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# The Importance of Counseling Self-Efficacy In School Mental Health

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THE IMPORTANCE OF COUNSELING SELF-EFFICACY IN SCHOOL MENTAL  
HEALTH

by

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Bachelor of Arts  
The University of Texas at Austin, 2010

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Submitted in Partial Fulfillment of the Requirements

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## ABSTRACT

Clinician or counseling self-efficacy (CSE), defined as beliefs about one's ability to effectively counsel a client in the near future (Larson & Daniels, 1998), is widely accepted as an important precursor of effective clinical practice (Kozina, Grabovari, De Stefano & Drapeau, 2010). While previous research has explored the association of CSE with variables such as counselor aptitude, achievement, and level of training and experience, little attention has been paid to the self-efficacy of school mental health practitioners. The current study examines the influence of quality training and supervision on the level of counseling self-efficacy amongst school mental health practitioners, as well as the relationship of specific demographic variables and professional experiences to counseling self-efficacy. After controlling for significant correlations between pre-intervention self-efficacy and demographic/experiential variables, results of an analysis of covariance indicate a non-significant difference in change. Subsequent regression analyses indicated that, regardless of condition, post-intervention self-efficacy scores significantly predicted: quality of practice; knowledge of EBP for ADHD, depression, disruptive behavior and anxiety; and usage of EBP for treating depression. Results emphasize the importance of high CSE for quality and effective practice, and the need to make an explicit goal of evaluating effective mechanisms to enhance CSE and the impact that this has on client outcomes and satisfaction.

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## CHAPTER I

### INTRODUCTION

A significant gap exists between the mental health needs of children and adolescents, and the availability of effective services to meet such needs (Burns et al., 1995; Kataoka, Zhang & Wells, 2002; Leaf et al., 1996). The necessity of improving youth mental health services to meet these needs has been well documented (i.e., Stephan, Weist, Kataoka, Adelsheim & Mills, 2007; Mellin, 2009; Mills et al., 2006; Owens et al., 2002; Weist, Lowie, Flaherty & Pruitt, 2001). Research suggests that at least 20% of the youth population have significant mental health needs, with roughly 5% experiencing “extreme functional impairment,” and less than 1/3 of these individuals receiving any services at all (Leaf, Schultz, Kiser & Pruitt, 2003; Marsh, 2004; Policy Leadership Cadre for Mental Health in Schools, 2001). Likewise, federal reports have documented serious mismatches between services and need to address child and adolescent mental health (see the Surgeon General’s Report on Children’s Mental Health, U.S. Public Health Service, 2000). Similarly, in 2002, President George W. Bush established the President’s New Freedom Commission (PNFC) on Mental Health to evaluate the success of the country’s mental health system. The resulting report of these investigations, *Achieving the Promise: Transforming Mental Health Care in America* (2003), highlighted such gaps in youth mental health services and emphasized the need to improve the child and adolescent mental health system.



The position of schools as a point of contact and universal natural setting for youth and families was documented by the New Freedom Commission on Mental Health (PNFC, 2003), and is recognized as a key factor in the transformation of child and adolescent mental health services. Farmer and colleagues (2003) found that the education sector was cited as the most common provider of mental health services across ages, while only 7% of youth reported use of the specialty mental health sector, and 4% reported utilizing the general medical sector for psychological care. Thus, schools serve a central role in the provision of mental health services for children and adolescents, with 70 to 80% of children and adolescents who receive any mental health services getting them at school (Burns et al., 1995). Given that a substantial majority of youth receives mental health services at school, attending to the quantity, quality and effectiveness of school-based mental health services should be a significant national priority.

### **1.1 Expanded School Mental Health**

In recent years, expanded school mental health (SMH) programs have emerged as a unique approach to the provision of mental health services for students and families (Weist, 1997; Weist, Evans, & Lever, 2003). Unfortunately, SMH providers (e.g., counselors, social workers, clinicians, and psychologists) struggle to implement high quality and evidence-based services for a variety of reasons (Evans et al., 2003; Evans & Weist, 2004). In fact, when available, mental health services in the schools have been often been criticized for being fragmented and incomplete; for example, not coordinated between school-employed and community-employed staff working in schools, and often failing to include effective services at all levels of the promotion, prevention, early intervention and treatment continuum (see Repie, 2005; Young, 1990). Therefore,

researchers are increasingly evaluating the influences on successful delivery of evidence-based practices in schools, including the personal qualities of SMH professionals (e.g., attitudes, beliefs, skills, and training), as well as environmental factors (e.g., school administrative support, access to community resources, sufficient space for practice), in schools that may predict high quality services.

Friedrich (2010) examined factors related to the provision of SMH services by surveying a national sample of school psychologists. School psychologists answered questions regarding the extent to which certain factors served as either barriers or facilitators to the delivery of effective mental health services in their personal practice. Findings suggested that the highest-rated facilitators of effective SMH were personal characteristics (e.g., personal desire to deliver mental health services), and adequate training and confidence in one's perception of his or her ability to deliver effective therapy. Suldo, Friedrich, and Michalowski (2010) also sought to identify common barriers to mental health service delivery by school psychologists in the schools. In addition to administrative and school site difficulties, school psychologists cited a number of personal barriers, including lack of sufficient training, overwhelming caseload, job burnout, and personal mental health difficulties.

In a sample of school counselors, Lockhart and Keys (1998) found numerous reported barriers to mental health services in schools with most professionals citing limiting school system policies and insufficient training to meet the diverse needs presented by the student population. Repie (2005) surveyed a broader sample, including regular and special education teachers, school counselors, and school psychologists, on their perception of the provision of mental health services in schools. Results of this

survey, modified from a similar measure devised by Weist, Myers, Danforth, McNeil, Ollendick, and Hawkins (2000), suggested that these professionals perceived little support for mental health services in schools, and that this, along with lack of mental health knowledge by school personnel and administration, were viewed as significant barriers to effective mental health services.

While research has evaluated the influence of some types of personal characteristics in relation to the delivery of high-quality SMH services, little attention in the school mental health literature has been paid to the importance of clinician self-efficacy. Clinician self-efficacy is widely accepted as an important precursor of competent clinical practice (Kozina, Grabovari, De Stefano & Drapeau, 2010). However, researchers have not systematically included measures of self-efficacy in studies of SMH provider utilization of evidence-based practices.

## **1.2 Self-Efficacy**

Social-cognitive theory (SCT) and its central tenant, self-efficacy, have received much attention in the psychological literature (Judge, Jackson, Shaw, Scott & Rich, 2007). Not only is Alfred Bandura, who is credited with the development of this theory, considered one of the most influential psychologists in history (Haggbloom et al., 2002), but self-efficacy continues to be a focal construct in contemporary clinical and counseling psychological research (Judge et al., 2007; Lent & Maddux, 1997).

Self-efficacy is defined as an individual's beliefs about his or her ability to achieve desired levels of performance (Bandura, 1994), and is believed to play a key role in the initiation and maintenance of human behavior (Iannelli, 2000). Much of the

attention that this theory has received is attributed to the fact that individuals of comparable intelligence and abilities perform differently in the same situations (Fall, 1991). While one person may approach a challenge with determination and persistence, despite the risk of failure, another with similar abilities may choose to give up. Broadly, Bandura's social cognitive theory posits that overall self-efficacy, which includes outcome and efficacy expectancies, accounts for differential responses to challenge.

Bandura posits that self-efficacy as a whole is determined by two types of expectancies (Bandura, 1982, 1986), each of which serve differential roles. Efficacy expectancies are people's beliefs that they can successfully complete the actions necessary to reach the desired outcome (Bandura, 1977a). Outcome expectancies are people's beliefs that a certain behavior will lead to a specific outcome. While still important, outcome expectancies are less central to and exert less weight on level of self-efficacy.

Social-cognitive theory suggests that expectations of personal efficacy determine the amount of effort and time directed toward an activity, as well as the level of anxiety an individual feels regarding his or her proficiency. Thus, when self-efficacy beliefs are high, people have more confidence in their abilities, and subsequently devote more time and effort toward accomplishing related goals. On the other hand, if self-efficacy beliefs are low, regardless of actual skill level, individuals will approach a task with the belief that failure is imminent. Thus, self-efficacy is a major influence on selection of activities, the amount of effort expended and level of persistence in the face of barriers (Bandura, 1977a).

Self-efficacy is developed through cognitive appraisal processes, by which information from past performances is weighed and evaluated in conjunction with personal and situational factors (Bandura, 1977b; Bandura, Adams, Hardy & Howells, 1980). For example, if one believes that a certain course of behavior will result in specific outcomes and efficacy regarding completion of a course of action is high, the probability of engaging in these behaviors is increased. However, if there is doubt about being able to successfully complete the course of action, as well as an absence of expectations of positive outcomes, actions are stalled. Once generated, one's level of self-efficacy serves as a regulator of behavior and performance in a variety of domains.

Given the influence of self-efficacy expectancies on performance, research has evaluated how self-efficacy impacts a variety of action-related domains, including academic achievement (e.g., Caprara, Vecchione, Alessandri, Gerbino, & Barbaranelli, 2011; Phan, 2012; Yip, 2012), physical activity and endurance (e.g., Bean, Mille, Mazzeo & Fries, 2012; Dishman et al., 2005; Rutowski & Connelly, 2012), career selection (e. g., Branch & Lichtenberg, 1987; Zeldin, Britner & Pajares, 2008), health-behavior change (e.g., Mildestvedt, Meland & Eide, 2008; Ramo, Prochaska & Myers, 2010; Sharpe et al., 2008), parenting (e.g., Cinamon, Weisel & Tzuk, 2007; Gregory, 1998) and work-related performance (e.g., Judge et al., 2007; Stajkovic & Luthans, 1998). Specific to the mental health field, recent investigation has focused on how self-efficacy is related to counseling performance.

### **1.3 Counseling Self-Efficacy**

The construct of Counseling Self-Efficacy (CSE) is defined as an individual's beliefs about his or her ability to effectively counsel a client in the near future (Larson & Daniels, 1998). The structure and influence of this concept have been investigated in a variety of mental health professionals, including counseling trainees, masters' level counselors and psychologists, and school counselors, as well as in students from related professions (e.g., clergy, medicine). Research investigating the influence and development of this construct has resulted in mixed findings.

A number of counselor characteristics have been found to be minimally to moderately associated with self-efficacy, including counselor personality, aptitude, achievement and social desirability (Larson et al., 1992), and counselor age (Watson, 2012). In addition to numerous person-specific qualities, research suggests that CSE is related to external factors, including the perceived and objective work environment, supervisor characteristics, and level or quality of supervision (Larson & Daniels, 1998).

However, the relationship of self-efficacy with level of training is unclear. For the most part, CSE is stronger for individuals with at least some or much counseling experience than those with none (Barbee, Scherer & Combs, 2003; Melchert, Hays, Wiljanen & Kolocek, 1996; Tang et al., 2004). While the amount of obtained training and education has been reported as a significant predictor of degree of CSE (Larson & Daniels, 1998; Melchert et al., 1996), a number of studies have also reported that no such predictive relation exists (Tang et al., 2004). It has also been suggested that once a

counselor has a certain amount of experience the influence of experience on CSE becomes rather minimal (Larson, Cardwell & Majors, 1996; Sutton & Fall, 1995).

There are a number of possible explanations as to why researchers have failed to observe consistent relations amongst these constructs. Most arguments focus on problems of measurement, both of the constructs and the measurement tools themselves (Larson & Daniels, 1998), as well as the use of brief and artificial performance rating situations (O'Brien, Heppner, Flores & Bikos, 1997). Through a meta-analysis of work on CSE, Larson and Daniels (1998) found that each study that has examined the relation between CSE and training has used a different measure of CSE, which may explain the differences in findings. Additionally, O'Brien and colleagues report that a number of studies measured counseling performance through the use of role-play scenarios rather than observation of an authentic interaction with a client.

Some work has been done to evaluate interventions aimed at enhancing counseling self-efficacy utilizing the four primary sources of CSE, as defined by Bandura (1989) (i.e., mastery, modeling, social persuasion and affective arousal). In two studies involving undergraduate recreation students, Munson and colleagues (1986) found that modeling with role-play and visual imagery served to enhance CSE greater than a wait list control group. Larson and colleagues (1992) attempted to extend these findings utilizing a sample of practicum counseling trainees. Originally, when conducting the study without a control group, the researchers obtained no significant effect of role-play enhancing CSE.

However, later work in which students were randomly assigned to a role-play or videotape condition found that self-evaluation of success in the session moderated level of CSE post-intervention (Larson et al., 1999). The authors completed a study with a sample of counseling trainees to examine the impact of two commonly used training techniques on CSE. Depending on condition, participants watched a 15-minute videotape of a counseling session or participated in a 15-minute mock client session, and were subsequently asked to complete measures of CSE and perceived success. Findings were that perception of success significantly impacted the potency of the role play scenarios as a means to increase CSE. The same effect was not found for individuals in the videotape condition.

Based on these findings, Larson (1998) developed the social cognitive model of counselor training (SCMCT), which posits that the counseling training environment and trainee personal agency factors, including self-efficacy, jointly influence learning and performance. Within this structure, some research suggests CSE has been shown to increase with receipt of regular supervision (Cashwell & Dooley, 2001) and counseling field experiences (Ladany, Ellis & Friedlander, 1999). Studies evaluating the influence of practicum experience on CSE, however, have resulted in mixed findings. While some studies found significant increases in CSE from pre-practicum levels (Johnson, Baker, Kopala, Kiselica & Thompson, 1989; Johnson & Seem, 1989; Larson et al., 1992; Larson et al., 1993), others have not found such effects (White, 1996). Additionally, these effects have not been observed within advanced practicum settings and no studies have been conducted with clinicians post-licensure.



While CSE has been evaluated in a variety of samples, little work has been done to evaluate self-efficacy of expanded school mental health practitioners, and what factors play into its development. Additionally, although much work has been done on factors that impact school mental health practitioner's abilities and performance, self-efficacy is an element that has often been ignored. For instance, Forman, Fagley, Chu and Walkup (2012) recently conducted an evaluation of the components that contribute to school psychologists' willingness to implement cognitive-behavioral interventions. While findings suggest that beliefs about the acceptability and efficacy of the intervention influence willingness to apply an intervention, self-efficacy to implement was not evaluated.

In addition to impacting clinician performance, CSE has been reported to have an indirect significant impact on positive client outcome (Urbani et al., 2002). Results of a review conducted by Larson and Daniels (1998) suggested that counseling trainees with high CSE expected more positive outcomes for their clients, reported higher self-evaluations and experienced fewer anxieties regarding counseling performance. Thus, increasing CSE, which decreases anxiety, is important for client outcomes, as anxiety is reported to decrease level of clinical judgment and performance (Urbani et al., 2002). Additionally, in a review of psychotherapy outcome research, Orlinsky and Howard (1986) reported that, in a majority of studies, client outcomes were positively related to therapist self-confidence in their abilities. While there is some evidence for CSE as influential for client outcomes, minimal work has been done to systematically evaluate this relation.

## **1.4 The Current Study**

In sum, the current study aimed to examine the influence of exposure to a quality improvement intervention on CSE in expanded SMH practitioners, as well as the importance of self-efficacy in regards to practice related domains. The primary question of interest was: does exposure to an intervention focused on quality improvement (QAI) result in higher levels of CSE than exposure to an invention focused on professional wellness (W)? Individuals involved in the QAI intervention received extensive training on quality assessment and improvement, family engagement/empowerment, and modular evidence-based practice, while those in the W intervention received training in professional wellness and SMH best practice. The influence of differential quality training and supervision on one's level of counseling self-efficacy was investigated by comparing post-intervention self-efficacy scores between each condition after evaluating pre-intervention equivalency of CSE levels. Long-term exposure to the quality improvement intervention, which focused on quality assessment and improvement, family engagement/empowerment, and modular evidence-based practice, was hypothesized to significantly influence level of CSE. Thus, it was expected that individuals who participated in the quality improvement intervention would report higher levels of CSE than those in the wellness intervention. Based on previous research, it is possible that specific counselor characteristics (e.g., age and experience) would be predictive of self-efficacy, such that individuals who are older and have more experience counseling children and adolescents will have higher counseling self-efficacy. Thus, when evaluating training effects, these variables were included as covariates in the analysis of the relation between self-efficacy and training.

Secondarily, this study aimed to evaluate the relation of professional experiences during intervention exposure to counseling self-efficacy. For this aim, the research question was: does post-intervention level of CSE predict quality of self-reported SMH practice, as well as attitude toward, knowledge and use of evidence-based practice (EBP)? To answer this question, individual linear regression analyses were conducted. After controlling for confounds, it was hypothesized that level of self-efficacy would be predictive of the quality of SMH practice, as well as knowledge and use of evidence-based practice (EBP). If the hypothesis of the primary aim was confirmed and significant training impacts were found, statistical analyses were planned such that these relations were to be evaluated within each training condition. However, if changes in self-efficacy were not significantly different, the exploration of these relations was to occur across intervention groups.

## CHAPTER II

### METHODS

#### **2.1 Study Overview**

This paper stems from a larger previous evaluation of a framework to enhance the quality of school mental health (Weist et al., 2009), funded by the National Institute of Mental Health (1R01MH71015-01A1; 2003-2007). As a part of a 12-year research program on quality and evidence-based practices in SMH, researchers conducted a two-year, multisite (Delaware, Maryland, Texas), randomized controlled trial of a framework for high quality and effective practice in SMH (evidence-based practice, family engagement/empowerment, and systematic quality assessment and improvement) as compared to an enhanced treatment as usual condition (focused on personal and school staff wellness). Only the methods pertaining to the aims of the current study have been included here, with more comprehensive information regarding the overall project methodology outlined in prior publications (see Stephan et al., 2012; Weist et al., 2009).

#### **2.2 Participants**

Participants were 72 expanded school mental health (SMH) clinicians (i.e., mental health providers employed by community mental health centers to provide a full continuum within the school system) from the three SMH sites (Delaware, Maryland, and Texas) that participated for at least one year of the study and had complete data for all study measures. All clinicians were employed by university- or community-based

agencies that had a strong, established history of providing school mental health prevention and intervention services to elementary, middle and high students in both general and special education programs. In the Delaware and Maryland sites, clinicians were solely school-based. In Texas, clinicians provided both school-based and school-linked services, such that the clinicians maintained a “home base” at one school with the provision of transportation and other supports within a feeder pattern of schools.

A total of 91 clinicians participated over the course of the study, with a sample size of 64 in year 1 and 66 in year 2. Out of the year 1 sample (35 QAI and 29 W), 24 participants did not continue into year 2 (13 QAI and 11 W). Dropout rates between the two conditions did not differ significantly (37% QAI versus 38% W). Reasons for discontinuation included workload demands, increased administrative responsibilities, entering school and maternity leave. No particular dropout patterns were observed related to non-participation. Investigations in this particular study focused on individuals who had completed at least one year of the study and had submitted pre- and post-intervention measures. The participants were predominantly female, Caucasian and had received graduate-level training, and were 36.03 years old on average ( $SD = 11.03$ ). In terms of experience, clinicians had roughly 6 years of prior experience and had worked for their current agency for 3 years on average. The obtained sample is reflective of school mental health practitioners throughout the United States (Lewis, Truscott & Volker, 2008). For more detailed demographic information, see Table 2.1.

## 2.3 Measures

Measures utilized in the current study are described below. All measures utilized were self-report and completed by the clinicians involved in the study. Spanish versions of the protocol were utilized in Dallas as needed for individuals for whom English was their second language.

### 2.3.1 *Counseling Self-Efficacy*

Clinician counseling self-efficacy was measured using the *Counselor Self-Efficacy Scale* (CSS; Sutton & Fall, 1995). The measure was designed to be used with school counselors, and was created using a sample of public school counselors in Maine. Sutton and Fall modified a teacher efficacy scale (Gibson & Dembo, 1984), resulting in a 33-item measure that reflected counseling efficacy and outcome expectancies. Work environments have been found to be predictive of scores on the CSS (Larson & Daniels, 1998). Counselor perception of a supportive work environment, as well as volume and scope of caseload, are moderately related to CSE ( $r$ s range from .17 to .22), while familial interference, client difficulty and time in contact with clients and spent on work-related tasks are minimally influential ( $r$ s range from -.09 to .11).

Results of a principal-component factor analysis demonstrated initial construct validity, indicating a three-factor structure consisting of efficacy expectancy for being a school counselor (9 items), efficacy expectancy for individual counseling within the school (7 items) and outcome expectancies (3 items) (Sutton & Fall, 1995). The internal consistency of these three factors, as measured by Cronbach's alpha, was reported as adequate (.67-.75) (Sutton & Fall, 1995). However, the structure of the measure has

received criticism, with some arguing that the third factor is not measuring outcome expectancies as defined by SCT (Larson & Daniels, 1998). It appears that some of the items on this factor involve assessing rationales for particular outcomes rather than evaluating the clinician's belief that a particular strategy will result in a particular outcome (e.g., "The school staff has too many expectations of me thereby reducing my effectiveness). Thus, a decision was made to use the entire 33-item scale as a measure of overall CSE.

Respondents were asked to rate each item using a 6-point Likert scale, ranging from *strongly disagree* as 1 to *strongly agree* as 6. Slight language modifications were made to make the scale more applicable to the work of this sample (Weist et al., 2009). For instance, the research team changed "guidance program" to "counseling program." Clinician self-efficacy was measured in both conditions at the beginning and end of Years 1 and 2 of the intervention program.

### *2.3.2 Quality of School Mental Health Services*

The *School Mental Health Quality Assessment Questionnaire* (SMHQAQ) is a 40-item research-based measure developed by the larger study investigators to assess 10 principles for best practice in SMH (Weist et al., 2005, 2006a, b). Principles are as follows: (1) All youth and families are able to access appropriate care regardless of their ability to pay; (2) Programs are implemented to address needs and strengthen assets for students, families, schools, and communities; (3) Programs and services focus on reducing barriers to development and learning, are student and family friendly, and are based on evidence of positive impact; (4) Students, families, teachers and other important

groups are actively involved in the program's development, oversight, evaluation, and continuous improvement; (5) Quality assessment and improvement activities continually guide and provide feedback to the program; (6) A continuum of care is provided, including school-wide mental health promotion, early intervention, and treatment; (7) Staff holds high ethical standards, is committed to children, adolescents, and families, and displays an energetic, flexible, responsive and proactive style in delivering services; (8) Staff is respectful of, and competently addresses developmental, cultural, and personal differences among students, families and staff; (9) Staff builds and maintains strong relationships with other mental health and health providers and educators in the school, and a theme of interdisciplinary collaboration characterizes all efforts; (10) Mental health programs in the school are coordinated with related programs in other community settings.

At the end of year 2, clinicians rated the degree to which each indicator was present in their own practice on a 6-point Likert scale, ranging from "not at all in place" to "fully in place." Given that results from a principle components analysis indicated that all 10 principles weighed heavily on a single strong component, analyses focused primarily on total scores of the SMHQAQ. Aside from factor analytic results, validity estimates are unavailable. Internal consistency, as measured by Coefficient alpha, was very strong (.95).

### *2.3.3 Knowledge and Use of Evidence-based Practices*

The *Practice Elements Checklist* (PEC) was created by the principal investigators of the larger study in consultation with Bruce Chorpita of the University of California



Los Angeles, an expert in mental health technologies for children and adolescents. The measure was developed based on the Hawaii Department of Health's comprehensive summary of top evidence-based modular practice elements (Chorpita & Daleiden, 2007). The PEC asks clinicians to provide ratings of the top eight skills as determined by the American Psychological Association's Task Force in each of the four disorder areas (ADHD, Disruptive Behavior Disorders, Depression, and Anxiety). Respondents utilized a 6-point Likert scale to rate both current knowledge of the practice element (1= "none" and 6 = "significant"), as well as frequency of use of the element in their own practice (1 = "never" and 6 = "frequently"). The scale also asks for the frequency with which the clinician treats children whose primary presenting issue falls within one of the four targeted disorder areas (e.g., "How often do you provide interventions to students with: Attention and Hyperactivity problems (including ADHD)?") on a 6-point Likert scale (1 = "never" and 6 = "frequently").

In addition to total knowledge and total frequency subscales (scores ranging from 4 to 24), four knowledge and four frequency subscales (one for each disorder area) were calculated by averaging responses across practice elements for each disorder area (scores ranging from 1 to 6). A PEC total score was calculated by summing all subscale scores, resulting in a total score ranging from 16 to 92. Although this results in each item being counted twice, it was an aim to determine how total knowledge and usage were related to CSE, as well as skills in specific disorder areas. While internal consistencies were found to be excellent for each of the subscales, validity of the measure has yet to be evaluated. Clinicians completed the PEC at the end of Year 2.

## 2.4 Study Design

Expanded SMH clinicians were recruited from their community-based agencies approximately one month prior to the initial staff training. Information regarding the nature of the project was sent to staff in intervention and comparison schools along with consent forms. At the beginning of the training sessions, project investigators provided a description of the project, encouraged questions and comments, and emphasized the voluntary nature of the study. Aside from being employed by one of the community-based agencies involved in the study, there were no inclusion or exclusion criteria and all clinicians who chose to participate had at least a master's degree, representing the fields of psychology, social work, and professional counseling. Informed consent was obtained from participants prior to participation in the larger study. Upon consenting, clinicians completed a set of questionnaires, which included demographic information, level of current training, and counseling self-efficacy. Project investigators collected this data, along with consent forms, prior to randomization into treatment conditions.

Within each site, clinicians were then randomly assigned to be involved in the Quality Assessment and Improvement (QAI) intervention or the Wellness (W) intervention. Four training events were provided for participants in both conditions (i.e., at the beginning and end of both Years 1 and 2). However, only participants in the QAI intervention received training in the provision of SMH services. At each site, senior clinicians (i.e., licensed mental health professionals with, at minimum, a masters degree and 3 years experience in SMH) were chosen to operate as project supervisors for the condition to which they were assigned. These clinicians were not considered participants, and maintained their positions for the duration of the study. Over the course of the years,

each research supervisor dedicated one day per week to the study, and was assigned a group of roughly ten clinicians to supervise. Supervisors held weekly group meetings with small groups of 5 clinicians to review QAI processes and activities in their schools, as well as strategies for using the evidence-base. Additionally, these supervisors served as liaisons between on-site project leaders and CSMH staff to convey information, offer resources to staff and ensure that study measures were completed in an appropriate and a timely manner.

During the four training events, individuals in the QAI condition received education and training regarding the following components: (1) Quality Assessment and Improvement, (2) Providing Evidence-Based Practice (EBP) using a modular strategy (see Chorpita & Daleiden, 2009), and (3) Implementing Family Engagement and Empowerment strategies. Over the course of the study, QAI supervisors held weekly meetings with their assigned group to review specific QAI processes and activities in their schools, as well as strategies for providing EBP. To promote treatment fidelity, these group sessions were audiotaped and reviewed by senior project staff members with substantial experience in SMH and EBP. Staff then provided feedback and recommendations as guidance and support for supervisors.

For individuals involved in the W (i.e., comparison) condition, training events focused on general staff wellness, including stress management, coping strategies, relaxation techniques, exercise, nutrition, and burnout prevention. Over the course of year 1, clinicians involved in the W condition expressed interest in organizing small, more informal, wellness meetings. While research staff encouraged these meetings, there was no provision of tangible support regarding content, structure or process. CSMH staff

encouraged supervisors to carry on with normal approaches to supervision, and attempt to involve discussion of wellness and related resources into supervisory encounters. These supervisors, similar to those in the QAI condition, received updates on staff wellness through a separate, password-protected CSMH list serve for additional information, materials and discussions on staff wellness. Post-intervention data were collected by research staff in the spring of year 2 as a part of fidelity monitoring. Research staff was not blind to condition assignment.

For the purposes of the current study, measures from individuals who completed at least one year of the study were utilized in analyses. The original goal was to target individuals who completed the study in its entirety to examine the influence of long-term training in the QAI as compared to the W condition and evaluate changes in CSE. However, after further examination of the sample composition, restricting the sample to these individuals would result in a total sample size of 43. Thus, the decision was made to include individuals with pre and post measures of CSE.

## **2.5 Data Analytic Plan**

Initial analyses focused on evaluating reliability of the principal measure of interest, the *Counselor Self-Efficacy Scale* (CSS; Sutton & Fall, 1995). Given that examination of this measure is sparse, and that participants completed all 33 original items, preliminary analyses focused on evaluating the strength of the CSS as a measure of overall counseling self-efficacy. Measurement error due to the use of unreliable measures has been found to weaken the relations between multiple variables (Shadish, Cook &

Campbell, 2002). Thus, in order to ensure reliability of measurement, internal consistency was computed for this sample.

Subsequently, descriptive analyses were conducted to assess the distribution of this sample, examining measures of central tendency and normality (i.e., skewness and kurtosis). Violation of assumptions of statistical tests is a substantial threat to statistical conclusion validity (Shadish, Cook & Campbell, 2002). Given that analysis of covariance (ANCOVA) and regression analyses were involved in addressing the primary and secondary aims of this study, descriptive analyses evaluated whether the samples reflected a normal distribution, whether multicollinearity was present, and whether error variance was equivalent. Further, to ensure that significant pre-treatment nonequivalence was not present, t-tests were conducted prior to primary aim analyses. Additionally, these analyses enabled evaluation of differences in demographic, educational and experiential variables across intervention groups. Previous literature has suggested that these variables are associated with differing levels of counseling self-efficacy (Larson & Daniels, 1992). Thus, correlational analyses were conducted to confirm these relations in this sample of professionals. Demographic variables that were found to be significantly correlated with pre-intervention self-efficacy were utilized as covariates in primary aim analyses.

Previous research on relations amongst demographic variables and self-efficacy report a range of average effects: age ( $r = .17$ ; Larson & Daniels, 1998), gender ( $r = .09$ ; Sutton & Fall, 1995), and level of training ( $r = .76$ ; Larson & Daniels, 1998). Thus, power to detect an effect of age was .364 ( $\alpha = .05$ ), gender was .103 ( $\alpha = .05$ ) and level of training was .99 ( $\alpha = .05$ ).

The primary aim of this paper was to evaluate the influence of a clinician quality improvement intervention on level of counseling self-efficacy. This aim focused on comparisons of two time points (pre- and post-intervention) across the two intervention groups (QAI and W). Analyses were run as a 2x2 mixed model analysis of covariance (ANCOVA) to evaluate self-efficacy change from pre- to post-treatment as a function of treatment status (QAI vs. W). Past research suggests that an estimated average effect size is .157 in this domain (Larson & Daniels, 1998). Results of a power analysis (Cohen, 1988) suggest that with a sample size of 72, power to detect an effect was .27.

The secondary aim was to evaluate the influence of self-efficacy on outcome measures related to the delivery of evidence-based practice within SMH. These variables included knowledge and use of evidence-based practice (e.g., using the *Practice Elements Checklist* developed by Weist and colleagues), and use of quality mental health services (e.g., using the *School Mental Health Quality Assessment Questionnaire*; Weist et al., 2006). Thus, individual one-way regressions were conducted to predict outcome variables at the end of Year 2 from level of self-efficacy post-intervention. These analyses were conducted either across or between treatment groups to evaluate general self-efficacy impact and interactions with intervention assignment, dependent on significance results from the ANCOVA addressing the primary aim.

Power analyses were conducted for each outcome variable to determine the likelihood of obtaining significant effects. To control for experiment wise error, a Bonferonni correction was used, evaluating all results at an  $\alpha$  of .0045. Correlation analyses suggested that the relation between self-efficacy and attitudes toward evidence-based practice was not significant,  $r^2 = 0.017$ . Thus, the power to detect an effect was .173,

based on  $f^2 = 0.018$ . However, the correlation between self-efficacy and quality of SMH practices was significant,  $r^2 = .375$ . Therefore, the power to detect an effect was very strong at 0.99, with  $f^2 = .602$ . Regarding knowledge and usage of evidence-based practices, self-efficacy was minimally correlated with usage ( $r^2 = .065$ ), but more strongly correlated with knowledge ( $r^2 = .311$ ). Power to detect effects amongst these variables was calculated as .505 ( $f^2 = .069$ ) and .998 ( $f^2 = .452$ ) respectively.

Table 2.1

*Demographic information from participating SMH clinicians*

Variable	<i>n</i>	%
Gender		
Female	61	83.6
Education		
Some college	1	1.4
Bachelor's Degree	2	2.8
Some graduate work	9	12.5
Graduate Degree	60	83.3
Ethnicity		
African American	19	26.0
Caucasian	40	54.8
Hispanic	13	17.8
Other	1	1.4

*Note.* N = 72; Data may not add up to 100% because two cases had missing data on demographic variables.



## CHAPTER III

### RESULTS

#### **3.1 Preliminary Analyses and Scaling**

Analyses were conducted using the Statistical Package for the Social Sciences, version 20 (SPSS, 2012). All variables were evaluated for significant outliers, skewness, and kurtosis. Distributions did not deviate significantly from normal, ensuring appropriate analyses were run. Tests of statistical significance were conducted with a Bonferroni correction, resulting in the use of an alpha of .0045, two-tailed. Descriptive statistics (i.e., means and standard deviations) of all main variables for both aims can be seen in Table 3.1.1.

To facilitate comparisons between variables, a scaling method known as “Percentage of Maximum Possible” (POMP) scores, developed by Cohen and colleagues (Cohen, Cohen, Aiken, & West, 1999) was utilized. Using this method, raw scores are transformed so that they range from zero to 100%. This type of scoring makes no assumptions about the shape of the distributions, in comparison to *z*-scores in which a normal distribution is assumed. Additionally, anchoring the measure at zero and 100% covers the full possible range of the measure. POMP scores are in an easily understandable and interpretable metric and cumulatively lead to a basis for agreement of the size of material effects in the domain of interest (i.e., interventions to enhance quality of services and use of EBP) (Cohen et al., 1999).

### 3.2 Primary Aim

A total of 72 clinicians (40 in QAI and 32 in W) completed the CSE questionnaire pre- and post-intervention. Evaluation of reliability of this measure revealed adequate internal consistency, with Cronbach's alpha ranging from .819 to .906 for the entire scale across time points of measurement. Pretreatment equivalence was confirmed for the two conditions,  $t(72) = -.383, p = .703$ . For individuals in the QAI condition, pre-intervention CSE scores averaged at 71.9% of maximum possible ( $SD = .09$ ), while those in the W condition averaged at 71.3% of maximum possible ( $SD = .08$ ). Regardless of condition, these scores indicate that the majority of the total sample involved in the study reported high levels of CSE prior to the intervention.

Results of correlation analyses, as displayed in Table 3.2.1, suggest that pre-treatment self-efficacy was significantly associated with age ( $r = .312, p = .008$ ), race ( $r = -.245, p = .029$ ), years of counseling experience ( $r = .313, p = .007$ ) and years with the agency ( $r = .232, p = .048$ ). Thus, these variables were included as covariates in an analysis of covariance (ANCOVA) evaluating changes in self-efficacy between the QAI and WPI conditions. As seen in Table 4, results suggest a non-significant difference in change in CSE from pre- to post-intervention between conditions,  $F(72) = .013, p = .910$ . For individuals in the QAI condition, post-intervention CSE scores averaged at 73.1% of maximum possible ( $SD = .07$ ), and for individuals in the W condition, CSE scores averaged at 72.8% of maximum possible ( $SD = .08$ ). Additionally, when looking across conditions, results indicate a non-significant difference in change in level of CSE from pre- to post-intervention,  $F(72) = .001, p = .971$ . Across conditions, clinicians reported roughly similar levels of counseling self-efficacy at pre- and post-intervention.

time points (72% vs. 73% of maximum possible). Full results of analyses can be seen in Table 3.2.2.

### 3.3 Secondary Aim

To investigate the influence of level of counseling self-efficacy on quality and practice elements in counseling, a series of individual regressions were conducted with level of post-intervention self-efficacy as the predictor variable and indicators of attitudes toward evidence-based practice, knowledge and use of evidence-based practice, and use of quality mental health services as the outcome variables in separate analyses. Due to non-significant differences in level of self-efficacy between conditions, regression analyses were conducted across intervention groups. A Bonferonni correction was utilized to control for experiment-wise error, setting the required significance value at  $\alpha = .0045$ .

As displayed in Table 3.3.1, level of post-intervention self-efficacy was found to significantly predict: quality of practice ( $R^2 = .33$ ,  $F [60] = 29.34$ ,  $p < .001$ ); knowledge of EBP for ADHD ( $R^2 = .20$ ,  $F [46] = 11.54$ ,  $p = .001$ ), depression ( $R^2 = .29$ ,  $F [46] = 18.17$ ,  $p < .001$ ), disruptive behavior ( $R^2 = .24$ ,  $F [46] = 13.92$ ,  $p = .001$ ) and anxiety ( $R^2 = .20$ ,  $F [46] = 10.81$ ,  $p = .002$ ); usage of EBP specific to treating depression ( $R^2 = .30$ ,  $F [46] = 19.34$ ,  $p < .001$ ); and total knowledge of EBP ( $R^2 = .29$ ,  $F [44] = 18.20$ ,  $p < .001$ ). Results further indicated that post-intervention self-efficacy did not serve as a significant predictor of usage of EBP for ADHD ( $R^2 = .01$ ,  $F [45] = .457$ ,  $p = .502$ ), disruptive behavior ( $R^2 = .024$ ,  $F [45] = 1.100$ ,  $p = .300$ ) and anxiety ( $R^2 = .075$ ,  $F [43] = 3.487$ ,  $p = .069$ ); and total usage of EBP ( $R^2 = .090$ ,  $F [43] = 4.244$ ,  $p = .045$ ).

Table 3.1

*Descriptive statistics from main study variables of primary and secondary aims*

Variable	M	SD
Pre-intervention CSE	.723	.087
QAI	.719	.092
W	.727	.081
Post-intervention CSE	.733	.075
QAI	.731	.074
W	.728	.077
SMH Quality	.678	.141
EBP ADHD Knowledge	.782	.168
EBP ADHD Usage	.587	.234
EBP Depression Knowledge	.817	.125
EBP Depression Usage	.773	.131
EBP DBD Knowledge	.793	.156
EBP DBD Usage	.620	.231
EBP Anxiety Knowledge	.781	.131
EBP Anxiety Usage	.708	.157
EBP Total Knowledge	.793	.145
EBP Total Usage	.674	.154

*Note.* N = 72.

Table 3.2

*Correlations between pre-intervention self-efficacy and demographic variables*

Variable	<i>r</i>	<i>p</i>
Age	.312	.008
Gender	-.179	.130
Education	.152	.202
Ethnicity	-.256	.029
Years of Experience	.313	.007
Years with Agency	.232	.048

*Note.* N = 72; Cohen's (1988) benchmarks for the magnitude or effect size of Pearson correlations are  $r = .1$  (small, not trivial),  $r = .3$  (medium), and  $r = .5$  (large). Ethnicity coded as follows: 1 = African American, 2 = Hispanic, 3 = Caucasian, 4 = Other.

Table 3.3

*Analysis of Covariance (ANCOVA) summary of change in self-efficacy (CSE)*

Source	df	F	p	Partial Eta Squared
Counseling Self-Efficacy (CSE)	1	.001	.971	.000
CSE*Condition	1	.013	.910	.000
CSE*Age	1	.281	.598	.004
CSE*Race	1	1.190	.279	.018
CSE*Years of Experience	1	.032	.859	.000
CSE*Years with Agency	1	.003	.955	.000
Error	66			

*Note:* N = 72.

Table 3.4

*Results of linear regressions between level of post-intervention self-efficacy and outcome variables*

Variables	Beta	$R^2$	Adjusted $R^2$	$F$	$p$
SMH Quality	0.573	0.328	0.317	29.337	0.000
EBP ADHD – Knowledge	0.452	0.205	0.187	11.583	0.001
EBP ADHD – Usage	0.100	0.010	-0.012	0.457	0.502
EBP Depression – Knowledge	0.536	0.288	0.272	18.168	0.000
EBP Depression – Usage	0.548	0.301	0.285	19.337	0.000
EBP DBD – Knowledge	0.486	0.236	0.219	13.922	0.001
EBP DBD – Usage	0.154	0.024	0.002	1.100	0.300
EBP Anxiety – Knowledge	0.448	0.201	0.182	10.811	0.002
EBP Anxiety – Usage	0.274	0.075	0.053	3.487	0.069
EBP Total Knowledge	0.545	0.297	0.281	18.197	0.000
EBP Total Usage	0.300	0.090	0.069	4.244	0.045

*Note.* To control for Experiment-wise error, a Bonferonni correction was used and significance was evaluated at the 0.0045 level.

## CHAPTER IV

### CONCLUSION

While there has been some previous examination of the association between training and counseling self-efficacy, results have been mixed (Larson & Daniels, 1998; Melchert et al., 1996; Tang et al., 2004) and no such evaluations have been conducted within the context of expanded SMH services. The current study stemmed from a larger previous evaluation of a framework to enhance the quality of school mental health, targeting quality service provision, evidence-based practice (EBP) and enhancement of family engagement and empowerment. Over the course of two years, clinicians from established SMH agencies in Maryland, Texas and Delaware were randomized into conditions where they received comprehensive quality assessment and improvement training (QAI) as opposed to instruction in overall wellness (W).

The present study evaluated two primary aims. The first goal of this evaluation was to evaluate differences in level of counseling self-efficacy from pre- to post-intervention between two groups of SMH clinicians. It was expected that those who received information, training and supervision on quality improvement and best practice in SMH would report higher levels of CSE post-intervention than those in the wellness condition. The secondary aim was to evaluate whether clinician reports of post-intervention self-efficacy served as predictors of quality of SMH practice, as well as attitude toward, knowledge and use of evidence-based practice (EBP). Given the



influence that clinician CSE has been found to have on practice related variables in previous literature (see Larson & Daniels, 1998), it was hypothesized that level of self-efficacy would be a significant predictor of quality assessment, and knowledge and usage of evidence-based practices.

Controlling for age, race, years of experience and years with the agency, findings did not confirm the primary hypothesis. No statistically significant differences in clinician reports of counseling self-efficacy from pre- to post-intervention were observed between the QAI and W conditions. Of previous studies conducted to enhance counseling self-efficacy, 4 out of 12 obtained null findings (see Larson & Daniels, 1998 for a review).

Regarding the secondary aim, however, clinician post-intervention level of CSE was found to serve as a significant predictor of: quality of practice; total knowledge of EBP specific to treating ADHD, DBD, anxiety and depression; and usage of EBP specific to treating to depression. Findings are consistent with previous literature that suggests that level of CSE is influential on level of performance in a number of practice-related domains (Larson & Daniels, 1992). Cashwell and Dooley (2008) found that receipt of regular clinical supervision was significantly associated with higher rated levels of CSE. This is consistent with previous work, suggesting that support is a key predictor of high CSE (Peace, 1995; Sutton & Fall, 1995). These predictive associations are notable, and underscore the important benefits of supervisory and administrative support of clinician self-efficacy.

This predictive relation did not exist, however, for usage of EBP specific to treating ADHD, DBD and anxiety. The failure to find an association may be due to evaluating level of usage of evidence-based practices across conditions. Results from the original study suggested that individuals in the QAI condition were more likely to use established evidence-based practices in treatment (see Weist et al., 2009). Thus, as provider characteristics, including self-efficacy (Aarons, 2005), are known to be associated with adoption of evidence-based practices, it may be that examining these associations across conditions resulted in null findings.

While current results did support the importance of high CSE regarding practice-related domains, a significant difference in level of CSE was not observed between those who received information, training and supervision in quality assessment and improvement, use of EBP, and family engagement and empowerment compared to those who received basic wellness and SMH best practice information. Findings from the current study are in contrast with other research that has documented improvements in CSE following targeted interventions. For instance, Munson and colleagues (1986), with a sample of recreation students, evaluated how micro-skills training and mental practice specific to decision-making counseling impacted CSE. Training procedures involved a total of six 75-minute decision-making counseling sessions involving instructions, modeling, feedback and review. Participants in the micro-skills group role-played skills in triads during each session, while those in the mental practice group imagined themselves performing the instructed skills. Post-intervention results indicated that individuals in both groups perceived themselves capable of performing more skills and with greater confidence than individuals in a wait-list control group. Simultaneously,

Munson evaluated the development of self-efficacy in interpersonal skills, utilizing similar training processes focused on the development of self-efficacy and competence in attending and responding to clients (Munson, Zoerink & Stadulis, 1986). Posttest evaluations revealed that individuals in both the microskills and mental practice groups were superior to those in the wait-list control on the interpersonal skills of competence and self-efficacy.

Based on the work by Munson, Larson and colleagues (1992) evaluated the impact of modeling and mastery experiences by providing a sample of counseling practicum students with training in role-play and visual imagery. Their first evaluation found no effect for role-play as an effective mechanism for enhancing CSE. Later work by this group explored differential effects of modeling versus role-play (Larson et al., 1999). Pre-practicum counseling students were assigned to a brief role-play or brief videotape condition for training. Moderated hierarchical regression results indicated that self-evaluation of success significantly moderated the impact of the intervention on level of post-intervention CSE when controlling for pre-intervention CSE level. In the videotape condition, the effect of modeling was consistent throughout the group, with CSE increasing roughly  $\frac{1}{6}$  of a standard deviation. However, within the role-play condition, perception of success significantly influenced whether or not gains in CSE were observed. While those who viewed the role-play as a success demonstrated CSE increases averaging  $\frac{1}{2}$  standard deviation, those who viewed it as average or subpar demonstrated decreased CSE averaging  $\frac{4}{5}$  of a standard deviation.

Johnson and colleagues (1989) utilized a sample of more advanced students, evaluating the influence of a pre-practicum course on level of CSE. Researchers found a

significant increase in perceived CSE over the first 8 weeks of the course, indicating that as beginning students learn and practice counseling skills, their confidence in appropriately using those skills increases. Larson and colleagues (1993), comparing beginning to advanced practicum students, found that CSE increased over the course of pre-practicum and practicum experiences, but not for all students. While significant increases were observed in the beginning practicum students, no significant changes were seen with the advanced students, supporting the notion of a curvilinear relation between experience and CSE. Johnson and Seem (1989), utilizing similar procedures, found that while practicum experiences influence CSE for students with minimal experience, an observed increase in CSE may be minimal after the first few years of training.

Many of these studies utilized students untrained in counseling and interpersonal skills (Munson, Stadulis & Munson, 1986; Munson, Zoerink & Stadulis, 1986) and beginning practicum students and trainees (Easton, Martin & Wilson, 2008; Johnson, Baker, Kopala, Kiselica, & Thompson, 1989; Johnson & Seem, 1989; Larson et al., 1992, 1993, 1999). No previous studies have evaluated the success of CSE interventions with clinicians post-licensure. As a curvilinear relation is reported to exist between CSE and level of training (Larson, Cardwell & Majors, 1996; Sutton & Fall, 1995), it may be that the amount of previous training and experience of this sample of clinicians, being post-licensure, was such that the unique experiences gained through the QAI and W conditions in the current study had a minimal impact on overall CSE.

It is also plausible that failure to detect an effect is due to the high levels of self-efficacy observed across clinicians. At the pre-intervention time point, clinicians in the QAI condition reported CSE levels of roughly 71.9% of maximum potential, whereas

those in the W condition reported CSE levels of 71.3% of maximum potential. It is evident based on these scores that clinicians involved in this study began their training with relatively high levels of CSE. This may be accounted for by the significant amount of previous education and training that the majority of clinicians had received. Thus, the observed increase of roughly 1.5% of maximum potential at post-intervention may be a reflection of the sample composition.

As the training procedures utilized in this study failed to result in changing CSE, it is important to determine which facets of CSE, if any, are conducive to change. Although the current study evaluated broad CSE, Bandura (1977) theorized that overall self-efficacy is determined by the efficacy expectancies and the outcome expectancies an individual has regarding a particular behavior. Efficacy expectations are an individual's beliefs regarding their capabilities to successfully perform the requisite behavior. These expectations are believed to contribute most to overall feelings of self-efficacy. Efficacy expectancies serve mediational functions between the individual and the behavior, such that if efficacy expectancies are high, the individual will engage in the behavior because they believe that they will be able to successfully complete it. Thus, higher levels of efficacy are posited to increase performance and decrease anxiety (Bandura, 1982). Outcome expectancies, on the other hand, involve one's belief that a certain behavior will lead to a specific outcome, and serve to mediate the relation between behaviors and outcomes. Therefore, when outcome expectancies are low, an individual will not execute that behavior because they do not believe it will lead to a specified outcome.

As with the current study, the majority of the existing studies investigating CSE change have involved evaluation of broad self-efficacy without breaking the construct

down into the two types of expectations (i.e., efficacy expectancies and outcome expectancies). Larson and Daniels (1998) found that fewer than 15% of studies on CSE examined outcome expectancies, and of the studies that did, only 60% operationalized outcome expectancies appropriately. Based on the dearth of work in this area, future efforts should involve breaking down CSE and correctly operationalizing efficacy expectancies and outcome expectancies to examine what sorts of influences these expectancies have on overall CSE.

#### **4.1 Limitations**

This study was not without limitations. Due to a small sample size, the power to detect changes in self-efficacy was minimal. Additionally, due to efforts to increase power by increasing the sample size, the time between reports of pre- and post-intervention levels of self-efficacy varied within the sample. While some individuals completed the full two years of the study, some only completed a year or a year and a half. Thus, failure to find an effect of training on self-efficacy could be due to the variability of data collection.

Additionally, regarding the make-up of the sample of clinicians, it is unclear how representative the clinicians were of SMH clinicians across the country. While the sample is demographically similar to the general population of SMH clinicians, there may have existed a sort of participation bias. It may have been that those who had more confidence in their own abilities (i.e., higher levels of CSE) chose to participate. While investigators handled any potential differences between conditions with the use of randomization, it

may be that the general sample involved had high CSE to start and, thus, a ceiling effect was observed.

A further limitation of this study is regarding the nature of the measures. The current study relied solely on self-reported information by the participating clinicians regarding their level of CSE, quality of practice, and knowledge and usage of evidence-based practices. Thus, a presentation bias could have been present in which clinicians may have reported stronger confidence in their own abilities than they felt in reality.

As addressed by Weist and colleagues (2009), a further limitation of this study is that implementation and supervision of the QAI intervention varied significantly across the three intervention sites. For instance, differences were found in the consistency of weekly meetings, compliance in attendance at weekly meetings, supervisory support, and addition of unrelated material to the training sessions. While some individuals in the QAI condition were exposed to consistent bi-weekly training in quality assessment, evidence-based practice and family engagement and empowerment, others may have received less. Therefore, it may be that the inconsistency of supervision and training may have resulted in a null influence on CSE across all clinicians.

Regarding the training involved in this study, an additional limitation concerns the fact that CSE was not included as explicit factor in training. As such, increasing CSE was not targeted, and training and supervision were not tailored so that increases in CSE were more likely. Social cognitive theory posits that expectations of self-efficacy stem from four different sources of information (Bandura, 1989). These include mastery

experiences, vicarious learning, verbal persuasion and emotional arousal. These four sources are believed to have a strong influence in efficacy expectancies.

While role-play was included as a mechanism of training, it is possible that the level of feedback from supervisors was not sufficient to provide for the occurrence of a mastery experience. Additionally, evidence suggests that the relation between supervisory feedback and CSE may depend on the developmental level and pre-training CSE of the clinicians (Larson et al., 1999; Munson, Zoerink & Stadulis, 1986), with untrained individuals reporting large increases. Thus, increased performance feedback may or may not have enhanced CSE within this sample. Findings suggest that live and videoed modeling of counseling skills has a significantly greater impact on increasing CSE than covert modeling strategies (e.g., discussion of best practices). While the current study employed group discussion of appropriate and effective practices, modeling was not utilized.

## **4.2 Future Directions**

Based on these findings, future work is needed to evaluate ways in which self-efficacy can be increased amongst clinicians. Currently, minimal attempts to enhance level of CSE have included self-efficacy as an explicit factor in training, rather than an implicit by-product of training. Thus, future studies should further evaluate the inclusion of self-efficacy as an overt component of training in educating SMH clinicians to determine whether the explicit discussion of the concept results in greater enhancements of CSE.



Additionally, future efforts to investigate the enhancement of CSE should evaluate the pliability of this construct depending on level of training. Is it that CSE is more stable amongst experienced clinicians compared to counseling trainees, and as such, should focus be placed on CSE enhancement amongst new clinicians? Or is it that different methods are needed to increase one's CSE depending on his or her previous experience? Future studies should obtain sizeable, representative samples with little, moderate and advanced levels of training and examine the long-term stability of CSE.

Contingent on the belief that high CSE is an essential element to effective counseling practices, future work should aim to incorporate strategies of mastery, modeling, social persuasion, and affective arousal to enhance the CSE of SMH clinicians. Although role-play was utilized in the current study, future interventions could include visual imagery or mental practice of performing counseling skills, discussions of self-efficacy and more explicit positive supervisory feedback.

Efforts to increase CSE should focus on performance accomplishments, as these are viewed as the most influential source, as they are based on personal mastery experiences (Bandura & Adams, 1977). A number of current training models for educating students in mental health counseling within the Social Cognitive Model of Counselor Training (SCMCT; Larson, 1998) have been primarily guided by these four sources (Barnes, 2004). While previous research has resulted in mixed findings, future efforts to evaluate and enhance CSE amongst mental health clinicians should draw from these models.

Mastery experiences in actual or role-play counseling settings have been found to result in an increase in CSE (Barnes, 2004). However, this increase is contingent on the trainee's perception that the session was successful (Daniels & Larson, 2001). Future efforts to enhance CSE should strategically test how to structure practice counseling sessions and formats of feedback that result in mastery experiences for clinicians. Additionally, future studies should compare the relation between mastery experiences and CSE for experienced versus inexperienced clinicians, and evaluate for the presence of a curvilinear relation.

Previous literature also has supported the use of vicarious experiences, or observation of another modeling appropriate counseling, as an effective mechanism to enhance CSE (Larson et al., 1999; Romi & Teichman, 1995). Future investigations should incorporate modeling strategies into counselor training, possibly within a group setting. Structuring modeling practices in a group rather than individual format may facilitate a fluid group session, moving from viewing a skill set to practicing with other group members and receiving feedback. This scenario could provide counselors with both vicarious as well as mastery experiences. However, as with mastery experiences, current research suggests that the use of vicarious experiences to enhance CSE is most effective at early stages in training (Larson et al., 1999), indicating that the strategy may or may not have been effective with the current sample. Research evaluating the relation between level of training and efficacy of different strategies to enhance CSE is needed.

The use of verbal persuasion, the third source of efficacy, as an enhancement approach has also been evaluated in counseling trainees. Verbal persuasion involves communication of progress in counseling skills, as well as overall strengths and

weaknesses (Barnes, 2004). Such information is often provided in the context of supervisory relationships. While strength-identifying feedback has been found to increase CSE, identification of skills that need improvement has resulted in a decrease in CSE. As results of the current study support level of CSE as a significant predictor of quality practices and knowledge of EBP, future research should evaluate the use of this strategy and level of actual performance. According to SCT, this method is expected to contribute less to level of efficacy than the aforementioned strategies. Thus, while limited results may be seen when using verbal persuasion in isolation, this strategy should be used in conjunction with mastery and vicarious experiences to see positive results.

Lastly, emotional arousal, otherwise conceptualized as anxiety, is theorized to contribute to level of CSE. As opposed to the previous enhancement mechanisms, increases in counselor anxiety negatively predict counselor CSE (Hiebert, Uhlemann, Marshall, & Lee, 1998). Thus, it is recommended that this not be utilized as a tactic to develop CSE. Based on this relation, clinician education should involve specific training and resources in individual wellness with the goal of reducing counselor stress and anxiety, similar to the information provided to the W sample in the current study. These topics include education in areas such as stress management, relaxation, coping, exercise, nutrition and preventing burnout (Weist et al., 2009). Decreasing emotional arousal and providing clinicians with appropriate resources may positively impact CSE. Future efforts should combine the provision of skills education and wellness resources to comprehensively and effectively train clinicians.

As previously stated, a strong supervisory relationship has been supported as being influential on the development of high CSE (see Larson & Daniels, 1998).

However, what components of supervision are essential to increasing CSE remains unclear. Given that all supervisory experiences are not the same, future researchers should evaluate the essential elements of an effective supervisory relationship and measure change in self-efficacy over time. Additionally, as a relationship can be perceived very differently depending on one's role and factors of personal agency, it is important to differentiate between perceptions of the counselor and the supervisor, and examine impacts on CSE.

Additionally, the practical importance of high CSE needs evaluation regarding the influence that this attribute has on actual practice and client outcomes. Sharpley and Ridgway (1990) evaluated the predictive value of CSE on counseling skills performance with trainee counselors and found that level of CSE was not significantly positively associated with counseling skills performance. However, much prior research has focused on counselor performance at a single time point (Larson & Daniels, 1998). Thus, to enhance this line of research, future researchers should evaluate the relation between CSE and changes in counseling performance over time in order to separate already existing skills from those recently learned. Ideal investigations would employ more advanced statistical techniques, such as structural equation modeling, to evaluate the influences of CSE, supervision, counselor characteristics, and environmental factors on counselor performance over time.

Investigation is needed to determine effective mechanisms that result in enhancement of CSE in SMH clinicians. Additionally, the present study focused solely on clinician ratings of their own performance. Future research should investigate the impact that level of CSE has on performance as measured by supervisors, as well as

clients. With a national focus on improving school mental health services, it is imperative that all factors that influence client outcome and satisfaction with services be evaluated, including CSE. Overall, counseling self-efficacy is supported as a significant component in quality and effective practices with children and their families. The influence of CSE on essential factors of effective practice emphasizes the need for the inclusion of CSE-enhancing practices in clinician education and supervision.

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