CBT have also been developed. Such models address "age and generational influence, developmental disabilities, disabilities acquired later in life,

religion and spiritual orientation, ethnic and racial diversity, sexual orientation, socioeconomic status, indigenous heritage, national origin, and gender (Hays, 2009, p. 2)."

Integration of Common Factors and Empirically Supported Treatments

Some researchers believe that the dichotomy between the common factors and EST perspectives is erroneous and counterproductive to the field (Weinberger, 2014). Therefore, there has been a focus on integrating common factors and ESTs. Constantino and Bernecker (2014) proposed a collaborative model called context-responsive psychotherapy which integrates common factors and ESTs. Additionally, it is important to consider that certain empirically supported factors may be considered a common factor (Weinberger, 2014). For example, therapeutic relationship is a common factor (or nonspecific factor) which is largely researched and determined as efficacious. Expectancy, or placebo effect, is considered a common factor yet it is controlled for in RCTs as it shows to contribute to outcomes in research. Lastly, exposure and mastery are two factors which are considered "specific," yet they can also be considered common factors (Weinberger, 2014).

The therapeutic relationship is defined as "feelings and attitudes that therapist and client have toward one another, and the manner in which these are expressed" (Norcross & Lambert, 2011, p. 5). Research shows that adherence to a treatment manual is not important for treatment outcome when the therapeutic alliance is strong (Barber, Gallop, Crits-Cristoph, Frank, Thase, Weiss, & Connolly, 2006). Research also suggests that therapeutic relationships are equivalent to, or better than, specific treatment modalities when evaluating client outcomes (Norcross & Wampold, 2011). A meta-analysis of 57

studies suggested that therapist empathy predicted treatment outcome across client presenting problem severity, theoretical orientations, and treatment types, such as individual and group counseling (Elliot, Bohart, Watson, & Greenberg, 2001).

The common factors and ESTs debate resulted in misinterpretation of definition of EBPP among researchers and practitioners. For example, research shows that many individuals equate EBPP with ESTs, and some studies even use the two concepts interchangeably (Berke, Rozell, Hogan, Norcross, & Karpaik, 2011). As EBPP definition states, both clinical expertise and ESTs are important factors to consider in therapy. Therefore, the official APA Task force on Evidence-Based Practice clarified what is meant by engaging in EBPP.

Evidence-Based Practice in Psychology Task Force and Definition

The APA Presidential Task Force on Evidence-Based Practice was the first formal document outlining the definition, importance, challenges, and proper ways to utilize EBPP (APA, 2006). The purpose of this task force was to promote effective psychological practice in order to enhance public health. According to the task force, EBPP is consistent with a scientist-practitioner model and is a comprehensive approach to clinical practice. EBPP is defined as the "integration of best available research with clinical expertise in the context of patient characteristics, culture, and preferences" (APA, 2006, p. 273). In other words, "clinical expertise is used to integrate the best research evidence with clinical data in the context of patient's characteristics and preferences to deliver services that have a high probability of achieving the goals of treatment" (APA, 2006, p. 284). EBPP consists of not only ESTs but clinical expertise, client values and preferences as well. Some client values and preferences include: "religious beliefs,

worldviews, goals, sociocultural and familial factors, social class, economic standing, situational factors, and values" (APA, 2006, p. 279). Moreover, developmental factors such as "attachment, socialization, cognitive and social functioning, gender, and emotional development" are outlined as important to consider (APA, 2006, p. 279).

Best Available Research Definition. APA's policy statement on EBPP detailed the three components of EBPP and established clear definitions (APA, 2006). For example, the document detailed that best research evidence is related to all of the following: "intervention strategies, assessment, clinical problems, and client populations in research labs and in studies utilizing field settings (APA 2006, p. 274). Additionally, research from other related fields should be utilized with evidence from within the field. According to the policy statement, research should be thoroughly evaluated and interventions may be effective even if they have not been studied through RCTs (APA, 2006). Empirical evidence can consist of clinical observations, qualitative research, systematic case studies, public health and ethnographic research, process-outcome research, randomized controlled clinical trials, and meta-analyses. However, ESTs are considered to have the most research support.

Clinical Expertise Definition. Clinical expertise is important when determining clinical utility, and consists of assessment, diagnostic judgement, case formulation, clinical decision making, interpersonal expertise, self-reflection, understanding the influence of individual, cultural, and contextual differences on treatment, seeking available resources, and effective treatment planning (APA, 2006). Clinical expertise is developed through ongoing clinical and scientific training and education, self-reflection, understanding of a theoretical approach, and awareness and understanding of available

research. In conclusion, therapists should be competent in clinical decision making which should occur in collaboration with the client and their preferences. Clinical decision making should be based on research evidence and all of the probable costs and benefits to the client are to be considered.

Patient Characteristic, Context, and Preferences Definition. Patient knowledge of available research and treatment is considered an important component of EBPP. A "mutual respect, open communication and collaboration between practitioners, researchers, patients, health care mangers, and policy makers" is encouraged (APA, 2006, p. 281). Each of the aforementioned professionals play a role in client care, in some capacity. Client characteristics are important for effective therapy experiences and it is important to consider the following: "functional status, readiness to change, social support, comorbidity, age, developmental status, sociocultural factors, and familial factors (APA, 2006, p. 284)." A practitioner engaging in EBPP starts with the client and then evaluates available research. Clinical expertise will be helpful when choosing the best approach to treatment.

These definitions clearly outline that ESTs are not the only component of EBPP, yet ESTs are often used interchangeably with EBPP. The misunderstanding of viewing EBPP as ESTs is one of the reasons EBPP has received backlash from practitioners and researchers, especially within the field of counseling psychology (APA, 2006).

Training Considerations and Evidence-Based Practice in Psychology

Training programs are required by the APA Commission on Accreditation to teach EBPP and by doing so minimize the misunderstanding related to EBPP and ESTs. Furthermore, trainees' competence in EBPP is continuously evaluated. Standards have

been created by the APA and other accrediting bodies in order to provide the best training in EBPP for students so they can become competent practitioners.

As early as 1947, at the request of Veterans Administration (VA), APA recognized a list of universities which met criteria of adequate training as determined by the organization (APA, 1947). These criteria included incorporating science in clinical practice. Thereafter, accreditation standards have incorporated the use of evidence in treatment as a requirement in training programs. A relatively new accrediting body which is largely focused on empirical evidence is the Psychological Clinical Science Accreditation System (PCSAS). The PCSAS highly emphasizes the integration of science and practice. PCSAS distinguishes science-centered education programs who work on preparing their students for careers as clinical scientists (PCSAS, 2011). The PCSAS website states that the organization provides empirically based accreditation of Ph.D. programs only (PCSAS, 2011). Additionally, it is stated that programs which are PCSAS-accredited train their students to conduct research related to assessment, prevention, and treatment of mental health disorders. PCSAS-accredited programs also teach their students to use evidence to develop, implement, and disseminate empirically supported treatments (PCSAS, 2011). Although a PCSAS-accreditation is beneficial, more programs seek APA-accreditation.

The *Guidelines and Principles for Accreditation of Programs in Professional Psychology (G&P)* standards covered evidence-based practice in accreditation for doctoral, internship, and postdoctoral residency programs (APA, 2006). The G & P outlined that "psychological practice is based on the science of psychology, which, in turn, is influenced by the professional practice of psychology" (APA, 2006, p. 6).

Additionally, the document stated that training programs should be "diagnosing or defining problems through psychological assessment and measurement and formulating and implementing intervention strategies (including training in empirically supported procedures)" (APA, 2006, p. 7). Aspects of respecting and understanding cultural and individual diversity were detailed as well.

The G & P were revised and a new set of principles, the Standards of Accreditation (SoA), were commissioned and approved by the APA Council of Representatives in 2015. APA-accredited programs must incorporate a competency-based model of education, practice, and training. The EBPP training requirements extend well beyond EBPP in therapy as the field is moving towards incorporating evidence into outcome evaluations. The new standards have also expanded on incorporating diversity and having a multicultural focus not only with clients but within programs as well. Additionally, the SoA require programs to train students to be competent in EBPP. Competency benchmarks in professional psychology are one way to evaluate competence.

Competency in EBPP within training programs has been evaluated by Competency Benchmarks in Professional Psychology (Fouad, Grus, Hatcher, Kaslow, Hutchings, Madson, & Crossman, 2009). These benchmarks incorporate competence in EBPP and are used throughout the country to evaluate student readiness for practicum, internship, and entry to practice. The science benchmark is directly related to understanding ESTs as it encompasses understanding research, research methodology, and data collection and analysis techniques. Additionally, this benchmark serves to evaluate students on generating research. The application benchmark specifically details

that EBPP is a competency standard students are evaluated on. All of the outlined competencies within the Competency Benchmarks are directly or indirectly related to engaging in EBPP. The Cube Model largely influenced the competency benchmarks outlined above (Rodolfa, Bent, Eisman, Nelson, Rehm, & Ritchie, 2005).

In summary, accrediting bodies require programs to incorporate training on EBPP and evaluate student competencies related to EBPP (APA, 2006; APA, 2015). Students are more likely to engage in EBPP if they have positive views (Nelson & Steele, 2007). More engagement leads to more practice, which in turn leads to competence. Trainees are also more likely to persevere if they feel confident in their abilities (Bandura, 1977). Therefore, attitudes toward EBPP and confidence are important to explore in research.

Attitudes toward Evidence-Based Practice in Psychology

Research on attitudes toward EBPP suggests that those who have more positive attitudes are more likely to endorse using it in their practice and to use it in the future (Nelson & Steele, 2007). Moreover, having classes in EBPP has been shown to affect attitude change over time in addition to having more positive attitudes at more advanced stages of training (Bearman, Wadkins, Bailin, Doctoroff, 2015). Additionally, positive effects on attitude change were found in studies examining classes on EBPP (Bearman et al., 2015). Students who had more courses on EBPP and had more clinical hours had more positive attitudes about ESTs and treatment manuals (Karekla, Lundgen, & Forsyth, 2004). Moreover, individuals who identify as cognitive behavioral or behavioral therapists indicated the highest use of EBPP and they are likely to have more positive attitudes toward EBPP (Nelson & Steele, 2007). Studies examining the extent of training on EBPP among psychology programs show that training in EBPP and ESTs is not

adequate (Karekla et al., 2004; Weissman, Gameroff, Bledsoe, Betts, Mufson, Fitterling, & Wickramaratne, 2006). In one study, only 3.7% of the sample was able to provide a comprehensive definition of EBPP (Luebbe, Radcliffe, Callands, Green, & Thorn, 2007). Although the authors did not use a measure with evidence supporting its validity to assess attitudes, the results show that 71% of the sample agreed with the values of EBPP. One of the limitations in literature is that researchers did not use measures which had evidence supporting their validity. However, a measure of mental health provider attitudes toward adoption of EBPP with evidence supporting its validity was created (Aarons, 2004; Aarons, Cafri, Lugo, & Sawitzky, 2012).

EBPP attitudes are influenced by factors such as openness to EBPP, requirements to use it, divergence, and overall appeal (Aarons, 2004). Attitudes are also related to perceived limitations in EBPP, fit, monitoring, balance, burden, job security, and organizational support (Aarons et al., 2012). The factors outlined are important to consider because they explain some barriers and factors influencing attitudes toward enactment or avoidance of EBPP. Attitudes are an acceptable way to measure someone's likelihood of engaging in a practice as attitudes are associated with intentions, self-efficacy, affect acceptance, and willingness to apply EBPP in practice (Aarons, 2005).

Social Cognitive Theory and Self-Efficacy

The proposed study will utilize a social cognitive theory framework (SCT; Bandura, 1986) which highlights and explains the principles of learning and it is based on the triadic reciprocal determinism model of causation. More specifically, self-efficacy will be explored as it as closely related to confidence in one's abilities. The concept of self-efficacy is grounded in Bandura's SCT (Bandura, 1977). Self-efficacy is important

in engaging in enactment of any behavior while in training or otherwise. Understanding how individuals learn EBPP and the likelihood of them engaging in it is directly related to the concept of self-efficacy. Considering that self-efficacy influences thoughts about the related construct, higher self-efficacy in EBPP constructs should lead to more positive thoughts regarding EBPP. Additionally, self-efficacy influences actions, and therefore the more self-efficacious individual feels regarding an EBPP related construct, the more likely they will be to engage in EBPP itself.

The three EBPP related self-efficacies that will be explored include counseling self-efficacy, research self-efficacy, and multicultural counseling self-efficacy. Counseling self-efficacy is defined as "one's beliefs or judgment about her or his capabilities to effectively counsel a client in the near future" (Larson & Daniels, 1998, p. 180). Research self-efficacy is related to the ability to conduct and disseminate research (Lambie et al., 2014). Finally, multicultural counseling self-efficacy is defined as "counselor's confidence in their ability to perform a set of multicultural counseling skills and behaviors successfully" (Constantine & Ladany, 2001, p. 491). Research on multicultural counseling self-efficacy is new. Until recently, multicultural competence has been focus of much research.

Statement of the Problem

Within the field of psychology, practitioners have a negative attitude toward utilizing ESTs (Stewart, Chambless & Baron, 2012) and people conflate ESTs with EBPP (Wilson, Armoutliev, Yakunina, & Werth, 2009; Weissman et al., 2006). The negative attitudes are partly due to differing opinions among researchers and practitioners on the relative importance of various components of the definition. Knowledge of EBPP and

attitudes towards utilizing EBPP are important to consider because of the ethical implications for client welfare, policy, and training. Engaging in EBPP is an ethical practice in which training is required by the APA Commission on Accreditation. For example, the *Ethical Principles of Psychologists Code of Conduct* (2002) outline general principles that state psychologists are to strive to benefit those they work with and do no harm. By maintaining competence and engaging in ongoing research and reflections psychologists can assure to benefit their clients and minimize harm. Therefore, engaging in evidence-based practice is an ethical practice because it involves ongoing research and vigilance in clinical practice in order to benefit clients and do no harm. Moreover, psychologists need to have respect for people's rights and dignity and this includes respect for cultural and individual differences. Standard 2 on Competence in the *Ethical Principles* states that a psychologists' work is based upon established scientific and professional knowledge of the discipline reinforcing that information should come from both clinical expertise and best available evidence. Additionally, APA-accreditation requires that EBPP is taught within psychology programs in order to encourage enactment of EBPP and minimize resistance. However, EBPP is not consistently taught (Weissman et al., 2006) and professionals and students do not know what EBPP is (Luebbe et al., 2007).

Significance of the Problem

EBPP is a means for our field to utilize a best practice approach and remain credible to the public and other healthcare professionals (Hersen & Sturmey, 2012). EBPP also encourages communication and collaboration among professionals which ensures high quality services and keeps practitioners accountable (Hersen & Sturmey,

2012). Conducting therapy which incorporates clinical expertise, best available evidence, and patient culture, characteristics, and preferences is necessary in order to be an ethical mental health professional. EBPP is an ethical issue because we are obligated to provide the best services to our clients. As stated by Babione "adherence to the evidence-based framework greatly increases the likelihood of consistent ethical practice that integrates many of the standards within the APA Ethics Code while striving to provide the best possible service to patients (Babione, 210, p. 451)." Considering that more positive opinions of EBPP are related to current and future enactment of EBPP (Nelson & Steele 2001), it is important to consider the factors which influence attitudes towards EBPP. In conclusion, EBPP is not only encouraged but it is required in training to be an APA-accredited program.

Purpose of the Study

This research examines the relationships between attitudes toward EBPP and counseling self-efficacy, research self-efficacy, number of classes taken, and knowledge of EBPP. This research also examines differences in the aforementioned variables among clinical and counseling psychology students in addition to exploring multicultural counseling self-efficacy. Differences based on degree type, program accreditation, and theoretical orientation will be explored as well. More training is correlated with research self-efficacy (Kahn, 2001) and counseling self-efficacy (Sipps et al., 1988). An important part of training is knowledge gained through classes and the effect of classes on attitudes toward EBPP has been explored (Bearman et al., 2015). Having positive experiences leads to confidence in one's abilities which result in perseverance, enactment of a behavior, and more interest (Bandura, 1977). Self-efficacy is directly related to engaging

in behaviors through personal control and agency (Bandura, 1977). Exploring attitudes is an acceptable way to measure someone's likelihood of engaging in a practice as attitudes are related to intentions, self-efficacy, and willingness (Aarons, 2005).

Significance of the Study

Research examining factors that contribute to more positive attitudes toward EBPP in graduate students in psychology is needed in order to design a more effective curriculum. It is also important to understand what kind of training environment needs to be fostered in order for students to become competent in EBPP. Moreover, it is necessary to consider the role of the three components of EBPP including best available research, clinical expertise, and patient culture, characteristics, and preferences. This study is significant because it does not conflate ESTs with EBPP, and it explores the three aforementioned components. Furthermore, this study is significant because it is the first to explore the differences between individuals in different programs based on degree type and specialization on attitudes toward EBPP, knowledge of EBPP, and self-efficacy in the three EBPP-related constructs.

CHAPTER 2

REVIEW OF RELEVANT LITERATURE

The purpose of this chapter is to provide an overview of the theoretical and empirical literature related to self-efficacy, attitudes towards EBPP, and how they relate to implementation of EBPP. This study will utilize a SCT framework which explains how people learn and engage in behaviors (Bandura, 1986). Research exploring self-efficacy in the three components of EBPP definition will be presented. The three components of self-efficacy include research self-efficacy, counseling self-efficacy, and multicultural counseling self-efficacy. Research has supported that length of training and more experience contribute to higher self-efficacy (Kahn 2001; Melchert, Hays, Wijanen, & Kolocek, 1996; Sipps et al., 1988). Important components of training are graduate classes. It is logical to assume that classes increase knowledge in a subject. Classes in EBPP have been positively correlated with positive attitudes toward EBPP (Bearman et al., 2015; Nelson & Steele, 2001). It has been shown that students are not knowledgeable on the definition of EBPP (Luebbe et al., 2007). Additionally, there are no measures with adequate evidence of validity assessing the aforementioned knowledge. Moreover, research suggests that EBPP is conflated with ESTs (Weissman et al., 2006; Wilson et al., 2009) and more training is needed within the field (Karekla et al., 2004). The conflation

of the terms contributes to negative attitudes among some students and professionals as there is a polarization between the common factors and ESTs proponents which prevents constructive dialogue (Asnaani & Foa, 2014). This is problematic as positive attitudes are significantly and positively correlated with endorsement of EBPP use (Nelson & Steele, 2001). Researchers have explored the extent of training and have utilized different ways to measure knowledge of EBPP and ESTs among the student population (Weissman et al., 2006; Karekla et al., 2004). Attitudes are a good way to explore behaviors as they are correlated with intentions, self-efficacy, and willingness to apply EBPP in practice (Aarons, 2005). Considering self-efficacy is correlated with enactment of behaviors, it is reasonable to hypothesize self-efficacy will be correlated with attitudes.

Theoretical Framework

SCT as discussed by Bandura (1986) is a theory based on the triadic reciprocal determinism model of causation. This triadic model explains behavior through interaction between environment, behaviors, and personal influences including cognitions (Bandura, 1986). The personal factor also incorporates affect, and biological properties of an individual in addition to thoughts. These three factors interact and influence each other bidirectionally with some factors having a greater influence at different points in time. For example, the personal influences and behaviors link explains that behaviors are affected by thoughts, feelings, and beliefs while expectations, beliefs, and self-perceptions also give shape and direction to behaviors. Additionally, personal influences including beliefs, expectations, and cognitions are developed and changed through environmental influences. Furthermore, people evoke different societal and environmental reactions based on characteristics including age, race, size, sex, and

attractiveness. According to SCT, people are both products and creators of their environment and they affect their experiences through both selection and creation of environmental situations. Therefore, the triadic reciprocal determinism model explains behaviors and learning throughout life as a constant and a reciprocal interaction between person, environment, and behaviors (Bandura, 1986).

As mentioned, thoughts affect action, and according to Bandura "among the mechanisms of agency, none is more central or pervasive than people's judgments of their efficacy" (Bandura, 1988, p. 52). This judgment of capabilities was coined as self-efficacy and it plays a major role in human agency (Bandura, 1982). When people have inaccurate judgments of their self-efficacy it can lead to self-hindering actions and other adverse consequences. People have accurate or inaccurate judgments of self-efficacy and they gather this information through four principal sources.

There are several sources of information which affect self-efficacy. The first source is performance mastery experiences which happen when individuals are able to successfully master a behavior. Second, people gather information by learning vicariously and judging their own abilities by comparing themselves to others. Third is verbal persuasion that comes from social influences. For example, people are more likely to think that they are capable of completing a tasks if someone provided them with feedback that they are. Finally, physiological states serve as an indicator of strength, capability, and vulnerability. If people feel nervous and tense when they attempt a task they may have a weaker sense of self-efficacy as compared to if they felt no anxiety.

Having a correct evaluation of abilities is beneficial for effective functioning. Self-efficacy is important because it determines engagement in certain tasks and actions.

It also determines if people will put forth effort in the mentioned actions and if they will persevere after failure (Bandura, 1986). The importance of self-efficacy applies to many domains of life, and it is important when considering the ability to be an effective therapist. For this reason, the concept of self-efficacy and how it relates to competence has been explored in literature.

Counseling Self-Efficacy

Counseling self-efficacy is defined as "one's beliefs or judgment about her or his capabilities to effectively counsel a client in the near future" (Larson & Daniels 1998, p. 180). According to the social cognitive model of counselor training (SCMCT), counseling self-efficacy beliefs are the primary determinants of an effective counseling session. When considering the triadic model of causation as related to SCMCT, Larson and Daniels (1998) discussed the relationship between counselor characteristics, relationships of counselors to their supervisor and their clients, the training environment, and the broader cultural and social context. At the center of this theory are the counselors. The counselors serve as human agents creating and regulating their counseling actions while both acting and reacting to their client (Larson & Daniels, 1998). In development of counseling self-efficacy, the primary sources of information come from mastery in successful therapeutic sessions, and vicarious information from viewing one's own successful sessions on videotapes (Larson, 1998). Counseling self-efficacy is also developed through positive social persuasion information that comes from supervisors supporting and encouraging the work that is being done. Finally, physiological states such as anxiety may contribute to a positive or negative appraisal of one's counseling abilities within session. For example, counselors who have low

counseling self-efficacy have higher anxiety in sessions as opposed to counselors with higher counseling self-efficacy (Larson, 1998). Additionally, counselors with higher counseling self-efficacy have higher self-esteem and lower anxiety related to conducting therapy (Larson, Suzuki, Gillespie, Potenza, Bechtel, & Toulouse, 1992).

Self-efficacy is suggested to affect counseling actions through affective, motivational, and other cognitive processes. In the context of SCT, counselors who have higher counseling self-efficacy would be more likely to succeed because they would be positively challenged by their anxiety, would set realistic and yet challenging goals, and would have self-aiding thoughts (Laron and Daniels., 1998). It is claimed that there is no impact on performance when a person believes they are more efficacious than they actually are (Larson & Daniels, 1998). However, a slight overestimation of performance can be positive, as it may contribute to resilience and willingness to put forth effort (Bandura, 1986).

Benefits of high counseling self-efficacy are presented in research. In a study exploring the validity of a counseling self-estimate inventory, the authors explored the effects of high counseling self-efficacy through five studies (Larson et al., 1992). Overall, they found that higher counseling self-efficacy is related to higher self-esteem, higher self-perceived effectiveness in problem solving, and lower state and trait anxiety scores (Larson et al., 1992). Additionally, research showed that counselors with higher counseling self-efficacy were more likely to have better outcomes in therapy because they set higher goals, showed stronger commitment, had more motivation, were more resilient, and showed more perseverance (Larson & Daniels, 1998). Training level and

experience are significant predictors or counseling self-efficacy (Lent, Hill, & Ann Hoffman, 2003).

The effect of training has been explored in counseling self-efficacy literature. A study of 78 graduate students in counseling psychology, community counseling, guidance and counseling, and marriage and counseling programs examined differences in trainee's counseling self-efficacy in using basic counseling skills (Sipps et al., 1988). The researchers compared first through fourth year students on counseling self-efficacy expectations and outcome expectations. The results showed that third and fourth year students had higher counseling self-efficacy scores as compared to first and second year students (Sipps et al., 1988). Research has also explored shorter lengths of training and found similar results (Kozina et al., 2010). A study of 20 first year master's students in psychology examined changes in counseling self-efficacy over the course of eight weeks (Kozina et al., 2010). The authors examined global self-efficacy as well as self-efficacy in "micro skills, process, handling difficult client behaviors, cultural competence, and awareness of values" (Kozina et al., 2010, p. 117). Results suggested that overall self-efficacy scores were significantly higher at the second assessment, with 75% of the participants increasing in overall counseling self-efficacy.

Negative effects of low counseling self-efficacy have been examined, as well. For example, counselors in training with low counseling self-efficacy have higher anxiety in therapy sessions (Larson, 1993). Additionally, low counseling self-efficacy leads to unwillingness to take risks, avoidance, and a lack of resilience when faced with therapeutic failures or challenges (Larson, 1993). A study of 52 graduate students in counseling and clinical psychology, counselor education, and social work examined the

effect of supervisory conflict on trainee counseling self-efficacy, anxiety, and performance (Friendlander, Keller, Peca-Baker, & Old, 1986). The results suggested there was a significant negative relationship between self-efficacy and anxiety. Additionally, there was a significant negative relationship between anxiety and performance. Therefore, higher anxiety is related to lower self-efficacy, which in turn is related to poor performance (Friendlander et al., 1986).

In addition to exploring the benefits and drawbacks related to counseling self-efficacy, research studies have explored differences across various groups. Research suggests that there were no significant effects for gender or theoretical orientation on counseling self-efficacy scores (Larson et al., 1992). Additionally, one of the studies which consisted of 14% Asian Americans found that there was no significant difference in counseling self-efficacy score between them and their White counterparts. However, there are notable differences in counseling self-efficacy across findings on training and years of counseling experience (Larson et al., 1992; Melchert et al., 1996). In one study, number of supervised semesters was also a significant factor in predicting counseling self-efficacy (Larson et al., 1992). Another study consisted of 138 participants from master's programs (34%), doctoral programs (22%), and professional psychologists (5%). The aforementioned study suggested that level of training and amount of clinical experience accounted for 43% of the variance in the counseling self-efficacy scores, with level of training accounting for 18% of the variance, and clinical experience for 14% (Melchert et al., 1996).

Further research has supported the relationship between counseling self-efficacy and self-reported competence in working with diverse clients (Constantine, 2001). In a

study of 94 counseling master's students the researcher examined whether general counseling self-efficacy scores were predictive of self-reported multicultural counseling competence. The researcher used the Counselor Self-Efficacy scale (Melchert et al., 1996) to measure counseling self-efficacy. The results indicated that even after controlling for prior multicultural training and multicultural supervision, counseling self-efficacy contributed significantly to the variance in self-reported multicultural counseling competence score.

Studies assessing counseling self-efficacy have not detailed levels of training among participants (Friendlander, et.al, 1986). Additionally, sample size has been problematic among some studies (Friendlander, et.al, 1986, Kozina et al., 2010). A limitation across all of the studies outlined is that the authors did not provide data analysis on difference between specializations. Additionally, studies either did not distinguish between different psychology specializations (Sipps et al.,1988) or did not include counseling and/or clinical psychology doctoral students (Kozina et al., 2010).

Overall, the results outlined suggest that self-efficacy increases over time and with more experience. Additionally, counseling self-efficacy has shown to be related to lower anxiety in therapy sessions which is related to better client outcomes. Therefore, it is important to foster counseling self-efficacy in trainees as it is related to being an effective counselor. EBPP requires counselors to feel confident in conducting counseling and to be effective in session. Counseling self-efficacy is necessary to be effective in session as it is related to better outcomes in therapy (Larson & Daniels, 1998), and low anxiety (Larson et al., 1992). It is especially important that higher self-efficacy is related to low anxiety as high anxiety in sessions is related to poor performance (Friendlander et

al., 1996). Moreover, counseling self-efficacy has been correlated with training and classes on related information (Sipps et al., 1988; Kozina et al., 2010).

As previously stated SCT theory suggests that self-efficacy affects thoughts, emotions and actions (Bandura, 1977). Therefore, it is logical to hypothesize that counseling self-efficacy will predict attitudes toward EBPP and mediate the relationship between training and attitudes. Higher self-efficacy is related to better performance and outcomes (Friendlander et al., 1996). In addition to counseling self-efficacy, the confidence to understand and gather treatment research is another equally important component of EBPP.

Research Self-Efficacy

Research self-efficacy is related to people's confidence in the ability to conduct and disseminate research (Lambie et al., 2014). It also involves cognitive processing, including the ability to think like a researcher. The initial steps in conducting research consist of doing literature reviews and understanding strengths and limitations of the studies published on the topic of interest (Lambie et al., 2014).

Research training environment (RTE) theory suggests that more positive attitudes toward research lead to higher productivity (Gelso et al., 1996). For this reason, investigation has focused on the relationship between research self-efficacy and training experiences. For example, a significant positive relationship between positive research training environments and research self-efficacy was found across studies (Kahn, 2001; Lambie & Vacaro, 2011; Phillips & Russell, 1994). Moreover, research self-efficacy was found to be positively correlated with research productivity (Hollingsworth & Fassinger, 2002; Phillips & Russell, 1994), interest in research (Lambie & Vacaro, 2011; Lambie et

al., 2014), interest in future research involvement (Bieschke et al., 1996), length of training (Kahn, 2001), and knowledge (Lambie et al., 2014).

As mentioned, length of training is an important predictor of research self-efficacy. In a study of 219 counseling psychology graduate students, the students who were in their fourth year and beyond had higher scores on their research self-efficacy as compared to first and second year students (Phillips & Russell, 1994). Similarly, another study found that students who were farther along in their program scored higher on research self-efficacy than those who just started (Lambie et al., 2014). The study conducted by Lambie and colleagues (2014) consisted of 67 full time doctoral students in education. The results suggested that students who scored higher on interest in research and research knowledge also scored higher on research self-efficacy compared to those who had lower levels of interest and knowledge.

A related study comprised 89 counselor education doctoral students and examined research self-efficacy, perceptions of research training environment, and interest in research (Lambie & Vaccaro, 2011). The results suggested that age, counseling specialty, and career aspirations had no effect on research self-efficacy scores. However, results showed that higher research self-efficacy scores were related to higher interest in research. Additionally, those with more experience of research and scholarly publications had higher scores on research self-efficacy. Moreover, similarly to other research, year in program had an effect on research self-efficacy. For example, third year doctoral students had higher levels or research self-efficacy as compared to first and second year students.

As mentioned in the previous study, an important construct related to research self-efficacy is interest in research. A study of 184 counseling psychology students explored predictors of interest in research (Bishop & Bieschke, 1998). The results suggested that the significant predictors of interest in research were research self-efficacy, research outcome expectations, investigative interests, artistic interests, and age. Therefore, the greater the research self-efficacy of an individual the greater their interest in research. Additionally, the results of the path analysis suggested that investigative interests and year in program affected interest in research with research self-efficacy mediating that relationship. Research self-efficacy had a direct effect on research interest and an indirect effect through research outcome expectations. Research outcome expectations are related to beliefs that engagement in research will have positive outcomes (Bishop & Bieschke, 1998). This study provides useful findings regarding the importance of self-efficacy in terms of predicting interests directly and indirectly.

Not only is current interest in research correlated with higher research-self efficacy, but interest in future research involvement as well (Bieschke et al., 1996). The relationship between research self-efficacy and interest in future research involvement was examined in a study of 177 doctoral students from a variety of counseling related disciplines (Bieschke et al., 1996). Interest in future research involvement was predicted by previous involvement in research.

Kahn (2001) extended the research of predicting scholarly activity by examining the relationship between investigative interests, research training environment, year in program, research interest, research self-efficacy, research outcome expectations, scholarly activity, and relationship with mentor. The results suggested that scholarly

activity was predicted by perceptions of the research training environment through scores on research interest and research self-efficacy. Additionally, the path model indicated that research self-efficacy mediated the relationship between perceptions of training environment and investigative interests on both scholarly activity and research interests. In other words, training affects self-efficacy which affects behaviors. These findings are significant for the proposed study as they support the relationship between training and self-efficacy and how they influence behaviors. For example, the aforementioned study found that training affects research self-efficacy which in turn affects behaviors.

Overall, the reviewed self-efficacy literature suggests that similarly to counseling self-efficacy, length of training is important in predicting research self-efficacy (Kahn, 2001). Additionally, research self-efficacy is positively and significantly correlated with positive research environments (Phillips & Russell, 1994), interest in research (Lambie & Vacaro, 2011), future research involvement (Bieschke et al., 1996), research productivity (Hollingsworth & Fassinger, 2002), and research knowledge (Lambie et al., 2013). Additionally, the review of research self-efficacy literature supports the hypothesized relationships between the self-efficacy scales, classes, and attitudes (Kahn, 2001). The mediating effect of self-efficacy between classes and attitudes in EBPP will be explored. As mentioned previously, training affects research self-efficacy, which in turn affects behaviors (Kahn, 2001). Although this study will not measure behaviors, attitudes are an acceptable way to measure someone's likelihood of engaging in a behavior (Aarons, 2005).

Similar to counseling self-efficacy empirical studies, research self-efficacy literature has not adequately explored differences among students based on their

specialization. All of the aforementioned research has been conducted with students in counseling-related fields. Presently, there are no known studies examining differences between clinical and counseling psychology students' research self-efficacy. It is important to explore whether there are differences as the findings will provide insight into training in the two specializations.

Similar to polarization between common factors and EBPP, there is a dichotomy between science and practice. Commonly, students believe that they will take an "either or" approach to their practice, or state something like "I just want to practice; I am not interested in science/research (Heppner et al., 2015, p. 29)." Lastly, some students simply do not feel as though research will be useful for therapy or make a difference in client outcomes. The steps in conducting research that are mentioned above are critical to engaging in EBPP. An individual who is competent in EBPP is able to gather and understand the best available research evidence and feels confident in doing so. It is important to consider best available evidence in determining the best course of action while taking into account patient context, characteristics, and preferences. Research shows that more training is correlated with higher self-efficacy research (Lambie et al., 2014). Therefore, it is logical to hypothesize that number of classes in EBPP will lead to higher self-efficacy. Additionally, research has shown that low research self-efficacy leads to behavioral avoidance (Betz, 1986) and higher self-efficacy leads to more scholarly activity (Kahn, 2001). Moreover, interest in research is a significant predictor of higher research self-efficacy (Kahn, 2001). Therefore, higher self-efficacy should be related to better attitudes toward EBPP.

Multicultural Counseling Self-Efficacy

The concept of multicultural counseling self-efficacy will be explored next as it is related to the third component of EBPP: integration of patient characteristics, culture, and preferences. The ability and confidence to work with diverse clients is an important component of engaging in EBPP. Working with diverse clients requires respect of cultural differences and preferences. Most of the research in existence has focused on multicultural competence rather than MCSE. Researchers have argued that self-report measures are not the best way to measure competence (Constantine & Ladany, 2001). Additionally, it is unclear whether the constructs assessed are "perceived" by the respondent or if their actual ability and competence is measured. Investigators have argued that a better way to measure competence was through self-efficacy as it is closely related to competence (Barden & Greene, 2015). Multicultural counseling self-efficacy (MCSE) is defined as a "counselor's confidence in their ability to perform a set of multicultural counseling skills and behaviors successfully" (Constantine & Ladany, 2001, p. 491).

Recently, Sheu and Lent (2007) created the scale titled Multicultural Counseling Self –Efficacy- Racial Diversity form. Considering the scale is relatively new, research utilizing it is somewhat limited. Sheu and Lent (2007) found that individuals from counseling psychology programs scored higher than individuals from other counseling-related areas on MCSE. Additionally, individuals in their third year or beyond scored higher than first and second year students. There were no differences in the mentioned scores between first and second year students (Sheu & Lent, 2007). Length of training is accompanied by more classes and experiences. Therefore, it is not surprising that MCSE

was also positively correlated with number of courses on multicultural counseling, number of direct contact hours with racially diverse clients, and number of workshops on multicultural counseling. The researchers concluded that training experiences, particularly those based on vicarious and mastery exposure, help to inform MCSE (Sheu & Lent, 2007). The results of this study have also found that MCSE is significantly and positively correlated with counseling self-efficacy.

Research was also conducted in order to examine the relationship between counselor education students' MCSE and their levels of multicultural competence while also taking into account gender, ethnicity, and amount of time in a graduate program (Barden & Greene, 2015). The participants consisted of 118 students in master's and doctoral level counseling education programs. Results indicated that time in graduate school predicted 6% of the variance in one of the subscales of the Multicultural Counseling Self-Efficacy Racial Diversity form (Multicultural Session Management). Additionally, the results suggested that there were no gender or ethnicity differences among MCSE scores. Moreover, this study suggests that greater MCSE is positively correlated with self-reported multicultural competence, with years in graduate training being the most important factor (Barden & Greene, 2015). Constantine (2001) also examined the relationship between multicultural supervision and multicultural counseling self-efficacy in 122 counseling psychology doctoral and master's students. The results suggested that multicultural supervision significantly predicted scores in MCSE while controlling for social desirability and previous multicultural training.

The limited research on MCSE supports that years in training, counseling self-efficacy, diverse training experiences, and more classes are significantly and positively

correlated with MCSE and perceived multicultural counseling competence (Barden & Greene, 2015; Constantine, 2001). Additionally, there are no differences between individuals based on gender and ethnicity (Barden & Greene, 2015). Current studies have only focused on counseling psychology and counselor education students (Barden & Greene, 2015; Constantine, 2001). Therefore, it will be beneficial to examine whether there are differences between clinical and counseling psychology students on MCSE and the present study will explore those. The Task Force on Promotion and Dissemination of Psychology Procedures and the EST movement in psychology was originated within Division 12, Society of Clinical Psychology (Chambless et al., 1993). Following this document, counseling psychologists responded with Principles of Empirically Supported Interventions in Counseling Psychology (Wampold et al., 2002). These principles highly emphasized the clinical expertise and patient characteristics, values, and preferences. Therefore, it is likely individuals in these two specializations will differ in their scores on research self-efficacy and multicultural counseling self-efficacy.

Multicultural counseling and the confidence in the ability to engage in it is a central component of EBPP as it directly relates to patient characteristics, culture, and preferences. According to the EBPP definition, best available research and clinical expertise are to be utilized in the context of client characteristics, culture, and preferences. Adapting treatments based on culture and other diversity factors is critical when engaging in EBPP. Additionally, it is notable that cultural adaptations to current ESTs are in existence and provide useful information for helping clients coming from diverse backgrounds which may not be adequately represented in RCTs (Bernal et al., 1995; Bernal et al., 2009).

A limitation of research on attitudes toward EBPP is that it often times ignores cultural variables. For example, the only measure with evidence of validity on attitudes toward EBPP does not take into consideration racial and cultural diversity (Aarons et al., 2012). However, considering that Principles of Empirically Supported Intervention in counseling explicitly urge the clinician to consider cultural variables (Wampold et al., 2002), it is valuable to explore whether there are differences between clinical and counseling psychology trainees.

Evidence-based Practice Attitudes and Knowledge

Practitioners' Attitudes, Enactment and Knowledge of Evidence-Based Practice in Psychology. Attitudes toward and knowledge of EBPP among mental health practitioners is an important area to study. It is suggested that attitudes are likely related to components of practice that either facilitate or hinder the adoption of EBPP in real-world settings (Aarons, 2005). Moreover, research supported that attitudes greatly impact decision processes, later implementation, and use of innovation among mental health practitioners (Aarons, 2005). Therefore, exploring attitudes gives insight into actual EBPP use which is difficult to measure through self-report. In addition to attitudes, research has explored what other factors contribute to endorsement or resistance to EBPP and/or ESTs among practitioners (Berke et al., 2011; Chambless & Baron, 2011). For example, one study provided rich qualitative data on clinical and counseling psychologists' attitudes toward EBPP (Wilson et al., 2009). Additional studies explored self-reported EBPP use and explored different factors influencing EBPP enactment (Cooper, Benton, Benton, & Phillips, 2008; Nelson & Steele, 2001).

Overall, individual practitioners express mixed reactions toward EBPP (Wilson et al, 2009). In a study utilizing grounded theory, researchers investigated clinical and counseling psychologists' attitudes towards using EBPP (Wilson et al., 2009). The sample consisted of 8 counseling and 8 clinical psychologists. Six themes emerged from the data and they included: attitudes toward EBPP, best available research, clinical expertise, client context, gap between research and practice, and the place for managed care. More specifically, participants agreed that EBPP is not well understood and allows for a broader conceptualization of evidence than what some practitioners think. Additionally, the participants reported that practice should be informed by research because it is an ethical responsibility. Furthermore, data suggested that the participants believe there is a gap between research and practice within the field of psychology. It was agreed upon by the participants that the integration of different client factors and clinical expertise was important for good outcome in therapy. Participants described that they use research on as "as needed" basis through consulting journals and different types of training that are offered. A common fear among the practitioners was that EBPP abuse will occur by managed care companies because they benefit from promoting ESTs (Wilson et al., 2009). The participants expressed that empirical research has limitations, including that it is difficult to keep up with the research.

The extent of the gap between research and science has been measured through examination of practitioner knowledge of EBPP and ESTs. A study of 548 clinical psychologists affiliated with the Society of Clinical Psychology examined what the participants knew about EBPP, how knowledgeable they were with different research methods, and how familiar they were with online resources for ESTs (Berke, Rozell,

Hogan, Norcross, & Karpaik, 2011). The results indicated that the psychologists, on average, reported that they engaged in EBPP 73% of the time in their clinical work. Ten percent of the total sample reported little or no use of EBPP in their clinical work. The top three online resources the psychologists were most knowledgeable about were PsycInfo, Medline, and PubMed. Furthermore, psychologists reported being most knowledgeable about test reliability, confidence intervals, and RCTs and least knowledgeable about structural equation modeling.

Another study has explored the reasons for a lack of knowledge regarding ESTs by examining barriers to dissemination of ESTs (Chambless & Baron, 2011). A study of 1261 APA affiliated private practitioners examined the barriers to dissemination of ESTs (Chambless & Baron, 2011). Psychologists in private practice were selected purposefully as they are least likely to receive employer reimbursement for EST training and therefore are least likely to be required by someone to attend such a training. The practitioners were in practice for an average of 21.6 years and most of them had earned a PhD (83%). The participants were also asked to pick a disorder for which they would desire to receive training in an EST and then responded on whether they would attend one of the following workshops: 3 hours, 1 day, and 3 days. Information was collected on barriers that may lead practitioners to object to EST training. Of the total sample, 35% of the practitioners reported being willing to attend the most time intensive (3-day) workshop. The research shows that the most significant barriers were time and cost and that practical barriers were more significant than theoretical barriers. Additionally, being more experienced, graduating from a program which did not emphasize psychotherapy research, and having a psychodynamic orientation were related to more objections to ESTs. The objection to

not being interested in learning ESTs that was most agreed upon was that "a good working relationship with my client is more important than learning how to do a specific treatment" (Chambless & Baron, 2011, p. 13). The second most agreed upon was that "clinical experience is more important as a guide to treatment than research evidence" (Chambless & Baron, 2011, p. 13), and the third was "my patients are different in important ways from patients treated in psychotherapy outcome studies" (Chambless & Baron, 2011, p. 13). Overall, clinicians who agreed more to the theoretical barriers of utilizing ESTs reported less willingness to obtain EST training as opposed to those who did not agree to the barriers. Moreover, the participants were significantly more likely to endorse negative beliefs about an EST when the cost and time of the workshop increased.

Information on self-reported use of EBPP was gathered across treatment settings (Cooper et al., 2008; Nelson & Steele, 2001). In one study of 214 mental health practitioners, the researchers examined self-reported EBPP use among various types of clinical settings (Nelson & Steele, 2001). Results showed that positive attitudes, cognitive behavioral theoretical orientation, and perception of work setting as open to EBPP accounted for higher self-reported use of EBPP. In terms of work setting, individuals working in hospitals and university clinics reported higher use of EBPP as compared to those in community mental health centers, schools, and private practice. Another study examined EBPP use among counseling center therapists and explored sources of information these practitioners use to inform practice (Cooper et al., 2008). Overall, years of counseling center experience was negatively correlated with the use of evidence from practice based research. Additionally, women rated general effect of therapy more important than men, whereas men rated evidence from practice-based

research more important than women. Moreover, White participants rated practice-based sources more important than ethnic/racial minority participants in terms of sources of information used in practice. When considering the sources of information, the results suggested that the most prevalent source of information for conducting therapy for counseling center therapists was consultation with colleagues and supervisors. Of the total sample 75% endorsed that they consult "very frequently." Additionally, the participants were more likely to use professional listservs and continuing education than books, web based resources, and research articles. Although this study found differences based on gender and ethnicity, these findings are not consistent in other studies.

Individual differences related to resistance to EBPP were studied in other settings as well. For example, differences in gender, race, theoretical orientation, clinical expertise, and employment setting have been explored (Berke et al., 2011). Research is inconsistent regarding gender. One study found that there are no significant gender and ethnicity differences on endorsement of EBPP use (Berke et al., 2011), while the study mentioned above found that men rated evidence-based research as more important than women (Cooper et al., 2008). However, Cognitive Behavioral therapists reported the highest usage of EBP, followed by humanistic/existential, integrative/eclectic, and lastly psychoanalytic/psychodynamic. Additionally, psychologists with the least experience reported highest percentages of EBPP in their clinical practice. Finally, the highest usage of EBPP was reported by those in academia, followed by organized clinical settings. Psychologists working in academic and clinical settings reported engaging in more EBPP than psychologists in private practice (Berke et al., 2011). Another significant predictor of self-reported EBPP use is taking EBPP classes in the past (Nelson & Steele, 2001).

Certain limitations are evident while reviewing research exploring practitioner self-reported EBPP use, attitudes toward EBPP and/or ESTs, and knowledge. For example, studies typically provided the definition of EBPP to the participants prior to them completing the rest of the survey (Nelson & Steele, 2001; Wilson et al., 2009). Having the definition of EBPP is potentially problematic as it likely influenced responses. Additionally, the results are limited by the participants being provided the definition of EBPP, because it is unclear how many of them had a previously well-defined idea of what EBPP entails. The present study will address the above-mentioned EBPP definition limitations by not providing a definition and asking the participants to provide their own. All of the data were self-reported and therefore it is difficult to know how much these practitioners actually engaged in EBPP. The present research study will assess EBPP attitudes as they provide a good measure of actual enactment of EBPP (Aarons, 2005).

Attitudes and Knowledge among Trainees. In addition to exploring attitudes and knowledge among practitioners, research on trainees and training programs is reviewed next. Research has explored the amount of training that is provided in regards to EBPP and ESTs within programs. For example, research on the extent of training on ESTs among a variety of training settings has suggested that training is not adequate (Weissman et al., 2006). Similar findings were shown in a study exploring only clinical psychology programs (Karekla et al., 2004). Additionally, factors contributing to more knowledge and more positive attitudes toward EBPP among clinical and counseling psychology trainees have been explored (Luebbe et al., 2007).

A significant topic of interest has been the extent to which programs provide training on EBPP and ESTs. One study examined the extent of training in psychiatry,

psychology, and social work programs on ESTs and "non-evidence based" treatments (Weissman et al., 2006). The ESTs included: "behavior therapy, cognitive behavior therapy, dialectical behavior therapy, manual-based family therapy, interpersonal psychotherapy, multisystem therapy, and parent training." The "non-evidence based" treatments were the following: "case management, couple therapy, existential psychotherapy, general family therapy, forensic psychotherapy, unspecified general psychotherapy, gestalt, humanistic, mileu psychotherapy, psychoanalytic or psychodynamic, psychoeducation, short term psychotherapy, social work counseling, substance abuse counseling, and supportive psychotherapy." The sample consisted of 221 training directors with 73 being in psychiatry, 63 in PhD clinical psychology, 21 in PsyD psychology, and 84 in master's-level social work. Overall, 10% of the PsyD programs in clinical psychology required both didactic and clinical training in the ESTs listed. Conversely, 67.3% of the clinical PsyD and 43.8% of the clinical PhD programs required neither. Similar numbers were found for the "non-evidence based" therapies where 41.9% of the clinical PhD programs and 62.7% of clinical PsyD programs required no training in either. Information on training on ESTs among training programs was explored further in a Division 12 sponsored study (Karekla et al., 2004). The aforementioned survey was sponsored by Division 12 and it examined whether graduate programs are providing acceptable training in ESTs. This study targeted APA-accredited programs with a total of 172 graduate students. The majority of the sample (79%) consisted of clinical psychology students, followed by 13% in counseling psychology. The rest of the sample were in school (5%) or another specialization in psychology.

The results indicated that approximately two thirds of all graduate students reported that they did not read any of the major Task Forces or other EST-related publications, including manualized treatments (Karekla et al., 2004). Of the total students, 57% reported that they planned to use ESTs in the future "all the time," 34% were uncertain if they will be using ESTs in the future, and 5.8% had no plans of using ESTs in the future. Approximately 32% of the total sample reported that they never had a course covering ESTs. Additionally, 51% reported that they had no courses that were only dedicated to information on treatment manuals. It is suggested that 60% of the graduate students indicated that they did utilize ESTs in their practicum placements, and 25% reported that they never had training with ESTs. Most of the participants (77%) indicated that they would seek additional training in ESTs as compared to only 7.6% who reported that they would not. Also, students who had more courses, more clinical therapy hours, and identified as cognitive-behavioral had more positive attitudes about both ESTs and treatment manuals. Students reported more favorable views on ESTs as compared to manualized treatments (Karekla et al., 2004). Although this study provides useful data, it is focused only on ESTs.

Another study with a large sample did however examine EBPP as a whole instead of only ESTs (Luebbe et al., 2007). The said study consisted of 1,195 clinical psychology students and it examined experiences with and attitudes towards EBPP in scientist-practitioner and clinical science programs (Luebbe et al., 2007). The researchers created a measure assessing students' perceptions of EBPP and definition of EBPP. In scoring of the definition, the researchers coded for the three components of EBPP including: research, clinical expertise, and patient characteristics. Attitudes were measured by

providing the APA Task Force definition on EBPP and asking seven questions adapted from the original EBPAS scale (Aarons, 2004). Although the majority of the students had favorable views of EBPP, only 3.7% of the students were able to provide a definition which included all of the three components of EBP. Approximately 7% of the respondents mentioned clinical expertise and 13% cited patient characteristics. However, approximately 97% of the respondents mentioned that research informs treatment. In other words, 81% only mentioned research in their definition of EBPP and left out client preferences and clinical expertise. Of the 81% percent, only 18% made specific reference to ESTs. The results suggested that students informed that EBPP influenced their clinical work significantly more than it influenced their research. The findings showed that 71% of the students agreed with the definition of EBPP and its principles that were provided in the definition either "quite a bit" or "a lot." Also, the students reported that they wanted to receive more education on EBPP in the future and that they would like it to be integrated into their clinical experiences specifically.

The overall limitations include the overrepresentation of clinical psychology programs (Luebbe et al., 2007). Additionally, even if the sample consisted of counseling and clinical psychology programs, no data analysis was conducted to compare the two (Weissman et al., 2006). There are threats to construct validity as some studies purport to measure EBPP even though they are referring to ESTs (Weissman et al., 2006). Additionally, a limitation is that students were provided with definition of EBPP before answering questions regarding attitudes even though results showed that many of them did not have a clear understanding of what EBPP entails (Luebbe, et al). This definition may have influenced their perceptions of EBPP as they understand it. Finally, the

measures used to assess attitudes toward EBPP were created by the authors and were not adequately described and there was no evidence supporting the measure's validity (Luebbe et al., 2007).

Effects of Training and Classes on EBPP Attitudes. Taking classes on EBPP has been shown to be a predictor of having positive attitudes toward EBPP. Effects of different classes have been studied. The impact of a class titled "Foundations and Applications of Empirically Supported Practices for Youth" on attitudes toward EBPP was examined (Bearman et al., 2015). The participants consisted of 42 students in either a school or clinical child psychology PsyD or a clinical psychology PsyD program. The students in the clinical psychology program took the course as an elective, while it was a required course for those in the school-clinical child psychology program. The researchers examined two different cohorts of students. The class was a 14 week, 2-hour weekly course which provided foundational knowledge on EBPP and additional information on cognitive behavioral therapy (CBT) and behavioral parent training (BPT). Overall, the results suggested that attitudes improved significantly only for those who had less experience and more negative attitudes. In other words, students with a BA degree had a significant change in attitudes toward EBP, while students with an MA degree did not. At the pretest, the MA students had more favorable attitudes. However, at the post test, the two groups did not differ significantly.

The effect of a specific training on attitudes toward ESTs was also studied in a sample of 20 graduate and undergraduate students (Simons, Giorgio, Houston, & Jacobucci, 2007). The experimental group was required to read a treatment manual, sample research articles, and watch a video on a Cognitive Behavioral Therapy treatment

approach for PTSD and substance use called "Seeking Safety." The attention-control group was required to only read the preface of a manual for therapy on motivational enhancement with drug abusers and watch a video that provided a brief overview. The results showed that both groups had more positive attitudes about ESTs regardless of the content of the training they were provided with. Results also showed that males and white students had higher opinions of ESTs as compared to their female and students of color counterparts. An interesting finding related to the purposes of this study was that the experimental group participants had significantly higher research self-efficacy scores than the control group at the end of the training. Therefore, research self-efficacy increased with more experience with ESTs, indicating that experience and knowledge contribute to higher self-efficacy. These authors discussed that "evidence-based psychotherapy involves more than the mastery of specific procedures outlined in EST manuals" (Simons et al., 2007, p. 712). Not only does EBPP consider clinical expertise and individual differences, but it is recognized that all ESTs rely on the therapist having good nonspecific therapeutic skills.

Studies examining effects of classes and training are not without limitations. For example, both of the studies mentioned above have threats to external validity as they are focused on specific trainings. Additionally, both of those studies have a rather limited sample and it would be beneficial to have a larger sample in order to make more definitive inferences. Neither of the studies explored differences among specializations or a breakdown of counseling and clinical psychologists. Considering that time of training has been a significant factor across many studies, it is problematic that graduate and undergraduate students were studied together (Simons et al., 2007).

The present study will address the aforementioned limitations as training duration will be controlled for by only including trainees on their internship. Individuals on their internship will have completed all of their course work and doctoral graduate training other than internship. Additionally, this study will have a larger sample consisting of both clinical and counseling psychology trainees in order to explore possible differences.

Importance of Measuring Attitudes Related to Evidence-Based Practice

The first attempt at creating a scale (with evidence supporting validity of the measure) of attitudes toward EBP among behavioral health service providers was in 2004 by Aarons. The study consisted of 322 clinicians and case managers providing services in mental health settings to adolescents, children, and their families (Aarons, 2004). The author found that the self-reported understanding with terms "evidence- based practice" and "empirically supported treatments" was low. This scale is utilized among mental health practitioners and behavioral health service providers that are not necessarily in the field of psychology. The original scale focused much on ESTs rather than on EBP as a whole. However, creation of this measure advanced the literature as it provided a psychometrically sound way to measure EBP attitudes.

Considering that participants were not well informed on "empirically supported treatments" and the term "evidence-based practice," the author used more general language in the scale development (Aarons, 2005). The results suggested that higher educational attainment and being an intern were significantly and positively correlated with positive attitudes toward EBP. The original scale was comprised of four domains which were shown to be related to attitudes: requirements, divergence, openness, and appeal (Aarons, 2004). Upon further investigation, an updated measure was created

considering additional aspects related to attitudes toward EBPP. The new measure took into consideration many of the perceived barriers to engaging in EBPP which were explored in previous literature (Aarons et al., 2012). However, the authors did not sufficiently address the third component of EBPP, which focuses on patient characteristics, preferences, and culture. For example, only few of the items on the fit subscale address patient preferences. However, none of the items discuss cultural variables.

The expanded scale resulted in 127 additional items and it was established through a study through focus groups of mental health professionals (Aarons et al., 2012). The exploratory factor analysis resulted in 35 additional items loading on the following subscales: Limitations, Fit, Monitoring, Balance, Burden, Job Security, Organizational Support, and Feedback (Aarons et al., 2012). This study consisted of 420 mental health practitioners in community settings working with children, adolescents, and families. The areas of discipline varied and included family therapy, psychology, psychiatry, social work, drug/alcohol counseling, child development, human relations, social work, and others. The authors suggested combining the original EBPAS items for a 50-item version to get a more thorough understanding of what contributes to provider attitudes.

The aforementioned scale has been used in studies related to organizational and provider readiness to implement EBP (Aarons, Woodbridge, & Carmazzi, 2003). It has also been utilized in mental health settings measuring attitudes toward EBP among community mental health providers working with adults, and with children and adolescents (Aarons & Sawitsky, 2006; Aarons, McDonald, Sheehan, & Walrath-Greene, 2007). In a study of 301 public sector mental health service providers, the authors

examined the relationship between attitudes toward adopting EBPP and organizational culture and climate. The results showed that positive and open organizational culture and climate are associated with more positive attitudes toward EBP (Aarons & Sawitzky, 2006). Another study examining attitudes was done on 221 mental health practitioners who worked in public mental health agencies and private-for-profit agencies. This study explored factor structure and internal consistency in a sample that was geographically diverse and found the measure to have good psychometric properties. These will be further explored in the description of the measure.

Psychology training and practitioner research, especially at the doctoral level, has not utilized this scale. This study will utilize the newly developed measure to bridge that gap and to have a better understanding of psychology trainee attitudes toward EBPP.

Theoretical Orientation

Differences in knowledge of EBPP definition, research self-efficacy, multicultural counseling self-efficacy, and counseling self-efficacy will be explored among Cognitive Behavioral Theoretical (CBT) orientation and the rest. Past research shows that individuals who identify with a Cognitive Behavioral Theoretical Orientation tend to have more favorable attitudes toward EBPP and a better knowledge of it (Nelson & Steele, 2007). Considering that research self-efficacy, multicultural counseling self-efficacy, and counseling self-efficacy are proposed to be closely related there should be a difference in those scores when comparing CBT to others.

Degree Type

Differences in knowledge of EBPP definition, research self-efficacy, multicultural counseling self-efficacy, and counseling self-efficacy will be explored among degree type

as it is suspected that there will be differences between Ph.D. and Psy.D. programs. For example, Ph.D. programs tend to emphasize both research and practice while Psy.D. programs tend to be heavily practice oriented. Therefore, it is logical to assume that there will be differences in the aforementioned variables when comparing the different degrees sought.

Psychology Specialization

Differences in knowledge of EBPP definition, research self-efficacy, multicultural counseling self-efficacy, and counseling self-efficacy will be explored among psychology specializations, including counseling and clinical psychology. Counseling psychology has incorporated multicultural training into their programs as its' core principles and values are "conceptually in line with social justice values and initiatives" (Speight & Vera, 2008, pp. 54). Additionally, the emergence of EBPP is traced back to clinical psychology and therefore it is logical to assume that there will be differences among the two specializations when considering attitudes, knowledge, and the different aspects of self-efficacy.

Accreditation Type

As previously mentioned, APA accrediting bodies require training and competence in EBPP. Additionally, PCSAS accreditation is very heavily focused on incorporating science into practice. It is reasonable to assume that there will be differences among programs who are accredited and those that are not as the accredited ones are held accountable in teaching EBPP. APA and PCSAS accreditation were combined into an accredited category rather than two separate ones as a program can have both of those accreditations.

The proposed study will test the following hypotheses:

Hypothesis 1: There will be a significant difference between scores on knowledge of EBPP definition, Self-Efficacy in Research Measure, Multicultural Counseling Self-Efficacy Scale, Counselor Activity Self-Efficacy Scales, and EBPAS among theoretical orientations (CBT and other), degree type (Ph.D and Psy.D), specialization (Counseling and Clinical), and accreditation (accredited and non-accredited) (MANOVA).

Hypothesis 2: There will be a significant relationship between number of courses taken on EBPP and the Limitations subscale of the EBPAS scale.

Hypothesis 2a: This relationship will be mediated by Self-Efficacy in Research measure, knowledge of EBPP definition, and Counselor Activity Self-Efficacy Scales (Mediated Regression).

Hypothesis 3: There will be a significant relationship between number of courses taken on EBPP and the Openness subscale of the EBPAS scale.

Hypothesis 3a: This relationship will be mediated by Self-Efficacy in Research Measure, knowledge of EBPP definition, and Counselor Activity Self-Efficacy Scales (Mediated Regression).

Hypothesis 4: There will be a significant relationship between number of courses taken on EBPP and the Fit subscale of the EBPAS scale.

Hypothesis 4a: This relationship will be mediated by Self-Efficacy in Research Measure, knowledge of EBPP definition, and Counselor Activity Self-Efficacy Scales (Mediated Regression).

CHAPTER 3

RESEARCH METHODOLOGY

This chapter includes the research design, participants, data collection measures, procedure, and data analysis.

Research Design

The proposed study utilized a non-experimental correlational research design. Correlational research design explores how two constructs are related or vary together and it is non-experimental because correlational designs do not allow for inferences about causal relationships between variables (Heppner et al., 2015). The data were quantitative, and it was collected through online survey research.

Participants

A power analysis indicated that for a general MANOVA with 4 groups and 5 response variables, to have a power of .80 a sample size of 108 was needed. A total of between 160 to 200 participants was required to account for the mediated regression and MANOVA and to account for missing data. The method used for the mediated regressions created larger samples through bias-corrected bootstrapping. Through

sampling of participants who are on their internship the effect of length of training experience on the results was minimized. Additionally, individuals on their internship area at the end of their training and will be entering the workforce. Students on internship have completed all their coursework which is important when considering number of courses on EBPP.

This study comprised 122 individuals who were on their doctoral internship in the field of psychology. The mean age was 29.40, *SD* = 3.41. The majority of the participants identified as female (78%), with males accounting for 21% of the sample, and 1% of the sample identifying as other. Majority of the participants were White (*n* = 93), with 9 being Black/African American, 8 Asian/Asian American, 7 Hispanic/Latino(a), 1 American Indian, and 4 Biracial/Multiracial. With respect to sexual orientation, 85% of the participants identified as heterosexual, 6 % as gay or lesbian, 7 % as bisexual, and 2% as other. Most of the participants were in a clinical psychology program (78%), followed by counseling psychology (16%), and 6% were in other programs (including school psychology and forensic psychology). Most of the participants were in an APA-accredited program (*n* = 118). Only 3 individuals were from a non-accredited program, 1 was CPA/APA accredited, and 3 were PCSAS-accredited. With respect to theoretical orientation, 48 participants identified their primary theoretical orientation as Cognitive Behavioral, 14 as Psychodynamic, 6 as Humanistic, 5 as Existential, 30 as Integrative, 2 as Family Systems, and 17 as other. Frequencies for internship settings are as follows: academic health center (12), child/adolescent psychiatric or pediatric (8), community health center (4), community mental health center (12), consortium (2), medical school (1), prison or other correctional facility (1), private general hospital (6), private outpatient

clinic (2), school district (2), state/county/other public hospital (11), university counseling center (27), veteran's affairs (26), and other (8).

Measures

Demographic Questionnaire. A brief demographic questionnaire was utilized to gather information on age, gender, sexual orientation, ethnicity, theoretical orientation, internship setting, program specialization, degree type, and number of classes taken on EBPP (Appendix A). It is a best practice approach to gather demographic data on gender identity and sexual orientation as APA recommends it. It is stated that gathering such demographic data allows researchers to gain an accurate understanding of how outcomes vary by sexual orientation and gender identity (APA, 2016). Data on theoretical orientation, internship setting, program specialization, degree type, and number of classes was collected as these are hypothesized to have a relationship with attitudes toward EBPP.

Knowledge of EBPP Definition. Although measures assessing knowledge of EBPP definition may exist in allied health fields, no published measure exists in the psychology literature. For the purposes of this study, the respondents were asked to provide a definition of EBPP. The definition served to assess what aspects of EBPP the respondents include in their definition. This answer was scored by examining how many different aspects of EBPP were outlined within the definition and the extent to which they were detailed. A specific rating scale was created by the investigator and included in Appendix B. The rating scale rates the participant's response on four criteria: best available research, clinical expertise, context of patient characteristics, culture, and preferences, and integration of these three components. All the criteria are scored on a 4-

point scale with 0 being no knowledge. Higher scores indicate more complete knowledge of what the EBPP definition entails. Scores range from 0 to 16. Two people rated the answers and interrater reliability was calculated. Preliminary data on validity was gathered by surveying people in groups who should know the definition and those who should not to compare scores. Requests were sent to ten people who are experts in the field, and ten individuals who are in another field and would not be familiar with EBPP. Five individuals from each group responded. The mean score for individuals outside of the field was 1.2, and the mean for experts was 7.6. An independent samples t – test showed that the two means were significantly different, $t = -20.23$, $p < .05$.

Evidence-Based Practice Attitude Scale - 50 (EBPAS-50; Aarons, Carfri, Lugo, & Sawitzky, 2012). The EBPAS measures mental health and social service provider attitudes toward EBPP (Aarons, 2004). The items are rated using a scale that ranges from 0 (not at all) to 4 (to a very great extent) with higher scores indicating more favorable opinions of EBP. There are two types of prompts in this scale. The first prompt states "the following questions ask about your feelings about using new types of therapy, interventions, or treatments. Manualized therapy refers to any specific intervention that has guidelines and/or components that are outlined in a manual and/or that are to be followed in a structured/predetermined way." The second prompt utilizes the same scale with the following prompt: "If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if." The final prompt is "fill in the circle indicating the extent to which you agree with each item using the scale ranging from 0 to 4." The scale is scored by summing all the items. Eighteen of the items on the scale are reverse scored. Examples of reverse scored items include: "I know better than academic

researchers how to care for my clients," and "research-based treatments/interventions are not clinically useful."

The original EBPAS scale (α = .77) consisted of 15 questions from the Requirements, Appeal, Openness, and Divergence subscales (Aarons, 2004). Recently, the scale has been expanded to include further domains related to attitudes towards EBPP. The study expanding the measure involved 422 mental health service providers (Aarons et al., 2012). The full 50-item scale consists of twelve subscales with items measured using a 5-point Likert scale. The scale ranges from 0 (not at all) to 4 (to a very great extent) with higher scores indicating more favorable attitudes toward EBPP. The subscales include: Requirements, Appeal, Openness, Divergence, Limitations, Fit, Monitoring, Balance, Burden, Job Security, Organizational Support, and Feedback. Items on the Divergence, Limitations, Monitoring, and Burden subscales are reverse scored. Two items on the Balance subscale are reverse scored. The reliability statistic for the entire scale in this study was adequate (α = .88). Current study reliability statistics for the subscales are as follows: Requirements (α = .93), Appeal (α = .72), Openness (α = .75), Divergence (α = .72), Limitations (α = .91), Fit (α = .85), Monitoring (α = .90), Balance (α = .64), Burden (α = .82), Job Security (α = .92), Organizational Support (α = .80), and Feedback (α = .80)

The Requirements subscale (α = .93) measures willingness to adopt EBP based on external requirements and consists of 3 items (Aarons et al., 2007). A sample item is "If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if it was required by your supervisor?" The Appeal subscale (α = .74) measures whether providers have positive opinions of EBP and consists of four items

(Aarons et al., 2007). A sample item is "If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if it 'made sense' to you?" The Openness subscale (α = .81) measures openness to trying new interventions and it consists of 4 items (Aarons et al., 2007). A sample item is "I like to use new types of therapy/interventions to help my clients." The Divergence subscale (α = .66) measures factors which contribute to avoiding EBP in clinical practice and it consists of 4 items (Aarons et al., 2007). A sample item on the Divergence subscale is "I know better than academic researchers how to care for my clients." The Limitations subscale measures beliefs of inability of EBP to address specific client needs and it consists of 7 items (α = .92). Sample items include "EBP detracts from truly connecting with your clients," and "EBP is not useful for clients with multiple problems." The Fit subscale (α = .88) measures congruence between EBP and client/clinician values and it consist of 7 items A sample item is "I would adopt an EBP if it fit with my clinical approach." The Monitoring subscale (α = .87) measures negative perceptions of oversight by supervisors and it consists of 4 items. A sample item on the Monitoring subscale is "I do not want anyone looking over my shoulder while I provide services." The Balance subscale (α = .79) measures perception of EBP as art and a science and it consists of 4 items. A sample item includes "therapy is both an art and science." The Burden (α = .77) subscale measures time and administrative barriers related to EBP and it consists of four items. A sample item is "I don't have time to learn anything new." The Job Security subscale (α = .82) measures job security benefits related to engaging in EBP and it consists of 3 items. A sample item is "Learning an EBP will help me keep my job." The Organizational support domain (α = .85) measures perceived organizational support with EBP and it

consists of 3 items. A sample item includes "I would learn an EBP if training were provided" The final subscale is Feedback (α = .82) which measures perceptions of receiving feedback and it consists of three items. A sample item is "I enjoy getting feedback on my job performance." This measure can be found in Appendix C.

Construct validity evidence of the EBPAS has been supported through convergent validity in the following studies (Aarons, 2004; Aarons & Sawitzky, 2006). Convergent validity has been supported by significant positive correlations between the original EBPAS scale (Aarons, 2004) and an organizational context scale (Glisson, 2002) which measures mental health clinic culture and climate (Aarons & Sawitsky, 2006). A study of 322 mental health service providers explored the relationship between organizational culture and climate and attitudes toward EBP. The results showed that constructive organizational culture was significantly and positively correlated with the total EBPAS scale (r =.180, p<.05). Considering that research has linked organizational characteristics and the likelihood of dissemination and adoption of EBPP (Gotham, 2004) it is hypothesized that organizational culture and attitudes are related constructs. Organizational culture and context are hypothesized to impact adoption of EBP as they are related to affect functioning and productivity (Aaron & Sawitzky, 2006). The author proposed that leadership would be correlated with attitudes toward EBP because it is associated with organizational and staff performance (Aarons, 2006). The mentioned study consisted of 303 mental health service practitioners and case managers and it examined the association between attitudes toward EBP and transformational and transactional leadership (Aarons, 2006). Results indicated that transactional leadership was significantly and positively correlated with the EBPAS (r = .264, p<.001).

The EBPAS is currently the only available measure of attitudes toward EBPP with good psychometric properties. The proposed study was beneficial in providing further information on the psychometric properties of this scale using a graduate student sample. The three subscales of openness, fit, and limitations are used because they are most relevant to trainees, fit well with social cognitive theory and self-efficacy, and have adequate to high internal consistencies.

Counselor Activity Self-Efficacy Scales (CASES: Lent, Hill, & Hoffman, 2003). The CASES is a 41-item scale measuring confidence in performing helping skills, managing the counseling process, and handling challenging counseling situations. The items are measured on a 10-point scale ranging from 0 (no confidence) to 10 (complete confidence) with higher scores indicating higher counseling self-efficacy. The general instructions of the scale state: "The following questionnaire consists of three parts. Each part asks about your beliefs about your ability to perform various counselor behaviors to deal with issues in counseling. We are looking for your honest, candid responses that reflect your beliefs about your current capabilities, rather than how you would like to be seen or how you might look in the future. There are no right or wrong answers to the following questions. Please circle the number that best reflects your response to each question." Scores on the total scale are the average of all the item ratings.

In addition to having a total self-efficacy score, the CASES has six subscales. The total measure is comprised of three separate scales including Helping Skills Self-Efficacy, Counseling Challenges Self-Efficacy, and Session Management Self-efficacy. More specifically, the Helping Skills Self-Efficacy scale consists of 14 items in three subscales: exploration skills ($\alpha = .79$), insight skills ($\alpha = .85$), and action skills ($\alpha = .83$).

Counseling Challenges Self-Efficacy scale consists of 16 items in two subscales: relationship conflict (α = .92) and client distress (α = .94). Finally, Session Management scale consists of 10 items (α = .94). The overall scale has good internal consistency, α = .97. Sample items include: "help your client to explore his or her thoughts, feelings, and actions," "know what to do or say next after your client talks," and "build a clear conceptualization of your client and his or her counseling issues."

The reliability statistics for this measure from this study are as follows. The overall Cronbach's Alpha was high (α = .94). The subscales are as follows: Helping Skills Self-Efficacy (α = .87), Counseling Challenges Self-Efficacy (α = .89), and Session Management Self-efficacy (α = .92)

A study of 345 students in undergraduate and graduate counseling courses explored scores related to validity of the CASES. The results indicated that CASES was highly correlated with the Counseling Self-Estimate Inventory (r = .76). Additionally, discriminant validity was demonstrated through scores between CASES and the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) as the correlations between the CASES scales and the Social Desirability ranged from r = -02 to r = .22 and were insignificant (Lent, Hill, & Hoffman, 2003). Test re-test reliability at two weeks was r =.75 on the total scale. This measure can be found in appendix D.

Self-Efficacy in Research Measure (SERM; Phillips & Russell, 1994). The SERM is a 33-item scale which measures psychology doctoral student's self-efficacy with conducting research. The total scale is broken down into four subscales: Research Design skills, Practical Research Skills, Quantitative and Computer Skills, and Writing skills. Respondents are asked to indicate their degree of confidence in their ability to

successfully accomplish the presented task. Confidence ranges from 0 (no confidence) to 9 (total confidence). Higher scores indicate higher research self-efficacy. Sample items include: "Reviewing the literature in an area of research interest," "contacting researchers currently working in an area of research interest", and "utilizing resources for needed help." Cronbach's α of the total scale was .96 in two studies (Forester, Kahn, & Hesson-McInnis, 2004; Phillips & Russell, 1994). Similar Cronbach's Alpha was found in this study (α = .97). This study also shows good internal consistency scores for the four subscales as follows: Research Design skills (α = .90), Practical Research Skills (α = .89), Quantitative and Computer Skills (α = .93), and Writing skills (α = .92).

Evidence of validity for the SERM has been privded. For example, in a study of 125 counseling psychology graduate students, the SERM was significantly and positively correlated with a measure of research productivity; r = .33, p < .05 for beginning students, and r = .50, p <.001 for advanced students (Phillips & Russell, 1994), indicating the scales scores show convergent validity. Additional convergent validity has been demonstrated through the positive and significant correlation between the SERM scores and a Research Training Environment Scale; the correlation for the beginning students was r = .36, p < .01, and for advanced students, r = .50, p < .001 (Phillips & Russell, 1994).

A short version of the SERM scores consisting of 12 items was developed (Kahn & Scott, 1997). The short-form has also shown strong psychometric properties. The original version of the SERM was chosen for this study because it contains questions related to understanding literature reviews, utilizing resources, and using statistics, which

are all important while reviewing best available research evidence related to treatment in literature.

Multicultural Counseling Self-Efficacy Scale – Racial Diversity Form (MCSE-RD; Sheu & Lent, 2007). The MCSE-RD is a 37-item scale measuring respondent's perceived confidence in counseling racially diverse clients. The prompt "when working with a client who is racially different from yourself, how confident are you that you could do the following tasks effectively over the next week" is answered on a 9-point Likert scale ranging from 0 (no confidence at all) to 9 (complete confidence). Higher scores indicate higher multicultural counseling self-efficacy. Some examples of the items include: "openly discuss cultural differences and similarities between the client and yourself," "collect a mental status examination in a culturally sensitive way," and "encourage the client to take an active role in counseling."

The total scale consists of three subscales. Multicultural Intervention subscale (α = .98) which measures confidence in counselor behaviors required to successfully manage "cross-cultural impasses and bring about positive outcomes of multicultural counseling" (Sheu & Lent, 2007, p. 51). The Multicultural Interventions subscale consists of 24 items and a sample item is "remain flexible and accepting in resolving cross-cultural strains or impasses." Multicultural Assessment subscale (α = .92) measures the confidence in ability to select appropriate assessment tools, conduct assessments, and interpret tests results, while considering cultural backgrounds and considering culture-bound syndromes. A sample item includes "select culturally appropriate assessment tools according to the client's cultural background." The third subscale is Multicultural Counseling Session Management (α = .94) and it measures confidence in engaging in

therapeutic behaviors ranging from engaging client in counseling to preparing the client for termination. The Multicultural Counseling Session Management subscale consists of 7 items and a sample item is "encourage the client to take an active role in counseling." The total scale Cronbach's alpha was reported to be $\alpha = .98$ (Sheu & Lent, 2007). Test-retest reliability over a 2-week period for the total score was $r = .77$ (Sheu & Lent, 2007). The total Cronbach's alpha in this study is $\alpha = .97$. The subscale reliability scores for this study are as follows: Multicultural Intervention ($\alpha = .94$), Multicultural Assessment ($\alpha = .86$), and Multicultural Counseling Session Management ($\alpha = .90$).

In addition to supported reliability, test results have supported the validity of MCSE-RD. The MCSE-RD was found to significantly and positively correlated with measures of multicultural counseling competencies (median $r = .58$), general counseling self-efficacy (median $r = .71$), and multicultural training experiences (Sheu & Lent, 2007). Evidence of discriminant validity was supported as MCSE-RD did not significantly correlate with a measure of social desirability $r = .12$ (Sheu & Lent, 2007). Another study consisted of 209 students in counseling-related graduate programs (Sheu, Rigali-Oiler, & Lent, 2012). The results indicated that MCSE significantly and positively correlated with interest in multicultural counseling ($r = .29$) and multicultural counseling goals ($r = .23$). This measure is in Appendix F.

Procedure

Psychology doctoral students who were on their doctoral internship were recruited for an online survey through direct emails to internship program directors requesting their help in distributing the link to their trainees. The researcher randomly selected 300 programs from the Association of Psychology Postdoctoral and Internship Centers

(APPIC) directory of APA-accredited and APPIC-affiliated doctoral internship programs. The investigator downloaded a list of all APA-accredited doctoral internship and APPIC-affiliated programs. Once they were numbered, a random number generator was used to select the 300 programs. Additional emails were sent two weeks following the previous request until enough participants were solicited. Participants were also solicited through social media and professional listservs. The email participation requests consisted of a brief description of the study, requirements for participation, and a direct link to the online survey with directions. Participants were informed that their participation is voluntary and that an incentive for completion of the study will be a chance to receive a $5 gift card to Amazon.com.

Upon Institutional Review Board (IRB) approval from Cleveland State University, the online survey was administered through Survey Monkey and consisted of an informed consent and the measures outlined above. The informed consent was presented first and upon agreeing to participate, the individual was presented with a demographics questionnaire. The demographics questionnaire was followed by the knowledge of EBPP question which was followed by the EBPAS. Next, the participants completed the self-efficacy scales in the following order: CASES, SERM, and MCSES. Knowledge of EBPP was the first measure because the definition would not be influenced by the measures to follow. To explore the possibility that providing the definition first may influence self-efficacy scores, counter balancing was utilized. Therefore, half of the participants were randomly assigned to take the self-efficacy scales first in the following order: CASES, SERM, and MCSES. The self-efficacy scales were followed by the knowledge of EBPP and the last measure was EBPAS. The survey

ended with a page thanking the participant for taking the survey and redirecting to a separate link asking for an email address for an e-gift card delivery information. Upon completion participants were debriefed on the study and provided with contact information for the researcher if they had any questions regarding the study.

The participants were able to take the measure at their leisure but were unable to save and return to it. The total survey took approximately 20-30 minutes to complete. The data collected was anonymous and the participants were not asked their name. The participants were informed that their email information would be kept confidential and that the gift card page would not be connected to their responses.

Upon beginning of data collection, the survey was compromised by a bot hacking into the survey and generating responses. The survey was closed, and the researcher met with the committee to discuss a plan of action. Following the meeting, the IRB was modified by including attention check questions and password protecting the survey. The password was only shared through emails to training directors. Data were cleaned by closely examining the responses based on identical responses, IP addresses varying by only one number, participants who claimed they were 18 years old, and repeated emails. The generated responses were discarded, and the survey was re-opened. They survey was not shared on social media after it was re-opened. Once data collection was completed, the survey was closed, and electronic Amazon gift cards were sent to the randomly selected participants using a random number generator.

Data Analyses

Upon termination of data collection and prior to analysis all data were screened for missing data and outliers. Additionally, the data were examined for violations of

multicollinearity, normality, homoscedasticity, and linearity. The proposed study used significance levels of $\alpha = .05$ to reject null hypotheses. The likelihood of Type I error was reduced by running multivariate analysis as opposed to multiple univariate analyses. The data analysis included mediated regressions to examine the relationships between number of classes on EBPP, knowledge of EBPP definition, SERM, CASES, and three components of attitudes toward EBPP (Openness, Fit, and Limitations). The use of the three mediated regressions allowed for examination of possible mediation effects of SERM, CASES and knowledge of EBPP definition on the three subscales of EBPAS. The hypothesized mediators were based on the review of the literature throughout Chapters 1 and 2.

The proposed study utilized information on group mean differences. This information was used to compare participants' scores on knowledge of EBPP definition, EBPAS, SERM, CASES, and MCSES based on demographic information including: program type (PhD and PsyD) specialization type (Counseling and Clinical), accreditation (accredited and not accredited), and theoretical orientation (CBT and others). These group differences were analyzed through Multivariate Analysis of Covariance (MANCOVA).

MANCOVA was utilized to examine potential differences between demographic variables and scores on knowledge of EBPP, self-efficacy measures, and EBPAS. The independent variables were the demographic variables including: theoretical orientation, specialization type, and accreditation. The dependent variables were the three measures of self-efficacy, knowledge of EBPP, and EBPAS.

Three mediated regressions were utilized to examine the direct and indirect effects. Mediation suggests that an independent variable (number of classes) affects a dependent variable (Limitations, Fit, and Openness) through mediators or intervening variables (knowledge of EBPP definition, SERM, and CASES) (Preacher & Hayes, 2008). The causal order of the variables has been supported by theory and previous empirical research. The mediated regressions were done using bias-corrected bootstrapping as outlined by Preacher and Hayes (2008). This method allows for use with a smaller sample size as it does not rely on the assumption of normal sampling distribution (Preacher & Hayes, 2008). The authors recommend using bootstrapping in multiple mediation as it is the most powerful and reasonable method (Preacher & Hayes, 2008). Macros for bootstrapping in SPSS are provided by Hayes and were utilized for data analysis.

Gaps in Literature

This study served to fill a gap in the literature related to psychology doctoral interns' attitudes toward EBPP and knowledge of the definition of EBPP. There have been limited studies that have investigated attitudes toward EBPP, especially within the student population. Most studies to date have focused on clinical psychologists in practice. This study focused solely on psychology students on their internship, without being limited to clinical psychology specialization. Additionally, previous studies completed on student attitudes and knowledge of EBPP have utilized measures which were created for the purposes of that study and did not have sufficient evidence of validity.

This study adds to current knowledge by testing the relationship of SCT relevant constructs and attitudes toward EBPP. These constructs include research self-efficacy, counseling self-efficacy, and multicultural counseling self-efficacy, which are related to the three components of competent EBPP practice: individual/group counseling, research, and multicultural counseling. Exposure to EBPP classes is related to more positive attitudes. However, research has not examined whether self-efficacy mediates this relationship. No other studies to date have examined whether there is a relationship between different aspects of self-efficacy and attitudes toward EBPP.

CHAPTER 4

RESULTS

This chapter will present the results exploring the study's hypotheses. Additionally, information on cleaning and preparing data will be presented. This chapter will provide descriptive statistics and demographic data in addition to preliminary analyses exploring outliers and assumptions.

Preliminary Analyses

Missing Data Analysis. Upon completion of data collection there were 172 survey responses. Suggestions outlined by Hair and colleagues (2010) were utilized in cleaning and managing missing data. After careful review of the missing data, 50 participants were excluded from data analysis. 21 participants were removed due to having more than 30 percent missing data and 22 participants were excluded because of a missing dependent variable response. The remaining 7 were excluded in analysis as they still had missing responses and it was decided that a complete data method would be utilized rather than imputing data. Little's MCAR test was run in SPSS to determine whether data were missing at random (Little, 1988). The result of the test was not statistically significant, $\chi^2 = 54.547$, $p = 1$. Given that the Little's MCAR test was insignificant, it suggests that data is missing completely at random and allows for

utilization of a complete data approach. Additionally, a complete data method is appropriate as there are enough participants to meet the response requirement for running the analyses (108 responses were needed).

Testing for univariate outliers was done by examining scores exceeding the cut off *z* score of 3.29. This *z* score threshold is used because it is significant at $p < .001$ level (Tabachnick & Fidell, 1996). There were a total of five univariate outliers. Two multivariate outliers (both were univariate outliers) were identified through analysis of Mahalanobis distance. In comparing Mahalanobis distance scores to the chi square probability, two were below .001 probability and were determined to be multivariate outliers (Tabachnick & Fidell, 2007). Removal of the outliers did not significantly impact the results as it did not change the statistical significance and the nature of the relationships. Additionally, removal of the outliers did not remedy the violation of the statistical assumption. Therefore, the outliers were included in the analysis. The final sample comprised of 122 participants.

Analysis of Covariates. To test whether demographic variables were significantly correlated with the DVs, chi-squares were run on sexual orientation (heterosexual and other), gender (male and female), and race (white and other). Results showed that all chi squares were insignificant other than sexual orientation for the EBPAS scale and the Limitations subscale. The researcher included sexual orientation as covariate in the hypothesized MANOVA (making it a MANCOVA) and the mediated regression exploring Limitations.

Counter Balancing Analysis. To test whether the order of the measures significantly influenced self-efficacy scores, an independent samples *t*-test was utilized to

compare the two counter-balanced versions. Results showed that there were no significant differences in means among the CASES, $t = 1.12$, $p > .05$; SERM, $t = -.08$, $p > .05$; and MCSES, $t = .53$, $p > .05$.

Inter Rater Agreement Analysis. Cohen's *Kappa* was run to determine the level of agreement between the two raters' scores on the rating rubric for the knowledge of EBPP definition question. According to Landis and Koch (1977), a Cohen's *Kappa* score between .60 and .79 is considered substantial. Therefore, there was substantial agreement between the two raters, $\kappa = .79$, $p < .01$. To address the discrepancies, the two raters met and discussed the differences. There were 13 discrepant ratings and the majority of them were related to a different interpretation of how to score the research component of the rating rubric for the measure of knowledge of EBPP definition. It was agreed that merely implying research (i.e., stating "literature") did not qualify as a one-point response because the criteria for a one-point response included utilizing statements about research, ESTs, or treatment manuals in their definition of EBPP. The raters agreed on a score for each discrepant rating and those scores were used in data analysis.

Tests of Statistical Assumptions. Testing normality of each of the dependent variables for each of the groups of independent variables revealed that scores on the CASES, EBPAS, and MCSES were all normally distributed (Kolmogorov- Smirnov > .05). However, scores on the EBPP definition were non-normally distributed for all the groups of each of the independent variable. Moreover, SERM scores were non-normally distributed for accreditation. The scores for the EBPP definition are positively skewed and leptokurtic. The scores for SERM are slightly negatively skewed. The skewness and

kurtosis can be found in Table 1. Removal of the outliers did not remedy the distributions. Descriptive statistics can be found in Table 2.

Table 1

Skewness and Kurtosis for EBPP Definition and SERM

		Skewness	Kurtosis
EBPP Definition	Counseling	2.24	7.42
	Clinical	4.37	25.48
	PhD	4.35	25.37
	PsyD	3.06	10.70
	Accredited	3.91	21.135
	Non-accredited	1.73	*
	CBT	3.47	15.27
	Other Orientation	.928	.950
SERM	Counseling	-.265	-.189
	Clinical	-.853	.308
	PhD	-.905	.841
	PsyD	-.366	-.325
	Accredited	-.705	.067
	Non-Accredited	-.970	*
	CBT	-.442	-.483
	Other Orientation	-.556	.078

* Kurtosis unavailable, $n = 3$

To address the non-normal distributions, the variables in violation were transformed. The definition variable was transformed using an inverse transformation and the research self-efficacy variable was transformed using reflect and square root transformation. Transformation of the research self-efficacy scale was successful as the resulting Kolmogorov-Smirnov was not statistically significant, $p < .05$. Inverse transformation was used because it is suggested as a method of transforming skewed data to improve normality (Yeo & Johnson, 2000). Transforming the definition variable did not completely remedy the non-normal distribution. However, the distribution appeared more normal as the resulting skewness and kurtosis were largely improved. Before

transformation, the skewness of the overall distribution was 4.061 and the kurtosis was 22.845. After transformation, the skewness was -1.206 and kurtosis was -.192. Normality of each of the group of the independent variables against the transformed variable was further explored by examining the *z* scores (skewness and kurtosis divided by their *SD*). Transformation of the variable improved *z* scores for the variables by bringing them closer to the 3.29 cut off. Although transformation of the definition scale did not completely remedy the distribution, the transformation made it significantly closer to a normally distributed curve. Also, according to Grimm and Yarnold (1995), MANOVA is a robust analysis in terms of Type I error rate and researchers often use it despite violations of normality. Therefore, the researcher will continue with running the MANOVA for this analysis. The remainder of the assumptions were met. Assumption of homogeneity of covariance matrices was met as assessed by Box's *M* test ($p = .132$). Additionally, Levene's test of Homogeneity of Variance indicated there was homogeneity of variances ($p > .05$).

Table 2

Descriptive Statistics for Knowledge of EBPP definition, Attitudes toward EBPP, Self-Efficacy Scales, and Continuous Demographic Variables (*N = 122*)

	Range	Min	Max	Mean	*SD*	Median	Mode	α
EBPP Definition	12	0	12	1.45	1.48	1	1	
EBPAS	103	94	197	155.9	20.87	157.5	159	.88
EBPAS – Openness	12	4	16	10.71	2.71	11	11	.75
EBPAS – Limitations	21	7	28	22.45	5.80	25	28	.91
EBPAS - Fit	28	0	28	20.93	4.94	21	28	.85
CASES	4.54	4	8.54	6.80	.89	6.74	6.63	.94
SERM	7.33	1.36	8.7	6.03	1.66	6.84	6.90	.97
MCSES	6.54	2.46	9	6.84	1.23	6.9	5.3	.97
Age	29	23	52	29.40	3.41	29	27	
Number of Classes	20	0	20	3.64	2.97	3	2	

Note: EBPP stands for evidence-based practice in psychology. EBPAS is the Evidence-Based Practice Attitudes Scale, CASES is the Counselor Activity Self-Efficacy Scales, SERM is the Self-Efficacy in Research Measure, and MCSES is the Multicultural Counseling Self-Efficacy Scale.

Multivariate Analysis of Covariance

To test hypothesis 1 and examine whether there are differences between scores on knowledge of EBPP definition, SERM, CASES, MCSES, and the total score on the EBPAS among theoretical orientations, specialization, degree type, and accreditation, a MANCOVA was run. A collapsed sexual orientation variable (heterosexual and other) was included as a covariate as preliminary analysis showed a significant correlation with the EBPAS scale, $\chi^2 = 85.55$, $p = .045$.

The MANCOVA results (see Table 3) show that there was a statistically significant difference in the scores on dependent variables based on specialization,

$F(5,90) = 2.86$, $p < .05$; Wilk's $\Lambda = .863$, partial $\eta 2 = .137$ There was also a statistically significant difference in scores on the dependent variables based on degree type, $F(5,90) = 3.99$, $p < .05$; Wilk's $\Lambda = .818$, partial $\eta 2 = .182$. Additionally, between-subjects effects results show that there was a significant effect for specialization type on knowledge of EBPP definition, $F(1,104) = 5.396$, $p < .05$, partial $\eta^2 = .054$ (See Table 4). After applying the Bonferroni adjustment, this effect was no longer significant. The Bonferroni adjustment was applied by dividing the critical alpha level of .05 by five. This number was used because there were five dependent variables. The new adjusted critical p value was .01. There was also a significant effect for degree type on SERM, $F(1,104) = 9.46$, $p < .05$, partial $\eta^2 = .091$, which was significant after the Bonferroni adjustment was applied, $p = .003$. A pairwise comparison tests with a Bonferroni adjustment for multiple comparisons showed that there was a significant mean difference between those pursing a PhD and PsyD, with PhD students having higher scores than PsyD students on the SERM, $F(1, 94) = 9.98$, $p < .05$. Means, standard error, and lower and upper bound confidence intervals for all of the groups of the independent variables for the dependent variables can be found in Table 5.

Table 3

Multivariate Tests Table Comparing Individual Differences for the Self-Efficacy, Knowledge of EBPP, and Attitudes (*N = 104*)

	Hypothesis *df*	Error *df*	Wilks' Lambda	*F*	Partial Eta Squared	*p*
Specialization	5	90	.863	2.860	.137	.019*
Orientation	5	90	.901	1.981	.099	.089
Accreditation	5	90	.985	.274	.015	.926
Degree	5	90	.823	3.921	.177	.003**
Sexual Orientation	5	90	.944	1.073	.056	.381

**p<.05, **p<0.01*

Table 4

Test of Between-Subjects Effects of Individual Differences and Self-Efficacy, Knowledge of EBPP, and Attitudes

		Sum of Squares	*F*	Partial Eta Squared	*p*
Specialization	EBPP definition	.421	5.396	.054	.022*
	SERM	5.324	.692	.007	.407
	CASES	2311.577	1.723	.018	.193
	MCSES	4116.778	1.863	.019	.176
	EBPAS	712.485	1.947	.020	.166
Theoretical Orientation	EBPP definition	.148	1.890	.020	.172
	SERM	20.142	2.619	.027	.109
	CASES	1039.256	.775	.008	.381
	MCSES	101.487	.046	.000	.831
	EBPAS	1698.417	4.640	.047	.034*
Accreditation	EBPP definition	.007	.093	.001	.761
	SERM	1.525	.198	.002	.657
	CASES	272.977	.203	.002	.653
	MCSES	237.998	.108	.001	.743
	EBPAS	456.844	1.248	.013	.267
Degree	EBPP definition	.019	.242	.003	.624
	SERM	72.789	9.466	.091	.003**
	CASES	62.561	.047	.000	.830
	MCSES	2544.146	1.151	.012	.286
	EBPAS	40.177	.110	.001	.741
Sexual Orientation	EBPP definition	.043	.556	.006	.458
	SERM	1.233	.160	.002	.690
	CASES	1276.602	.952	.010	.332
	MCSES	.880	.000	.000	.984
	EBPAS	734.064	2.006	.021	.160

*$p<.05$, ** Bonferroni Correction critical value $p<0.01$

Note: EBPP stands for evidence-based practice in psychology. EBPAS is the Evidence-Based Practice Attitudes Scale, CASES is the Counselor Activity Self-Efficacy Scales, SERM is the Self-Efficacy in Research Measure, and MCSES is the Multicultural Counseling Self-Efficacy Scale. Sexual orientation covariate: heterosexual and other.

Table 5

Means for MANCOVA Variables for each Group of the Independent Variables based on the Dependent Variable

				95% Confidence Interval	
		Mean	Std. Error	Lower Bound	Upper Bound
EBPP	Clinical	.863	.047	.770	.957
Definition	Counseling	.601	.095	.412	.790
	CBT	.769	.075	.620	.918
	Other	.729	.067	.595	.863
	Accredited	.749	.041	.667	.830
	Non-accredited	.740	.172	.400	1.081
	PhD	.702	.069	.564	.839
	PsyD	.837	.056	.725	.949
SERM	Clinical	8.040	.469	7.109	8.970
	Counseling	9.161	.945	7.285	11.037
	CBT	7.28	.744	5.812	8.767
	Other	9.53	.670	8.207	10.866
	Accredited	8.896	.407	8.089	9.704
	Non-accredited	7.283	1.703	3.902	10.664
	PhD	7.598	.687	6.234	8.962
	PsyD	10.418	.560	9.306	11.529
CASES	Clinical	282.991	6.190	270.700	295.281
	Counseling	288.518	12.480	263.739	313.298
	CBT	290.037	9.827	270.526	309.548
	Other	281.776	8.844	264.217	299.335
	Accredited	284.529	5.372	273.862	295.195
	Non-accredited	288.663	22.495	243.998	333.328
	PhD	287.952	9.075	269.933	305.970
	PsyD	280.439	7.394	265.758	295.120
MCSES	Clinical	252.321	7.944	236.548	268.093
	Counseling	267.692	16.016	235.893	299.492
	CBT	252.899	12.610	227.861	277.937
	Other	264.155	11.349	241.622	286.689
	Accredited	259.755	6.894	246.067	273.443
	Non-accredited	257.044	28.868	199.726	314.361
	PhD	257.131	11.646	234.008	280.254
	PsyD	263.196	9.489	244.355	282.036
EBPAS	Clinical	163.305	3.233	156.885	169.724
	Counseling	148.646	6.518	135.703	161.588
	CBT	166.516	5.132	156.326	176.707
	Other	149.008	4.619	139.837	158.179
	Accredited	153.661	2.806	148.090	159.232
	Non-accredited	167.739	11.749	144.411	191.067
	PhD	157.938	4.740	148.527	167.349
	PsyD	154.493	3.862	146.825	162.161

Note: EBPP stands for evidence-based practice in psychology. EBPAS is the Evidence-Based Practice Attitudes Scale, CASES is the Counselor Activity Self-Efficacy Scales, SERM is the Self-Efficacy in Research Measure, and MCSES is the Multicultural Counseling Self-Efficacy Scale. Sexual orientation covariate: heterosexual and other. Due to reflect and square root transformation of the SERM variable, the direction of the relationships is inversed (e.g. PhD students had higher means than PsyD students).

Mediated Regression Analyses

To test hypotheses 2 to 4 and explore the relationships between number of classes in EBPP, knowledge of EBPP definition, SERM, CASES, and the three subscales of EBPAS (Limitations, Fit, and Openness) three mediated regressions utilizing bootstrapping were run with the PROCESS macro provided by Dr. Hayes. Model number 4 was run for each of the analyses. Original sample consisted of 122 participants with 1000 number of bootstrap samples for percentile bootstrap confidence intervals. Level of confidence was set at 95. A correlation matrix for all the variables can be found in Table 6.

The correlation table shows that although there are some significant correlations, they are not strong. SERM is significantly correlated with knowledge of EBPP definition, number of classes on EBPP, Openness, and Limitations. In addition to SERM, Openness was significantly correlated with number of classes on EBPP, Fit, Limitations, and CASES. Limitations was significantly correlated with Openness as well.

To test hypotheses 2 and 2a, a mediated regression with a covariate was run. A collapsed sexual orientation variable (heterosexual and other) was included as a covariate as preliminary analysis showed a significant correlation with the Limitations subscale, $\chi^2 = 38.036$, $p = .009$. The mediational hypothesis for Limitations was not supported. Results show that the IV (number of classes) predicted the DV (Limitations), $F(2,119)= 9.97$, $p < .05$, $R^2 =.143$, $b = .13$, $t(119)=.80$, $p < .05$. Number of classes and the three mediators together, alongside the sexual orientation covariate, significantly predicted Limitations, $F(5,116) = 5.7$, $p < .05$, $R^2 = .198$

Table 6

Pearson Correlation Matrix of EBPP Knowledge and Attitudes, Self-Efficacy Scales, Demographic Variables, and Individual Difference Variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Mean	*SD*
1. Orientation	-														.39	.49
2. Specialization	.26**	-													.82	.38
3. CASES	-.09	-.06	.94												6.80	.89
4. MCSES	-.22	-.08	.76**	.97											6.84	1.23
5. SERM	.30**	.11	.37**	.34**	.97										6	1.66
6. EBPAS	.48**	.27*	.02	-.01	.34**	.88									155.94	20.87
7. Definition	-.12	-.06	.02	.08	.18*	-.12	-								1.45	1.48
8. Age	-.04	-.03	.04	-.07	-.03	.10	.06	-							29.40	3.41
9. Classes	.09	.24*	.08	.06	.19*	.21*	-.14	.02	-						3.64	2.97
10. Degree	-.15	.18*	-.04	.04	-.47**	.07*	-.08	-.14	-.06	-					.45	.49
11. Fit	.23**	.15	.07	.02	.11	.42**	-.10	-.01	.10	.12	.85				20.93	4.94
12. Openness	.18*	.10	.19*	.21*	.35*	.60**	.06	.07	.21*	-.16	.26**	.75			10.71	2.71
13. Limitations	.42**	.16	.03	-.13	.24**	.72**	-.10	.16	.12	-.10	.12	.27**	.91		22.45	5.80
14. Accreditation	-.08	.06	-0.04	-.01	-.11	-.12	.01	-.04	-.35*	.14	-.15	-.09	–.07	-	1	.22

$^{**}p < 0.01$, $^{*}p<.05$

Note: CASES is the Counselor Activity Self-Efficacy Scales, MCSES is the Multicultural Counseling Self-Efficacy Scale, and SERM is the Self-Efficacy in Research Measure. EBPAS is Evidence-Based Practice Attitudes Scale. EBPP stands for evidence-based practice in psychology. Orientation: 0 = other, 1= CBT, Specialization: 0 = Counseling, 1 = Clinical, Degree: 0 = PhD, 1=PsyD, Accreditation: 0=not accredited, 1= accredited. Coefficient α scores are presented in the diagonals where appropriate.

with SERM significantly predicting Limitations, $b = .02$, t(116) = 2.68, $p < .05$. Also, number of classes predicted SERM, $F(2,119) = 3.23$, $R^2 = .05$, $b = 3.21$, $t(119) = 1.92$, $p < .05$. Additionally, the sexual orientation covariate predicted Limitations, $b = -5.12$, t(116) = -3.64, $p < .05$ (See Table 7). The indirect effects were insignificant for all variables; therefore there is insufficient evidence that classes affect Limitations through the mediators (See Table 8 for indirect effects). See Figure 1 for an illustration of paths.

Table 7

Mediation Path Statistics for Limitations

		F	R^2	*b*	*t*	LLCI-ULCI	*p*
a paths (IV → Mediators)	Classes to EBPP Definition	1.29	.02	-.06	-1.46	-.158-.023	.278
	Classes to SERM	3.23	.051	3.21	1.92	-.092-6.523	.042*
	Classes to CASES	1.21	.020	1.30	.1.15	-.938-3.543	.300
b paths (Mediators → DV)	EBPP Definition to Limitations			-.494	-1.466	-.162-.173	.145
	SERM to Limitations			.027	2.689	.007-.047	.008**
	CASES to Limitations			-.016	-1.137	-.045-.012	.257
Covariate → DV	Sexual Orientation			-5.12	-3.64	-7.91 -2.33	.004**
Direct Effect		5.7	.198	.036	.216	20.24-36.01	.001**
Total Effect		9.97	.143	.135	.808	-.195-.467	.001**

**$p < 0.01$, *$p<.05$

Note: EBPP stands for evidence-based practice in psychology. SERM is the Self-Efficacy in Research Measure and CASES is the Counselor Activity Self-Efficacy Scales.

Table 8

Indirect Effects of Classes on Limitations through the Mediators

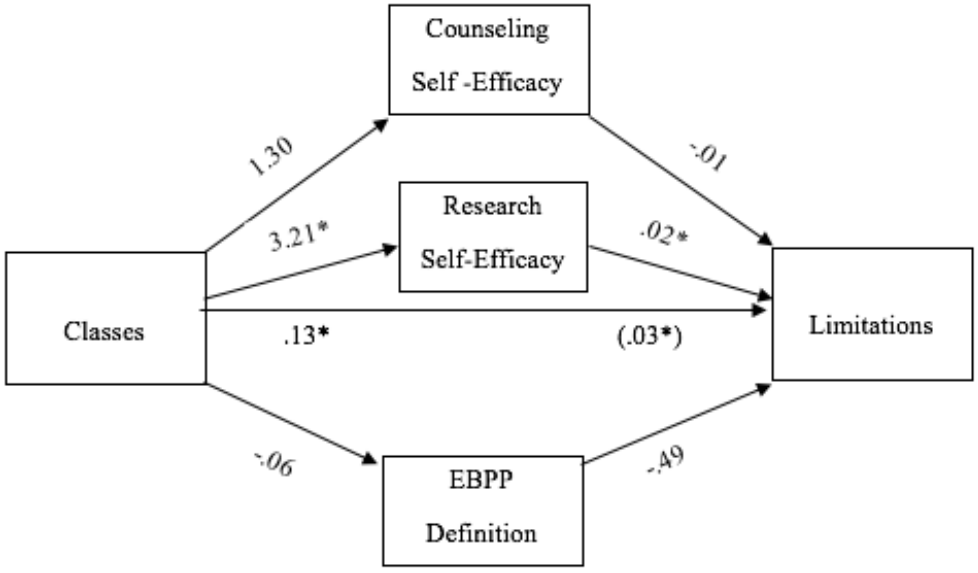
	Bootstrap Estimate (*SE*)	Bootstrap 95% CI
Total	.068	[-.018, .248]
EBPP Definition	.049	[-.019, .150]
SERM	.067	[-.007, .194]
CASES	.030	[-.089, .023]

**p<.05*

Note: EBPP stands for evidence-based practice in psychology. SERM is the Self-Efficacy in Research Measure and CASES is the Counselor Activity Self-Efficacy Scales.

Figure 1

Path Illustrations with Beta Coefficients for Limitations



Note: The paths include sexual orientation covariate.

To test hypothesis 3 and 3a, a mediated regression was run. The mediational hypothesis for Openness was not supported (See Table 9). Results show that the IV

(number of classes) predicted the DV (Openness), $F(1,120) = 5.68$, $p < .05$, $R^2 = .04$, $b = .19$, $t(120) = 2.38$, $p < .05$. Additionally, the correlation table shows a significant correlation between the two variables, $r = .21$, $p < .05$. In this model, SERM was a significant predictor of Openness. Number of classes and the three mediators together significantly predicted Openness, $F(4,117) = 5.14$, $p < .05$, $R^2 = .14$, and in that model, number of classes no longer significantly predicted Openness, $b = 1.4$, $t(117) = 1.76$, $p > .05$. However, the bootstrap estimation indicated that zero was within the confidence limits for the model. Therefore, there is insufficient evidence that classes affect Openness through the mediators (See Table 10). See Figure 2 for an illustration of paths.

Table 9

Mediation Path Statistics for Openness

		F	R^2	*b*	*t*	LLCI-ULCI	*p*
a paths (IV → Mediators)	Classes to EBPP Definition	2.40	.019	-.07	-1.55	-.159-.019	.123
	Classes to SERM	4.61	.037	3.55	2.14	170.71-201.49	.033*
	Classes to CASES	.951	.007	1.09	.975	-1.12-3.31	.331
b paths (Mediators → DV)	EBPP Definition to Openness			.061	.379	-.257-.3799	.08
	SERM to Openness			.014	3.00	.004-.023	.003**
	CASES to Openness			.005	.745	-.008-.018	.457
Direct Effect		5.14	.149	.14	1.76	-.017- .3015	.08
Total Effect		5.68	.045	.193	2.38	.032-.3548	.01*

**$p < 0.01$, *$p < .05$

Note: EBPP stands for evidence-based practice in psychology. SERM is the Self-Efficacy in Research Measure and CASES is the Counselor Activity Self-Efficacy Scales.

Table 10

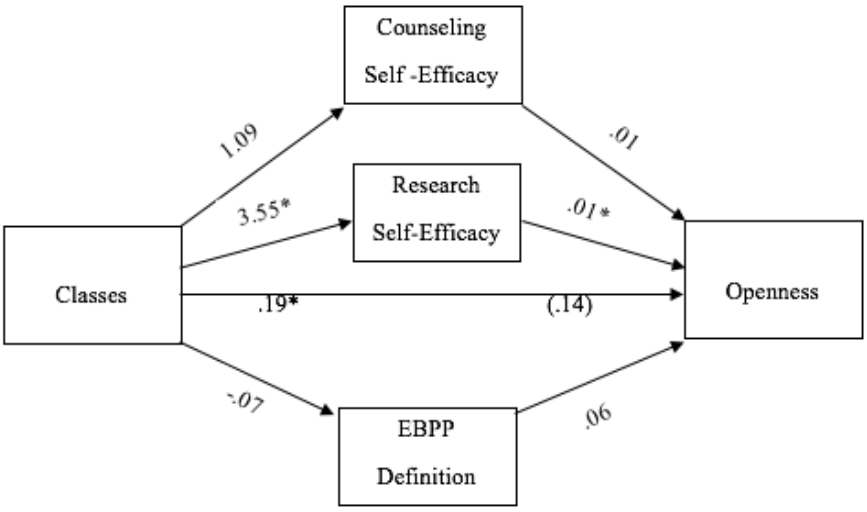
Indirect Effects of Classes on Openness through the Mediators

	Bootstrap Estimate (*SE*)	Bootstrap 95% CI
Total	.036	[-.014, .126]
EBPP Definition	.011	[-.030, .016]
SERM	.030	[-.002, .117]
CASES	.010	[-.012, .033]

Note: EBPP stands for evidence-based practice in psychology. SERM is the Self-Efficacy in Research Measure and CASES is the Counselor Activity Self-Efficacy Scales.

Figure 2

Path Illustrations of Beta Coefficients for Openness



To test hypotheses 4 and 4a, a mediated regression was run. The mediational hypothesis for Fit was not supported (See Table 11). Results show that the IV (number of classes) did not predict the DV (Fit), $F(1,120)= 1.36$, $p > .05$, $R^2 =.01$, $b = .17$, $t(120) = 1.7$, $p > .05$. Fit was significantly correlated with Openness (See Table 6). Number of classes and the three mediators together did not predict Fit, $F(4,117) = 1.03$, $p > .05$, $R^2 = .03$, and none of the mediator variables significantly predicted Fit (See Table 11).

Indirect effects of classes on Fit were insignificant and are presented in Table 12. See Figure 3 for an illustration of paths.

Table 11

Mediation Path Statistics for Fit

		F	R^2	*b*	*t*	LLCI-ULCI	*p*
a paths (IV → Mediators)	Classes to EBPP Definition	2.40	.019	-.07	-1.55	-.159-.019	.123
	Classes to SERM	4.61	.037	3.55	2.14	170.71-201.49	.033*
	Classes to CASES	.951	.007	1.09	.975	-1.12-3.31	.331
b paths (Mediators → DV)	EBPP Definition to Fit			-.396	-1.26	-1.016 - .2237	.207
	SERM to Fit			.010	1.09	-.008 – 0283	.276
	CASES to Fit			.003	.275	-.022 - .0299	.783
Direct Effect		1.03	.034	.109	.696	-.201 - .419	.391
Total Effect		1.36	.011	.176	1.16	-.122 - .475	.244

***p* < 0.01, **p*<.05*

Note: EBPP stands for evidence-based practice in psychology. SERM is the Self-Efficacy in Research Measure and CASES is the Counselor Activity Self-Efficacy Scales.

Table 12

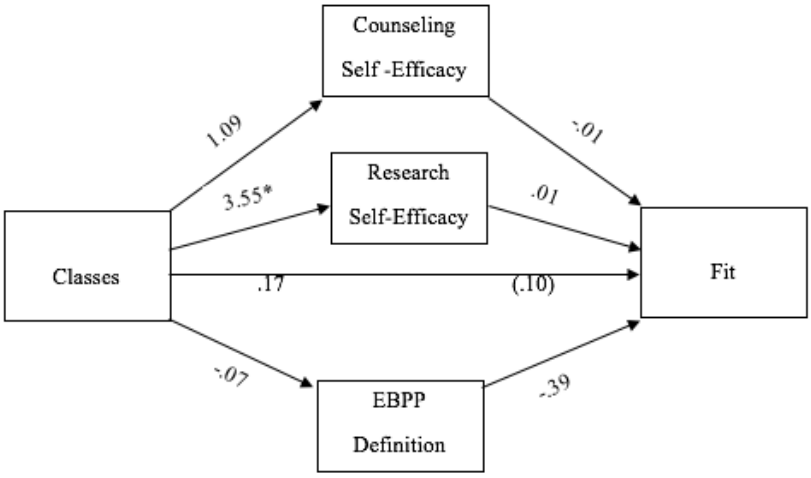
Indirect Effects of Classes on Fit through the Mediators

	Bootstrap Estimate (*SE*)	Bootstrap 95% CI
Total	.051	[-.026, .182]
EBPP Definition	.029	[-.021, .090]
SERM	.034	[-.022, .108]
CASES	.017	[-.025, .049]

Note: EBPP stands for evidence-based practice in psychology. SERM is the Self-Efficacy in Research Measure and CASES is the Counselor Activity Self-Efficacy Scales.

Figure 3

Path Illustrations of Beta Coefficients for Fit



CHAPTER 5

DISCUSSION

Overview

The purpose of this study was to explore the relationships between attitudes toward EBPP, self-efficacy, knowledge of EBPP, and the number of classes taken on EBPP. This study also explored differences in the mentioned variables among different training and personal variances (degree type, accreditation, theoretical orientation). It was hypothesized that there would be a significant relationship between number of courses taken on EBPP and the three subscales of the EBPAS (Openness, Fit, and Limitations). Moreover, it was hypothesized that those relationships would be mediated by SERM, knowledge of EBPP definition, and CASES. It was also hypothesized that there would be a significant difference between the three self-efficacy scales, knowledge of EBPP definition, and the EBPAS among different theoretical orientations, degree types, specializations, and accreditation. This study has added to the understanding of factors contributing to more positive attitudes toward EBPP and the role of different types of self-efficacy.

The findings suggest that after applying corrections for pairwise comparisons, PhD students had higher research self-efficacy than PsyD students. The correlation table

shows significant positive correlations between CASES and both the MCSES and the SERM. Additionally, MCSES and SERM were also significantly and positively correlated. There was also a significant positive correlation between the total scale of EBPAS and the SERM. Both SERM and EBPAS were positively correlated with theoretical orientation. Theoretical orientation was also significantly and positively correlated with Fit, Openness, and Limitations. There was also a significant negative correlation between degree type and SERM, and a significant positive correlation between degree type and both specialization and EBPAS. There was a significant positive correlation between number of classes taken on EBPP and both SERM and EBPAS. Lastly, there was a significant negative correlation between accreditation and number of classes, although it was not strong.

Although majority of the hypotheses on mediation were not supported, there are interesting findings highlighting the importance of research self-efficacy and training. For example, number of classes significantly predicted research self-efficacy, Openness, and Fit. SERM also significantly predicted both Openness and Limitations on the EBPAS.

Knowledge of EBPP definition

Consistent with previous research, there appears to be a lack of understanding what EBPP entails. In a study by Luebbe and colleagues (2007) the results suggest that only 3.7% of the students were able to provide a definition of EBPP which included all three components. Additionally, they found that 97% of the participants mentioned research, 7% mentioned clinical expertise, and 13% cited patient characteristics. In other words, 81% mentioned research in their definition and left out the other two components. The current findings are consistent with this research (Luebbe et al., 2007). The scores on

the knowledge of EBPP definition indicate that the average was very low, with majority of the participants' only mentioning research. The findings of this study are consistent with those findings as the average score for the EBPP definition was low (M = 1.45, SD = 1.48), with the highest score being 12 out of possible 16 points. Similar to previous findings, most of the participants cited research and did not make mention of clinical expertise or patient characteristics, culture, and preferences.

These findings further highlight the likelihood that students, and likely the faculty and supervisors who teach them, continue to conflate EBPP with ESTs. This conflation has been problematic in previous studies (Weissman et al., 2006; Wilson et al., 2009). However, the results of the current study indicate that even though it appears EBPP is conflated with ESTs, this did not negatively impact attitudes toward EBPP. This may be due to the fact that the EBPAS does not appear to align well with the correct definition of EBPP incorporating all three components. Therefore, EBPAS may in fact be more accurately measuring attitudes toward ESTs rather than EBPP. Luebbe and collegues (2007) found similar results as their participants did not have an adequate knowledge but they had positive attitudes. The mean score for attitudes toward EBPP was high and most students had favorable attitudes. It may be that the climate in training programs is improving in terms of encouraging EBPP use and fostering more favorable opinions. However, given that trainees on internship appear to have a positive attitude towards EBPP but not a good knowledge of what it entails, more training is needed.

This further supports Karekla and colleagues (2004) finding that more training is needed within the field of psychology on EBPP. In that study, the researchers found that two thirds of the graduate student sample reported that they did not read any of the

reports of the major Task Forces. Another study found that 67% of clinical PsyD programs and 43% of the clinical PhD programs did not require didactic or clinical training of well-known evidence-supported therapies (Weissman, et al., 2006).

The findings of this study suggest that the lack of knowledge of EBPP still persists within the field of psychology. What is also concerning is that the individuals in this study are on internship and will be completing their doctoral training without a solid foundation of knowledge of what EBPP entails. This begs the question of how much programs are focusing on training in EBPP and making a clear distinction between EBPP and ESTs. As previously mentioned, the lack of knowledge of EBPP definition did not negatively impact attitudes toward EBPP. Again, this also calls into question the EBPAS scale and its validity in terms of measuring attitudes toward EBPP. The implications of those findings are discussed next.

Attitudes toward EBPP

As previously mentioned, this study further supports the finding that students have favorable attitudes toward EBPP as the mean score is 155.94 with the highest possible score being 200. However, this finding may not accurately reflect attitudes toward EBPP as the scale itself does not appear to align well with the operational definition of EBPP. However, this finding is important as past research on attitudes toward EBPP suggests that those who endorsed more positive attitude were also more likely to endorse using it in practice (Nelson & Steele, 2007). Again, although this is promising, it should be taken into consideration that there was a lack of knowledge of what EBPP entails, and therefore trainees may not be using it correctly in practice.

The findings of this study show that there was a significant positive relationship between attitudes toward evidence-based practice and theoretical orientation, research self-efficacy, number of classes, degree type, and knowledge of EBPP definition. The significant relationship between attitudes and theoretical orientation indicated that scores were higher for those identifying with a CBT orientation. This may be related to many CBT treatment being ESTs for a variety of disorders especially considering that there is likely a conflation between EBPP and ESTs among the participants.

The positive relationship between number of classes and positive attitudes toward EBPP is not a new finding. Previous research shows that after taking a class on EBPP, attitudes improved significantly for those who had less experience and more negative attitudes (Bearman, et al., 2015). Similar results were found by Simons and colleagues (2007) indicating that more training is predictive of more positive attitudes. In the aforementioned study the researchers found that the group who took the class designed for this study (as compared to the control group taking an unrelated class) had significantly higher research self-efficacy (Simons, Giorgio, Houston, & Jacobucci, 2007). The findings also suggested that experience and knowledge contributed to higher research self-efficacy. The results of the current study further support those findings. In the current study, research self-efficacy significantly predicted positive attitudes toward EBPP. There was also a significant positive relationship between research self-efficacy and number of classes on EBPP. Moreover, there was a positive relationship between research self-efficacy and the score on the definition of EBPP.

Given that most participants mentioned research in their definition of EBPP, these findings are not surprising. Also, as mentioned previously, these findings are supported

in previous research. Additionally, it is possible that another variable accounts for these significant correlations. For example, it is possible that student characteristics (e.g. dedication) could impact the relationship as they have more self-efficacy. However, both counseling self-efficacy and multicultural counseling self-efficacy were not significantly correlated with attitudes towards EBPP. Given that there appears to be an overall lack of knowledge that EBPP entails more than research, these findings are not surprising. Additionally, given that the EBPAS may present a measurement problem as it does not cover all the components of EBPP, MCSE and CASES may in fact predict attitudes. This may have been missed given the measurement problem with the EBPAS. Although some time has passed between the current study and the ones outlined above, the findings remain consistent. This is problematic and calls into question whether significant changes have been made within training programs. Given that the new Standards of Accreditation put more emphasis on competence in EBPP and have been put into place, more attention should be focused on training rather than just attempting to instill a more positive attitude.

Research Self-Efficacy

The importance of research self-efficacy for knowledge and attitudes towards EBPP is outlined above. There are additional important findings in this study that further support previous research and add to our current knowledge. Research self-efficacy was also positively correlated with number of classes, degree type, theoretical orientation, counseling self-efficacy, and multicultural counseling self-efficacy.

Past research shows that more training is correlated with higher research self-efficacy. One study showed that students who were farther along in their doctoral

program scored higher on research self-efficacy than those who first started (Lambie et al., 2014). An additional study found that students in their fourth year or beyond scored higher compared to first and second year students (Phillips & Russell, 1994). Similarly, Lambie and Vaccaro (2011) found that third year students reported higher research self-efficacy that first and second years. In addition to findings that length of training and more experience contributed to higher self-efficacy, a study done by Kahn (2001) also found a relationship between self-efficacy and scholarly activity. In other words, training affected research self-efficacy which in turn affected research behaviors. The current study further supports that finding as number of classes was a significant predictor of research self-efficacy. Moreover, there was a significant correlation between research self-efficacy and the other self-efficacy scales. Students who reported higher research self-efficacy also had higher counseling and multicultural counseling self-efficacy. There was a significant positive correlation between research self-efficacy and theoretical orientation. This study was the first to explore research self-efficacy differences among different psychology degrees and specialization types. The results suggest that students from PhD programs had higher research self-efficacy as compared to students from PsyD programs. This finding is expected as PhD programs place more emphasis on research as compared to PsyD programs, as discussed previously. Similar to previous research (Lambie & Vaccaro, 2011) there was not significant correlation between age and research self-efficacy.

Counseling Self-Efficacy

Counseling self-efficacy was not significantly related to knowledge or attitudes towards EBPP. This may be influenced by the fact that students may not have thought

about EBPP in terms of counseling self-efficacy as much as research self-efficacy. Previous research shows that more training was related to higher counseling self-efficacy (Sips, 1988; Kozina, et al., 2010). Lent and colleagues (2003) found similar results as length of training and experience were significant predictors of counseling self-efficacy. In the current study, number of classes did not have an impact on self-reported counseling self-efficacy. Given that all of the participant in this study were on internship, the training level was very similar. It may be that length of training (being father along in the program) is more important than classes in terms of counseling self-efficacy.

The results of the current study show that there was no relationship between counseling self-efficacy and degree type, theoretical orientation, specialization, or accreditation. This finding is consistent with previous research showing that there were no differences in counseling self-efficacy among different theoretical orientations (Larson et al., 1992).

Previous research has shown that counseling self-efficacy contributed significantly to the variance in multicultural counseling competence (Melchert, et al., 1996). This study further supports that finding as counseling self-efficacy was significantly and positively correlated with multicultural counseling self-efficacy. Further discussion on multicultural counseling self-efficacy is discussed next.

Multicultural Counseling Self-Efficacy

As previously mentioned multicultural counseling self-efficacy was significantly and positively correlated with research self-efficacy and counseling self-efficacy. The finding that multicultural counseling self-efficacy is significantly and positively correlated with counseling self-efficacy is supported in previous research as well (Sheu &

Lent, 2007). The aforementioned study also found that individuals farther along in the program reported higher multicultural counseling self-efficacy and those from counseling psychology programs scored higher than individuals from other counseling related areas. In the current study there was no significant relationship between specialization and multicultural counseling self-efficacy. Years in training were found to be significant in predicting multicultural counseling self-efficacy in another study as well (Barden & Greene, 2015). Number of classes related to multicultural counseling self-efficacy were found to be correlated with higher counseling self-efficacy (Constantine, 2001). However, in the current study, number of classes on EBPP did not correlate with multicultural counseling self-efficacy. It is not surprising that multicultural counseling self-efficacy was not significantly correlated with knowledge of EBPP definition or attitudes toward EBPP as majority of the participants did not cite cultural factors as a component of EBPP.

Implications for Theory

Bandura's social cognitive theory incorporates the concept of self-efficacy which was explored in this study (Bandura, 1977). SCT theory suggests that self-efficacy determines engagement in certain tasks and actions. The social cognitive theory model itself explains behavior through interactions between environment, behaviors, and personal influences, including cognitions. An important component of the theory is that thoughts affect action. Self-efficacy is theorized to be one of the most central components influencing action and agency. Research on counseling, research, and multicultural counseling self-efficacy discussed previously supports this theory.

It was hypothesized that counseling self-efficacy and research self-efficacy would predict attitudes toward EBPP and mediate the relationship between training and attitudes. As mentioned previously, research self-efficacy significantly predicted two of the three subscales of attitudes toward EBPP. Moreover, classes predicted research self-efficacy scores. Therefore, these findings support the theory as higher self-efficacy predicted better attitudes. According to SCT, better attitudes predict agency and past research shows that positive attitudes have been linked to more engagement in EBPP. The hypothesis of counseling self-efficacy predicting attitudes toward EBPP and mediating the relationship between training and attitudes was not supported. This may be partially explained by student's conflating ESTs with EBPP as many only mentioned research as a component of the EBPP definition.

Implications for Research

The findings of this study have implications for future research. First, the concern of a lack of knowledge of what EBPP entails continues to persist today. Given the lack of knowledge of the EBPP definition across studies, future research should focus on possible training factors that may be contributing. A critical step in conducting future research on knowledge and understanding will be to create a measure that has evidence supporting its validity and reliability. Future research should focus on developing a questionnaire assessing both understanding of what EBPP entails and principles of incorporating it into practice. In order to be an effective clinician, it is important to not only have the knowledge of EBPP definition, but also have the ability and willingness to incorporate it into practice. Moreover, a scale comprising attitudes on all three

components of EBPP is needed, as the one utilized in this study neglects multicultural counseling components.

A qualitative study expanding on understanding of what EBPP entails among trainees would add to our current knowledge. Qualitative data on attitudes would also be helpful and it could serve as a starting point for developing a new measure of EBPP attitudes. A quantitative study creating a measure with support for validity and reliability that uses the EBPP definition for its construction would also add significantly to the field. A measure of knowledge of what EBPP entails and how to incorporate it into practice would advance the field as it would provide useful data and could be utilized among training programs in evaluating competencies. A study with more purposeful sampling of minoritized identities in terms of sexual orientation, gender, and race, may add further information on possible difference.

Implications for Practice

The findings of this research have implications for practice, more specifically for training programs. It appears that the field may still be working towards disseminating the policies outlined by the APA Presidential Task Force on Evidence-Based Practice (APA, 2006). Considering it is a slow process, the findings of this study are not surprising as the field continues to work towards incorporating the guidelines. Given that attitudes toward EBPP are important for agency, it is also important to teach what EBPP entails. Although students participating in this study appear to have positive attitudes towards EBPP, overall, their knowledge appears to be limited. As previously discussed, understanding and utilization of EBPP is an ethical matter and is required for accreditation by programs. As clinicians we are obligated to provide the best services to

our clients and to be competent in EBPP one must incorporate clinical expertise, best available evidence, and patient culture, characteristics, and preferences.

These findings also have implications for accreditation as EBPP is required in training and practice for APA accredited programs. Although most of these participants came from APA-accredited programs they appear to have a limited knowledge of what EBPP entails. Therefore, it appears that more (or better) training is needed on EBPP across the board. These findings may imply that trainees are conflating ESTs with EBPP and are therefore not practicing EBPP as it is intended. This may result in minimization of clinical judgment or multicultural components of counseling.

Limitations

The current study has some limitations. First, some of the variables were non-normally distributed and needed to be transformed. Additionally, the distribution for the EBPP knowledge score was extremely negatively skewed, and the transformation of that variable did not completely fix the distribution. The researcher created a rating rubric for the knowledge of EBPP question which appears to have a very high ceiling and did not account for a no response score. Moreover, more clarification was needed with the response criteria for the "research" component of the rubric as the majority of the mismatched ratings were related to participants implying research rather than stating what was outlined on the rubric. Although the highest possible score on the scale is a 16, the highest participant score was 12. Moreover, the mean score for the definition was 1.45 with a standard deviation of 1.48.

Most of the participants in the study came from APA-accredited programs, which made it difficult to assess whether there are meaningful differences in respect to

accreditation. This may have affected the results as these individuals may have more similar training experiences across degree types and specialization because APA accreditation requires consistent standards for all programs. Although the participants were randomly recruited through emails to training directors, it is possible that the participants who agreed to participate in the study had better attitudes toward EBPP in general. Data on the year of the program the individual is in was not collected and may have been a contributing factor in self-efficacy as past research has found length of training to be consistently significant. Moreover, number of classes on EBPP may have meant different things to different participants, and future research should have more specific guidelines on what qualifies as a class on EBPP. This may have impacted the results as participants may have either over or under estimated the number of their classes. Therefore, making it difficult to find true and meaningful results in regards to classes.

Conclusions

In summary, this study supports some previous findings and adds additional insight into the relationships between attitudes toward EBPP, self-efficacy, knowledge of EBPP, and the number of classes taken on EBPP. This study also adds additional insight into relationships between the related constructs. Some of the findings on the differences among certain factors were as hypothesized, and others were unanticipated. It is interesting that there were no differences in multicultural counseling self-efficacy as historically counseling psychology has advocated for multicultural training. There were no differences among different participants who were from an accredited program and those who were not, and this may be due to an uneven distribution. The fact that majority

of the participants came from an APA-accredited program may influence the results because they may have had similar training despite their specialization or degree type.

The mediational hypotheses were not supported, although the role of research self-efficacy was highlighted in the findings. Research self-efficacy appears to play a significant role in positive attitudes toward EBPP and it is also increased with more classes on EBPP. Research self-efficacy and not counseling self-efficacy or multicultural counseling self-efficacy predicting more positive attitudes may be indicative of conflation of ESTs with EBPP and warrants further exploration. This relationship is further brought into question given that the participants in this study, on average, had a low score of the EBPP definition and many of them only mentioned research.

This research highlights the importance of research self-efficacy in attitudes toward EBPP. This research has also explored training and personal differences that were largely ignored in previous research. For one, this study was the first to explore differences in counseling and clinical specialization on the related constructs. This study was also the first to incorporate the three self-efficacy scales and explore the relationships among them. Additionally, the research controlled for training level and included only participants on internship in order to explore additional relevant factors.

Moving forward it will be important to explore the lack of knowledge of EBPP and utilize updated measures with evidence supporting validity and reliability. It will also be important to further explore the role of multicultural counseling in attitudes toward EBPP as the current measure of EBPP neglects that component. Also it may be important to develop an updated measure of attitudes toward EBPP that gives equal weigh to all three components of EBPP as it may minimize the conflation of EBPP and ESTs.

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APPENDICES

APPENDIX A

Demographics Data

How old are you?
What is your gender identity? o Woman o Man o Transgender Woman o Transgender Man o Gender Identity not listed o Please Specify
How do you identify your sexual orientation? o Heterosexual o Gay or Lesbian o Bisexual o Other (Please Specify)
Would you describe yourself as…? o American Indian/Native American o Asian/Asian American o Black/African American o Hispanic/Latino/a o Pacific Islander o White/Caucasian o Biracial or Multiracial o Other (Please Specify)
What area do you specialize in? o Counseling Psychology o Clinical Psychology o Other, Please Specify
Does your internship program hold any of these accreditations? o APA Accredited o CPA Accredited o PCSAS Accredited o None

What is your primary theoretical orientation?

- Cognitive Behavioral (CBT)
- Psychodynamic
- Humanistic
- Existential
- Integrative
- Family Systems
- Other (please specify)

How would you categorize your internship setting?

- Academic Health Center
- Armed Forced Medical Center
- Child/Adolescent Psychiatric or Pediatric
- Community Health Center
- Community Mental Health Center
- Consortium
- Medical School
- Prison or other correctional facility
- Private General Hospital
- Private Outpatient Clinic
- Private Psychiatric Hospital
- Psychology Department
- School District
- State/County/Other Public Hospital
- University Counseling Center
- Veterans Affairs Medical Center
- Other (Please specify)

Are you working towards a…?

- Ph.D.
- Psy.D.
- Other (Specify)

How many classes on Evidence-based Practice have you completed in your doctoral program?

APPENDIX B

Knowledge of EBPP Definition

In the box below Without referencing outside materials, please provide a complete definition of Evidence-Based Practice in Psychology based on your current knowledge.

Knowledge of EBPP Definition Scoring Rubric

	0	1	2	3	4
Best Available Research	No Mention of Research	Uses statements research, ESTs, or treatment manuals	States "best available research"	States best available research and makes mention of efficacy and effectiveness	Discusses and elaborates on best available research by discussing the research hierarchy ranging from meta analyses to clinical observations
Clinical Expertise	No Mention of Clinical Expertise	Uses statements therapist experience, relationships, common factors	States "clinical expertise"	State clinical expertise and that it is developed through both clinical and scientific training	Discusses clinical expertise and what it entails: elaborates on assessment, diagnosis, treatment planning, self-reflection, and other components related the therapist and relationship variables

Patient Characteristics Culture and Preferences	No mention of any of the three	Mentions one of the three – patient characteristics, culture, or preferences	Mentions two of the three – patient characteristics, culture, or preferences	States all three – patient (client) characteristics, culture, and preferences	Specifically uses the word In CONTEXT of patient (client) Characteristics culture and preferences.
Integration	No mention of integration	Uses the word INTEGRATE while mentioning 2 of the following (1. research, 2. Clinical expertise, 3. Patient characteristics, culture, or preferences)	Uses the word INTEGRATE while mentioning 3 of the following (1. Research, 2. Clinical expertise, 3. Patient characteristics, culture, or preferences)	Uses the word INTEGRATE while mentioning 4 following (1. Research, 2. Clinical expertise, 3. Patient characteristics, culture, or preferences)	Uses the word INTEGRATE while mentioning all of the following (1. Research, 2. Clinical expertise, 3. Patient characteristics, culture, or preferences)

APPENDIX C

Evidence-based Practice Attitude Scale- 50

Fill in the circle indicating the extent to which you agree with each item using the following scale:
0 - Not at All 1- To a Slight Extent 2- To a Moderate Extent 3- To a Great Extent 4- To a Very Great Extent
The following questions ask about your feelings about using new types of therapy, interventions, or treatments. Manualized therapy refers to any intervention that has specific guidelines and/or components that are outlined in a manual and/or that are to be followed in a structured/predetermined way.
1. I like to use new types of therapy/interventions to help my clients.
2. I am willing to try new types of therapy/interventions even if I have to follow a treatment manual.
3. I know better than academic researchers how to care for my clients.
4. I am willing to use new and different types of therapy/interventions developed by researchers.
5. Research based treatments/interventions are not clinically useful.
6. Clinical experience is more important than using manualized therapy/treatment.
7. I would not use manualized therapy/interventions.
8. I would try a new therapy/intervention even if it were very different from what I am used to doing.
For questions 9-15: If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if:
9. it was intuitively appealing?
10. it "made sense" to you?
11. it was required by your supervisor?
12. it was required by your agency?
13. it was required by your state?
14. it was being used by colleagues who were happy with it?
15. you felt you had enough training to use it correctly?
For questions 16-50 fill in the circle indicating the extent to which you agree with each item using the scale ranging from 0-4.
16. EBP detracts from truly connecting with your clients
17. EBP makes it harder to develop a strong working alliance
18. EBP is too simplistic
19. EBP is not useful for clients with multiple problems
20. EBP is not useful for families with multiple problems
21. EBP is not individualized treatment
22. EBP is too narrowly focused
23. I would adopt an EBP if my clients wanted it

24. I would adopt an EBP if I knew more about how my clients liked it
25. I would adopt an EBP if I knew it was right for my clients
26. I would adopt an EBP if I had a say in which EBPP was used
27. I would adopt an EBP if I had a say in how I would use the EBPP
28. I would adopt an EBP if it fit with my clinical approach
29. I would adopt an EBP if it fit with my treatment philosophy
30. I prefer to work on my own without oversight
31. I do not want anyone looking over my shoulder while I provide services
32. My work does not need to be monitored
33. I do not need to be monitored
34. I am satisfied with my skills as a therapist/case manager
35. A positive outcome in therapy is an art more than a science
36. Therapy is both an art and a science
37. My competence as a therapist is more important than a particular approach
38. I don't have time to learn anything new
39. I can't meet my other obligations
40. I don't know how to fit EBP into my administrative work
41. EBPP will cause too much paperwork
42. Learning an EBP will help me keep my job
43. Learning an EBP will help me get a new job
44. Learning an EBP will make it easier to find work
45. I would learn an EBP if continuing education credits were provided
46. I would learn an EBP if training were provided
47. I would learn an EBP if ongoing support was provided
48. I enjoy getting feedback on my job performance
49. Getting feedback helps me to be a better therapist/case manager
50. Getting supervision helps me to be a better therapist/case manager
Subscales and Scoring; Requirements: 11,12,13 Appeal: 9,10,14,15 Openness: 1,2,4,8 Divergence: 3,5,6,7 (Reverse Scored) Limitations: 16-22 (Reverse Scored) Fit: 23-29 Monitoring: 30-33 (Reverse Scored) Balance: 34-37 (35 and 37 Reverse scored) Burden: 38-41 (Reverse scored) Job Security: (42-44) Organizational Support:(45-47) Feedback: (48-50)

APPENDIX D

Counselor Activity Self-Efficacy Scales

General Instructions: The following questionnaire consists of three parts. Each part asks about your beliefs about your ability to perform various counselor behaviors or to deal with particular issues in counseling. We are looking for your honest, candid responses that reflect your beliefs about your current capabilities, rather than how you would like to be seen or how you might look in the future. There are no right or wrong answers to the following questions. Please circle the number that best reflects your response to each questions

Part I. Please indicate how confident you are in your ability to use each of the following helping skills effectively, over the next week, in counseling **most** clients.

How confident are you that you could use these general skills effectively with most clients over the next week? **No confidence at all** — **Some Confidence** — **Complete Confidence** 0 1 2 3 4 5 6 7 8 9
1. **Attending** (orient yourself physically toward the client).
2. **Listening** (capture and understand the messages that clients communicate).
3. **Restatements** (repeat or rephrase what the client has said, in a way that is succinct, concrete, and clear).
4. **Open questions** (ask questions that help clients to clarify or explore their thoughts or feelings).
5. **Reflection of feelings** (repeat or rephrase the client's statements with an emphasis on his or her feelings).
6. **Self-disclosure for exploration** (reveal personal information about your history, credentials, or feelings).
7. **Intentional silence** (use silence to allow clients to get in touch with their thoughts or feelings).
8. **Challenges** (point out discrepancies, contradictions, defenses, or irrational beliefs of which the client is unaware or that he or she is unwilling or unable to change).
9. **Interpretations** (make statements that go beyond what the client has overtly stated and that give the client a new way of seeing his or her behavior, thoughts, or feelings).
10. **Self-disclosures for insight** (disclose past experiences in which you gained some personal insight).

11. **Immediacy** (disclose immediate feelings you have about the client, the therapeutic relationship, or yourself in relation to the client).
12. **Information-giving** (teach or provide the client with data, opinions, facts, resources, or answers to questions).
13. **Direct guidance** (give the client suggestions. directives, or advice that imply actions for the client to take).
14. **Role play and behavior rehearsal (**assist the client to role-play or rehearse behaviors in-session).
15. **Homework** (develop and prescribe therapeutic assignments for clients to try out between sessions).

Part II. Please indicate how confident you are in your ability to use each of the following tasks effectively, over the next week, in counseling **most** clients.

How confident are you that you could do these specific tasks effectively with most clients over the next week? **No confidence at all** **Some Confidence** **Complete Confidence** 0 1 2 3 4 5 6 7 8 9
1. Keep sessions "on track" and focused.
2. Respond with the best helping skill, depending on what your client needs at a given moment.
3. Help your client to explore his or her thoughts, feelings, and actions.
4. Help your client to talk about his or her concerns at a "deep" level.
5. Know what to do or say next after your client talks.
6. Help your client to set realistic counseling goals.
7. Help your client to understand his or her thoughts, feelings, and actions.
8. Build a clear conceptualization of your client and his or her counseling issues.
9. Remain aware of your intentions (i.e., the purposes of your interventions) during sessions.
10. Help your client to decide what actions to take regarding his or her problems).

Part III. Please indicate how confident you are in your ability to work effectively, over the next week, with each of the following client types, issues, or scenarios. (By "work effectively," we are referring to your ability to develop successful treatment plans, to come up with polished in-session responses, to maintain your poise during difficult interactions and, ultimately, to help the client to resolve his or her issues).

How confident are you that you could work effectively over the next week with a client who…. **No confidence** **Some** **Complete**

at all **Confidence** **Confidence** 0 1 2 3 4 5 6 7 8 9
1. . . . is clinically depressed.
2. ... has been sexually abused.
3. ... is suicidal.
4. ... has experienced a recent traumatic life event (e.g., physical or psychological injury or abuse).
5. ... is extremely anxious.
6. ... shows signs of severely disturbed thinking.
7. ... you find sexually attractive.
8. ... is dealing with issues that you personally find difficult to handle.
9. ... has core values or beliefs that conflict with your own (e.g., regarding religion, gender roles).
10. ... differs from you in a major way or ways (e.g., race, ethnicity, gender, age, social class).
11. ... is not "psychologically-minded" or introspective.
12. ... is sexually attracted to you.
13. . .. you have negative reactions toward (e.g., boredom, annoyance).
14. ... is at an impasse in therapy.
15. ... wants more from you than you are willing to give (e.g., in terms of frequency of contacts or problem-solving prescriptions).
16. ... demonstrates manipulative behaviors in session.

APPENDIX E

Self-Efficacy in Research Measure (SERM)

The following items are tasks related to research. Please indicate your degree of confidence in your ability to successfully accomplish each of the following tasks on a scale of 0 - 9 with 0 representing no confidence and 9 representing total confidence.
1. Selecting a suitable topic for study
2. Knowing which statistics to use
3. Getting an adequate number of subjects
4. Writing a research presentation for a conference
5. Writing the method and results section for a research paper for publication
6. Manipulating data to get it onto a computer system
7. Writing a discussion section for a thesis or dissertation
8. Keeping records during a research project
9. Collecting data
10. Designing an experiment using non-traditional methods (e.g., ethnographic, cybernetic, phenomenological approaches)
11. Designing an experiment using traditional methods (e.g., experimental, quasi-experimental designs)
12. Making time for research
13. Writing the introduction and literature review for a dissertation
14. Reviewing the literature in an area of research interest
15. Writing the introduction and discussion sections for a research paper for publication
16. Contacting researchers currently working in an area of research interest
17. Avoiding the violation of statistical assumptions
18. Writing the method and results sections of a dissertation
19. Using simple statistics (e.g., t-test, ANOVA, correlation, etc.)
20. Writing the introduction and literature review for a thesis
21. Controlling for threats to validity
22. Formulating hypotheses
23. Writing the method and results sections of a thesis
24. Utilizing resources for needed help
25. Understanding computer printouts
26. Defending a thesis or dissertation
27. Using multivariate statistics (e.g., multiple regression, factor analysis, etc.)
28. Using statistical packages (e.g., SPSS-X, SAS, etc.)
29. Selecting a sample of subjects from a given population
30. Selecting reliable and valid instruments
31. Writing statistical computer programs
32. Getting money to help pay for research
33. Operationalizing variables of interest

Scoring:
Sum items within each subscale for subscale scores, or sum all 33 items for a total score.
Research Design Skills = 1, 10, 11, 21, 22, 29, 30, 33
Practical Research Skills = 3, 8, 9, 12, 16, 24, 26, 32
Quantitative and Computer Skills = 2, 6, 17, 19, 25, 27, 28, 31
Writing Skills = 4, 5, 7, 13, 14, 15, 18, 20, 23

APPENDIX F

Multicultural Counseling Self-Efficacy Scale – Racial Diversity Form (MCSE-RD)

Instructions: The following questionnaire consists of items asking about your perceived ability to perform different counselor behaviors in individual counseling with clients who are racially different from you. Using the 0-9 scale, 0 being no confidence at all, 5 being some confidence, and 9 being complete confidence, please indicate how much confidence you have in your ability to do each of these activities at the present time, rather than how you might perform in the future. Please circle the number that best reflects your response to each item.
When working with a client who is racially different form yourself, how confident are you that you could do the following tasks effectively over the next week?
1. Remain flexible and accepting in resolving cross-cultural strains or impasses.
2. Manage your own racially or culturally based countertransference toward the client (e.g., overidentification with the client because of his or her race).
3. Help the client to clarify how cultural factors (e.g., racism, acculturation, racial identity) may relate to her or his maladaptive beliefs and conflicted feelings.
4. Admit and accept responsibility when you, as the counselor, have initiated the cross-cultural impasse.
5. Encourage the client to express his or her negative feelings resulting from cross-cultural misunderstanding or impasses.
6. Assess the salience and meaningfulness of culture/race in the client's life.
7. Resolve misunderstanding with the client that stems from differences in culturally based style of communication (e.g., acquiescence versus confrontation).
8. Help the client to identify how cultural factors (e.g., racism, acculturation, racial identity) may relate to his or her maladaptive relational patterns.
9. Take into account multicultural constructs (e.g., acculturation, racial identity) when conceptualizing the client's presenting problems.
10. Manage your own anxiety due to cross-cultural impasses that arise in the session.
11. Respond in a therapeutic way when the client challenges your multicultural counseling competency.
12. Assess relevant cultural factors (e.g., the client's acculturation level, racial identity, cultural values and beliefs).
13. Help the client to set counseling goals that take into account expectations from her or his family.
14. Openly discuss cultural differences and similarities between the client and yourself.
15. Address issues of cultural mistrust in ways that can improve the therapeutic relationship.

16. Help the client to develop culturally appropriate ways to deal with systems (e.g., school, community) that affect him or her.
17. Help the client to develop new and more adaptive behaviors that are consistent with his or her cultural background.
18. Repair cross-cultural impasses that arise due to problems in the use or timing of particular skills (e.g., introduce the topic of race into therapy when the client is not ready to discuss).
19. Help the client to utilize family/community resources to reach her or his goals.
20. Deal with power-related disparities (i.e., counselor power versus client powerlessness) with a client who has experienced racism or discrimination.
21. Take into account cultural explanations of the client's presenting issues in case conceptualization.
22. Where appropriate, help the client to explore racism or discrimination in relation to his or her presenting issues.
23. Take into account the impact that family may have on the client in case conceptualization.
24. Deliver treatment to a client who prefers a different counseling style (i.e., directive versus non-directive).
25. Treat culture-bound syndromes (DSM-IV) for racially diverse clients (e.g., brain fag, neurasthenia, nervios, ghost sickness).
26. Assess culture-bound syndromes (DSM-IV) for racially diverse clients (e.g., brain fag, neurasthenia, nervios, ghost sickness).
27. Interpret standardized tests (e.g., MMPI-2, Strong Interest Inventory) in ways sensitive to cultural differences.
28. Select culturally appropriate assessment tools according to the client's cultural background.
29. Use non-standardized methods or procedures (e.g., card sort, guided fantasy) to assess the client's concerns in a culturally sensitive way.
30. Conduct a mental status examination in a culturally sensitive way.
31. Encourage the client to take an active role in counseling.
32. Evaluate counseling progress in an on-going fashion.
33. Respond effectively to the client's feelings related to termination (e.g., sadness, feeling of loss, pride, relief).
34. Keep sessions on track and focused with a client who is not familiar with the counseling process.
35. Assess the client's readiness for termination.
36. Help the client to articulate what she or he has learned from counseling during the termination process.
37. Identify and integrate the client's culturally specific way of saying good- bye in the termination process.

Total Scoring: Average all 37 items
1-24 Multicultural Counseling
25-30 Assessment
31-37 Multicultural Counseling Session Management
Higher scores = higher self-efficacy.