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Evidence-Based Practices and Self-Efficacy: A Quantitative Study of Mental Health Counselors Treating Clients With Substance Use Disorder

by

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Dissertation submitted in partial fulfillment

of the requirements for the degree of

Doctor of Education

in

Counseling Psychology

National Louis University
June 2023

"Teachout" Doctoral Programs

Dissertation Final Editing Completion Form

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TITLE OF DISSERTATION STUDY

Evidence-Based Practices and Self-Efficacy: A Quantitative Study of Mental Health Counselors Treating Clients with Substance Use Disorder

FINAL EDITING COMPLETED

Amy McGlothlin 7/21/23

Signature of University Approved Editor

FINAL DEFENSE

06/13/2023

Date of Final Defense

Martin Wesley Digitally signed by Martin Wesley
Date: 2023.07.24 13:06:46 -04'00'

Signature of Chair

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By

Carl Bastien

ABSTRACT

Substance use disorder affects a substantial number of individuals in the United States. The specific problem of this research is that it was not known to what extent their use of evidence-based practices is driven by their sense of self-efficacy. The purpose of this quantitative correlational research was to examine to what extent the use of evidence-based practices covary with a sense of self-efficacy for mental health counselors treating individuals diagnosed with a substance use disorder. The study population was 121 mental health counselors who specialized in substance use disorder treatment who completed a digital survey. The study findings did not support the existence of a simple regressive relationship between the use of evidence-based practices and self-efficacy, $R^2 = 0.01$, sig = 0.33. The multiple regression model illustrated the personal characteristics of counselors to be statistically significant at $p < 0.05$ and where 4.9% of self-efficacy among counselors was explained by evidence-based practices, gender, and age as predictors, F (3,114) = 3.00, sig = 0.03. The study findings demonstrate the importance of considering the role of evidence-based practices in supporting the self-efficacy of counselors. Future research is needed to develop a holistic understanding of the relationship between evidence-based practice and self-efficacy among counselors.

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CHAPTER 1—INTRODUCTION

Substance use disorder (SUD) is a challenging condition experienced by many individuals living in the United States. In 2018, 11.7% of individuals 12 years of age and older were found to be users of any illicit drug, and 2% were found to misuse psychotherapeutic drugs (Centers for Disease Control and Prevention, 2022). In addition, 24.5% of individuals 12 years of age and older engaged in in binge alcohol use (Centers for Disease Control and Prevention, 2022). These findings demonstrate the frequency of SUD, which, in turn, supports the importance of mental health counselors being able to identify and implement effective treatment practices for these individuals. Prior research supported the use of evidence-based treatment as a response to psychological issues (Cook et al., 2017). As SUD remains a critical psychological issue, it is critical that research focused on the role of mental health counselors in treating SUD be completed.

Statement of the Problem

The use of evidence-based practices (EBPs) in psychology is critical in the successful treatment of individuals requiring psychological assistance (Hogue et al., 2018; Magill et al., 2019). The use of evidence-based treatment in psychotherapy has been found to be responsible for reducing the cost and increasing the effectiveness of treatment for individuals experiencing a wide range of conditions (Cook et al., 2017). Prior research demonstrated that self-efficacy is associated with EBPs; however, failure to use EBPs may decrease effective care for clients (Farrell et al., 2018). However, there is a gap in the body of quantitative research validating the clinical application of EBPs to treat SUD with a specific focus on the role of self-efficacy (Bennett-Levy, 2019; Hogue et al., 2018; Magill et al., 2019). Though prior research supports EBPs as effective and

less costly than practices lacking supporting evidence, there is a lack of evidence supporting the existence of a significant, positive relationship between the use of EBPs and self-efficacy. Hence, the specific problem explored within this quantitative, correlational research is that it is not known to what extent the use of EBPs covaries with sense of self-efficacy among mental health counselors treating individuals diagnosed with SUD.

Purpose of the Study

The purpose of this quantitative, correlational research was to examine the extent to which the use of EBPs covaries with sense of self-efficacy among mental health counselors treating individuals diagnosed with SUD. EBPs are often used in cases where substance misuse is present (Hogue et al., 2018). Prior research has shown several EBPs used to address SUD are complex and require multi-part approaches to be efficacious (Magill et al., 2019). Magill et al. (2019) and Hogue et al. (2018) argued for research to explore how therapists' personal qualities may influence their ability to effectively apply EBPs. Furthermore, Magill et al. (2019) and Hogue et al. (2018) recommended the exploration within the current study of whether the use of EBPs predicts self-efficacy. The independent, predicting variables in this study were the use of EBPs, the biological sex of the participants, and the generation cohort of the participants. The dependent, criterion variable in this study was self-efficacy. The general population under examination in this study was mental health counselors, and specifically those specializing in SUD treatment. The population was sampled using a voluntary response sampling approach and collected data were examined using a multiple regression data model. A priori power analysis through G*Power version 3.1.9.6 software determined a

sample of at least 119 mental health counselors was needed. The study has the potential for positive social impact by assessing the methods that may improve mental health counselors' ability to treat SUD.

Research Question

Research Question: To what extent does the use of EBPs covary with sense of self-efficacy among mental health counselors treating individuals diagnosed with SUD?

Alternative Hypothesis: There will be a statistically significant relationship between self-efficacy and the use of EBPs.

Null Hypothesis: There will not be a statistically significant relationship between self-efficacy and the use of EBPs.

Definitions

Evidence-based practice: Problem-solving approach to practice that involves using evidence from high-quality research (Davey, 2021).

Mental health counselor: A category of healthcare worker who specializes in treating behavioral disorders, including, but not limited to, SUD, including medical doctors, psychologists, psychiatrists, behavioral therapists, mental health counselors, and social workers (Salzer, 2010).

Self-efficacy: The belief of an individual about their capacity to execute behaviors for specific performance attainments (Bandura, 1977).

Substance use disorder: Repeated misuse of drugs or alcohol that results in health issues or problems at school or work (Davey, 2021).

Substance use psychology: The study and treatment of substance misuse as either a choice or as a disease (Davey, 2021).

Summary

Chapter 1 included a description of the problem and the purpose of the current study. The problem under investigation is that it is not known to what extent the use of EBPs covaries with sense of self-efficacy among mental health counselors treating individuals diagnosed with SUD. The introduction provided the foundation for exploring how the use of EBPs supports the self-efficacy of mental health counselors. The chapter included an introduction to the research question, as well as its alternative and null hypotheses. The study involved testing whether there is both a significant and positive relationship between the use of EBPs and self-efficacy.

CHAPTER 2—LITERATURE REVIEW

SUD affects a significant portion of the population of the United States (Hogue et al., 2018; Magill et al., 2019; Scales et al., 2018). Clients who experience SUD may face adverse outcomes, such as poor mental health, failing physical ailments, and death if untreated (Hu et al., 2015; Pei-Boon et al., 2020). Mental health counselors who treat individuals diagnosed with SUD serve as critical mediators to ensure clients are provided appropriate treatment through the use of EBPs.

The use of EBPs for treating SUD clients gained significant attention during the past decade (Hu et al., 2015; Pei-Boon et al., 2020). Researchers have indicated EBPs are commonly employed for a variety of ailments, both mental and physical (Hogue et al., 2018; Magill et al., 2019; Scales et al., 2018). Yet, a need remains for an improved understanding of EBPs that are specific to mental health counselors' application and resultant efficacy in terms of outcomes for clients who are diagnosed with SUD.

There is a gap in quantitative research that validates the clinical application of EBPs for different types of SUD with a specific focus on the role of self-efficacy (Bennett-Levy, 2019; Hogue et al., 2018; Magill et al., 2019). The critical gap in the literature relates to the lack of understanding and application of EBPs used by mental health counselors when treating clients with SUD and when reviewing EBPs. Though mental health counselors have indicated that EBPs are effective for clients, there is a need for data regarding training, application, and implementation (Bennett-Levy, 2019; Hogue et al., 2018; Magill et al., 2019; Scales et al., 2018).

Quantitative research would increase the understanding of EBPs and their relationships to self-efficacy, which may influence the positive outcomes of differing

treatment modalities (Bennett-Levy, 2019; Hogue et al., 2018; Magill et al., 2019). The current study was designed to address this gap in the literature by exploring to what extent the use of EBPs covaries with sense of self-efficacy among mental health counselors treating SUD. This chapter presents a thorough examination of the empirical literature aligned with SUD, EBPs, and self-efficacy.

Chapter Organization

The first section presents the theoretical foundation with a focus on innovation diffusion theory and self-efficacy theory. The next section of the literature review explores EBPs used by mental health counselors. A brief definition is provided of EBPs, followed by a review of current methods employed by mental health counselors. Next, self-efficacy and EBPs among mental health counselors for treating SUD are reviewed. this section, topics regarding self-efficacy among psychology students, mental health counselors' internal barriers to self-efficacy, and recommendations for research are presented. A summary is provided at the end of the chapter with an overview of prominent topics and the gap in the reviewed literature that the current study was designed to address.

Search Strategy

The search strategy for this review of literature consisted of examining the following databases: PubMed EBSCOhost, Web of Science, and ERIC. To locate sources in these databases, the following keywords were examined: *self-efficacy theory*, *diffusion innovation theory*, *self-efficacy AND mental health counselors*, *self-efficacy AND evidence-based practices*, *evidence-based practices AND substance use disorder*, *mental health counselors AND substance use disorder treatment AND self-efficacy of mental*

health counselors, *mental health counselors AND self-efficacy*, *self-efficacy AND evidence-based treatment for substance use disorder*.

A thorough review of the literature identified primarily sources from the past 5 years (i.e., 2018–2022). Only 5% of references were derived prior to 2018 for the purpose of reviewing the historical foundation of the literature review and the theoretical foundation. The resources included in this review of literature are primarily full-text and empirical research published in peer-reviewed literature. Dissertations and master's theses are not included in this review of the literature.

Theoretical Framework

In this section, the guiding theoretical frameworks, the innovation diffusion theory (Rogers, 2003) and self-efficacy theory (Bandura, 1977), are presented. First, the innovation diffusion theory is discussed. The next section reviews the self-efficacy theory. The concluding section reflects the application of these two theories in terms of the current study.

Innovation Diffusion Theory

The first theoretical framework used to guide this study was the innovation diffusion theory, created by Rogers in 2003. The innovation diffusion theory is guided by five key components: innovation, the adopter, the social system, the individual adoption process, and the diffusion system (Rogers, 2003). *Innovation* refers to attributes of a specific system, a procedure, or, in terms of the current study, evidence-based procedures. The second component is the *adopter*, which is the individual who will apply the specific system. The adopter must also have a degree of innovativeness as a means of ensuring the application of the technique or model is effective for the designed purpose (Rogers,

2003). The term *social system* refers to the structure of the system itself. This may include opinion leaders as well as social adoption to adopt the system (Rogers, 2003). In terms of evidence-based procedures, this can be conceptualized as researchers, clinicians, or clients who allow themselves to demonstrate evidence regarding the efficacy of the evidence-based approach. The *individual adoption process* is considered to be a state-ordered model, in which the factors of persuasion, implementation, continuation, and decision play a role in how this procedure is adopted (Rogers, 2003). The final component is the *diffusion system*, which refers to the ability of the system to be effectively implemented while factors such as opinion leaders, paraprofessionals, and innovation champions also guide change, adoption, and implementation of the model (Rogers, 2003).

According to Rogers (2003), the innovation diffusion theory provides a framework for understanding how change occurs through innovative practices that ideally provide evidence-based interventions to address at-risk populations. Diffusion occurs as new information is required to address social problems specific to various populations or problems (Rogers, 2003). New information can lead to innovation by researchers, clinicians, and changemakers who desire to gather evidence specific to the issue and to create effective change (Rogers, 2003). Social pressure is another critical factor that may increase innovation and therefore lead to further diffusion (Rogers, 2003). It is critical to consider adopters, who are also in themselves innovators within this framework. Adopters can be the additional individuals who create EBPs and conduct further research. Adopters, such as in the case of the current study, may also include mental health

counselors who treat clients with SUD, as they are most likely to adopt the system to seek effective change among at-risk populations.

Self-Efficacy Theory

The second theoretical framework used in this study was the self-efficacy theory, developed by Bandura in 1977. Self-efficacy theory was applicable to the current study as it is frequently employed for the purpose of understanding EBPs as employed by professionals across the fields of psychiatry and psychology. The self-efficacy theory indicates individuals' own actions ultimately create change and allow for accomplishing specific goals and objectives (Bandura, 1977). According to Bandura (1977), each person can improve their capabilities to accomplish a task based on the beliefs they hold regarding their own capabilities. Thus, self-efficacy is an individual's own perception of their ability to attain a goal (Bandura, 1977).

Bandura (1977) proposed four tenets of self-efficacy theory: mastery experiences, vicarious experiences, social persuasion, and emotional states. *Mastery experiences* are the individual's own experiences in terms of information gain, training, and education (Bandura, 1977). An individual's ability to prove mastery over their skill is more likely to predict their performance in future challenges or reaching specific goals and objectives. The second term, *vicarious experiences*, is founded on the idea that individuals who see others complete tasks successfully are more likely to also complete the tasks successfully in the future. Vicarious experiences can be obtained through social role models such as coworkers, coaches, and other clinicians (Bandura, 1977). The third term, *social persuasion*, refers to the ability to receive verbal feedback, support, and resources to ensure an individual employee achieves a specific goal. Social persuasion is important

regardless of age or skill and can effectively motivate individuals to complete tasks. Finally, *emotional states* refer to the individual's well-being. Individuals who struggle with mental or physical ailments are less likely to have high self-efficacy and may not be able to complete tasks effectively (Bandura, 1977).

A central construct of self-efficacy is that behavior, knowledge, attitude, and training can combine to ensure an individual can accomplish a goal (Bandura, 1977). Individuals with high self-efficacy may accomplish tasks more effectively and are more willing to take on challenges to reach their own objectives. However, individuals with low-self efficacy are less likely to take risks and achieve their own goals and desires (Bandura, 1977). Individuals who lack support, training, and proper knowledge of a concept may experience low self-efficacy and fail to meet the desired objectives. Bandura (1977) argued that individuals who are supported with proper resources, are trained effectively, and who hold a high perception of their own self-efficacy are most likely to succeed at desired tasks.

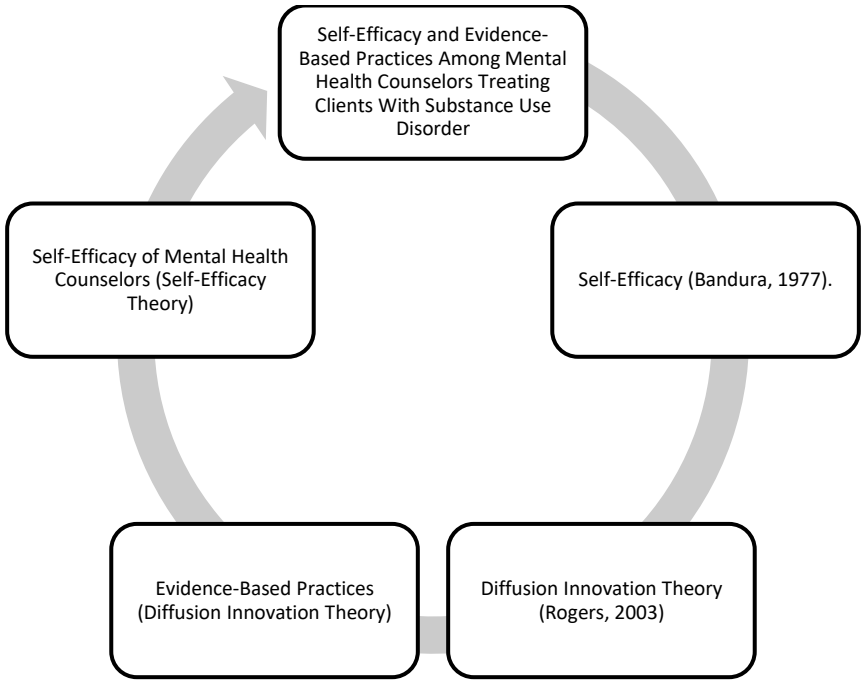
Application of Theories to the Current Study

The diffusion innovation theory (Rogers, 2003) has been applied previously specifically within medical fields as well as psychology. Diffusion, though not a new framework, provides a unique understanding of how innovation can be created, adapted, or impeded based on various internal and external factors. Specifically, the attributes of EBPs can be critical to understanding the adoption and diffusion of each procedure. In the current study, diffusion innovation theory was applied specific to understanding how EBPs are applied and implemented effectively for the purpose of working with SUD populations.

Self-efficacy theory (Bandura, 1977) guided the exploration of the self-efficacy of counselors who treat individuals with SUD through the application of EBPs. Self-efficacy theory has been applied in previous settings for understanding how EBPs are employed by professionals within the field of psychology and other related medical fields (Farrell et al., 2018). In the current study, self-efficacy theory aided in the interpretation of mental health counselors' self-efficacy with using EBPs for SUD. Figure 1 demonstrates the application of these theories in the current study.

Figure 1

Theoretical Framework for the Study



Note. Created for this study based on Bandura's (1977) and Rogers's (2003) constructs of self-efficacy theory and diffusion innovation theory.

Diffusion innovation theory grounded the understanding of the application of EBPs for SUD and self-efficacy theory provided a foundation for understanding the findings related to mental health counselors' treatment methods for individuals diagnosed

with SUD. Additionally, the theories framed the study regarding sense of self-efficacy and the application of EBPs by mental health counselors in the treatment of clients with SUD. In the following section, the review of literature is initiated with a focus on EBPs used among mental health counselors treating clients with SUD.

Evidence-Based Practices Used by Mental Health Counselors Treating Clients With Substance Use Disorder

This section presents some of the commonly used EBPs by professionals who treat clients with SUD and for treating mental health-related issues. The aim of the first section is to supply a brief definition of EBPs and emphasize the importance of understanding their application by mental health counselors treating clients with SUD. The second section focuses more closely on EBPs specific to SUD.

Definition of EBPs

According to the American Psychological Association (APA, 2021), the EBPs used in the field of psychology follow the best available research specific to client characteristics, preferences, and culture. EBPs were originally adopted in 2001 and grew in understanding of terms and clinical application, client characteristics, and best research evidence (APA, 2021). EBP is a general term that includes different approaches, treatments, and client-specific strategies to improve outcomes for differing psychological distress and improving training (Bennett-Levy, 2019).

EBPs vary but are often used as a means of improving clients' behavioral and psychological symptoms based on prior clinical research (Back et al., 2019; Jemberie et al., 2020; Scales et al., 2018). Scales et al. (2018) examined the EBPs employed for addressing adverse behavioral and psychological symptoms among clients. They also

examined the research approaches used as a means of improving the behavioral outcomes of clients experiencing dementia and found that EBPs frequently include sensory approaches (e.g., aromatherapy, massage), light therapy, and structured protocols such as bathing and mouth care that show positive outcomes but are not founded on statistical demonstration of efficacy in large-population studies. Jemberie et al. (2020) and Back et al. (2019) also noted the current EBPs used for psychological treatment require additional statistical evidence for adoption by all professionals who treat individuals for SUD. As a result, researchers such as Scales et al. (2018), Jemberie et al. (2020), and Back et al. (2019) argued that it is imperative to understand how EBPs are employed and adopted by professionals.

A variety of EBPs are used by mental health counselors across the United States (Bennett-Levy, 2019). Bennett-Levy (2019) examined the current understanding of EBPs among mental health counselors in the United States with a focus on EBPs recommended for therapist training and professional development. According to Bennett-Levy, arguments against current practices are evident in clinical literature, such as the need to understand the personal qualities of therapists and the role these qualities play in client outcomes. Similar to Bennett-Levy (2019), Magill et al. (2019) and Hogue et al. (2018) argued for research to explore how therapists' personal qualities may influence their ability to effectively apply EBPs, which the current study was designed to address through a renewed understanding regarding mental health counselors' self-efficacy as influenced by using EBPs for SUD.

There are some challenges related to EBPs, such as the need for improved definitions of terms specific to mental health counseling training (Elliott et al., 2018; Hu

et al., 2015). Elliott et al. (2018) focused on current definitions, recommendations for change, and issues related to clinical application. Results of their meta-analysis indicated strong predictors ($p < .001$; 95% confidence interval [.23, .33]; equivalent of $d = .58$) of therapy outcomes among samples of 6,138 clients. In general, a key outcome was positive behavioral responses among clients. According to Elliott et al., clinical problems related to EBPs include lacking definitions of these practices and associated statistical efficacy for clients and those professionals who treat these individuals for SUD. In turn, Hu et al. (2015) argued that both mastery and experience among counselors who work with clients needing SUD treatment are important factors that may influence their ability to apply EBPs with clients effectively. These findings indicate factors specific to mental health counseling training for treating clients who are diagnosed with SUD and self-efficacy may be important considerations in terms of EBP application, which the current study was designed to address.

Evidence-Based Practices for Substance Use Disorder

In this section, the researcher presents a discussion of EBPs specific to SUD. The review focuses on earlier assessments, specific to clients and mental health counselors treating clients for SUD, that identified effective outcomes for treating adverse outcomes associated with SUD. The Substance Abuse and Mental Health Services Administration (SAMHSA, 2023) defines SUD as a serious mental illness that affects individuals either under or over the age of 18 years. SUD can affect thinking, behavior, and mood (SAMHSA, 2023). SAMHSA additionally developed guidance for EBPs to ensure all stakeholders are able to use EBPs for the betterment of patients and communities. As a result, there is a substantial portion of literature focused on different forms of EBPs to

ensure beneficial outcomes for treating SUD through clinician application (Witkiewitz et al., 2019).

SUD can include the primary consumption of alcohol and drugs or a combination of both substances. According to SAMHSA (2023), “Recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home” (para. 5). Alcohol use disorder has critical economic consequences, costing the United States $249 billion annually (Witkiewitz et al., 2019). Overall, SUD critically affects an individual’s ability to contribute and engage in major life activities. Potential long-term outcomes may include anxiety, depression, physical ailments, and potentially death if untreated (SAMHSA, 2023).

Due to the dangerous nature of SUD, multiple practices exist for professionals to address the needs of clients (Witkiewitz et al., 2019). Witkiewitz et al. (2019) explored the current evidence surrounding methods to treat SUD that were identified as best practices. Therapeutic and behavioral treatments have been identified as effective for some types of SUD. Large-scale quantitative approaches that demonstrate the application, internal and external barriers for EBPs are absent (Witkiewitz et al., 2019). Fairbairn et al. (2018) and Ashford et al. (2019) posited that there is a need for continued research specific to the self-efficacy of the counselor, which may contribute to the efficacious nature of EBPs for SUD. Overall, a variety of EBPs have been identified as means of potentially treating and preventing the adverse outcomes associated with SUD (Ashford et al., 2019; Fairbairn et al., 2018), which are examined throughout this section.

Using EBPs, the treatment of SUD includes behavioral treatments for both adults and adolescents (Hogue et al., 2018; Magill et al., 2019; Scales et al., 2018). Hogue et al. (2018) explored EBPs with a focus on behavioral treatments for adolescent substance use. A meta-analysis of 11 studies, including sample characteristics, substance use outcomes, and methodological quality, was performed to develop an understanding of EBPs and overall treatment efficacy for clients' mental health. Hogue et al. argued that EBPs are most commonly used for ecological family-based treatment, group cognitive-behavioral therapy, and cognitive-behavioral therapy. Magill et al. (2019) also maintained that the most efficacious approaches included drug counseling that had multi-part approaches. Overall, EBPs are appropriate for psychological application and can greatly benefit clients (Hogue et al., 2018; Magill et al., 2019; Scales et al., 2018).

Evidence-based approaches are also specific to cognitive-behavioral therapy, which has shown positive outcomes for clients who experience SUD (Magill et al., 2019). Magill et al. (2019) performed a meta-analysis of 30 randomized control trials reviewing the efficacy of cognitive-behavioral therapy for alcohol and drug disorders. Efficacy was contrasted using three experimental contrasts (i.e., minimal, nonspecific therapy, specific therapy) for consumption frequency and quantity outcomes at early (1 to 6 months) and late (8+ months) follow-up time points. Magill et al. showed that cognitive-behavioral therapy, in contrast to minimal treatment, had a moderate to significant effect size. Further, cognitive-behavioral therapy was contrasted with nonspecific treatment, which experienced a statistically significant outcome for early follow-up. However, late follow-up in the application of cognitive-behavioral therapy reduced efficacy among clients (Magill et al., 2019). Hogue et al. (2018) also recommended cognitive-behavioral therapy

to improve behavioral treatment for adolescent SUD. Yet, Magill et al. (2019) indicated cognitive-behavioral therapy does not show superior efficacy when compared to other specific modalities such as person-specific treatment. Overall, cognitive-behavior therapy is considered an appropriate method focused on evidence-based approaches. Both Magill et al. (2019) and Hogue et al. (2018) called for further research regarding EBPs and their application based on internal or external factors.

Researchers have called for improved policies surrounding the training and implementation of EBPs by mental health counselors (Jemberie et al., 2020; McGinty et al., 2018). McGinty et al. (2018) stated communication strategies are an EBP that can reduce the stigma associated with SUD. McGinty et al. reviewed data from the Center for Mental Health and Addiction Policy Research at Johns Hopkins University. An expert forum was used to identify the need for policies and developed recommendations for future research. The communication strategy was considered a potential method to improve evidence-based approaches for SUD among varying populations. McGinty et al. recommended future research to understand stigma, SUD treatment with evidence-based approaches, and further exploration of training. Similar to McGinty et al. (2018), Jemberie et al. (2020) explored EBPs for SUD and noted that due to the COVID-19 pandemic, the prevalence of SUD grew significantly globally and in the United States. As a result, the resources typically available for individuals with SUD were less available compared to prior to COVID-19. Jemberie et al. argued that evidence-based policy should be implemented as a means of treating SUD and increasing mental health counselors' ability to support these clients. Both McGinty et al. (2018) and Jemberie et al.

(2020) called for further research regarding EBPs specific to SUD to understand the efficacy, client outcomes, and therapist efficacy and application for client populations.

Client factors also increase the risk of EBPs failing, including comorbidities such as posttraumatic stress disorder (PTSD; Back et al., 2019; Gruber et al., 2021; McGinty et al., 2018). Back et al. (2019) examined the use of EBPs for SUD with a specific focus on PTSD. According to Back et al., prolonged exposure to EBPs can decrease SUD likelihood among clients with PTSD. However, despite an increase in focus on EBPs, there is less information regarding how these are effective for clients with differing comorbidities (Back et al., 2019). To examine EBPs, the authors explored a sample of 81 military veterans (91% male). Clients were provided 12 sessions of a relapse prevention program as an evidence-based approach for treating SUD. The findings showed no group differences in retention from eight out of the 12 sessions attended by participants. However, using these methodologies resulted in a greater reduction in SUD during treatment and at a 6-month follow-up. Thus, EBPs can be effective for treating SUD among differing populations, which researchers, such as McGinty et al. (2018) and Gruber et al. (2021), also argued. However, further research was suggested to understand the factors that may influence the application and productive nature of EBPs for SUD treatment.

Client perceived barriers are also factors that may influence the outcomes associated with EBPs for SUD (Marchand et al., 2019; Valenstein-Mah et al., 2020). Marchand et al. (2019) examined EBPs for SUD and found there are many client perceived barriers to receiving care. Client-centered care is one EBP that is heavily recommended in the literature for SUD treatment. The approach includes a holistic and

individualized focus to care, enhanced therapeutic alliance, and shared decision making. However, Marchand et al. noted that if continued barriers are experienced, these EBPs may be ineffective for clients. Results of a meta-analysis of current characteristics indicated barriers for both clients and providers. Also, empathy and non-judgment were a shared approach by 72% of providers reviewed across the 49 references that met inclusion within the meta-analysis approach—a total of 30% of mental health counselors employed individualized care, whereas 23% employed holistic care. However, barriers include engagement, access, knowledge, and training among therapists. Valenstein-Mah et al. (2020) also argued for the need to better understand the barriers perceived both by the client and the psychologist that may influence EBPs and potential outcomes in terms of SUD. However, it is not yet known how this research benefits the understanding of self-efficacy specific to mental health counselors and the application of EBPs for SUD.

Researchers also indicated EBPs lack application to differing populations such as gender, ethnic, and sexual minorities (Matthews et al., 2018; Pachankis, 2018). Pachankis (2018) noted EBPs lack inclusion for differing sexual and gender minorities within the mental health community. According to Pachankis, EBPs target primarily individuals outside of sexual and gender minorities, which ultimately leads to issues regarding access and training for mental health counselors to ensure the productive nature of approaches for SUD. In alignment with Pachankis (2018), Matthews et al. (2018) argued that ethnic identity might also influence clients' responses to evidence-based approaches. Though the current study was not focused specifically on sexual, ethnic, or gender minorities, it is an important consideration that one such barrier noted among these practices is lacking application to different populations and minorities within such groups.

Ashford et al. (2019) explored recovery with a focus on EBPs and noted the lack of definitions evident within the mental health community specific to SUD and EBPs. The Recovery Science Research Collaborative, a biannual interdisciplinary collaboration that included professionals and researchers, was also examined to garner recommendations. Ashford et al. argued for further research regarding definitions, EBP efficacy, and factors specific to mental health counselors in terms of their ability to apply such practices appropriately. This supports the need for further research regarding self-efficacy as it is applied to EBPs among mental health counselors who treat SUD.

Exercise and Communication Therapy

EBPs also include applications specific to exercise and communication therapy, which is considered to be efficacious for SUD (Ashdown-Franks et al., 2020; Ashford et al., 2019). Ashdown-Franks et al. (2020) argued that exercise is a potential evidence-based approach for SUD and other associated mental health illnesses. Accordingly, the authors conducted a meta-review of exercises for severe mental illness, SUD, and anxiety and stress disorders. Results of the meta-analysis revealed a total of 27 studies that provided evidence indicating significant support for exercise as effective in both controlling and reducing the symptoms associated with SUD, severe mental illness, and stress and anxiety disorders. These findings demonstrate the effectiveness of one approach to treating SUD and further illustrate the gap in understanding therapist application and the role of self-efficacy in treatment approaches.

Mindfulness

Mindfulness-based treatments can also be effective approaches for treating SUD (Cavicchioli et al., 2018). Cavicchioli et al. (2018) explored the clinical efficacy of

mindfulness-based treatments for alcohol and drug use disorders through randomized and non-randomized control trials. Cavicchioli et al.'s meta-analysis focused on data published from August 31, 2017, which identified 37 studies and a total of 3,531 clients. The results indicated small effects in terms of abstinence, perceived stress reduction, and avoidance of coping strategies. Moderate effect sizes were associated with anxiety and depression symptom reduction. Large effect sizes were associated with decreased perceived craving, posttraumatic symptoms, and negative affectivity. Subsequent to Cavicchioli et al. (2018), Bozdağ and Çuhadar (2022) examined stigma, self-efficacy, and motivation to treat clients with SUD. Research conducted from 2017 to 2018 with a total of 181 clients who were provided substance use treatment at one training center was examined. Data were collected regarding stigma, motivation, and self-efficacy. A significant correlation was found between treatment motivation and the total score associated with internalized meditation scale for mental health (Bozdağ & Çuhadar, 2022). Thus, results indicate self-efficacy, motivation, and stigma can affect the client's response to EBPs. Ramadas et al. (2021) and Vinci et al. (2021) also argued that mindfulness-based approaches can effectively improve the outcomes associated with SUD recovery. Thus, the current treatment retention methods using evidence-based approaches are effective for some populations with SUD.

Client-Centered Factors

Client-centered factors can also influence the efficacy of evidence-based approaches and their implementation by clinicians (Fairbairn et al., 2018; Y. Kim et al., 2021; Shi et al., 2021). Fairbairn et al. (2018) explored the associations between substance use and interpersonal attachment security with a focus on social bonds and

substance use-related disorders. A longitudinal study of attachment and substance use was examined, drawing from 34 studies with 56,721 clients total. The results indicated a significant correlation in terms of early attachment and later substance use. Additionally, factors related to attachment security temporality increased the likelihood of SUD later in life. Y. Kim et al. (2021) and Shi et al. (2021) also found a relationship between attachment styles and SUD development later in life.

Self-Efficacy and Evidence-Based Practices Among Mental Health Counselors for Treating Substance Use Disorder

In this section, the researcher reviews self-efficacy and EBPs as used by professionals such as mental health counselors for treating clients diagnosed with SUD. Research relevant to self-efficacy and EBPs is presented with a focus on mental health counselors as the sample population. Additionally, the information in this section reveals the gap in the reviewed empirical literature, which is further synthesized in the summary, presenting the concluding arguments of this literature review.

Self-Efficacy Among Health/Counseling Students

Self-efficacy plays a key role in learning and client implementation outcomes for mental health counselors (Babenko & Oswald, 2019). Babenko and Oswald (2019) explored self-efficacy, psychological needs, and self-compassion in terms of master's students' development in medical school. They conducted a cross-sectional study using an online questionnaire with 200 medical students and 4 years of medical programs. Regression analysis was performed to analyze the findings, which indicated three basic psychological needs—competence, self-advocacy, and self-compassion—were important in terms of the ability to complete educational programs (Babenko & Oswald, 2019).

Additionally, Babenko and Oswald found self-efficacy to be critical in terms of the ability to reach specific goals in the medical field.

In an earlier assessment to Babenko and Oswald (2019), Hu et al. (2015) explored proficiency experience among Chinese counselors, focusing on self-efficacy. Self-efficacy was examined by assessing perceived goals, tasks, bond of working alliances, and positive outcomes in previous counseling sessions. Hierarchical linear modeling indicated client-specific self-efficacy was significantly correlated with the counselor–client agreement regarding goal and tasks used in previous counseling sessions. Hu et al. argued for the need to understand further how a client's self-efficacy and counselor self-efficacy may potentially influence the application and outcomes of EBPs, which the current study was designed to address with the focus being specific to SUD. Pei-Boon et al. (2020) also explored counselor self-efficacy with a focus on secondary school counselors in Malaysia. A counselor self-efficacy scale was used with 551 secondary school counselors. The findings indicated social persuasion, psychological and affective state, and mastery state had good internal consistency. Pei-Boon et al. noted that as there is a lack of research specific to the self-efficacy of counselors, the generalizability of the results requires further examination. These findings indicate self-efficacy has been identified as an important factor in terms of medical students' ability to meet goals specific to client needs, which was mirrored by Hu et al. (2015) and Pei-Boon et al. (2020). However, the same findings have yet to be applied to counselors in terms of treating SUD with EBPs, which the current study was designed to address.

The research on self-efficacy among mental health students treating clients for SUD likely also supports the importance of self-efficacy among counselors (Jeffords et

al., 2020; Pei-Boon et al., 2020). Jeffords et al. (2020) assessed self-efficacy among a group 348 students at a large residential university in the Western United States. Psychological flexibility and end flexibility in terms of self-efficacy and the ability to complete academic goals were examined. The findings indicated students with psychological flexibility were more likely to indicate increased self-efficacy and reach specific goals. Conversely, students with psychological inflexibility had lower self-efficacy and were less likely to succeed academically (Jeffords et al., 2020). This further supports the importance of understanding the role of self-efficacy in individuals' ability to meet specific goals, which has yet to be applied specifically to mental health counselors' understanding of treating SUD.

Ooi et al. (2018) also explored counselor self-efficacy with a sample of Malaysian school counselors. They administered the Counseling Self-Estimate Inventory and the Counseling Self-Efficacy Questionnaire to 54 school counselors nationwide. The findings indicated students' experience strongly correlated with counseling self-efficacy (Ooi et al., 2018). Individuals who had greater experience in counseling and associated training were more likely to have self-efficacy in inpatient treatment. Alongside Ooi et al. (2018), Mullen et al. (2019) assessed school counselors' leadership self-efficacy focusing on social issue advocacy and programmatic services. A survey was completed of 267 school counselors regarding leadership self-efficacy and social justice advocacy implementation based on the American School Counselor Association's national model. The findings indicated counselors' leadership self-efficacy significantly predicted their implementation of the national model but was not associated with the implementation of social justice advocacy. Further, individuals with prior leadership were more likely to have higher

leadership self-efficacy. Mullen et al. argued for improved understanding and training specific to counselor self-efficacy as a means of aligning with current recommendations for social-rights advocacy, which is a key factor in counselor training in the United States. These findings indicate self-efficacy has been identified as an important factor among student counselors but has yet to be explored in terms of mental health counselors, which the current study was designed to address.

Internal Barriers to Self-Efficacy

The implementation and self-efficacy of EBPs are also potentially mediated by professionals who work with clients diagnosed with SUD focusing on internal factors, such as knowledge and competence (J. J. Kim et al., 2018). J. J. Kim et al. (2018) examined burnout among community therapists with a focus on EBPs at a children's mental health hospital. Increased workload and poor organizational climate were argued to potentially increase emotional exhaustion. A multi-level model was employed to explore how work hours, caseload, and emotional exhaustion were related to implementation efforts, such as EBPs. J. J. Kim et al. found that therapist knowledge and confidence factors were related to their ability to deliver EBPs. Additionally, the therapists' perception of EBPs mediated their application of such approaches with clients. Frank et al. (2020) and Valenstein-Mah et al. (2020) also argued that EBPs are mediated, in part, by the therapist's internal factors. Yet, similar explorations specific to self-efficacy among mental health counselors using EBP are absent in the existing literature.

Data from counseling students also indicate individual factors may predict self-efficacy as well as the ability to effectively apply EBPs to client treatment (Butts & Gutierrez, 2018). Butts and Gutierrez (2018) explored personal distress and dispositional

mindfulness predictors of mental health counselor self-efficacy. A sample of 162 counseling students was gathered to explore outcomes of self-efficacy in terms of mindfulness and personal distress. The findings indicated dispositional mindfulness and personal distress can influence counselor self-efficacy and potentially hinder their application of effective practices with clients. Frank et al. (2020) also argued that the implementation of EBPs can be mediated by training, intensive training modules, and supervisory relationships experienced during counseling as a student. Again, these findings illustrate the understanding of self-efficacy in terms of application among counseling students, but similar approaches have yet to be applied with regard to the self-efficacy of mental health counselors in terms of SUD treatment using EBPs.

Counselor self-efficacy may also impede their ability to effectively aid others within the counseling setting. Lannin et al. (2019) assessed counselor self-efficacy with a focus on psychological stress among student helpers. A total of 225 students completed a measure of counseling self-efficacy prior to supplying supportive help among counseling programs. Blood pressure and heart rates were evaluated to explore outcomes before and after application. The findings indicated individuals with high self-efficacy were likely to be more effective in their student helping role. These findings align with previous research indicating the importance of self-efficacy in the ability to complete goals and objectives (Butts & Gutierrez, 2018; Frank et al., 2020). Lannin et al. (2019) argued that mental health agencies should highly consider counselors' self-efficacy in terms of application for client treatment. The findings indicate self-efficacy is an important consideration among counseling student populations (Butts & Gutierrez, 2018; Frank et al., 2020; Lannin et al., 2019).

Individual factors such as ethnicity may also influence mental health counselors' self-efficacy and competency in implementing EBPs (Matthews et al., 2018). Matthews et al. (2018) explored multicultural counseling competence with a focus on self-efficacy and ethnic identity. A group of 172 professional counselors was examined for the purpose of the study. Statistical analysis indicated moderate positive correlations in terms of cultural competence and multicultural ethnic identity. Furthermore, an additional correlation was identified between ethnic identity and multicultural self-efficacy. Thus, results indicated self-efficacy holds a critical role in terms of multicultural competence, which is also mediated by ethnic identity. Though the current study was not focused on multicultural competence or ethnic identity, these findings indicate the important role of self-efficacy in a counselor's competence and application of specific conceptualizations, which are important to psychological roles.

Researchers also revealed a relationship between self-efficacy and supervisory counselor relationships that potentially impedes outcomes for client implementation (Morrison & Lent, 2018). Morrison and Lent (2018) assessed the alliance created between supervisors and counselors with a focus on self-efficacy. Morrison and Lent argued that counselor self-efficacy might be linked to beliefs regarding how their supervisors perceive their own efficacy and supervisors' reported efficacy in terms of the supervisory working alliance. A path analysis statistical approach was used to explore counselors' beliefs regarding supervisors. The statistical findings indicated the supervisory working alliance predicted supervisor's self-efficacy. Self-efficacy, supervisor support, clinical experience, and perceived client distress were also mediated by the counselors' self-efficacy. Lannin et al. (2019), Ooi et al. (2018), and Jeffords et al.

(2020) similarly demonstrated the importance of the training and education counselors receive in terms of self-efficacy and the implementation of EBPs. Thus, self-efficacy plays a critical role not only in terms of supervision but also when it comes to client treatment approaches. These findings are important in terms of demonstrating the role of self-efficacy in the counseling field.

Training and Curricula

The application of EBPs for SUD while considering the mediating role of counselor self-efficacy is absent in the reviewed literature. Yet, findings indicate self-efficacy can critically influence mental health counselors' implementation of EBPs (Valenstein-Mah et al., 2020). Valenstein-Mah et al. (2020) explored the effectiveness of training methods for EBPs. The authors evaluated evidence-based training methods as a means of understanding outcomes for therapists and the potential for application among clients. A search was completed from 1990 to 2019, which identified a total of 28 studies. Data indicated EBP training was important for improving short-term client satisfaction, knowledge of EBPs, and adherence to training modules. However, training did not increase the likelihood of adopting EBPs when compared to no training or self-study. Becker-Haimes et al. (2019) also explored behavioral health preservice training to inform mental health counselors' implementation of evidence-based interventions. The review of behavioral health work first indicated EBPs are encouraged within graduate curricula. However, there is a lack of implementation among these programs as a means of ensuring mental health counselors after graduation will implement EBPs. The findings indicated the factors of competence, adoption, satisfaction, and skill acquisition adherence are important for EBP application.

Lannin et al. (2019) and Matthews et al. (2018) also indicated that multiple internal limitations and barriers exist for EBP. However, previous research did not demonstrate the affective factors such as self-efficacy in terms of EBPs for SUD. The authors argued that contextual factors such as psychological specific factors and preservice education might also influence the application of EBPs. A call for research was made to better understand mental health counselors' application of practices and associated factors that affect implementation.

Clinician training and organizational factors may also influence mental health counselors' self-efficacy and ability to implement EBPs for SUD clients (Beidas et al., 2019; Trivasse et al., 2020). Trivasse et al. (2020) explored effective EBP training methods for clinicians focusing on knowledge, intentions, behavior, and attitudes. A systematic review of four databases showed 15 studies related to EBPs were based on exposure therapy strategies. The findings indicated a large-sized positive effect on clinician knowledge of exposure therapy, attitudes, and self-efficacy associated with delivery and exposure therapy. However, medium-sized effects were only identified in terms of intention to use exposure therapy and behavior. These findings indicated potential statistically significant outcomes in terms of self-efficacy associated with training on EBPs. Beidas et al. (2019) similarly examined behavioral health systems focusing on EBPs and organizational characteristics. Clinician practices vary according to each of the health systems and clinics. A cross-sectional design was used to collect data from 2013 to 2017 within Philadelphia's public behavioral health system. A total of 20 behavioral health outpatient clinics were examined, which included 340 total physicians.

Beidas et al.'s (2019) findings indicated that out of the reviewed clients and physicians, clinician characteristics were critical in terms of potential effects on EBP training initiatives. Beidas et al. indicated inclusion and training increased the likelihood of application by 3% but did not change the psychodynamic technique application. Organizational culture also mediated the likelihood of practitioners to employ EBPs compared to organizations that were less likely to focus on EBPs. Thus, factors both internal to the organization and to the mental health counselor may influence the application of EBPs, emphasizing the importance of understanding the role of self-efficacy due to previous psychological training and implementation methods for EBPs.

The Use of EBPs Within Addiction Counseling

EBPs within addiction counseling can also potentially improve outcomes for clients, but data indicate a lack of implementation even after exposure and training (Beidas et al., 2019; Doumas et al., 2019). Doumas et al. (2019) assessed training for EBPs specific to addiction counselors. Counselors who were trained in this EBP reported a significant increase in their own self-efficacy. However, only 87.5% reported using motivational interviewing in their practice after completing post-training consultation. Thus, self-efficacy is an important factor in terms of consideration of EBP but may not be correlated in terms of application and implementation for clients in the future. These findings further serve to emphasize the importance of self-efficacy among counselors in terms of client treatment, as well as a gap regarding the understanding of how this affects substance use approaches.

Recommendations for Research

Researchers have called for improved clinical approaches and consideration of mental health professionals' application of these client needs (Gruber et al., 2021; Morrison & Lent, 2018). Gruber et al. (2021) explored clinical mental health counselors' understanding of evidence-based approaches, recommendations for research, and calls to action based on the current mental health literature. Gruber et al. argued that COVID-19 created increased mental health challenges among varying populations. Additionally, the prevalence of SUD increased as a result of the stress associated with COVID-19 and lack of resources. Morrison and Lent (2018) provided a similar call for action, including the need for improved clinical approaches as well as an understanding of how mental health counselors are able to actively apply evidence-based approaches for the purpose of treating clients. These findings further emphasize the call for research specific to the mental health counselor's role in the administration and application of EBPs, which was noted as being currently absent in the literature.

EBPs, though important for client outcomes, have been known to require further understanding in terms of training and implementation. Frank et al. (2020) examined therapist training on EBPs in general through a systematic review of literature published since 2010 to understand differing training models and their effect on therapist knowledge, beliefs, and behaviors. According to Frank et al., contemporary training models include a workshop, workshop with consultation, train the trainer, intensive training, and online training. The findings showed manuals and brief workshops are ineffective when compared to intensive training models. The findings indicate there are

multiple issues in terms of training counselors to use EBPs that may require further research.

Self-efficacy has only been largely examined in school counselor settings and among master's students (Zakariya, 2021). In tandem with Morrison and Lent (2018), Saunders et al. (2021) and Zakariya (2021) argued that more research is required to fully comprehend self-efficacy and the role it plays in the application of EBPs for client treatment. Previous recommendations spanned a variety of treatment options but did not include a focus specific to professional counselors who work with clients diagnosed with SUD and applying EBPs for the treatment of SUD or the role of self-efficacy from a quantitative approach.

Summary

EBPs are a commonly explored empirical topic in psychological research (Bennett-Levy, 2019). Evidence-based research for psychological application is recommended by the APA (2021) and, as such, is considered a best-practice model of research and clinical application among empirical researchers and clinicians (Back et al., 2019; Bennett-Levy, 2019; Jemberie et al., 2020; Scales et al., 2018). Commonly employed EBPs include methods such as cognitive-behavioral therapy, sensory approaches, and communication methods, to name a few (Elliott et al., 2018; Hu et al., 2015).

There is a need for further quantitative research that validates the clinical application of EBPs for clients with SUD (Bennett-Levy, 2019; Hogue et al., 2018; Magill et al., 2019). There is a critical gap in the literature surrounding mental health counselors' understanding and application of EBPs when treating clients diagnosed with

SUD. Despite the understanding that such practices are effective for clients, more information in terms of training, application, and implementation is required (Bennett-Levy, 2019; Hogue et al., 2018; Magill et al., 2019; Scales et al., 2018).

The second section of the review focused on the use of EBPs for SUD. Substance use disorder is a critical issue that affects the United States in terms of increased mental health issues, adverse effects, and economic disparities (SAMHSA, 2023; Witkiewitz et al., 2019). Mental health counselors' treatment of SUD vary according to clinic, training, and experience. Application has included improved drug counseling and multi-part approaches, which are considered appropriate for client outcomes and for reducing the adverse effects associated with SUD (Hogue et al., 2018; Magill et al., 2019; Scales et al., 2018).

Despite research specific to SUD and associated EBPs, there is a lack of understanding specific to self-efficacy and its influence on a mental health counselor's application of EBPs. Researchers also indicate mastery among student clinicians may be central to their own self-efficacy and application of EBPs (Hu et al., 2015). Yet, there is a lack of understanding specific to mental health counselors and their application of EBPs for SUD.

The third section of the literature review focused on mental health counselor self-efficacy and EBPs. The reviewed literature reflected recommendations for research, qualitative assessments, and large-scale quantitative studies exploring self-efficacy and its influence on counseling students (Hu et al., 2015; Pei-Boon et al., 2020). Data indicate a relationship between self-efficacy, mastery, and effective application of EBPs for SUD treatment.

A gap was identified regarding the extent to which EBPs covary with sense of self-efficacy for mental health counselors treating clients with SUD. There has yet to be an exploration specific to a quantitative correlational assessment to determine how EBPs covary with sense of self-efficacy among mental health counselors who treat clients diagnosed with SUD. Researchers have recommended further explorations in terms of internal factors, such as the self-efficacy of clinicians.

In the current study, the researcher addressed the gap in the literature by conducting a quantitative correlational assessment of self-efficacy and EBPs among mental health counselors who treat clients with SUD. In Chapter 3, the researcher presents details of the design and methodology used to address the research question. Chapter 3 also includes an overview of the data collection, data analysis, ethical considerations, and sampling procedures used to address the purpose of the study. Information specific to sampling, population information, and the study site is also reviewed in Chapter 3.

CHAPTER 3—METHODOLOGY

The purpose of this quantitative, correlational research was to examine the extent to which the use of EBPs covaries with sense of self-efficacy for mental health counselors treating clients diagnosed with SUD. EBPs are often used in cases where SUD is present (Hogue et al., 2018). Prior research has shown several EBPs used to address SUD are complex and require multi-part approaches to be efficacious (Magill et al., 2019). Magill et al. (2019) and Hogue et al. (2018) argued for research to explore how therapists' personal qualities may influence their ability to effectively apply EBPs with clients. The independent, predicting variables in this study were the use of EBPs, the biological sex of the participant, and the generation cohort of the participant. The dependent, criterion variable in this study was self-efficacy. The general population under examination was mental health counselors who treat clients diagnosed with SUD. The study has the potential for positive social impact by assessing the methods that may improve mental health counselors' ability to treat SUD.

Chapter 3 includes the methodology used to conduct this study. The chapter begins with a restatement of the research question and hypotheses of the study developed to examine to what extent the use of EBPs covaries with sense of self-efficacy for mental health counselors treating clients diagnosed with SUD. The chapter continues with a discussion of the participants and sample size justification. The chapter also includes a discussion of the survey, which included demographic items as well as items selected from scales found to be valid and reliable in prior research. Chapter 3 also includes a discussion of the procedures undertaken to complete sampling and data collection. The chapter concludes with a description of the data analysis procedures, including describing

the profile characteristics of participants, descriptive statistics associated with the independent and dependent variables, tests for statistical assumptions, and the hypothesis test. The hypothesis test involved the use of multiple regression, testing the regression model with the threshold for significance set at $p < 0.05$.

Research Question and Hypotheses

Research Question: To what extent does the use of EBPs covary with a sense of self-efficacy for mental health counselors who work with clients diagnosed with SUD?

Alternative Hypothesis: There will be a statistically significant relationship between self-efficacy and the use of EBPs.

Null Hypothesis: There will not be a statistically significant relationship between self-efficacy and the use of EBPs.

Participants and Sample Size Justification

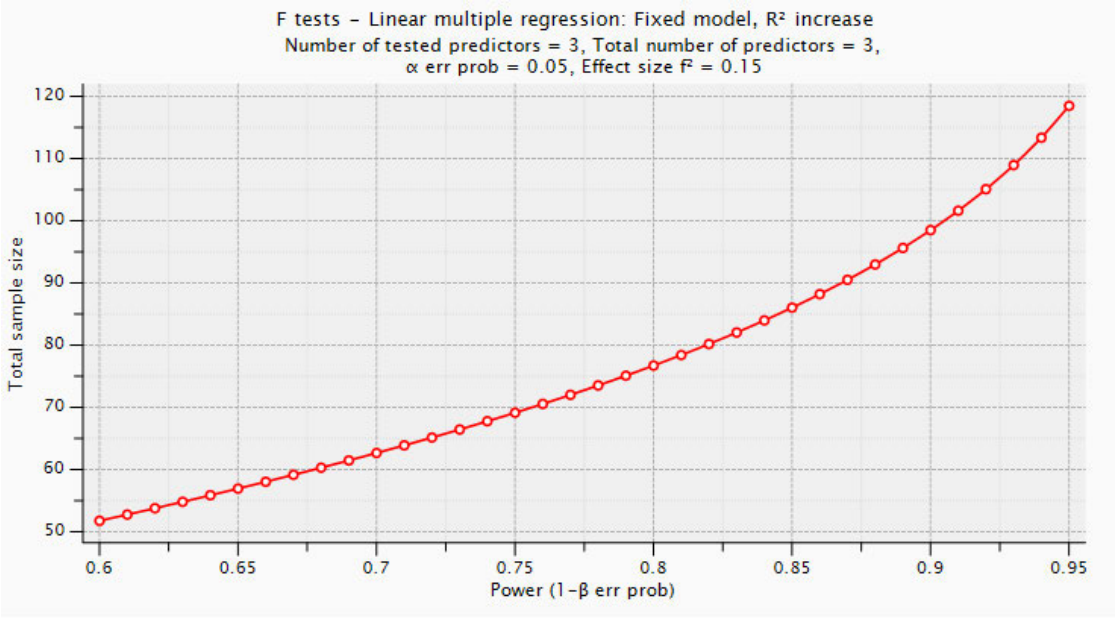
The population in this study was mental health counselors who treat clients diagnosed with SUD. The U.S. Bureau of Labor Statistics (2022) stated there are over 325,000 positions for SUD, behavioral disorder, and mental health counselors in the United States. Individuals who work in this type of position can focus on treating clients who have an addiction to alcohol or drugs or have other mental or behavioral problems. SUD, behavioral disorder, and mental health counselors work in a wide variety of settings, including mental health centers, prisons, probation or parole agencies, and juvenile detention facilities, and most have training in treating SUD (APA, 2021). Eighteen percent of the professionals in this field work in an outpatient mental health and SUD center and 9% work at a residential mental health and SUD facility (U.S. Bureau of Labor Statistics, 2022). Demographic data describing the profile characteristics of SUD,

behavioral disorder, and mental health counselors in the United States show that the majority who work in these fields are women at 75.6% with 24.4% being men (Zippia, 2022). Zippia (2022) reported that the most common ethnicity of therapists is White (76.4%), followed by Asian (10.6%) and Hispanic or Latino (6.3%).

The sample size for this study was determined by completing an a priori power analysis using G*Power version 3.1.9.6 (see Figure 2) for a multiple regression model with three predictors, f^2 effect size of 0.15, α error probability of 0.05, and power of 0.95. The findings from the a priori power analysis indicated a total sample size of 119, with actual power of 0.9509, with a noncentrality parameter λ of 17.85, critical $F_{(3,115)}$ of 2.68. Therefore, the sample needed to include a minimum of 119 individuals. However, to account for attrition, a sample of 130 was the overall goal.

Figure 2

Total Sample Size by Power Levels



Instruments

The researcher conducted the methods of data collection and analysis. The instrumentation for data collection was a digital survey (see Appendix A) that was placed on the SurveyMonkey portal for the purpose of facilitating completion. The survey instrument began with a copy of the Informed Consent form (see Appendix B). Participants were required to offer a digital signature of some kind prior to completing the survey. Once signed, the participants were able to complete the survey instrument. The first items on the survey instrument were demographic items used for the purpose of describing the profiles of participants. Other items on the survey were designed as a Likert scale with five points and five anchors that represented the degree to which participants agreed or disagreed with each statement on the survey (5 = *Strongly Agree*; 4 = *Agree*; 3 = *Neither Agree nor Disagree*; 2 = *Disagree*; 1 = *Strongly Disagree*). The responses to Likert scale items were considered ordinal data because participants were required to select a response corresponding with a qualitative description of their perception, with points on the scale used for the purpose of measuring in quantitative data analysis. The use of variables created from ordinal items was supported by Robitzsch (2020), who concluded that ordinal variables can almost always be treated in a similar way as continuous variables. The independent or predictor variables and the dependent variable in the study were measured by creating a composite of survey item responses for each case. The composite included the responses to each item measuring for the dependent variable. The composite was created as a sum.

In addition to items used to collect demographic data, the survey instrument included scales that were used to measure for the independent and dependent variables.

The decision was made to select items from previously validated scales to support validity and reliability of the research design vis-à-vis instrumentation. The items included in the survey instrument were taken from two different scales that have studies supporting their validity and reliability as measures of the constructs they were designed to measure. The validity and reliability of a scale are critical to understand prior to using the scale for empirical research. The scale used for the dependent variable was the Evidence-Based Practice Implementation Scale, designed by Melnyk et al. (2008) to measure the implementation behavior of individuals concerning EBPs. The researcher requested and received permission to use the scale in this study (see Appendix C).

Exploratory factor analysis and an examination of reliability were completed for the implementation scale by Melnyk et al. (2008). Melnyk et al. included both scales in their examination of reliability and validity. The implementation scale was the only scale included in the current study. The Melnyk EBP implementation scale includes 18 items and a 5-point Likert scale design for each item. Each item requires the respondent to select a response based on their frequency of performing an activity over the course of the past 8 weeks. Melnyk et al.'s findings supported the reliability and validity of the scales. Face validity was assessed using the Flesch-Kincaid reading grade level scale. The scale for EBP implementation was found to have a reading grade level of 9.6. Construct validity was also supported by the findings of an exploratory factor analysis using principal components analysis. Melnyk et al. used exploratory factor analysis rather than confirmatory factor analysis because of their interest in identifying the essential items for measuring EBP implementation as a construct (Worthington & Whittaker, 2006). The findings for the EBP implementation scale support the existence of validity. Each item on

the scale has a factor loading of ≥ 0.60, which is higher than the threshold expected for items loading with a factor, which is 0.50 for a newly developed item and 0.60 or higher for established items (Awang, 2014). These findings support the use of the EBP implementation scale as a unifactorial scale. In addition, reliability was assessed using Cronbach's α as a coefficient for internal consistency and the equal-length, split-half Spearman-Brown test to measure for intra-scale correlation. Both tests provided evidence that the EBP implementation scale should be accepted as reliable, as Cronbach $\alpha = 0.96$ and Spearman-Brown $r = 0.95$. As a Spearman-Brown $r > 0.80$ is acceptable (Frøseth et al., 2004) and a Cronbach $\alpha > 0.70$ is acceptable (Lance et al., 2006), evidence provided by Melnyk et al. (2008) supported the reliability of the EBP implementation scale.

Multiple scales exist to measure self-efficacy, though the General Self-Efficacy Scale was selected for the current study because previous research designed for the purpose of validating the scale included psychology students and professionals (Chen et al., 2001). Chen et al.'s (2001) General Self-Efficacy Scale was also selected because the researchers advanced the construct and content validity of the scale by refining items. Chen et al. noted that prior to their study, there had been limited work completed to establish the construct validity of the General Self-Efficacy Scale. The researcher requested and received permission to use the scale in this study (see Appendix C).

Sampling and Data Collection Procedures

Data collection commenced once authorization was granted from the Institutional Review Board (IRB; see Appendix D). Once authorization to conduct research with human subjects was granted by the institution, data collection began by creating a digital version of the survey instrument and uploading it to the SurveyMonkey platform for

completion by survey participants. The digital version of the survey instrument began with the informed consent form, which disclosed details such as the purpose of the study, the responsibilities of the participant, potential benefits relevant to participation, and any potential risks. The participants were also informed that they could exit the survey at any point in time and that their data would be deleted. The informed consent form closed with a space for the participant to enter a digital signature.

A voluntary response sampling method was used for the purpose of data collection. Prior research concerning online survey response rates included findings that indicated individuals are most likely to open emails for digital surveys from organizations to which they belong, with 91.2% indicating they open such emails (Saleh & Bista, 2017). In addition, 51.5% of individuals noted they are more inclined to respond to research completed by a student and 88.2% indicated they are more inclined to complete surveys where they hold a vested interest or where the survey is academic in nature (Saleh & Bista, 2017). In addition, 87.1% are more inclined to complete a survey when they know how long it will take and 91.1% will complete a survey that takes less than 15 minutes (Saleh & Bista, 2017). Based on these findings, efforts were made to have an organization that focused on SUD send an email on the behalf of the researcher that detailed the research and its benefits to members of their organization (see Appendix E). The email noted this was doctoral research being completed by a student and that the survey would require less than 15 minutes of their time. The researcher aimed for 130 selected participants with a minimum of 119. Once the participants completed the survey, the data were downloaded, cleaned of metadata, and examined to determine whether there were false cases (i.e., cases including the same response for each item or cases

where data formed a pattern). The data were then exported to SPSS (version 24.0.0.0) for analysis.

Statistical Data Analysis

Statistical data analysis was completed using SPSS (version 24.0.0.0) and included several different steps to ensure the sample was described and there was comprehensive analysis of the data. Statistical analysis began with the examination of frequencies pertaining to the profile characteristics of participants. Profile characteristics included demographic characteristics. Percentages and counts were used to describe the profile characteristics of participants. Statistical data analysis then continued with the analysis of descriptive statistics. Descriptive statistics in this study were examined using mean scores as a measure of central tendency, standard deviation as a measure of variance, and skewness and kurtosis to measure for the distribution of data. Cronbach's α was used as a coefficient for reliability. After descriptive statistics were examined, the data were examined to determine whether they conformed to statistical assumptions. The statistical test used in this study to test the hypotheses was multiple regression. However, if the tests for statistical assumptions were not met and it was not possible to transform the data to ensure the statistical assumptions were met, then a non-parametric test would have been selected for the study. This approach was not necessary, and a parametric test was used. The quantitative model for the multiple regression was as follows:

$$\text{Self-efficacy} = \beta_0 + \beta_1 \text{UseofEvidence-basedPractices} + \beta_2 \text{Female} + \beta_3 \text{AgeCohort} + e$$

Eight statistical assumptions exist regarding the use of multiple regression in quantitative research. The first assumption is that the dependent variable must be measured as a continuous variable (Verma & Abdel-Salam, 2019). Though a Likert scale was used for collecting data for the dependent variable and Likert scales collect ordinal

data, Robitzsch (2020) noted ordinal variables can be treated as continuous variables. Thus, the first statistical assumption of multiple regression was met. The second assumption is that there are two or more independent variables (Verma & Abdel-Salam, 2019). The independent variables can be either measured as continuous or be ordinal variables with only two groups. If more than two groups exist for ordinal variables, then dummy variables with positive or negative responses should be used. The independent variable of EBP implementation was treated as a continuous variable, generation cohort was treated as a continuous variable, and the biological sex of participants was treated as an ordinal variable with two different groups. Therefore, the second statistical assumption for multiple regression was met. The third statistical assumption is the independence of observations (Verma & Abdel-Salam, 2019). The independence of observations statistical assumption was tested using the Durbin-Watson statistic, which must be between 1.5–2.5 to provide evidence of independence of observations. The fourth assumption is that there is a linear relationship between the dependent variable and each independent variable individually, as well as all independent variables collectively (Verma & Abdel-Salam, 2019). The presence of a linear relationship is determined by the use of scatterplots and partial regression plots. The plots illustrate the distribution of data. If the distribution of data is not linear, then it is possible that the data analysis plan will need to be altered to reflect transformation of the data.

The fifth statistical assumption for multiple regression is the presence of homoscedasticity (Verma & Abdel-Salam, 2019). Homoscedasticity involves the fit of variances along the regression line in a regression model. Homoscedasticity was tested using the Breusch-Pagan test. Homoscedasticity is assumed to be present if the results of

the Breusch-Pagan test are $p < 0.05$. The sixth statistical assumption is that there is a lack of multicollinearity in the data (Verma & Abdel-Salam, 2019). Multicollinearity occurs when there is a high level of correlation between independent factors. The variance inflation factor (VIF) was used to determine the degree of multicollinearity among independent variables with the threshold set at 5 or greater. The seventh statistical assumption for multiple regression is a lack of outliers (Verma & Abdel-Salam, 2019). A box plot was used to determine the existence of outliers. If outliers existed, they would be removed from the dataset. The eighth and final statistical assumption is that there is a normal distribution of residuals (Verma & Abdel-Salam, 2019). A normal Q-Q plot of studentized residuals was used to determine whether there was a normal distribution to the data. The Shapiro-Wilk test was used to supplement the use of the normal Q-Q plot of studentized residuals. Once each of the statistical assumptions were met, the next step was to complete data analysis.

Data analysis concluded with the completion of hypothesis testing using a multiple regression model. An enter multiple regression was used to examine the data. The hypotheses were examined to determine whether statistical significance was reached. Statistical significance was determined at the threshold of $p < 0.05$. The multiple regression model was also examined based on coefficients. Adjusted R^2 was used as the coefficient of determination. The F value was used to further support and describe the predictive capability of the regression model. Standardized beta (β) was used to describe the strength of the individual variables in the regression model.

CHAPTER 4—FINDINGS

The purpose of this quantitative, correlational research was to examine the extent to which the use of EBPs covaries with sense of self-efficacy for mental health counselors treating clients diagnosed with SUD. EBPs are often used in cases where SUD is present (Hogue et al., 2018). Prior research has shown several EBPs used to address SUD are complex and require multi-part approaches to be efficacious (Magill et al., 2019). Magill et al. (2019) and Hogue et al. (2018) argued for research to explore how therapists' personal qualities may influence their ability to effectively apply EBPs. These findings support the purpose of the current study, which was to examine whether the use of EBPs covary with self-efficacy. The independent, predicting variables in this study were the use of EBPs, the biological sex of the participant, and the generation cohort of the participant. The dependent, criterion variable in this study was self-efficacy. The general population under examination was mental health counselors who treated clients diagnosed with SUD. The study has the potential for positive social impact by assessing the methods that may improve mental health counselors' ability to treat SUD.

Chapter 4 includes the results of the study. The chapter begins with a discussion of the reliability of the data. The Cronbach's α scores for both EBPs and self-efficacy were found to be acceptable. An analysis of outliers and leverage points was performed, as were univariate and multivariate analysis. Several cases were removed because the data were determined to hold significant outliers or to be fraudulent following an examination of leverage points, where data were found to be the same for each item response in two cases. Tests of statistical assumptions were also performed. Results indicated there were slight violations to the assumptions pertaining to multicollinearity

and no autocorrelation was uncovered. However, these violations were determined to be only slight violations. A hypothesis test was performed that included EBPs, age, and gender as predictors of self-efficacy. Though the model was found to be statistically significant at $p < 0.05$, the individual variables in the model were not significant.

Reliability of the Data

The reliability of the data was assessed for the variables measuring self-efficacy and EBPs. Cronbach's α was used as a coefficient of internal consistency to assess reliability. The findings included evidence of $\alpha = 0.87$ for self-efficacy and $\alpha = 0.93$ for EBPs. Both scores were evidence that the scales measuring for self-efficacy and EBPs had acceptable levels of reliability. However, just as the data were examined at the individual case and individual item level for the purpose of determining whether they contained missing or fraudulent data, the data needed to be examined further to determine whether the removal of cases was appropriate following the assessment of the scales measuring for self-efficacy and EBPs as reliable. Outlier analysis was performed using boxplots to assess univariate outliers and Cook's distance was used to assess for the existence of multivariate outliers.

Outlier Analysis

Outlier analysis was performed using boxplots. The initial sample size was 134 cases. Following the completion of outlier analysis, 13 cases were removed. One case was removed following boxplot analysis and 12 cases were removed following analysis using Cook's distance. Following the removal of the 13 cases, the sample size for the study was 121. Boxplots were used as a means of illustrating the cases that were outliers, where the standard for an outlying case was that the case was outside of 1.5 times the

interquartile range for the upper or lower quartiles. In other words, outliers were cases that were either Q1 – 1.5 * IQR or Q3 + 1.5 * IQR. Figure 3 includes evidence of one outlying case for EBPs. The outlying case was Case 47. Based on the finding of a single outlying case, the case was removed from the dataset.

Figure 3

Boxplots for Self-Efficacy and Evidence-Based Practices

Boxplots were then created once again to assess whether outliers existed following the removal of Case 47. The removal of the case had some influence on the dataset, meaning the dataset needed to be evaluated once more to determine whether new outliers emerged following the removal of Case 47. Figure 4 includes the boxplots for self-efficacy and EBPs. The findings included no evidence of outliers. Based on the findings, the data did not include any cases of univariate outliers. Therefore, the data were examined further to determine whether multivariate outliers existed in the dataset.

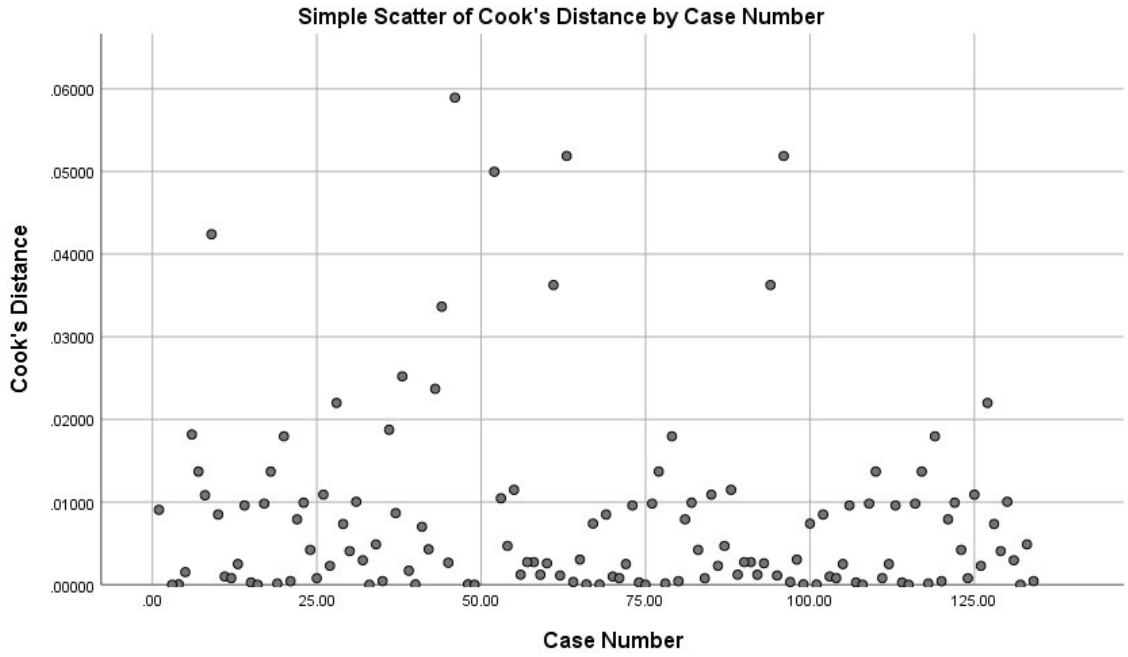
Figure 4

Boxplots for Self-Efficacy and EBPs Following the Removal of Outlying Case

The existence of multivariate outliers was assessed using Cook's distance. Multivariate outliers were determined based on a regression model including EBPs, age, and gender as predictors and self-efficacy as the criterion. The descriptive statistics included Cook's distance Min = 0.000 and Max = 0.059, with $M = 0.008$ and $SD = 0.011$. Figure 5 includes a plot for the Cook's distance scores by case. The threshold for an outlier in Cook's distance is $4/N$ or in this case, 4/133, or 0.030. Based on the findings from Cook's distance, eight additional cases were determined to be outliers: Case 9, Case 44, Case 46, Case 52, Case 61, Case 63, Case 94, and Case 96. These cases were removed from the dataset.

Figure 5

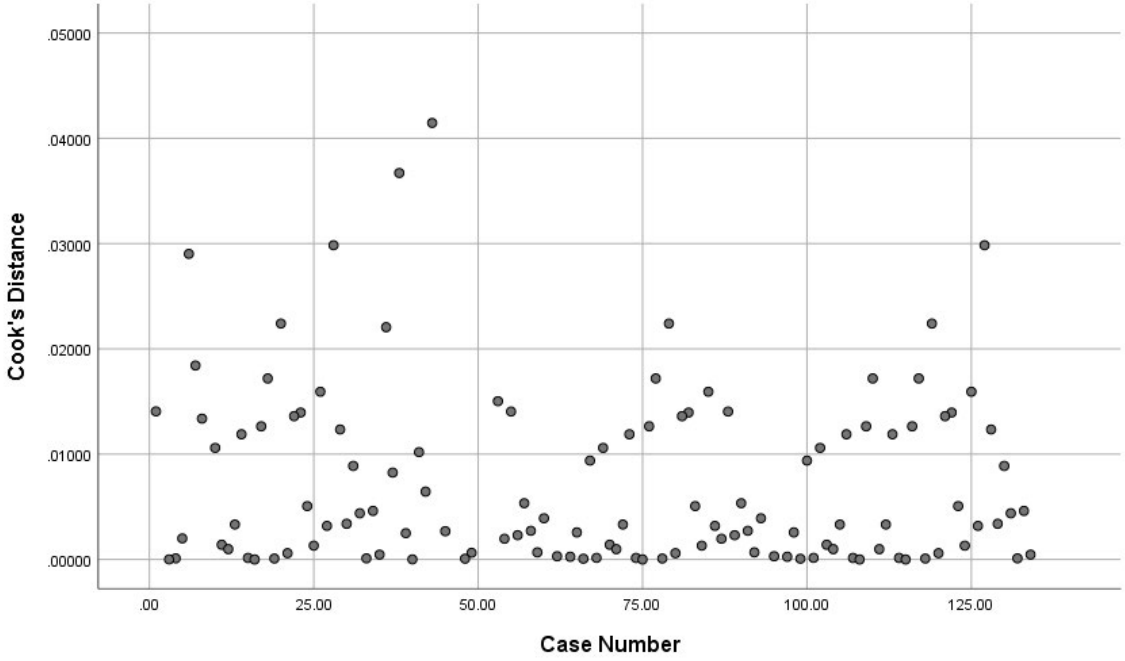
Plot of Cases by Cook's Distance



Following the removal of the eight cases, Cook's distance was determined once again because of the possibility that the removal of outliers would result in new outliers emerging in the dataset. Again, outliers were determined based on a regression model including EBPs, age, and gender as predictors and self-efficacy as the criterion. The descriptive statistics included Cook's distance Min = 0.000 and Max = 0.041, with M = 0.007 and SD = 0.008. The descriptive statistics were evidence of the distance among the cases becoming smaller as the maximums, means, and standard deviations were smaller. The threshold was 4/N, or in this case 4/125 or 0.032, which represents the total cases included after the exclusion of outliers. Additional outliers were identified. Figure 6 includes the scatterplot for the second run for Cook's distance. The findings are evidence of outliers in the data. Case 38 and Case 43 were found to be outlying cases and were removed from the dataset.

Figure 6

Plot of Cases by Cook's Distance Following the Removal of Outliers

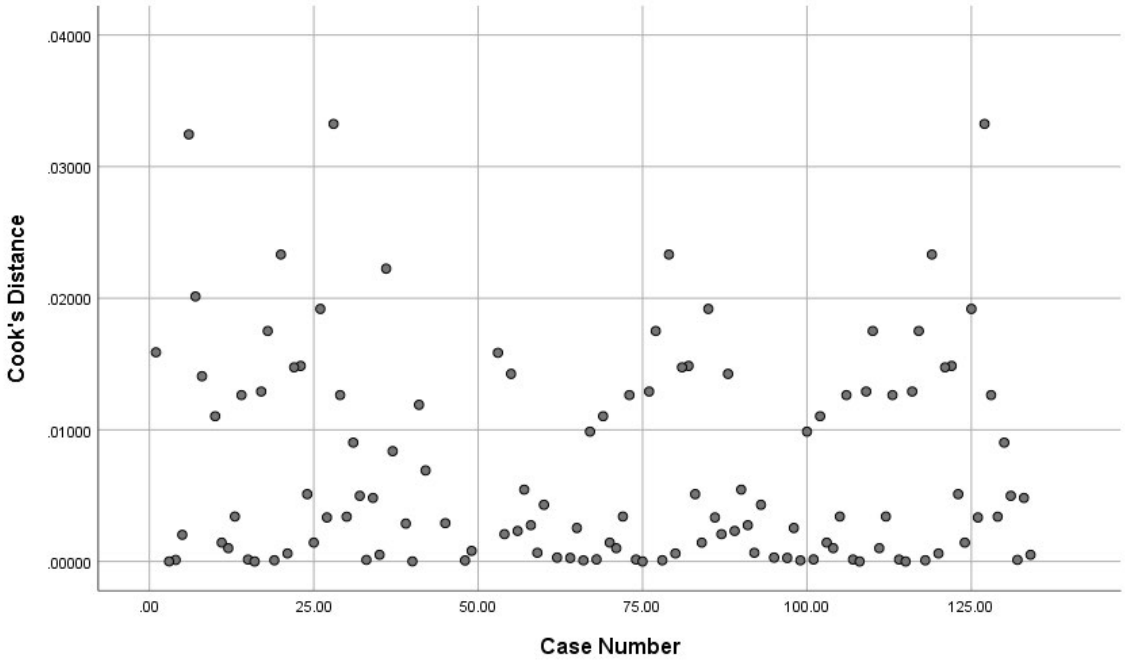


Cook's distance was used a third time to determine whether outliers existed following the removal of cases because of the possibility that the removal of outliers following the previous two runs would result in new outliers emerging in the dataset. The outliers were determined based on a regression model including EBPs, age, and gender as predictors and self-efficacy as the criterion. The descriptive statistics following the third run included Cook's distance Min = 0.000 and Max = 0.033, with $M = 0.007$ and $SD = 0.008$. The descriptive statistics included some evidence of the distance among the cases becoming smaller, as the maximum scores were smaller. Mean and standard deviation did not change. The threshold was $4/N$ or in this case 4/123 or 0.033, which represents the removal of outliers from the initial sample. No additional outliers were identified. Figure 7 includes the scatterplot for the third run for Cook's distance. The findings are evidence

of no further outliers in the data. However, Case 6, Case 28, and Case 127 were found to be at the boundary of being outlying cases and were not removed from the dataset.

Figure 7

Plot of Cases by Cook's Distance Following Removal of Outliers

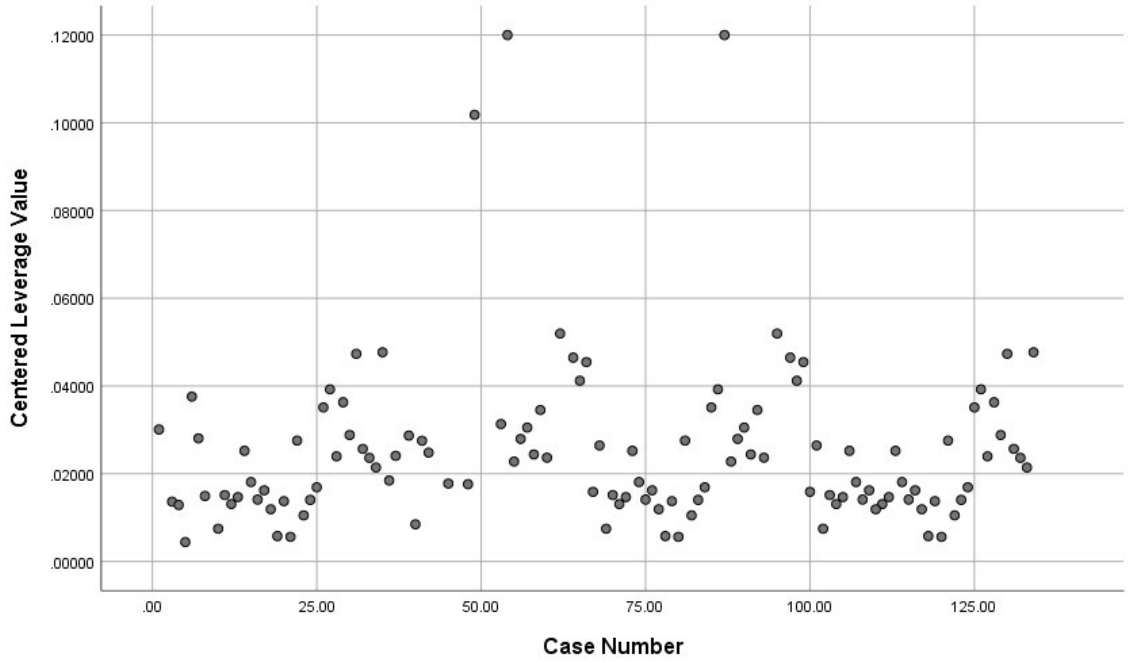


Leverage Points

The data were then examined to determine whether high leverage values existed. High leverage value was determined based on a value being 2*M*. The descriptive statistics included Min = 0.004 and Max = 0.120, with $M = 0.025$ and $SD = 0.018$. Based on the descriptive statistics, the threshold for a case having a high leverage point was $L > 0.050$. Five cases were found to have leverage values at $L > 0.050$: Case 49, Case 54, Case 62, Case 87, and Case 95. Figure 8 is a scatterplot illustrating the leverage points by case. The data were examined further to understand the predicted and residual values considering the identified outliers.

Figure 8

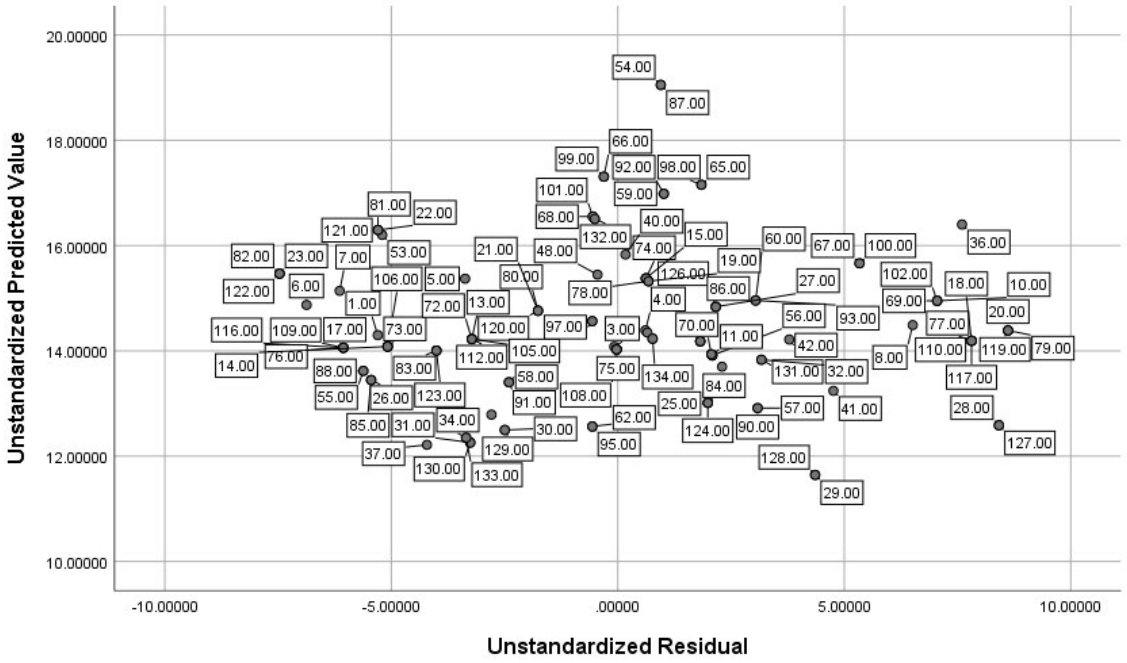
Scatterplot of Leverage Values



A scatterplot was created for the predicted and residual values for the data to determine whether high leverage points were outside of the concentration of predicted and residual values toward the center of the graph (see Figure 9). The findings included evidence of Case 54 and Case 87 both having values escaping the center of the graph. Based on this finding, the cases were selected for further examination. Upon further review of the cases, the decision was made to remove the cases because the responses appeared to be potentially fraudulent or represent an instance where an individual responded to the survey multiple times. Both cases had the exact same responses to each item. The most conservative step to take was to remove the cases. Following the removal of these cases, reliability analysis was once again completed. The findings were evidence of acceptable internal consistency as the Cronbach's α for EBPs was 0.91 and the Cronbach's α for self-efficacy was 0.85. The data appeared ready for further examination.

Figure 9

Scatterplot of Predicted and Residual Values



Profile Characteristics

Table 1 includes the demographics of the participants in the sample, including gender, ethnicity, education level, and work setting. The profile characteristics included in Table 1 do not include age, as age was collected as a continuous variable rather than as a categorical variable. Frequency statistics were used to report the profile characteristics of gender, ethnicity, education level, and age. Means and standard deviations were used to describe the central tendency and variance of age and work setting. The profile characteristics of the participants are reported to describe the demographics of participants to support the interpretation of external validity of the study, where these characteristics of the individuals in the research sample could be compared with those in the population at-large. According to Table 1, at 65.3%, the majority of the participants reported being male, at 56.2%; the majority were White/Caucasian; and there were more

individuals holding bachelor's degrees than any other degree, at 38.8%. At 53.7%, a slight majority of the participants worked in outpatient/community mental health settings. The age of participants was recorded as well (M = 36.76, SD = 11.89). The variance of age, as understood by the coefficient of variation, was 32.34%.

Table 1

Profile Characteristics of Participants

Demographic	*N*	%
Gender		
Female	42	34.7
Male	79	65.3
Total	121	100.0
Ethnicity		
White/Caucasian	68	56.2
Black/African American	26	21.5
Hispanic/Latino	10	8.3
Asian or Pacific Islander	14	11.6
Other	3	2.5
Total	121	100.0
Education level		
Bachelor's	47	38.8
Master's	36	29.8
Doctorate	115	12.4
Other	23	19.0
Total	121	100.0
Work setting		
School	19	15.7
Outpatient/Community mental health	65	53.7
Private practice	26	21.5
Other	11	9.1
Total	121	100.0

Descriptive Statistics

Table 2 includes the descriptive statistics for self-efficacy and EBPs. The descriptive statistics were used to understand the measures of central tendency, variance, and the posterior distribution of the data. The results for self-efficacy were $M = 14.50$ ($SD = 4.44$) and for EBPs they were $M = 47.05$ ($SD = 11.52$). These findings are evidence of variation based on the coefficient of variation of 32.25% for self-efficacy and 27.62% for EBPs. The skew for both self-efficacy and EBPs was positive, with the tail for the skew extending to the right. The kurtosis score for both self-efficacy and EBPs was negative, with a platykurtic shape to the distribution of the data. The measures for posterior distribution did not include any evidence of an extreme skew or kurtosis score, based on the z-score of skewness and kurtosis.

Table 2

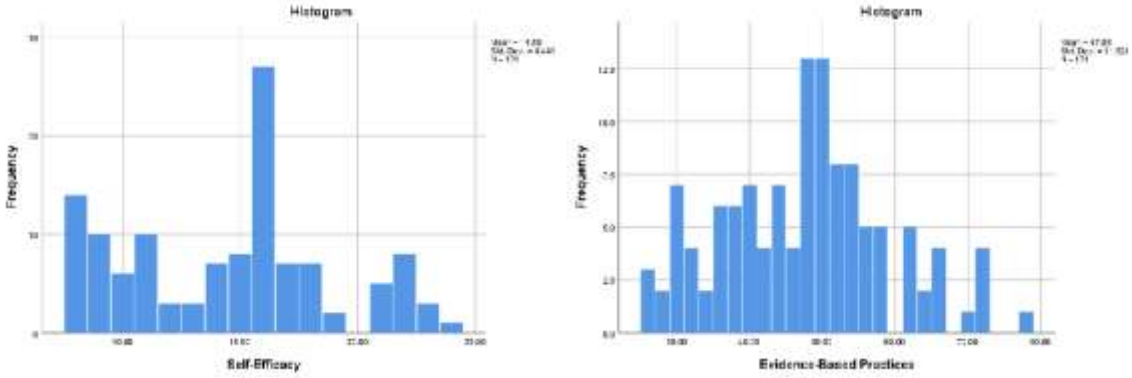
Descriptive Statistics for Self-Efficacy and Evidence-Based Practices

	M	*SD*	Skew	Kurt
Self-efficacy	14.50	4.44	0.16	-0.86
Evidence-based practices	47.05	11.52	0.25	-0.32

Histograms were used to interpret the distribution of the data. Figure 10 includes the histograms for self-efficacy and EBPs. The histograms do not include evidence to indicate that self-efficacy or EBPs had a non-normal distribution of the data. The distribution of the data was examined further based on the predicted and residual values of the relationship between self-efficacy as a criterion variable and the reported gender, age, and EBPs of participants later in Chapter 4.

Figure 10

Histograms for Self-Efficacy and Evidence-Based Practices



Tests of Statistical Assumptions

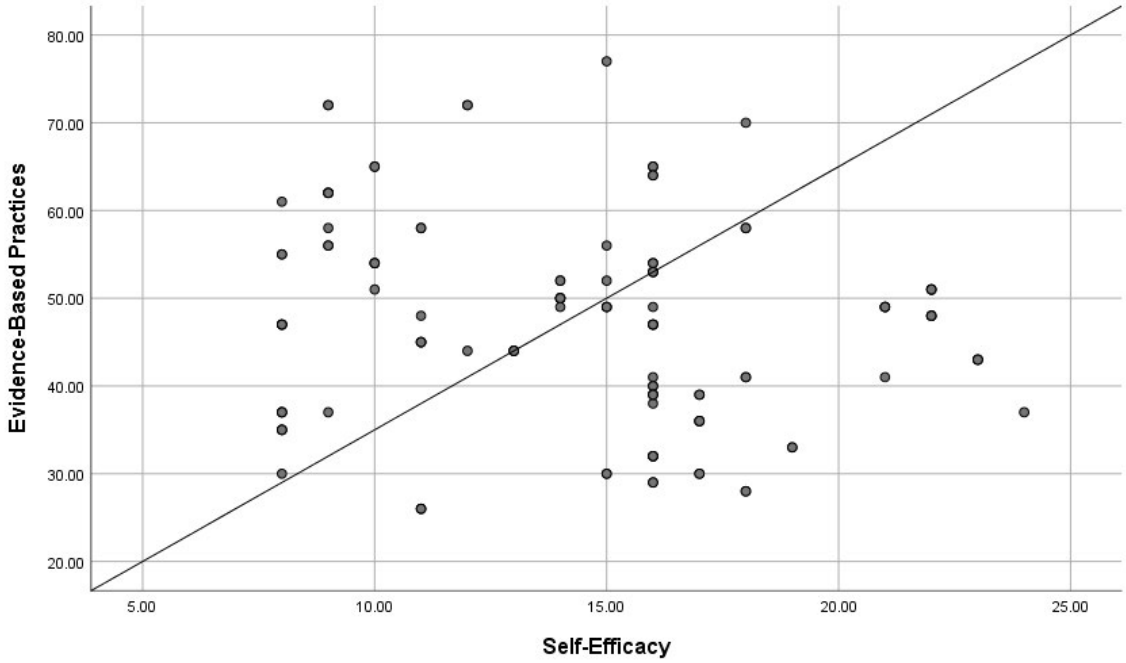
Several statistical assumptions must be met for the use of multiple regression, including the assumption of a linear relationship between variables, normality of residuals, an assumption of no multicollinearity, no autocorrelation, and homoscedasticity. The statistical assumptions for performing a multiple regression test were supported.

Assumption of a Linear Relationship Between Variables

The first assumption involved the distribution of cases according to there being a linear relationship between variables. The scatterplot included evidence of there being a linear relationship between self-efficacy and EBPs. The line across the data was diagonal and ran from the bottom left to the top right (see Figure 11). This is a direction expected when there is a positive linear relationship between variables. Therefore, the first assumption was supported.

Figure 11

Scatterplot Matrix of the Relationships Between Variables

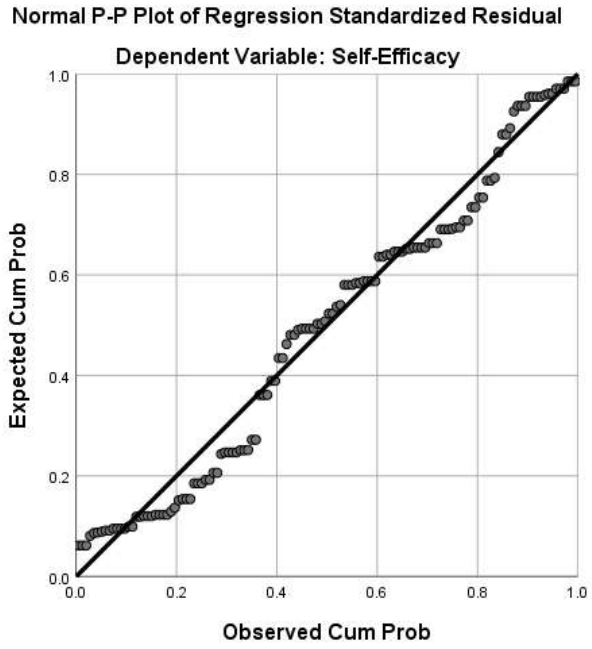


Assumption of Normality of Residuals

Normality was the second statistical assumption tested in the study. Normality in regression involves the normality of the distribution of data vis-à-vis the predicted and residual values. Normality was assessed using two methods: a P-P plot and the results of the Shapiro-Wilk test. Figure 12 includes the P-P plot. The distribution of cases is evidence that the cases remained close to the line. Therefore, there was some illustrative support for the normality of the distribution of the data. Further examination was performed using the Shapiro-Wilk test. The unstandardized predicted value included a *K-S* = 0.08 (*sig* = 0.06). These findings are evidence that there was a normal distribution to the data.

Figure 12

P-P Plot Illustrating the Normality of Residuals



Assumption of no Multicollinearity

The assumption of no multicollinearity was then assessed (see Table 3). The VIF and the tolerance values were used to assess the existence of multicollinearity. The findings were evidence of little to no multicollinearity in the data.

Table 3

VIF and Tolerance of Data

	Tolerance	VIF
Evidence-based practices	0.90	1.11
Age	0.90	1.12
Gender	0.83	1.21

Assumption of no Autocorrelation

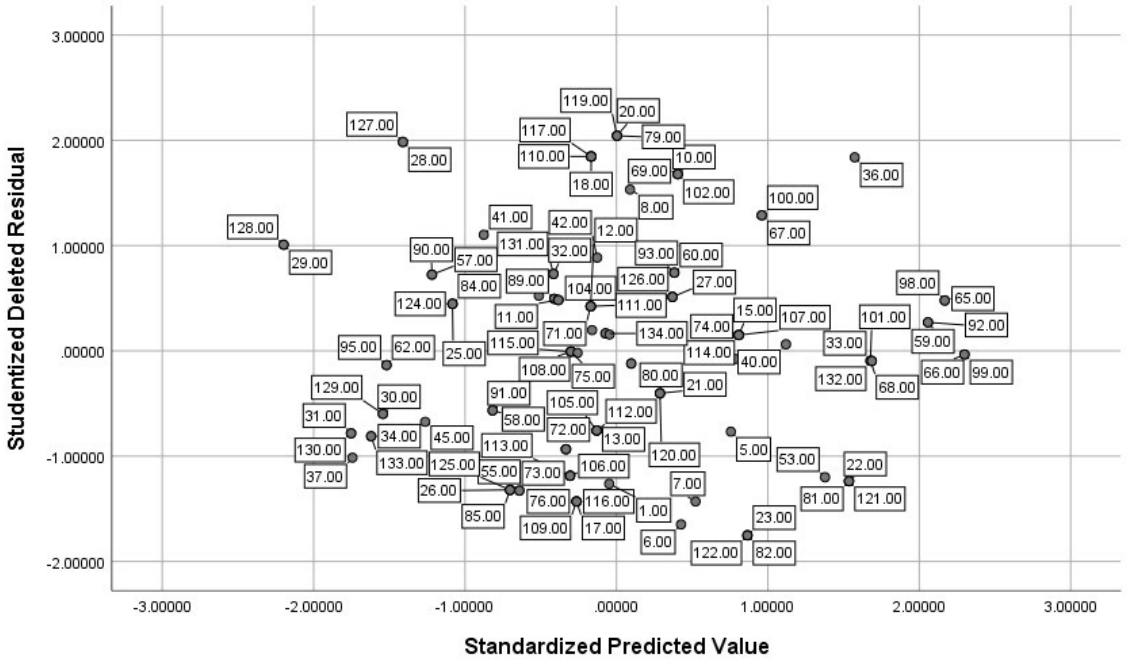
The assumption of autocorrelation was assessed using the Durbin-Watson statistic. The optimal score for the Durbin-Watson statistic is $1.5 < D\text{-}W < 2.5$, as $D\text{-}W = 2.0$ is the point where no autocorrelation exists. However, Frøseth et al. (2004) identified that there is not cause for concern if $1.0 < D\text{-}W < 3.0$. The findings for this study included $D\text{-}W = 1.20$. Therefore, though the Durbin-Watson statistic was evidence of some positive autocorrelation, the score should not be cause for concern. The finding is noted in the limitations.

Assumption of Homoscedasticity

The assumption of homoscedasticity was assessed based on a scatterplot of studentized deleted residuals and standardized predicted values. The results supported the assumption of homoscedasticity as there appeared to be a wider range for studentized deleted residuals as standardized predicted values increased (see Figure 13). Therefore, the data appeared to meet all assumptions for the use of multiple regression.

Figure 13

Scatterplot of Studentized Deleted Residuals and Standardized Predicted Values



Results

The results were determined based on a single multiple regression model including self-efficacy as the criterion and EBPs, age, and gender as factors predicting self-efficacy. The results were assessed for strength and direction based on β. Significance was assessed based on $p < 0.05$.

Research Question: To what extent does the use of EBPs covary with a sense of self-efficacy for mental health counselors treating individuals diagnosed with SUD?

Alternative Hypothesis: There will be a statistically significant relationship between self-efficacy and the use of EBPs.

Null Hypothesis: There will not be a statistically significant relationship between self-efficacy and the use of EBPs.

The hypothesis that self-efficacy as a criterion variable would be significantly influenced by EBPs was tested. Age and gender were included in the model. The regression model was found to be significant at $p < 0.05$ ($F_{(3,114)} = 3.00$, *sig* = 0.03). The coefficient of determination was evidence that the model could explain 4.9% of self-efficacy based on EBPs, age, and gender among participants (see Table 4). However, upon closer examination, it was found that none of the individual predictor variables had a statistically significant influence on self-efficacy. Despite the nonsignificant findings for the individual predictor variables, the overall regression model demonstrated significance, suggesting there may be complex interactions or combined effects among the predictors that contribute to self-efficacy. This outcome implies other unmeasured factors not included in this study may play a more substantial role in determining self-efficacy within this particular context.

Table 4

Regression Model for Research Question

	Unstd. B	Std. error	Std. β	*t*	sig.
(Constant)	12.02	3.26		3.68	0.00
Evidence-based practices	-0.05	0.04	-0.14	-1.42	0.16
Age	0.06	0.04	0.15	1.58	0.12
Gender	1.66	0.92	0.18	1.81	0.07

The reason for the statistical significance of the model and the lack of statistical significance among individual variables is not known. The possibility exists that as autocorrelation was found to be relatively lower, this result contributed to the finding that the model was significant at $p < 0.05$. The specific characteristics of the sample used in the study could have influenced the results. It is possible that relationships between the

individual predictors and self-efficacy are present but not detected in this particular sample. Factors such as the demographic composition or unique characteristics of the participants included in the study might have affected the observed relationships. Multicollinearity should not be considered a problem based on the VIF and tolerance scores reported in Table 3. When multicollinearity is present, the predictor variables may be highly correlated with each other. This means the individual contributions of each variable may be less apparent when they are included together in the regression model.

Interaction effects should be considered. Interaction effects refer to the combined effect of two or more predictor variables on an outcome variable that is different from their individual effects. In statistical analysis, interaction effects occur when the effect of one predictor variable on the outcome variable depends on the level or presence of another predictor variable. The predictor variables may have interactive effects on self-efficacy that were not captured when examining them individually. For example, age and years of experience might have a combined influence on self-efficacy, where younger individuals with more experience report higher satisfaction compared to older individuals with similar experience levels. In this case, the interaction between age and years of experience could be significant in the regression model, contributing to its overall significance.

CHAPTER 5—DISCUSSION OF FINDINGS

The purpose of this quantitative, correlational research was to examine the extent to which the use of EBPs covaries with sense of self-efficacy for mental health counselors treating clients diagnosed with SUD. EBPs are often used in cases where SUD is present (Hogue et al., 2018). Prior research has shown several EBPs used to address SUD are complex and require multi-part approaches to be efficacious (Magill et al., 2019). Magill et al. (2019) and Hogue et al. (2018) argued for research to explore how therapists' personal qualities may influence their ability to effectively apply EBPs. These findings support the purpose of the current study, which was to examine whether the use of EBPs covaries with self-efficacy. The independent, predicting variables in this study were the use of EBPs, the biological sex of the participant, and the generation cohort of the participant. The dependent, criterion variable in this study was self-efficacy. The general population under examination was mental health counselors who treated clients diagnosed with SUD. The study has the potential for positive social impact by assessing the methods that may improve mental health counselors' ability to treat SUD.

The use of EBPs in psychology is critical in the successful treatment of individuals requiring psychological assistance (Hogue et al., 2018; Magill et al., 2019). The use of evidence-based treatment in psychotherapy has been found to be responsible for reducing the cost and increasing the effectiveness of treatment for individuals experiencing a wide range of conditions (Cook et al., 2017). Prior research showed self-efficacy to be associated with the use of EBPs and more effective care for clients (Farrell et al., 2018). However, there is a gap in the body of quantitative research validating the clinical application of EBPs for treating SUD with a specific focus on the role of self-

efficacy (Bennett-Levy, 2019; Hogue et al., 2018; Magill et al., 2019). Though prior research supports EBPs as effective and less costly than practices lacking supporting evidence, there is a lack of evidence supporting the existence of a significant, positive relationship between the use of EBPs and self-efficacy. Hence, the specific problem explored within this quantitative, correlational research is that it is not known to what extent the use of EBPs covaries with a sense of self-efficacy for mental health counselors treating individuals diagnosed with SUD. The following research question and hypotheses were examined to define the data model listed below:

Research Question: To what extent does the use of EBPs covary with a sense of self-efficacy for mental health counselors treating individuals diagnosed with SUD?

Alternative Hypothesis: There will be a statistically significant relationship between self-efficacy and the use of EBPs.

Null Hypothesis: There will not be a statistically significant relationship between self-efficacy and the use of EBPs.

$$\text{Self-efficacy} = \beta_0 + \beta_1 \text{UseofEvidence-basedPractices} + \beta_2 \text{Female} + \beta_3 \text{AgeCohort} + e$$

Chapter 5 includes a discussion of the findings and their implications for practice. A description of how the findings fit with the greater body of research is offered in this chapter upon reflection of the findings and discussion in prior research concerning EBPs and self-efficacy. Implications for the profession of counseling are also offered. The implications focus on how the results concerning the application and reliance of EBPs by counselors and self-efficacy can influence the profession of counseling. Chapter 5 also includes the strengths and limitations of the study. These are associated with the execution of the research design

strategies used. The chapter concludes with suggestions for future research and concluding remarks concerning the study.

Discussion of the Findings

The independent, predicting variables in this study were the use of EBPs, the biological sex of the participant, and the generation cohort of the participant. The dependent criterion variable in this study was self-efficacy. The general population under examination in this study was mental health counselors, specifically those who specialize in SUD treatment. The population was sampled using a voluntary response sampling approach. A sample of 121 mental health counselors responded to a three-section, 34-question survey. Collected data were examined using multiple regression data models. Results from a single multiple regression model using self-efficacy as the criterion and examining how EBPs, age, and gender predicted self-efficacy showed the model was significant; however, results also showed the relationship between EBPs and self-efficacy was insignificant. Thus, the findings failed to reject the null hypothesis, as there was not a statistically significant relationship between self-efficacy and the use of EBPs.

The findings in response to the research question, which asked to what extent the use of EBPs covaries with a sense of self-efficacy for mental health counselors treating individuals diagnosed with SUD, showed no relationship and were viewed under the overall framework of Bandura's (1977) self-efficacy theory. These findings were valued based on the vicarious experiences of the sample. Typically, the participants were thought to consider that individuals who see others complete tasks successfully are more likely also to complete these tasks in the future. Further, the findings were weighed against the theoretical framework showing that self-efficacy and EBP implementation among mental

health counselors may lead to diffusion of these techniques to better treat clients with SUD. Further, these findings were evaluated against the foundation and understanding of self-efficacy theory related to a mental health counselor's treatment method for individuals diagnosed with SUD. These theories framed the study regarding sense of self-efficacy and the application of EBPs for mental health counselors' treatment of clients with SUD.

Much of the existing research focused on EBP use by mental health counselors for improving the behavioral and psychological symptoms of clients noted this practice as a means of improving the behavioral outcomes of clients experiencing dementia, as well as treating SUD (Back et al., 2019; Jemberie et al., 2020; Scales et al., 2018). Studies also explained how using EBP for treating SUD involving behavioral treatments for adults and adolescents produced an understanding of the need for overall treatment efficacy (Hogue et al., 2018; Magill et al., 2019). Hogue et al. (2018), Magill et al. (2019), and Jemberie et al. (2020) noted the use of EBPs in psychology was a critical component of the therapy's success factor. However, none of these studies recognized the impact of such variables as age, gender, or self-efficacy.

The research supports using EBPs specific to SUD (Ashford et al., 2019; Witkiewitz et al., 2019). Therapeutic and behavioral treatments were noted in most studies as effective for some individuals with SUD. However, much of this research focused on how mental health professionals identified EBPs as potentially treating and preventing the adverse outcomes associated with SUD (Ashford et al., 2019; Fairbairn et al., 2018; Witkiewitz et al., 2019). The literature failed to evaluate the variables this study observed as preeminently affecting such EBP practice even with minimal treatment

efforts. What was examined in much of this research were such variables as comorbidities such as PTSD (Back et al., 2019; Gruber et al., 2021; McGinty et al., 2018).

Another area of interest found within the existing research included client-perceived barriers. Researchers have suggested client-perceived barriers influence the outcomes associated with EBPs for SUD (Marchand et al., 2019; Valenstein-Mah et al., 2020). However, there was no examination of the relationship between self-efficacy and EBPs for SUD. Even so, Marchand et al. (2019) noted that if continued barriers were experienced, certain EBPs might be ineffective for treatment purposes with clients. The findings in the current study indicate having an understanding of such barriers perceived by both the client and mental health therapist should include age, gender, and self-efficacy as influences on the success of EBPs in such treatment methods.

It should also be noted that the findings showed that EBPs, age, and gender did not predict self-efficacy. Even though these findings suggested such, the implications of other factors were noted as helpful in such practice and predictions with self-efficacy. These included exercise and communication therapy (Ashdown-Franks et al., 2020; Ashford et al., 2019) and mindfulness (Bozdağ & Çuhadar, 2022; Cavicchioli et al., 2018; Ramadas et al., 2021; Vinci et al., 2021). However, Vinci et al. (2021) further noted that mindfulness-based approaches effectively improve SUD recovery outcomes. Thus, the current treatment retention methods using evidence-based approaches are effective for some populations with SUD.

It was also recognized that client-centered factors influence EBP efficacy and, thus, the clinician's implementation of the therapy method (Fairbairn et al., 2018; Y. Kim

et al., 2021; Shi et al., 2021). The understanding of self-efficacy and EBPs among mental health counselors for SUD was noted in the current research; however, the focus was less on the influence of factors and more on recognizing each factor as holding an important relationship with EBP, not influencing it. For example, Hu et al. (2015) and later Babenko and Oswald (2019) explored the factors of self-efficacy, psychological needs, and self-compassion and focused on the relationship with counselors' self-efficacy. The findings from both studies indicated self-efficacy should focus on how the client's self-efficacy and the counselor's self-efficacy may potentially influence the application and outcomes of EBPs, an idea addressed in the current study through the specific focus on SUD, though results showed no significant relationship with the variables of EBPs, age, and gender. Existing research related to the current study's findings showed the effectiveness of training methods was positively related to self-efficacy (Valenstein-Mah et al., 2020).

Implications for the Profession

The findings have several implications for future professionals in mental health fields. Recognizing that the regression model was found to be significant in relation to EBPs and self-efficacy, practical application of SUD therapy is suggested to recognize the importance and positive aspects of using EBPs. Additionally, self-efficacy was not necessarily influenced by age and gender but should continue to be evaluated based on patient diagnosis and type of SUD when considering a therapeutic method for treatment. Research regarding EBPs for SUD and counseling self-efficacy was lacking in the reviewed literature. The current results indicated that self-efficacy influences mental health counselors' implementation and effective practice of EBPs.

Clinician training and organizational factors may also affect mental health counselors' self-efficacy and ability to implement EBPs for SUD clients. Previous research showed EBP training was essential for improving short-term client satisfaction, knowledge of EBPs, and adherence to training modules (Valenstein-Mah et al., 2020). However, training did not increase the likelihood of adopting EBPs compared to no training or self-study. The current study's review of EBP was encouraged and more education on understanding the importance of self-efficacy within this practice and with the implementation among these programs could ensure mental health counselors implement EBPs successfully. The findings of the current study indicated the factors of competence, adoption, satisfaction, and skill acquisition adherence are important for EBP application and should be considered by practitioners in the future.

Suggestions for Future Research

The findings lead to several suggestions for studies to follow in a research agenda aimed at explaining the relationship between EBPs and self-efficacy among counseling professionals. Future research should use a longitudinal design to explore the dynamic nature of the relationship between EBPs and self-efficacy over time. This could help determine whether the lack of significance in the current model is due to the short duration of the study or if there are other factors influencing the relationship. Contextual and subgroup factors should also be considered as age and gender were significant when examining individual factors in this study. Researchers should explore the influence of contextual factors on the relationship between EBPs and self-efficacy. This could involve investigating how organizational culture, professional norms, or team dynamics affect the relationship, as these factors may moderate the effects of EBPs on self-efficacy.

Researchers should also conduct a subgroup analysis to examine whether certain subgroups within the sample population show a significant relationship between EBPs and self-efficacy. For instance, researchers could analyze whether the relationship differs based on factors such as professional experience, education level, or specific job roles. A mixed-methods approach could also support further investigation of the data model. Researchers should combine quantitative methods with qualitative research to gain a more comprehensive understanding of the relationship between EBPs and self-efficacy. Use qualitative data to explore the experiences, perceptions, and contextual nuances may provide additional insight into the lack of significance found in the quantitative analysis.

Aside from using different types of research design characteristics, future research can be used to investigate the problem further. One such study could involve an exploration of intervention effectiveness. Researchers should investigate the effectiveness of interventions aimed at enhancing self-efficacy among practitioners of EBPs, as well as different intervention strategies, such as training programs, mentoring, or feedback mechanisms, to determine their impact on self-efficacy levels. Researchers should also focus on examining the relationship between EBPs and self-efficacy across different cultural contexts. It will be important to investigate how cultural factors, such as individualism versus collectivism or cultural beliefs about authority and expertise, may influence the association between EBPs and self-efficacy. Professional development programs should also become a focus of researchers. Researchers should explore the role of professional development programs in promoting self-efficacy among practitioners of EBPs. Studies are needed into the specific components or features of these programs that contribute to the development of self-efficacy beliefs. In addition, future research should

be designed to investigate the impact of team dynamics and collaboration on self-efficacy among practitioners of EBPs and how factors like team cohesion, communication patterns, and shared decision making influence self-efficacy levels and the adoption of EBPs within teams.

Conclusion

In closing, more work is needed to develop a comprehensive understanding of the relationship between EBPs and self-efficacy among counselors. The findings from the current study do not support the existence of a simple regressive relationship between EBPs and self-efficacy ($R^2 = 0.01$, $sig = 0.33$). However, a multiple regression model that accommodated the inclusion of the personal characteristics of counselors did result in a model that was statistically significant at $p < 0.05$ and where it can be understood that 4.9% of self-efficacy among counselors can be explained by EBPs, gender, and age as predictors ($F_{(3,114)} = 3.00$, $sig = 0.03$). These findings align with findings from prior research concerning counseling practice as discussed above. However, further work is needed for there to be a comprehensive elucidation of the role of EBPs in the self-efficacy of counselors. The limitations described in this chapter should be considered as opportunities to advance scholarship and a refined understanding of practice, and the call for future research should be considered an explicit invitation for other scholars to take the opportunity to become a part of the scholarly conversation concerning how counselors can be better supported.

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APPENDIX A

Survey Instrument

SECTION I

1. What is your current age?

   _____

2. What is your gender?
   - Female
   - Male
   - Non-binary
   - Other
3. How many years have you been in practice?

   _____

4. What ethnicity do you identify with?
   - White/Caucasian
   - Black/African American
   - Hispanic/Latino
   - Asian or Pacific Islander
   - Other
5. What is your level of education?
   - Bachelor
   - Masters
   - Doctoral
   - Other
6. What best describes your work setting?
   - School
   - Outpatient/community mental health
   - Private practice
   - Other
7. How long have you practiced treating clients for substance use disorders?

   _____

8. What licenses or certifications do you carry?

   _____

   _____

   _____

SECTION II

For questions 9-16, please select *one* option in response to each of the following questions regarding your sense of self-efficacy as a mental health counselor.

9. I will be able to achieve most of the goals that I have set for myself.
   - *Strongly disagree.*
   - *Disagree.*
   - *Neither agree nor disagree.*

- *Agree.*
- *Strongly agree.*

10. When facing difficult tasks, I am certain that I will accomplish them.
    - *Strongly disagree.*
    - *Disagree.*
    - *Neither agree nor disagree.*
    - *Agree.*
    - *Strongly agree.*
11. In general, I think I can obtain outcomes that are important to me.
    - *Strongly disagree.*
    - *Disagree.*
    - *Neither agree nor disagree.*
    - *Agree.*
    - *Strongly agree.*
12. I believe I can succeed at most any endeavor to which I set my mind.
    - *Strongly disagree.*
    - *Disagree.*
    - *Neither agree nor disagree.*
    - *Agree.*
    - *Strongly agree.*
13. I will be able to successfully overcome many challenges.
    - *Strongly disagree.*
    - *Disagree.*
    - *Neither agree nor disagree.*
    - *Agree.*
    - *Strongly agree.*
14. I am confident that I can perform effectively on many different tasks.
    - *Strongly disagree.*
    - *Disagree.*
    - *Neither agree nor disagree.*
    - *Agree.*
    - *Strongly agree.*
15. Compared to other people, I can do most tasks very well.
    - *Strongly disagree.*
    - *Disagree.*
    - *Neither agree nor disagree.*
    - *Agree.*
    - *Strongly agree.*
16. Even when things are tough, I can perform quite well.
    - *Strongly disagree.*
    - *Disagree.*

- *Neither agree nor disagree.*
- *Agree.*
- *Strongly agree.*

SECTION III

For questions 17-28, please select *one* option response to each of the following questions regarding your use of evidence-based practices as a mental health counselor.

In the past 8 weeks, I have:

17. Used evidence to change my practice.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
18. Critically appraised efforts from a research study.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
19. Generated a Patient/Population, Intervention, Comparison, and Outcome (PICO) question about my practice.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
20. Informally discussed evidence from a research study from a colleague.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
21. Collected data on a clinical issue.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
22. Shared evidence from a study or studies in the form of a report or presentation to more than 2 colleagues.
    - *0 times*
    - *1-3 times*
    - *4-5 times*

- *6-8 times*
- *>8 times*

23. Evaluated the outcomes of practice change.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
24. Shared evidence from a research study with a patient/family member.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
25. Shared evidence of a research study to a friend or family member.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
26. Shared evidence of a research study to a multi-disciplinary team member.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
27. Read and critically appraised a clinical research study.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
28. Assessed the Cochrane database of systematic reviews.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
29. Accessed an evidence-based guideline.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*

30. Used an evidence-based guideline of systematic review to change clinical practice where I work.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
31. Evaluated a care initiative by collecting patient outcome data.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
32. Shared the outcome data collected with colleagues.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
33. Changed practice based on patient outcome data.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*
34. Promoted the use of evidence-based practice (EBP) to my colleagues.
    - *0 times*
    - *1-3 times*
    - *4-5 times*
    - *6-8 times*
    - *>8 times*

APPENDIX B

Consent Letter

Introduction

My name is Carl Bastien, and I am a doctoral student at National Louis University (NLU).

I am conducting a research study on what extent does the use of evidenced-based practice covary with the sense of self-efficacy for mental health counselors treating an individual diagnosed with a substance use disorder. The name of this research study is "Evidence-Based Practices and Self-Efficacy: A Quantitative Study of Mental Health Counselors Treating Clients with Substance Use Disorder." I am seeking your consent to participate in this study.

Please read this document to learn more about this study and determine if you would like to participate. Your participation is completely voluntary, and I will address your questions or concerns at any point before or during the study.

Eligibility

You may participate in this research if you meet all of the following criteria:

1. Are 18 years or older.
2. Are currently employed in a full-time position with daily tasks and duties that entail the counseling of treatment of, and/or the provision of direct assistance to people with substance use disorder.
3. Are currently employed by an organization or in a private practice in XXXXX

I hope to include at least 119 people in this research.

Activities

If you decide to participate in this study, you will be asked to do the following activities:

1. Complete an online survey for 15 minutes.

During these activities, you will be asked questions about:

- Your experiences of self-efficacy and a mental health counselor.
- Your experiences with the use of evidence-based practices as a mental health counselor.
- Your age and gender.
- Years you have been in practice.

All activities and questions are optional: you may skip any part of this study that you do not wish to complete and may stop at any time.

If you need to complete the activities above in a different way than I have described, please let me know, and I will attempt to make other arrangements.

Risks

There are no foreseeable risks or discomforts associated with this study. You can still skip any question you do not wish to answer, skip any activity, or stop participation at any time. However, if at any time you do feel minor discomfort that causes distress you can leave with no consequences. Further if you feel such distress that requires professional assistance, please feel free to call the 24-hour Substance Abuse and Mental Health Services Administration (SAMHSA) National Helpline, 1-800-662 HELP (4357). SAMHSA's National Helpline or via text message: 435748 (HELP4U), or TTY: 1-800-487-4889. This Helpline is a confidential, free, 24-hour-a-day, 365-day-a-year, information service, in English and Spanish. This service provides referrals to local support groups and community-based organizations for anyone needing mental health assistance.

Benefits

If you participate, there are no direct benefits to you, nor will you receive any compensation for participating in the study. However, there is a strong societal benefit which will provide further understanding of improved conditions and methods for mental health counselors. Ideally, through this assessment, recommendations will be elucidated, which may serve to guide professionals who treat substance use disorder clients with evidence-based practice for successful treatment and practice. Once the analysis is complete, the researcher will share the overall results by email you a summary of the findings.

Additionally, this research may increase the body of knowledge in the subject area of this study.

.

Privacy and Data Protection

I will take reasonable measures to protect the security of all your personal information, but I cannot guarantee confidentiality of your research data. In addition to me, the following people and offices will have access to your data:

- My NLU dissertation committee and any appropriate NLU support or leadership staff
- The NLU Institutional Review Board

This data could be used for future research studies or distributed to other investigators for future research studies without additional informed consent from you or your legally authorized representative.

I will securely store your data for 3 years. Then, I will delete electronic data and destroy paper data.

How the Results Will Be Used

I will publish the results in my dissertation. I may also share the results in a presentation or publication. Participants will not be identified in the results.

Contact Information

If you have questions, you can contact me at: [redacted].

My dissertation chair's name is Dr. Martin Wesley. They work at National Louis University and are supervising me on the research. You can contact them at: mwesley@nl.edu.

If you have questions about your rights in the research or if a problem or injury has occurred during your participation, please contact the NLU Institutional Review Board at nl.edu or (800) 366-6581.

Voluntary Participation

If you decide not to participate, or if you stop participation after you start, there will be no penalty to you: you will not lose any benefit to which you are otherwise entitled.

APPENDIX C

Author Permission to Use Scales in the Survey Instrument

Request for permission to use Evidence-Based Practice Implementation Scale

Carl Bastien [redacted] Mon, Aug1, 11:00 AM

to melnyk.15

Dear Professor, Melnyk,

Please forgive the intrusion. My name is Carl Bastien, and I am a doctoral candidate working on my dissertation proposal to the Doctor of Education in Counseling Psychology program at National Louis University. My dissertation is entitled Self-Efficacy and Evidence-based Practices among Qualified Addiction Professionals Treating Patients with Substance Use Disorder: A Quantitative Correlational Study.

My dissertation chair, Dr. Martin Wesley, is requiring that I receive permission from you via email to use the Evidence-Based Practice Implementation Scale before he allows me to defend my proposal. If you permit me to use the scale, please simply reply to this email with "OK." I will include this email exchange in an appendix to my proposal (and approved, completed dissertation, eventually).

If you have any questions, please feel free to ask me in this email thread, or my chair (Martin Cortez Wesley, PhD, mwesley@nl.edu).

Thank you in advance.

Kindest regards,
Carl Bastien

Doctoral Candidate
Doctor of Education in Counseling Psychology
National Louis University

Request for permission to use New General Self-Efficacy Scale

Carl Bastien [redacted] Mon, Aug1, 11:03 AM

to gchen3@umd.edu

Dear Professor Chen,

Please forgive the intrusion. My name is Carl Bastien, and I am a doctoral candidate working on my dissertation proposal to the Doctor of Education in Counseling Psychology program at National Louis University. My dissertation is entitled Self-Efficacy and Evidence-based Practices among Qualified Addiction Professionals Treating Patients with Substance Use Disorder: A Quantitative Correlational Study.

My dissertation chair, Dr. Martin Wesley, is requiring that I receive permission from you via email to use the New General Self-Efficacy Scale before he allows me to defend my proposal. If you permit me to use the scale, please simply reply to this email with "OK." I will include this email exchange in an appendix to my proposal (and approved, completed dissertation, eventually).

If you have any questions, please feel free to ask me in this email thread, or my chair (Martin Cortez Wesley, PhD, mwesley@nl.edu).

Thank you in advance.

Kindest regards,
Carl Bastien

Doctoral Candidate
Doctor of Education in Counseling Psychology
National Louis University

Gilad Chen Aug 1, 2022, 11:21 AM

to me

See attached, and ok

--

Gilad Chen, Ph.D.
Associate Dean for Research
Robert H. Smith Chair in Organizational Behavior
Robert H. Smith School of Business
4538 Van Munching Hall
University of Maryland
College Park, MD 20742-1815
Phone: 301-405-0923
Email: gchen3@umd.edu
Website: http://www.rhsmith.umd.edu/directory/gilad-chen

New General Self-Efficacy Scale

PsycTESTS Citation:

Chen, G., Gully, S. M., & Eden, D. (2001). New General Self-Efficacy Scale [Database record]. Retrieved from

PsycTESTS. doi: 10.1037/t08800-000

Test Shown: Full

Test Format:

The measure's 8 items are rated on a 5-point Likert-type scale from strongly disagree (1) to strongly agree (5).

Source:

Chen, Gilad, Gully, Stanley M., & Eden, Dov. (2001). Validation of a new general self-efficacy scale. Organizational

Research Methods, Vol 4(1), 62-83. doi: 10.1177/109442810141004, © 2001 by SAGE Publications. Reproduced by

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Test content may be reproduced and used for non-commercial research and educational purposes without seeking written permission. Distribution must be controlled, meaning only to the participants engaged in the research or enrolled in the educational activity. Any other type of reproduction or distribution of test content is not authorized without written permission from the author and publisher.

PsycTESTSTM is a database of the American Psychological Association

doi: 10.1037/t08800-000

Items

1. I will be able to achieve most of the goals that I have set for myself.

2. When facing difficult tasks, I am certain that I will accomplish them.

3. In general, I think that I can obtain outcomes that are important to me.

4. I believe I can succeed at most any endeavor to which I set my mind.

5. I will be able to successfully overcome many challenges.

6. I am confident that I can perform effectively on many different tasks.

7. Compared to other people, I can do most tasks very well.

8. Even when things are tough, I can perform quite well.

Note. 1. More specific information with regard to the search we have conducted is available upon request from the first author. 2. Participants were told that (a) general self-efficacy relates to "one's estimate of one's overall ability to perform successfully in a wide variety of achievement situations, or to how confident one is that she or he can

perform effectively across different tasks and situations," and (b) self-esteem relates to "the overall affective evaluation of one's own worth, value, or importance, or to how one feels about oneself as a person."

New General Self-Efficacy Scale

NGSE

PsycTESTSTM is a database of the American Psychological Association

Melnyk, Bernadette Aug 1, 2022, 11:12 AM

to Bindu, me

Hi Carl,
It is good to hear of your interest in my scale.
I am currently not charging for the use of the scale but do require you to complete a form describing your
intended use at https://go.osu.edu/ebp-instruments-application

Once completed, I will send you the scale for your use. Best wishes!

Warm and well regards,
Bern
Bernadette Mazurek Melnyk, PhD, APRN-CNP, FAANP, FNAP, FAAN
Vice President for Health Promotion
University Chief Wellness Officer
Dean and Helene Fuld Health Trust Professor of Evidence-Based Practice, College of Nursing
Professor of Pediatrics & Psychiatry, College of Medicine
Executive Director, the Helene Fuld Health Trust National Institute for EBP

145 Newton Hall | 1585 Neil Avenue Columbus, OH 43210
614-292-4844 Office
Founder & President, the National Consortium for Building Healthy Academic Communities (BHAC)
Editor, *Worldviews on Evidence-based Nursing*
melnyk.15@osu.edu
http://millionhearts.hhs.gov/index.html
www.healthyacademics.org
twitter@bernmelnyk

From: Bindu Thomas, thomas.3279@osu.edu <noreply@qemailserver.com>
Date: Monday, August 1, 2022 at 1:30 PM
To: Thomas, Bindu <thomas.3279@osu.edu>
Subject: EBP Instruments Request Submission Received - Carl Bastien

Thank you for your application to use our EBP instruments in your project/initiative. Bindu Thomas from the Fuld Institute for EBP will be in touch in the next few days via email with the description of the instrument(s) and link(s) to download a PDF of the instrument(s) you have requested. *
**Note: If you requested our EBP Knoweldge Assessment Questionnaire, that is a test and is only available as a Fuld hosted Qaultrics survey. We will send you a link to use for data collection. Upon completion of the data collection, we will send you a copy of your coded data.*

See below a copy of your request:

Recipient Data:
Time Finished: 2022-08-01 14:30:48 EDT
IP: [redacted]
ResponseID: [redacted]
Link to View Results: [redacted]
URL to View Results:
[redacted].

Response Summary:
Requestor Information:
First Name Carl
Last Name Bastien
Email [redacted]
Phone Number [redacted]
Affiliation National Louis University
Address [redacted]
Select the instrument(s) you would like to use in your study/initiative:Click the link below to v...
EBP Implementation Scale - Original Long Scale

Purpose of Study or Initiative:
The purpose of this quantitative, correlational research is to examine to what extent does the use of evidence-based practices covary with a sense of self-efficacy for qualified addiction professionals treating individuals diagnosed with a substance use disorder.

Purpose of use of the instrument(s):
The Evidence-Based Practice Implementation Scale will be used to examine to what extent do qualified addiction professionals implement the use of evidence-based practices when treating individuals diagnosed with a substance use disorder.

Population/Sample Description:
Qualified Addiction Professionals

Size of group to be surveyed:
119

Study/Initiative, Start Date:
08/15/2022

Study/Initiative, End Date:
12/31/2022

You will need to comply with the permission statement below that details the limitations with reg...
**By checking the box and signing below, I agree to share the following with the Fuld Institute for EBP (solely to evaluate the psychometric properties of the instrument(s)); as well as a summary including sample description, reliability of the instrument(s) and results via email at fuld-research@osu.edu
Signature
https://osu.az1.qualtrics.com/WRQualtricsControlPanel/File.php?F=F_R2GrLVwuiFmr8ad
I agree to share project raw de-identified data, with Fuld Institute for EBP on this date:
12/31/2022

Thomas, Bindu <thomas.3279@osu.edu> Mon, Aug 1, 2022 at 2:49 PM
To: [redacted]>

Thank you for the completed signed application. Attached is a copy of the scale(s) and a description of the scale(s) requested. Please treat this email as permission to use the scale as requested in the application. Look forward to hearing from you post the end date for your project about your sample description, findings and the Cronbach alpha information for our scales.

EBP Implementation Scale.EBPI

Participants respond to 18-item Likert-type scale items by answering how often in the last eight weeks they have performed specific EBP tasks, including (a) generated a PICO (Population, Intervention, Comparison, and Outcome) question about their practice, (b)

used evidence to change their clinical practice, and (c) shared outcome data collected with colleagues. Higher summed scores indicate greater implementation of EBP.

The scale has established face, content, and construct validity with internal consistency reliabilities above 0.85 (Melnyk et al., 2008).

Melnyk, B. M., Fineout-Overholt, E., & Mays, M. Z. (2008). The evidence-based practice beliefs and implementation scales: psychometric properties of two new instruments. *Worldviews on evidence-based nursing, 5*(4), 208–216. https://doi.org/10.1111/j.1741-6787.2008.00126.x

Sincerely,
Bindu

Bindu Thomas, M.Ed., MS
Clinical Program Manager
Fuld Institute for EBP

APPENDIX D

IRB Approval

NATIONAL LOUIS UNIVERSITY
1886
ACCESS. INNOVATION. EXCELLENCE.

Office of the Provost
122 South Michigan Avenue
Chicago, Illinois 60603-6162

www.nl.edu
P/F 312.261.3121

December 1, 2022

Carl Bastien
[redacted]

Dear Carl Bastien:

The Institutional Review Board (IRB) has received your application for your research study "*Evidence-Based Practices and Self-Efficacy: A Quantitative Study of Mental Health Counselors Treating Clients with Substance Use Disorder*" IRB has noted that your application is complete and that your study has been approved by your primary advisor and an IRB representative. Your application has been filed as Expedited in the Office of the Provost.

IRB: ER01187

Please note that the approval for your study is for one year, from **15-Nov-2022 to 15-Nov-2023**.

As you carry out your research, you must report any adverse events or reactions to the IRB. At the end of your approved year, please inform the IRB in writing of the status of the study (i.e., complete, continuing). During this time, if your study changes in ways that impact human participants differently or more significantly than indicated in the current application, please submit a Change of Research Study form to the IRB, which may be found on NLU's IRB website.

All good wishes for the successful completion of your research.

Sincerely,

Shaunti Knauth

Shaunti Knauth, Ph.D.
Chair, IRB

APPENDIX E

Recruitment Email

My name is Carl Bastien, and I am a doctoral student at National Louis University. I am conducting a study of the extent to which the use of evidence-based practices affects mental health counselors' sense of self-efficacy regarding the treatment of people with substance use disorder.

I am recruiting individuals who meet these criteria:

1. 18 years or older.
2. Currently employed in a full-time position with daily tasks and duties that entail the counseling of, treatment of, and/or the provision of direct assistance to people with substance use disorder.
3. Currently employed by an organization or in a private practice in XXXXX.

The activities for this research project will include:

1. Complete an online survey for 15 minutes
2. Be asked demographic questions about age and gender. These questions are optional and can be skipped at any time.
3. Be asked questions about your use of evidence-based practices and sense of self-efficacy as someone who works with people with substance use disorder. These questions are optional and can be skipped at any time.

If you are interested in participating in this study, please click this link: [redacted]. If you have questions, please contact me at [redacted] or [redacted].

Thank you!

Carl Bastien

APPENDIX F

Curriculum Vita

Carl Bastien, EdD, LMHC

National Louis University
[redacted]

EDUCATION

Aug 2018-June 2023	**National Louis University, Tampa** Tampa, FL Doctor of Education in Counseling Psychology
August 2013	**Florida School of Professional Psychology** Argosy University, Tampa, FL Master of Arts, Clinical Psychology
Sept 2005-Dec 2009	**University of Michigan, Flint** Flint, MI Bachelor of Science, Clinical Psychology Minor: Substance Abuse Treatment and Prevention Psi Chi Honor Society
Sept 2000-June 2005	**Mott Community College** Flint, MI Associate in Art

CERTIFICATIONS

February 2021	State of Florida, Department of Health, Licensed Mental Health Counselor.
April 2009	Registered in Counselor Development with Michigan Certification Board for Addiction Professionals.
April 2009	Michigan Department of Health and Human Services, HIV Counselor Certification Section 1.
November 2008	Program for Education and Evaluation in Responsible Research and Scholarship (PEERRS) certification.

GRADUATE CLINICAL TRAINING

July 2016- Oct 2016 **Tampa Jewish Family Services, Tampa, FL**
Advanced Practicum Student
Supervisor: Nicole Agresto, Psy.D.

Duties: Provided crisis management, short-term, and intermediate psychotherapy, as well as psychological assessments for children, individuals, families, couples, and senior adults in a community mental health setting.
Total Hours: 150

June 2015- June 2016 **Centerstone of Florida, Bradenton, FL**
Supplemental Practicum Student
Supervisor: Robert Boxley, Ph.D.

Duties: Provided individual psychotherapy to adult outpatient clients in a community mental health setting, completed screening and outcome assessments, conducted case presentations. Provided psychotherapy groups for anger management and coping with stress. Presenting concerns included bipolar disorder, posttraumatic stress disorder, substance abuse, and severe and persistent mental illness.
Total Hours: 930

Aug 2013- May 2014 **New College of Florida Counseling and Wellness Center, Sarasota, FL**
Interventions Practicum Student
Supervisor: Erin Robinson, Psy.D.

Duties: Provided individual psychotherapy to adult college students, completed written progress notes, performed consultations with other campus departments, and conducted case presentations. Presenting concerns included adaptation to college, academic distress, mood difficulty, anxiety and stress reduction, time management, and relationship problems.
Total Hours: 635

July 2012- June 2013 **Northside Mental Health Center, Tampa, FL**
Diagnostic Practicum Student
Supervisor: Richard Spana, Ph.D.

Duties: Conducted psychological evaluations within the areas of general cognitive, academic, and personality functioning for child, adolescent, and adult clients; conducted interviews; administered psychological tests and created written reports; provided feedback to clients, therapists, and case managers.
Total Hours: 850

OTHER CLINICAL EXPERIENCE

July 2017- Present **COVE Behavioral Health, Inc., Tampa, FL**
Court Services Counselor
Supervisor: Priscilla Molina, L.M.F.T.

Duties: Prepared biopsychosocial assessments for adult clients in Drug Pre-Trial Intervention (DPTI) program, provided educational and individual counseling, and conducted group counseling sessions. Testified in court regarding DPTI requirements.

May 2009- May 2011 **Recovery Unlimited Treatment Center, Flint, MI**
Substance Abuse Counselor
Supervisor: Richard Robinson, M.D.

Duties: Prepared biopsychosocial assessments for adult clients, provided educational and individual counseling, and conducted group counseling sessions.

May 2008- Aug 2008 **Resource Genesee, Flint, MI**
Call Specialist -Internship
Supervisor: Lindsay Younger

Duties: Assisted individuals in the community with referrals, provided information for community-based organizations, and directed volunteer services.

PRESENTATIONS

Boxley, R., **Bastien, C.** (2016, June). *Understanding trauma across the lifespan: Special issues for law enforcement.* Presentation at the Sarasota Police Department, Sarasota, Florida.

Bastien, C. (2010, May). *Particular gender differences within appearance accuracy.* Poster presentation at the Meeting of Minds Undergraduate Research Conference, University of Michigan, Flint.

Horgan, T. G., McGrath, M. P., **Bastien, C. J.** (2010, May). *Trimming women's advantage over men in appearance accuracy.* University of Michigan, Flint. Poster at the Association for Psychological Science Annual Convention, Boston, Massachusetts.

RESEARCH EXPERIENCES

Bastien, C. (2010, November). Particular gender differences within appearance accuracy. *Meeting of the Minds XVIII Undergraduate Journal. (12).*

Horgan, T. G., McGrath, M. P., **Bastien, C. J.** (2010, May). Trimming women's advantage over men in appearance accuracy. University of Michigan, Flint. Manuscript submitted for publication.

PEER REVIEWER

April 2016 — Effects of a Female Role Model on Academic Performance and Persistence of Women in STEM Courses. *Basic and Applied Social Psychology*.

CONFERENCES/TRAININGS ATTENDED

November 2020 — Florida Board of Clinical Social Work, Marriage and Family Therapy, and Mental Health Counseling, Florida Laws and Rules, Ace-Classes.com.

April 2016 — Florida Psychological Association Southwest Regional Conference, St. Petersburg, Florida.

May 2015 — Collaborative Institutional Training Initiative (CITI) Online Ethics Training.

March 2014 — Understanding the DSM-5 and ICD: Problems and prospects in recent revision, presented by Greg J. Neimeyer, Ph.D. Sarasota, Florida.

August 2012 — American Psychological Association Annual Convention in Orlando, Florida.

November 2009 — Association for Behavioral and Cognitive Therapies Annual Convention in New York City, New York.

AFFILIATIONS

2020-Present — American Counseling Association-Student Affiliate

2011-Present — American Psychological Association-Student Affiliate

2011-Present — American Psychological Association of Graduate Students-Member

Sept 2009-May 2010 — **Psi Chi International Honor Society in Psychology, President** University of Michigan-Flint. Organized personal care items drive and community volunteer opportunities. Conducted meetings and hosted the Annual Member Induction Ceremony.

Courses

Assessment:

- Assessment and Treatment of Substance Use Disorders
- Cognitive Assessment
- Integrative Assessment
- Objective Personality Assessment
- Projective Personality Assessment
- Child Assessment

Interventions:

- Clinical Interviewing
- Group Psychotherapy
- Integrative Approaches to Therapy
- Interventions I
- Interventions II

Clinical Foundations:

- Clinical Health Counseling
- Clinical Psychopharmacology
- Cognition and Affective Processes
- Counseling for Career Development
- Diagnostic Psychopathology
- History and Systems
- Human Sexuality
- Issues in Assessment and Treatment of Diverse Populations
- Lifespan Development
- Models of Clinical Supervision
- Physiological Psychology
- Professional Issues: Ethics, Conduct, and Law (I and II)
- Professional Writing for Community Psychology
- Professionalization Group (I and II)
- Qualitative Research Methods
- Social Psychology
- Statistics, Research, and Psychometrics (I and II)
- Teaching in Higher Education
- Theory and Practice of Family Therapy
- Theories of Psychopathology

Assessments

Cognitive Testing:

- Conner's Continuous Performance Test, 3rd Edition (CPT-3)
- Mini Mental Status Exam (MMSE)
- Stanford Binet Intelligence Scales Fifth Edition (SB5)
- Test of Memory Malingering (TOMM)
- Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI-II)
- Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV)
- Wechsler Individual Achievement Test – Second Edition (WIAT-II)
- Wechsler Intelligence Scale for Children – Fourth Edition (WISC-IV)
- Wechsler Memory Scale – Fourth Edition (WMS-IV)
- Woodcock-Johnson III Tests of Achievement (WJ-III)

Personality Testing:

- Draw-A-Person (DAP)
- Minnesota Multiphasic Personality Inventory – Second Edition (MMPI-2)
- Personality Inventory for Children, Second Edition (PIC-2)
- Personality Assessment Inventory (PAI)
- Personality Inventory for Youth (PIY)
- Roberts Apperception Test for Children (Roberts-2)
- Rorschach Inkblot Test (RIT)
- The Hand Test
- Thematic Apperception Test (TAT)

Behavioral Rating Scales:

- Beck Anxiety Inventory (BAI)
- Beck Depression Inventory – Second Edition (BDI-II)
- Behavioral Assessment Scales for Children, Second Edition (BASC-2)
- Child Behavior Checklist – Parent and Teacher Forms (CBCL)
- Child Depression Inventory – Second Edition (CDI-2)
- Child Inventory of Anger (ChIA)
- Conner's 3 ADHD Index, Parent Report
- Multidimensional Anxiety Scale for Children (MASC)
- Social Responsiveness Scale (SRS)
- State-Trait Anger Expression Inventory-2 (STAXI-2)
- Substance Abuse Subtle Screening Inventory-3 (SASSI-3)
- Trauma Symptom Checklist for Children (TSCC)