Perceived Levels of Teaching Self-Efficacy Among Advanced CES Doctoral Students Engaging in External Pedagogical Experiences

Erika Williams

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PERCEIVED LEVELS OF TEACHING SELF-EFFICACY AMONG ADVANCED CES DOCTORAL STUDENTS ENGAGING IN EXTERNAL PEDAGOGICAL EXPERIENCES

A Dissertation

Submitted to the School of Education

Duquesne University

In partial fulfillment of the requirements for the degree of Doctor of Philosophy

By

Erika J. Williams

May 2022
PERCEIVED LEVELS OF TEACHING SELF-EFFICACY AMONG ADVANCED CES DOCTORAL STUDENTS ENGAGING IN EXTERNAL PEDAGOGICAL EXPERIENCES

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ABSTRACT

PERCEIVED LEVELS OF TEACHING SELF-EFFICACY AMONG ADVANCED CES DOCTORAL STUDENTS ENGAGING IN EXTERNAL PEDAGOGICAL EXPERIENCES

By
Erika J. Williams

May 2022

Dissertation supervised by Dr. Matthew Joseph

This quantitative study examined factors of internal preparation practices (i.e., coursework in college teaching, fieldwork in college teaching, and frequency of supervision) and external pedagogical experiences (i.e., holding a bachelor’s or master’s degree in teaching and adjunct faculty experiences in higher education) and their potential effects on teaching self-efficacy among counselor education and supervision doctoral students. This study identified both significant and non-significant relationships between the stated variables. Contrary to previous research (Suddeath et al., 2020), internal preparation practices did not significantly predict scores of teaching self-efficacy among this population. However, the findings suggest that participants holding a bachelor’s or master’s degree in teaching may experience a significant variation in teaching self-efficacy scores as compared to those without these educational experiences. Finally, adjunct faculty experiences in higher education were not found significant in predicting teaching self-efficacy but the model displayed a meaningful effect size which may call for
further research. A subsequent exploratory factor analysis on the instrument used within this study (the Self-Efficacy Toward Teaching Inventory; Tollerud, 1990) revealed a 31-item, five-factor model explaining 69.9% of the variance. Implications for the field of counselor education and the practice of pedagogy are provided, as well as limitations of the current study and potential directions for future research.

*Keywords:* teaching self-efficacy, counselor education and supervision, doctoral students, internal preparation practices, external pedagogical experiences, self-efficacy toward teaching inventory
DEDICATION

To my husband, Dillon Williams, your support throughout this process has been invaluable. Thank you for always making me feel as though I deserve the world and for encouraging me to go out and pursue it. You are my biggest fan, never ceasing to provide support in times when it is most needed. I would not be where I am today if it were not for you.

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This one’s for all of you.
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To all of those who have supported my academic journey, specifically Dr. Laura Pickens (Thiel College), Dr. Martin Bright (Grove City College), Dr. Donald Strano (Slippery Rock University), Dr. Melissa Nard (Slippery Rock University), and Dr. Kenneth Messina (Slippery Rock University), as well as to all of those who have provided personal support, specifically Cate McCormick, Meg Spierto, my friends at Northway Christian Community Church, and my countless other friends and family members—you have provided a level of contribution to this journey that I will never be able to put into words. Thank you, thank you, thank you for believing in me and for giving me everything I needed to succeed.

Finally, “Now all glory to God, who is able, through His mighty power at work within us, to accomplish infinitely more than we might ask or imagine” (Ephesians 3:20).
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CHAPTER 1: INTRODUCTION

This chapter serves as a synopsis of the current study. It offers information essential for understanding the research, provides a justification of the research questions, and demonstrates the anticipated procedures for completion of the study. Additionally, the chapter includes a statement of the problem, a purpose for the research, an identification of a research question, the potential significance for the field of counselor education, theoretical framework, intended methodology, potential limitations, and a definition of key terms.

Research on levels of teaching self-efficacy in counselor education and supervision (CES) doctoral students has focused overwhelmingly on preparation practices (e.g., coursework, fieldwork, and supervision) that are internal to doctoral programs (i.e., happening as a part of these programs). Consequently, there seems to be a limited focus on how these students may develop teaching self-efficacy following external pedagogical experiences (e.g., previous education in teaching or previous teaching positions) not in conjunction with their current programs. The current chapter will outline why this might be a concern for the CES field and will explain how this study seeks to resolve this issue and improve the experiences of doctoral students seeking this degree.

Statement of the Problem

Many counselor educators report challenges related to the development of teaching methods and the acclimation to the teaching environment within their first few years of employment as full-time faculty members (Waalkes et al., 2018). The most common cause cited for this difficult transition is the limited amount of teaching preparation doctoral students feel that they received within their counselor education and supervision (CES) doctoral programs ch). Although the incorporation of both instructional methods courses and opportunities for fieldwork
in college teaching has become more common throughout these programs in recent years (Waalkes et al., 2018), a disparity seems to remain between teaching preparation strategies and CES students’ perceptions of self-efficacy toward teaching following the completion of these programs.

In response to this apparent disparity, related research in the field of counselor education has explored improvements in teaching internships (e.g., Hunt & Gilmore, 2011; Olson-Morrison et al., 2019), as well as strategies for improving self-efficacy in teaching through mentorship, co-teaching, supervision, and training programs (e.g., Baltrinic et al., 2016; Baltrinic et al., 2018; Prieto & Meyers, 1999; Suddeath et al., 2020). These internal forms of pedagogical development have shown promise for promoting teaching self-efficacy; however, little research has stepped outside the facets of the academic programs to examine the impact of external pedagogical experiences on CES doctoral students’ self-efficacy toward teaching.

Previous literature has examined varying degrees of teaching self-efficacy among primary and secondary school teachers (e.g., Guskey, 1987; Moradkhani & Haghi, 2017; Morris et al., 2017; Ryan et al., 2015; Schwarzer & Hallum, 2008; Zee & Koomen, 2016), as well as those working within higher education environments (e.g., Ismayilova & Klassen, 2019; Morris & Usher, 2011; Rodgers et al., 2014; Rowbotham, 2015). This may indicate that work in these environments could have a potentially promotive effect on individuals’ levels of teaching self-efficacy. Therefore, the potential relationship between engagement in external pedagogical experiences (i.e., a bachelor’s or master’s degree in education and early adjunct faculty experiences) and levels of teaching self-efficacy among CES doctoral students should be explored. Failing to understand how these variables may affect self-efficacy above and beyond the previously explored influence of internal preparation practices (i.e., coursework in college
teaching, fieldwork in college teaching, and frequency of supervision) could severely limit our understanding of the construct of teaching self-efficacy among this population of students.

**Purpose and Research Questions**

The purpose of this research is to seek to understand the potential influence of external pedagogical experiences on perceived levels of teaching self-efficacy among advanced CES doctoral students, above and beyond internal preparation practices. The potential difference in effects between external pedagogical experiences and internal preparation practices will be emphasized within this study. However, a model accounting for the potential effects of all variables also will be explored. The central construct being explored within this research is teaching self-efficacy, as measured by The Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990). The population of focus is advanced CES doctoral students, which can be understood as CES doctoral students who are within their final term of coursework of their programs or beyond. To best ensure homogeneity of training within the selected sample of this population, there was an intentionality to recruit participants specifically from programs accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

Components contributing to the purpose of this study include examining previously established relationships between varying levels of teaching self-efficacy and (a) coursework in college teaching, (b) fieldwork in college teaching, and (c) frequency of supervision. The primary components of the purpose of this study include examining potential relationships between varying levels of teaching self-efficacy and the obtainment of a bachelor’s or master’s degree and engagement in early adjunct faculty experiences. The final purpose of this study is to understand how these variables may predict teaching self-efficacy, both individually and
collectively. Therefore, this research study is guided by the following research question: Among advanced doctoral students in counselor education and supervision, do external pedagogical experiences (i.e., a bachelor’s or master’s degree in education and adjunct faculty experiences in higher education) predict levels of teaching self-efficacy after accounting for internal teaching preparation practices (i.e., coursework in college teaching, fieldwork in college teaching, and frequency of supervision)?

**Potential Significance**

Literature in the field of counselor education and supervision (CES) has examined the construct of self-efficacy toward teaching among its doctoral students (Olguin, 2004; Suddeath et al., 2020; Suddeath, 2018; Tollerud, 1990). However, much of this research focuses on teaching preparation practices that are included within the respective academic programs (e.g., instructional courses, fieldwork in college teaching, mentoring practices, and efforts in supervision). Despite the results of these studies calling for changes within these programs, and universities working to make these changes, many CES students continue to report low levels of preparedness when entering faculty positions upon graduation (Hunt & Gilmore, 2011; Olguin, 2004; Suddeath et al., 2020; Suddeath, 2018; Waalkes et al., 2018). This disconnect could imply focusing only on these internal teaching preparation practices is insufficient for developing teaching self-efficacy among CES doctoral students, and that external pedagogical practices may be an underappreciated factor contributing to whether CES doctoral students feel efficacious in their work as teachers as they prepare to leave their doctoral programs.

The results of this study may have educational implications for the field of counselor education and supervision. They may provide CES educators with a better understanding of what their students may need to feel more prepared to engage in college teaching. The results also may
provide CES doctoral students with some insight into how they could take their own initiative and seek out external pedagogical experiences to further increase their own teaching self-efficacy prior to graduation.

**Conceptual Framework**

**Teaching Competencies in Counselor Education**

*Teaching self-efficacy* can be defined as “a person’s confidence in his or her ability to select and utilize appropriate teaching behaviors effectively to achieve student learning” (Suddeath, 2018, p. 14). However, *teaching competence* refers to “an integrated set of personal characteristics, knowledge, skills, and attitudes that are needed for effective performance in various contexts” (Tigelaar et al., 2004, p. 255). The former seeks to explain how teachers feel about their own abilities related to pedagogical tasks and the latter refers to the actual teaching ability that exists within these teachers. Despite their differences, each of these constructs may influence the other (e.g., a teacher who is professionally competent may feel more efficacious and a teacher feeling efficacious may be more likely to develop professional competence). Therefore, the guiding framework for this study is a model of teaching competency within counselor education developed by Swank and Houseknecht (2019). This model includes 152 teaching competencies across four domains: knowledge, skills, professional behaviors, and dispositions. *Knowledge* competencies in counselor education, according to this model, include competencies relating to a cognitive understanding of the subject area (e.g., counseling theories, best practices of counselors, etc.), a familiarity with models of adult learning, a demonstrated understanding of ethical, legal, and accrediting standards (related to organizations such as ACA, CACREP, etc.), and a consideration for “the personal characteristics and academic goals of students” (Swank & Houseknecht, 2019, p. 168). The *skills* domain consists of five various
categories related to teaching and pedagogy: (a) meaningful engagement with students, (b) competent course instruction, (c) the ability to facilitate the gatekeeping process, (d) effective course preparation, and (e) teacher evaluation (both peer and self-evaluation). Professional behaviors competencies call for the enactment of ethically and legally informed practice as an educator, as well as professional interactions with colleagues and students. Lastly, the dispositions domain covers competencies related to personal characteristics of the teacher, including personal traits, beliefs, values, and interpersonal interactions.

The conceptual framework for this study posits that, as advanced CES doctoral students increase their levels of teaching self-efficacy, they may grow in their ability to develop the teaching competencies of knowledge, skills, professional behaviors, and dispositions. This study assumes that the areas of teaching in which a student feels more efficacious also will be the areas in which they show the most competence. Therefore, teaching competencies in counselor education guide this researcher’s assessment of teaching self-efficacy among the anticipated population.

**Methodology**

This study utilized a quantitative, predictive research design involving survey data collection. Data from a sample of advanced CES doctoral students was examined through a hierarchical regression analysis to determine potentially predictive relationships between the dependent variable (teaching self-efficacy) and previously established predictor variables (coursework in college teaching, fieldwork in college teaching, frequency of supervision), as well as newly developed test variables (obtainment of a bachelor’s or master’s degree in education and early adjunct experiences).

**Potential Limitations**
The factors contributing to an individual’s varying levels of self-efficacy toward teaching could be numerous. This study is focused on the variables of coursework in college teaching, fieldwork in college teaching, frequency of supervision, obtainment of a bachelor’s or master’s degree in education, and early adjunct experiences. Whereas other potential variables may influence self-efficacy toward teaching, to remain focused on the current variables of interest they are beyond the scope of the present study.

A second limitation may be related to the selection of a quantitative methodology, specifically quantitative survey research. Quantitative studies, as compared to qualitative studies, do not allow for participants to explain their answer choices and they do not give the researcher the opportunity to understand how the participants interpreted questions. This could cause variability in responses for which the researcher is unable to account. Additionally, given that the researcher conducted cross-sectional survey data, as opposed to longitudinal or experimental data, directionality of effects were not able to be inferred from the present data.

**Definition of Key Terms**

To provide an overview of the frequently used terms within this study, the following definitions of (a) self-efficacy toward teaching, (b) internal preparation practices, (c) external pedagogical experiences, and (d) advanced CES doctoral students are included. Detailed definitions for variables included within these concepts will be provided in chapter three.

**Self-efficacy toward teaching.** Suddeath (2018) uses this term to refer to “a person’s confidence in his or her ability to select and utilize appropriate teaching behaviors effectively to achieve student learning” (p. 14). For this study, the terms *self-efficacy toward teaching* and *teaching self-efficacy* may be used synonymously.
**Teaching competency.** Teaching competency refers to an individual’s actual teaching abilities rather than how they feel about their ability (Tigelaar et al., 2004). This differentiates teaching competency from teaching self-efficacy, which focuses more on the latter.

**Internal preparation practices.** Previous literature identifies various preparation practices occurring within the confines (i.e., internal) of a doctoral program in counselor education and supervision (e.g., Baltrinic et al., 2016; Baltrinic et al., 2018; Hunt and Gilmore, 2011; Olson-Morrison et al., 2019; Prieto and Meyers, 1999; Suddeath et al., 2020; Waalkes et al., 2018). This study will focus on three of these identified preparation practices: (a) coursework in college teaching, (b) fieldwork in college teaching, and (c) frequency of supervision. The researcher will use the term *internal preparation practices* to concisely refer to these variables.

**External pedagogical experiences.** In addition to the previously established variables related to internal preparation practices, this study seeks to investigate the potential impact of external pedagogical experiences on CES students’ self-efficacy toward teaching. This term encompasses select pedagogical experiences in which CES students may have participated prior to or during their doctoral programs and may include a bachelor’s or master’s degree in education and adjunct faculty experiences in higher education. The researcher will use the term *external pedagogical experiences* to concisely refer to these variables.

**Advanced CES doctoral students.** This term is based on that of the same name identified by Tollerud (1990). It describes a group of students who are currently in their final semester of coursework and beyond, but who have not yet graduated from their respective programs. The focus on this group of individuals within the CES population was selected following Tollerud’s (1990) findings that individuals identifying with this descriptor were found
to be less confident in their teaching abilities as compared to those already working full-time within the field following graduation.
CHAPTER 2: LITERATURE REVIEW

This review of the literature provides an overview of the construct of self-efficacy, including various sub-constructs of self-efficacy (i.e., academic self-efficacy, emotional self-efficacy, social self-efficacy, and teaching self-efficacy). A directed focus is placed on teaching self-efficacy with an overview of how this construct interacts with varying contexts (i.e., primary/secondary school contexts, higher education contexts, and counselor education and supervision contexts) within the literature. Measurements of self-efficacy and teaching self-efficacy will be explored due to their relevance in the selection of an instrument for assessing teaching self-efficacy among counselor education and supervision (CES) doctoral students. A subsequent section including literature on the development of teaching competencies as it relates to varying levels of self-efficacy toward teaching will be explained as means for understanding the theoretical framework for this research. Lastly, this chapter also will examine various teaching preparation practices used for training teachers to teach within the contexts of primary/secondary schools, higher education institutions, and specifically CES doctoral programs. Within this examination, an identification of the lack of literature around doctoral students engaging in adjunct faculty experiences as a preparation for future doctoral teaching will be explored. The implementation of these teaching preparation practices, or lack thereof, will inform an understanding of whether future teachers feel efficacious in their professional endeavors.

Self-Efficacy as a Construct

Albert Bandura is responsible for the most notable contributions to our understanding of the term self-efficacy (Locke, 1997). According to his research, perceived self-efficacy refers to a belief in one’s capabilities to organize and execute the courses of action required to produce
given attainments (Bandura, 1977). Put simply, self-efficacy is the confidence in one’s ability to accomplish tasks and to achieve identified goals. This term can be differentiated from similar constructs such as (a) self-concept, which encompasses a global perception of oneself (i.e., a perception of oneself formed through a collection of experiences), (b) self-confidence, which represents a broad belief about one’s behavior and lacks a target of certainty, and (c) perceived control, which refers to one’s general ideas of whether outcomes are determined by one’s own choices and behavior or by external factors (Bandura, 1997; Schunk & Pajares, 2001; Zimmerman, 2000). Rather, self-efficacy focuses on task-oriented performance expectations. A high sense of self-efficacy in an individual lends itself to increased motivation, increased engagement in activities, more positively expressed emotions, and greater feelings of accomplishment; in comparison, there is a connection between a low sense of self-efficacy and the likelihood of an individual to doubt one’s own abilities and have lower aspirations, increased feelings of stress and depression, and limited resilience in times of failure (Bandura, 1994).

Bandura (1977) connects the variation in self-efficacy beliefs to an individual’s ability to achieve a certain outcome. Belief in one’s own effectiveness has a significant correlation with both the initiation and the persistence of self-enhancing behaviors. However, Bandura (1977) is intentional about differentiating between the concepts of outcome expectations and efficacy expectations:

An outcome expectancy is defined as a person's estimate that a given behavior will lead to certain outcomes. An efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes. Outcome and efficacy expectations are differentiated, because individuals can believe that a particular course of action will produce certain outcomes, but if they entertain serious doubts about whether
they can perform the necessary activities such information does not influence their behavior. (p. 193)

Here, he explains that an individual may recognize the necessary behaviors for accomplishing an identified goal, but if the individual lacks a belief in their ability to perform those behaviors, then there is minimal likelihood that the expected outcome will be achieved. Hence, an individual with a higher perception of self-efficacy will make greater efforts toward achieving an intended outcome.

Mediating Processes of Self-Efficacy

Broadly, Bandura (1997) has asserted that self-efficacy beliefs regulate human efforts and functioning through four major processes: cognitive, motivational, affective, and selection. The bidirectional effect of self-efficacy and each of these processes are examined further through his own work (Bandura, 1977, 1989, 1993, 1994, 1997), as well as the work of other scholars (e.g., Margoles & McCabe, 2003, 2006; Pajares, 1996a, 1996b; Schunk & Pajares, 2001; Zimmerman, 2000; Zimmerman et al., 1992). Collectively, these investigations into efficacious beliefs and related human processes provide a comprehensive overview of this construct within the literature.

Cognitive Processes

“Efficacy beliefs affect thought patterns that can enhance or undermine performance” (Bandura, 1997, p. 116). These thought patterns represent various cognitive constructions of future events that effect how efficacious an individual may feel when engaging in goal setting and attainment. According to Bandura, those with high senses of self-efficacy will engage in cognitive self-appraisals that visualize success, guiding future performance in a positive light. However, those with limited levels of self-efficacy will view themselves negatively and will frequently visualize failure in their future performances. This relationship between cognitive
processes and self-efficacy is also seen as reciprocal in that engaging in cognitive enactments of efficacious behavior can strengthen self-efficacy beliefs (Bandura, 1997).

Much research has furthered the idea of cognitive processes acting as a mediator of self-efficacy beliefs (Bandura, 1989, 1993; Cervone, 2000; Pillai et al., 2011). In addition to general examinations of the relationship between these two factors, researchers have investigated how cognitive processes and self-efficacy beliefs work together as mediating variables in a variety of contexts. Included in these considerations are the mediating effects of these variables on development and aging (Berry & West, 1993; Seeman et al., 1996; Welch & West, 1995), student experiences and academic performance (Elias & Loomis, 2002; Esen et al., 2017; Jaafar & Ayub, 2010; Jiang et al., 2020; Nevill, 2008), and functioning of individuals with mental health disorders such as schizophrenia (Kurtz et al., 2013; Zhou & Li, 2020). Each of these applications demonstrate how our cognitions affect our beliefs about our own capabilities. An aging individual residing in a nursing home will be more likely to believe in his ability to master a certain task, such as consistently taking his medications, if he is able to create a cognitive construction of success in this area (Welch & West, 1995). A college student will more likely have efficacious beliefs about her ability to reach graduation if she successfully can imagine herself performing well on her final comprehensive exam and walking across the stage at the end of her undergraduate program. Despite the scenario, cognitive constructions are the first component of attaining goals and seeking competency. It may not be possible to ensure upcoming achievement by merely visualizing success scenarios, but positive perceptions of future events can be converted into motivators for our current behavior. Current behavior, then, can enhance future performance (Bandura, 1989). In this way, cognitive processes are the
foundational roots for an individual’s ability to self-motivate and engage in purposeful action (Bandura, 1997).

Motivational Processes

According to Bandura (1977), having the ability to generate thought around the success of future performance encourages one’s motivation of present behavior. In collaboration with colleagues Barry Zimmerman and Manuel Martinez-Pons, Bandura examine the role of self-efficacy beliefs and personal goal setting in students’ academic attainment (Zimmerman et al., 1992). Within this study, 102 high school students taking a required social studies course are sampled and given a questionnaire that includes multiple self-efficacy and goal-setting scales. Additionally, a questionnaire is administered to students’ parents. Results show that while parents commonly determine goals to set for their children by reviewing prior grade accomplishments, these previous accomplishments are not a factor in children’s own goal setting. Rather, children heavily rely on their self-efficacy beliefs, along with their parents’ aspirations for them. This supports Bandura’s (1977) assertion that individuals’ doubts about their performance can heavily influence (a) the goals they set for themselves and (b) the actual attainment of these goals. One’s self-efficacy beliefs can have a greater effect on thoughts and behaviors than the individual’s actual skill level (Locke, 1997).

The relationship between motivation and self-efficacy has been most explored within the learning context (Margolis & McCabe, 2003, 2006; Robbins et al., 2004; Zimmerman, 2000; Zimmerman et al., 1992). This connection has become so prominent that the term academic self-efficacy, defined as “individuals’ convictions that they can successfully perform given academic tasks at designated levels” (Bong & Skaalvik, 2003, p. 6), has become its own domain of consideration within the literature (Bong & Skaalvik, 2003; Ferla et al., 2009; Pajares, 1996a,
According to Zimmerman (2000), “Students’ beliefs about their academic capabilities play an essential role in their motivation to achieve” (p. 82). Those perceived as more self-efficacious demonstrate a higher motivation to overcome obstacles as they occur, often showing increased persistence and academic rigor (Bandura, 1997). Therefore, Margolis and McCabe (2003) argue that the key to increasing the motivation of struggling learners is for teachers and other authority figures to stress the development of a higher sense of self-efficacy. Within the academic setting, this development can occur through the linking of new work to recent successes, the reinforcement of effort and persistence, the creation of personally important goals, and the placement of classwork at the proper instructional level for the individual student. “Work should challenge rather than frustrate them” (Margolis & McCabe, 2003, p. 163). Without advocating for students to become more efficacious, limited beliefs in one’s capabilities could create self-fulfilling prophecies of failure (Margolis & McCabe, 2006).

Cherian and Jacob (2013) make a similar argument when applying the concepts of self-efficacy and motivation within the workplaces. The level of involvement within one’s job highly effects motivation to perform. However, involvement is often affected by the belief in one’s capabilities of success within a position or role. Just as Margolis and McCabe (2003) suggest matching the complexity of instructional level to the individual student, Cherian and Jacob (2013) implore supervisors within the job setting to match the complexity of job-related tasks to the individual employee. Having the ability to grasp the details of their assignments typically increases individuals’ beliefs about their individual ability to complete the task. Through this understanding they are apt to become more efficacious, which then likely increases motivation and positively effects job performance. Alternatively, confusion regarding expectations of task-related activities will likely decrease self-efficacy beliefs and motivation while simultaneously
increasing feelings of anxiety, depressed mood, and biological stress (Cherian & Jacob, 2013; Bandura, 1997).

**Affective Processes**

A positive correlation has been reported between higher levels of self-efficacy and control over anxiety arousal, depressed mood, and stress. On average, those who demonstrate self-efficacy in a given area (e.g., school, work, social settings) more effectively control the aforementioned affective processes when conflict or uncertainty arises (Bandura, 1997). The relationship between self-efficacy and affective processes has led to the identification of a specific construct called *emotional self-efficacy*, which refers to peoples' perceptions of their ability to process emotional information accurately and effectively (Goroshit & Hen, 2014). This construct is considered multidimensional as it brings together emotion regulation, the ability to understand one’s own emotions, empathy, and the use of emotion to support thoughts and behaviors (Dogan et al., 2013).

Like cognitive and motivational processes, affective processes share a bidirectional relationship with self-efficacy. Those who develop competent affective processes generally feel more confident in their ability to manage their emotional states as well as understand the emotional states of others. However, those who are not emotionally efficacious generally have difficulty successfully managing emotions (Bandura, 1997). Emotional self-efficacy has been found to strongly influence whether an individual maintains a positive or negative mood in a variety of situations (Kirk et al, 2008), including work (Alessandri et al., 2018; Kirk et al., 2011; Loeb et al., 2016), school and education (Arslan, 2017; Tariq et al., 2013), and physical activities (McAuley & Courneya, 1992; McAuley et al., 1999; Valois et al., 2008). Goroshit and Hen (2014) provide an example of the influence of emotional self-efficacy in educational domain as
they examine the extent to which emotional self-efficacy predicts teaching self-efficacy and empathy in teachers. They argue that to be efficacious in teaching, and to ultimately develop competency in this professional area, teachers must develop emotional self-efficacy as means for enhancing their resilience and their ability to be innovative. A sample of 273 teachers from both subject-specific and general studies classes are given measures of empathy, teaching self-efficacy, and emotional self-efficacy, and Pearson correlations are used to examine the relationships between these variables. The results indicate that emotional self-efficacy successfully predicts both empathy and teaching self-efficacy with correlation values ranging from $r = .38$ to $r = .56$ (Goroshit & Hen, 2014). These findings demonstrate the connection between various forms of efficacy and introduce the idea of how these beliefs may interplay within our chosen surroundings.

**Selection Processes**

Selection processes refer to the humanistic processes by which individuals select and operate within their interpersonal relationships and surroundings (Bandura, 1997). The choices that individuals make about the activities in which they take part or the social groups with which they join are heavily influenced by their beliefs about their capabilities to successfully navigate those environments. In his discussion of selection processes as mediators of efficacy beliefs, Bandura (1997) supports this assertion saying, “People avoid activities and environments they believe exceed their capabilities, but they readily undertake activities and pick social environments they judge themselves capable of handling” (p. 160). From Bandura’s (1997) examination of the relationship between efficacious beliefs and selection processes has come the concept of *social self-efficacy*. This concept is characterized by the confidence in one’s ability to engage in the socially interactional tasks necessary to be effective in a variety of social situations.
(Anderson & Betz, 2001). The effect of efficacy beliefs on the selection of interactional environments and life paths has most clearly been described through research on career choice and development (Anderson & Betz, 2001; Bandura, 1997; Betz & Hackett, 1986; Betz, 2000, 2007; Betz & Klein, 1996; Lent & Hackett, 1987). The more efficacious an individual feels, the broader their career search, the more interest the individual shows in their chosen pursuit, and the more persistence and longevity is demonstrated in that career (Bandura, 1997). This then connects to the discussion of motivational processes on job performance in that once the career has been chosen, it takes an individual’s motivational processes to maintain that position effectively.

In considering all of Bandura’s (1997) processes (i.e., cognitive, motivational, affective, and selection), a trend can be seen in how each of these concepts are related to one another and work together to build a comprehensive idea of efficacious attributes within an individual. Erozkan (2013) found in his examination of the relationships between social self-efficacy and communication skills that social self-efficacy was positively related to cognitive, affective, and behavioral skills. Here, there was a clear indication that each of these skill areas predicted social self-efficacy. Though the scale used to measure these skills (Communication Skills Inventory; Balci & Ersanli, 2006) utilized the term “behavioral,” rather than “motivational,” a clear line can be drawn between the effect of these skills on social self-efficacy and the effect of each of the preceeding mediating processes on selection processes. Just as cognitive, affective, and behavioral skills come together to increase the confidence individuals have in their social capabilities (Erozkan, 2013), cognitive, motivational, and affective processes work cooperatively to affect individuals’ selection of social environments. However, Bandura (1997) restates his point that these processes must always be seen as bidirectional: “It is only after people choose to engage in
an activity [selection processes] that they mobilize their efforts [motivational processes];
generate possible solutions and strategies of action [cognitive processes]; and become elated,
anxious, or depressed over how they are doing [affective processes]” (p. 161).

Measurements of Self-Efficacy

The measurement of self-efficacy has historically been complicated, as it is easily
misconstrued with other constructs or misrepresented by those who develop the scales. In
response to these concerns, Bandura (2006) authored a *Guide for Constructing Self-Efficacy*
*Scales* in which he includes various considerations for the development of scales on this
construct. He warns against the creation of “all-purpose” scales of self-efficacy and provides
instruction for creating domain-specific scales. Bandura’s (2006) guidance includes (a)
information regarding the various characteristics of self-efficacy in measurement, (b) a
recommended response format for self-efficacy scales, and (c) advice for minimizing response
bias.

The three characteristics of self-efficacy that should be considered for measurement of
the construct are *efficacy generality* (e.g., variance across activities), *efficacy strength* (e.g., weak
vs. strong beliefs), and *level of efficacy* (e.g., number of activities someone believes they can
perform above a certain threshold of strength). Of these characteristics of measurement, efficacy
strength has proven to be the most congruent with the probability of successful performance and
should guide the development of the response format for the measure (Bandura, 2006). Self-
efficacy scales should present their respondents with different levels of task demands and should
ask that a rating be given regarding the strength of their belief in their ability to execute those
tasks. To ensure an effective predictor of performance, Bandura (2006) suggests using a 100-
point scale, ranging in 10-unit intervals from 0 (“Cannot do”); through intermediate degrees of
assurance, 50 (“Moderately certain can do”); to complete assurance, 100 (“Highly certain can do”). “People usually avoid the extreme positions so a scale with only a few steps may, in actual use, shrink to one or two points” (Bandura, 2006, p. 312). Thus, his belief is that providing an excess of options will ensure more accurate responses. However, Simms et al. (2019) have opposed this claim. In their examination of the importance of the number of response options, they found that there were likely no improvements in psychometric precision beyond six response options. Despite the format, scale developers should establish guidelines to limit response bias. Bandura (2006) discusses various methods to inhibit this bias, but the provision of privacy and confidentiality during the recording of responses are the most emphasized, as these bring out the most authentic feedback from the respondent.

**General Measurements**

The development of a general measure for perceived self-efficacy has conflictual responses. Bandura (1997, 2006) argues that individuals cannot be efficacious in all areas of their lives; rather, they differ in the areas they choose to cultivate their efficacy. Thus, scales developed to measure perceived self-efficacy as a global concept are often ambiguous in their attempts to be “all-purpose” (Bandura, 2006, p. 307). He goes further to say that measures for perceived self-efficacy must be tailored to specific domains. However, this assertion follows the creation of the Self-Efficacy Scale (SES; Sherer et al., 1982). In considering the development of this scale, Sherer et al. (1982) believed that an individual’s previous experiences with success and failure lead the person to have a general expectation of his/her/their capabilities moving into new situations. These expectations, then, influence the individual’s mastery of new skills. The intention of developing a scale to measure these expectations was to assess clients’ various levels of self-efficacy as they enter therapy. This could then help to guide the therapeutic process.
The SES (Sherer et al., 1982) is a 23-item scale meant to assess an individual’s level of self-efficacy without connection to a specific situation or area of interest. To assess this construct, respondents rate their efficacy expectations for non-specific tasks. Items for this measure loaded on two factors which became the following subscales: the General Self-Efficacy subscale, containing 17 items, and the Social Self-Efficacy subscale, containing six items. The general self-efficacy subscale includes items such as “If I can’t do a job the first time, I keep trying until I can” and “When something looks too complicated, I will not even bother to try it” (Sherer et al., 1982, p. 666). Comparatively, the social self-efficacy subscale asks for reflections of efficacy expectations specifically in social situations and includes items such as “I have acquired my friends through my personal abilities at making friends” and “If I meet someone interesting who is hard to make friends with, I’ll soon stop trying to make friends with that person” (Sherer et al., 1982, p. 666). Both subscales yielded high Cronbach alpha reliability coefficients at .86 and .71, respectively.

Despite Bandura’s (2006) insistence of keeping the measurement of self-efficacy to domain-specific areas, researchers have built from the direction of Sherer et al.’s (1982) work. For example, Chen et al. (2001) argued that both trait-like characteristics of self-efficacy (i.e., characteristics measured on a general scale) and task-specific characteristics (which the authors refer to as “state-like” and are measured through a domain-specific scale) contribute to an understanding of motivation and behavior in individuals. Drawing from the SES and the Rosenberg Self-Esteem scale, they developed an 8-item, unidimensional instrument deemed the New General Self-Efficacy (NGSE) scale. This shorter assessment bears a resemblance to the SES and includes items such as “When facing difficult tasks, I am certain that I will accomplish them” and “I will be able to successfully overcome many challenges” (Chen et al., 2001, p. 79).
Respondents utilize a 5-point, Likert-type scale from *strongly disagree* (1) to *strongly agree* (5) to rate their level of agreement with the statements. Unlike the SES, all eight items of the NGSE utilize positive statements (e.g., statements including “I can” or “I will” rather than “I cannot” or “I will not”). Additionally, Chen et al. (2001) asserted that while the items on Sherer et al.’s (1982) scale assess outcomes of efficacy perceptions, which act in opposition to the conceptualization of self-efficacy, the NGSE seeks to assess efficacy expectations only. An investigation of content validity for the NGSE scale supported this aim, as the use of expert panels to analyze items showed that the content of this new scale is a “substantially more consistent measure of the [general self-efficacy] construct than is the content of the [SES] items” (Chen et al., 2001, p. 69).

Despite having improved on the original scale’s (Sherer et al., 1982) level of validity, Chen et al. (2001) still fail to follow Bandura’s (2006) considerations for an appropriate measurement of perceived self-efficacy, especially when it comes content validity. Bandura’s *Guide for Constructing Self-Efficacy Scales* (2006) states the importance of creating items that phrase statements in the form of “can do” rather than “will do,” as *can* judges capability and *will* states intention. Some of the sample items by both Sherer et al. (1982) and Chen et al. (2001) violate this suggestion and bring into question the content of the latter’s scale despite evidence of it being content valid. Further, although the developers of the NGSE explicitly state their intention to only measure efficacy expectations, the scale comes close to having respondents make judgments about the *outcomes* that are likely to come from their performances (i.e., outcome expectations) rather than judging their capabilities to *execute* their performances (i.e., perceived self-efficacy). This potential of unintentionally assessing a separate concept is an
additional concern of Bandura’s (2006) regarding the creation of “all-purpose” scales of perceived self-efficacy.

**Domain Specific Measurements**

Though some researchers have stepped away from Bandura’s (1997, 2006) critiques and created measures to assess what they believe to be generally perceived self-efficacy, many other researchers have limited their research to domain-specific measures of self-efficacy. Kirk et al. (2008) investigated prior research on emotional intelligence and self-efficacy, and developed the 32-item Emotional Self-Efficacy Scale (ESES) to assess the affective processes of self-efficacy. Smith and Betz (2000) considered the selection processes of self-efficacy in their examination of self-efficacy and its relation to social behaviors when they created the Perceived Social Self-Efficacy (PSSE) scale. Motivational processes of self-efficacy were represented in a variety of scales, including the College Academic Self-Efficacy Scale (CASES; Owen & Froman, 1988) and the Sources of Academic Self-Efficacy Scale (SASES; Hampton, 1998). Included within the variety of domain-specific scales are those measuring the construct of teaching self-efficacy (Gibson and Dembo, 1984; Skaalvik, E. & Skaalvik, S., 2007; Tollerud, 1990; Tschannen-Moran & Hoy, 2001; Van Keer et al., 2019; Woolfolk & Hoy, 1990). These measures developed to assess efficacy beliefs in the realm of teaching will be discussed in-depth in subsequent sections.

**Teaching Self-Efficacy**

In recent decades, researchers have applied the construct of self-efficacy to specific skills related to teaching and pedagogy (e.g., Lauermann & König, 2016; Schwarzer & Hallum, 2008; Zee & Koomen, 2016). This research has developed into the term *teaching self-efficacy*. The construct of teaching self-efficacy has been defined in a variety of ways. Some definitions are generalized (e.g., “the beliefs teachers hold about their capabilities to carry out their professional tasks”; Morris et al., 2017, p. 796), while the focus of others is on the teacher’s effects on student
learning (e.g., “the teacher’s belief or conviction that they can influence how well students learn, even those who may be considered difficult or unmotivated”; Guskey & Passaro, 1994, p. 628). However, a thorough definition likely provides a merging of general teaching ability and effect on student learning. Suddeath (2018) demonstrated this combination when he defined teaching self-efficacy as “a person’s confidence in his or her ability to select and utilize appropriate teaching behaviors effectively to achieve student learning” (p. 14).

Bandura (1997) has asserted that high levels of teaching self-efficacy may contribute to better teaching performance (e.g., creation and presentation of lesson plans, encouraging student discussions, managing classrooms, more competent usage of persuasive means over authoritarian control, and more effective provision of support toward all students, even those who may seem difficult or unteachable. Other researchers have affirmed these statements (Klassen & Tze, 2014; Morris et al., 2017; Zee & Koomen, 2016) and have added that a strong sense of self-efficacy may make teachers less susceptible to burnout and more committed to the profession (Morris et al., 2017; Schwarzer & Hallum, 2008; Zee & Koomen, 2016). The opposite, then, could be said for those operating from lower levels of self-efficacy toward teaching. Teachers with limited beliefs in their teaching abilities tend to implement less effective teaching strategies but attribute the potential lack of student learning to low student ability (Bandura, 1997). This could lead to a dysfunctional cycle of teaching behaviors affecting student performance (i.e., ineffective teaching strategies result in decreased student performance, which leads to increased doubts of teaching capability, which creates room for anxiety and burnout); therefore, failure to develop teaching self-efficacy can have a detrimental effect on both teachers and their students (Bandura, 1997).
A comprehensive review of 82 empirical studies by Morris et al. (2017) evaluated how researchers have aimed to conceptualize the sources of teaching self-efficacy. Findings from this review highlight the uncertainty regarding how teachers develop their sense of self-efficacy in teaching. Despite an array of literature, inconsistent measurements of the construct, as well as methodological shortcomings, have made it difficult to identify a clear cause and effect. The authors evaluated the development of teaching self-efficacy through the original sources of efficacy defined by Bandura (1997), which included enactive mastery experience (e.g., gaining new experience through success at a challenging task), vicarious experience (e.g., appraising one’s ability in relation to the attainment of others), verbal persuasion (e.g., the expression of faith in one’s capabilities by significant others), physiological and affective states (e.g., somatic indicators of efficacy), and integration of efficacy information (e.g., a combination of the first four sources). Morris et al. (2017) suggested that “the sources inform teaching self-efficacy only to the degree to which teachers perceive them to be aligned with the task at hand” (p. 821). In this way, these variables may be mediators for rather than sources of teaching self-efficacy. Teachers’ levels of self-efficacy typically remain high when they have experienced opportunities to develop the appropriate pedagogical strategies but often especially high when these experiences are catered specifically to the content area in which they are teaching. However, Morris et al. (2017) caution not to focus only on the quality of teaching experiences in exploring sources of self-efficacy toward teaching. Within their review, they encourage an equal focus on the quantity of teaching opportunities. For example, teachers may grow more confident in their teaching capabilities when they can guest lecture in their content area of interest, but if they only engage in this activity once then this confidence may wane as they continue without further
experiences. Thus, it is both quantity and quality of opportunities that likely aid in the development of efficacious beliefs of teaching capability.

**Teaching Self-Efficacy in Primary and Secondary School Environments**

Studies show that context can heavily influence teacher efficacy (e.g., Guskey, 1987; Moradkhani & Haghi, 2017; Ryan et al., 2015). For example, a variety of research has examined the self-efficacy of primary and secondary school teachers working in specific subject areas, including science (e.g., Morrell & Carroll, 2003; Mulholland & Wallace, 2001; Ramey-Gassert et al., 1996), social studies (e.g., Fitchett et al., 2012; Yilmaz, 2009), and mathematics (e.g., Bates et al., 2011; Briley, 2012; Kahle, 2008). Additionally, Moradkhani and Haghi (2017) found a difference in self-efficacy beliefs of English as a foreign language (EFL) teachers depending on whether they were employed at a public or a private school. Results indicated that private school EFL teachers scored measurably higher across multiple teaching self-efficacy subscales compared to their counterparts working at public schools. The authors attributed this difference to the levels of exposure to positive/negative sources of self-efficacy for each type of teacher. The sources discussed were in relation to Bandura’s (1997) four sources of self-efficacy (i.e., mastery experience, vicarious experience, verbal persuasion, and physiological and affective states). Moradkhani and Haghi’s (2017) hypothesis regarding the differences between contexts was that private school EFL teachers may have a higher level of exposure to each of these sources of efficacy than do the public school EFL teachers due to increased support and opportunities for professional development in that setting (Moradkhani & Haghi, 2017).

In addition to differences in teaching self-efficacy based on private versus public school employment, Ryan et al. (2015) found that levels of teaching self-efficacy may vary depending on what grade level individuals are teaching. In their examination of 101 teachers in primary (n =
27) and secondary \((n = 74)\) schools, their findings suggest that middle school teachers often feel less efficacious than do elementary school teachers. These authors, as well as others (Guskey, 1987; Midgley et al., 1995), hypothesize that these differences may be due to (a) the varying developmental levels of the students moving from elementary to middle school or (b) the variation in structural features between elementary and middle school teachers making it more difficult for teachers to effectively engage with students. In considering the former hypothesis (i.e., teachers may feel less efficacious when working with students of higher developmental levels), it is important to explore the levels of efficacy of those working with adult students as well.

**Teacher Self-Efficacy in Higher Education Environments**

Although (to this researcher’s knowledge) the literature has yet to provide a comparison between teaching self-efficacy levels of primary/secondary school teachers and higher education professors, many researchers have exclusively examined the concept of teaching self-efficacy in higher education environments (e.g., Ismayilova & Klassen, 2019; Morris & Usher, 2011; Rodgers et al., 2014; Rowbotham, 2015). Similar to Moradkhani and Haghi’s (2017) approach, Morris and Usher (2011) utilized Bandura’s (1997) sources of self-efficacy to understand the evolution of teaching self-efficacy among college professors at research institutions. However, they found that it was challenging to analyze their results through these lenses as many professors integrated the four sources within their responses. Morris and Usher (2011) explain this integration well in the following example:

The interpretation of success in past teaching performances (mastery experiences) was sometimes informed by the positive comments professors received from supervisors and students (social persuasions)…Professors obtained more information from their student
evaluations (social persuasions) by comparing their numeric scores to the scores earned by their colleagues (vicarious experience). Finally, some professors made favorable interpretations of their students’ engagement (mastery experiences) in terms of their own visceral responses and emotions (physiological and affective states), and this combined information enhanced their self-efficacy. (p. 243)

Of these various potential sources of teaching self-efficacy, participants in this study reported that the most influential factors to developing confidence in their teaching ability were (a) previously successful teaching experiences and (b) positive evaluations from students. In addition to examining the sources of teaching self-efficacy in college professors, Morris and Usher (2011) investigated the way confidence in teaching ability evolved over the course of an academic career. Results from this area of their research indicated that “award-winning” (p. 243) professors have typically developed this confidence in their abilities early on in their careers and, once developed, it has continued steadily throughout their careers. This finding urged the authors to argue for early training and professional development for college instructors, as these may be critical factors for sending out efficacious professors into their respective careers.

Multiple researchers have considered the effect of faculty development programs on teaching self-efficacy in college instructors (e.g., Rodgers et al., 2014; Rowbotham, 2015; Singh et al., 2013; Tenzin et al., 2019). Rowbotham (2015) evaluated this effect using an intervention and control group on full-time faculty members at a midwestern institution. Participants within the intervention group engaged in a two-day summer program as well as monthly meetings throughout the academic year, while the participants in the control group did not engage in such activities. The results indicated that participation in the faculty development program positively influenced the self-efficacy of these instructors. However, much research in this area, including
that of Rowbotham (2015), has the limitation of a small sample size \((n = 28)\). This is mainly due to the nature of the study (i.e., looking at specific faculty development programs at individual institutions), but could still bring into question some of the indicated results.

**Teaching Self-efficacy in Counselor Education and Supervision (CES)**

Teaching preparation and development methods, which will be discussed further in subsequent sections, seem apt to influence teaching self-efficacy across grade levels and various educational domains (Fives & Looney, 2000; Moradkhani & Haghi, 2017; Pesce, 2015; Rodgers et al., 2014; Rowbotham, 2015; Singh et al., 2013; Tenzin et al., 2019). Many counselor education and supervision (CES) doctoral students follow the completion of their doctoral program with a career in academia. According to Davis et al. (2006), counselor educators spend the most time engaging in teaching-related activities as compared to research or service. However, despite this concentration on teaching once engaged in a career, many counselor education programs include only one course focusing on teaching (Hall, 2007), suggesting that this area may receive considerably less attention than supervision, research, or clinical preparation (Suddeath, 2018).

In response to a seemingly limited focus on teaching preparation in counselor education programs (Waalkes et al., 2018), teaching self-efficacy has become a concern within the field of counselor education. Suddeath et al. (2020) investigated the experiences that most influence CES doctoral students’ self-efficacy toward teaching. This study examined the responses of 149 CES doctoral students to a single composite survey that encompassed demographics, control variables, self-efficacy toward teaching, and supervision satisfaction. The vast majority of participants reported having engaged in some teaching preparation experiences, including formal coursework in teaching (79% of participants), fieldwork experiences in teaching (93% of
participants), and supervision of teaching (87% of participants). Findings supported the following suggestions for improving CES doctoral students’ self-efficacy toward teaching: (a) multiple fieldwork experiences in teaching, (b) formal instruction in college teaching, (c) measurement of student satisfaction with supervision, and (d) weekly supervision. Each of these variables were identified as significant predictors of teaching self-efficacy within the CES population (Suddeath et al., 2020).

Although these improvements are likely to increase the teaching self-efficacy of CES doctoral students, additional experience outside of their educational programs may be necessary. Tollerud (1990) has suggested that a significant relationship may exist between post-doctoral teaching experience and self-efficacy toward teaching skills. In her investigation of self-efficacy toward teaching among two separate CES-related groups (advanced doctoral students and recent graduates), results indicated that “advanced doctoral students were significantly less confident in their teaching skills than those in the field who were already teaching” (p. 131). Mean teaching self-efficacy scores of the latter group showed an increase of about 1 standard deviation compared to the former group. This significant rise in mean scores of teaching self-efficacy for individuals even having less than one year of actual teaching experience demonstrates a likely connection between (a) opportunities to be an instructor of record for a course and (b) increasing one’s confidence in teaching ability (Tollerud, 1990).

**Measurements of Teaching Self-Efficacy**

Several researchers have sought to develop effective measures of teaching self-efficacy (Gibson and Dembo, 1984; Skaalvik, E. & Skaalvik, S., 2007; Tollerud, 1990; Tschannen-Moran & Hoy, 2001; Van Keer et al., 2018; Woolfolk & Hoy, 1990). However, Gibson and Dembo (1984) were among the first to develop a meaningful measure of this construct. The results of a
factor analysis utilizing the responses of elementary school teachers yielded a 30-item Teacher Efficacy Scale (TES) with two substantial factors, personal teaching efficacy ($\alpha = .78$) and teaching efficacy ($\alpha = .75$). The first, personal teaching efficacy, emerged as a representation of a teacher’s “belief that one has the skills and abilities to bring about student learning” (p. 573) and included items such as “When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level” (p. 573). The second factor, teaching efficacy, demonstrated items related to a teacher’s belief that their ability to create change may be significantly limited by external factors and contexts and included items like the following: “The hours in my class have little influence on students compared to the influence of their home environment” (p. 573). The response options were styled in a Likert-type format with from 1—strongly disagree to 6—strongly agree (Gibson & Dembo, 1984).

Since the development of the TES, researchers have conducted various factor analyses on the instrument. Results from an analysis by Woolfolk and Hoy (1990) on 182 liberal arts majors enrolled in a teacher preparation program indicated the same two factors of personal teaching efficacy ($\alpha = .82$) and general teaching efficacy ($\alpha = .74$) accounting for 27% of the variance. However, a second analysis with an adjustment in criteria, indicated a three-factor structure accounting for 32.8% of the variance. Within this new structure, the factor of general teaching efficacy remained the same, while personal teaching efficacy split between into separate, but moderately correlated, factors: (a) teachers’ sense of personal responsibility for positive student outcomes and (b) responsibility for negative outcomes. However, Woolfolk and Hoy (1990) did not see the second factor structure as being the most parsimonious model, so they chose to use the initial structure for the basis of their analyses. Guskey and Passaro’s (1994) findings were consistent with both Gibson and Dembo (1984) and Woolfolk and Hoy (1990) in that their
analysis resulted in two independent dimensions of efficacy when analyzing this measure on 342 K-12 teachers (both preservice and in-service). Alternatively, though, Guskey and Passaro (1994) identified their two independent factors not as a distinction of personal efficacy versus teaching efficacy but rather a distinction between an internal versus external locus-of-control related to teaching ability. The factor definitions remain similar, with the internal factor representing a teacher’s personal influence in educational situations and the external factor representing perceptions of influence on elements outside of the classroom (e.g., social, demographic, or economic conditions), but the conceptualization of the instrument changes in Guskey and Passaro’s (1994) model.

Despite the consistency in measurement of teaching efficacy that came from the previous three scales, Tschannen-Moran and Hoy (2001) believed these measurements may still lack content validity, as they all seemed to be missing the following components of teaching: (a) assessments of teaching, (b) effectiveness with capable students, (c) creativity in teaching, and (d) the flexible application of teaching strategies. In response to this concern, the authors set out to create a scale that might represent a broader range of teaching tasks. Although the TES (Gibson & Dembo, 1984) informed the development of their scale, Tschannen-Moran and Hoy’s (2001) instrument was most influenced by Bandura’s (1997) suggested measurements of efficacy and his reportedly unpublished teaching self-efficacy scale. Following several factor analyses utilizing preservice and in-service teachers, the authors developed a long form (24-item) and short form (12-item) measurement of teaching self-efficacy, designated the Ohio State Teacher Efficacy Scale (OSTES). Both measurements contained the same three subscales of instruction, classroom management, and student engagement. The subscales for the 24-item measurement yielded high reliability scores with $\alpha = 0.91$ for instruction, $\alpha = 0.90$ for management, and $\alpha =$
0.87 for engagement. Similarly, reliability scores for the 12-item measurement remained high despite the shortened format with $\alpha = 0.86$ for instruction, $\alpha = 0.86$ for management, and $\alpha = 0.81$ for engagement. Following Bandura’s (1997) recommendation for expanded response options, Tschannen-Moran and Hoy (2001) utilized a 9-point scale for each item, with anchors at 1—nothing, 3—little, 5—some influence, 7—quite a bit, and 9—a great deal. Item examples include (a) “To what extent can you use a variety of assessment strategies?” (b) “How much can you do to control disruptive behavior in the classroom?” and (c) “How much can you do to help your students value learning?” (p. 800). These items represent the variation from the subscales of instruction, classroom management, and student engagement, respectively.

Although the structure, response options, and content may vary among the variety of scales measuring teaching self-efficacy, most of these instruments have been validated on the same general population of interest: preservice and in-service teachers for primary and secondary school settings. Few validated instruments have been developed to measure those instructing students within the higher education environment. However, among the few that exist, are those intended to measure the teaching self-efficacy levels of those within the counselor education and supervision population.

**Measuring Teaching Self-Efficacy in CES**

When seeking to examine self-efficacy toward teaching among CES doctoral students, Tollerud (1990) recognized that no single instrument existed for the measurement of confidence in teaching ability within the field of counselor education. Using an expert panel of counselor educators to assess for content validity and the Cronbach’s alpha measure of internal consistency to assess for reliability ($\alpha = 0.94$), she developed a 35-item scale assessing the level in which counselor educators feel efficacious when engaging in teaching-related behaviors. This scale was
titled the Self-Efficacy Toward Teaching Inventory (SETI). The pilot participant pool was 193 advanced doctoral students and recent graduates of CES programs. All 35 items on the scale, focusing on a variety of teaching skills and behaviors, asked the respondents to provide a rating to questions beginning with the phrasing “How confident are you in your ability to…” (p. 77). Each question was completed with a different teaching-related task. Response options were given on a 4-point Likert scale from 1—not confident to 4—completely confident.

Unlike the many teaching self-efficacy scales that were developed prior to the SETI, this instrument was developed to be unidimensional—lacking subscales and seeking to generally measure “teaching skills that were necessary for effectiveness for counselor educators” (Tollerud, 1990, p. 108). Despite Bandura’s (1997) insistence upon multidimensional measurements of self-efficacy, Tollerud (1990) argued that this was the best way to structure her assessment. To support her argument, she utilized a panel of experts to ensure content validity and conducted a factor analysis which sustained this one-factor approach. Resulting factor loadings ranged from .38 to .78 and accounted for 35% of the variance. This single factor structure was further solidified in Suddeath et al.’s (2020) recent use of the instrument. Following the use of expert panelists, a strategy like that of Tollerud (1990), the authors added and modified items on the SETI to include items related to the integration of technology into the classroom and teaching adult learners. This update also included a revision of terms to better align with the Council for Accreditation of Counseling and Related Educational Programs (CACREP) 2016 standards. However, despite these changes, Suddeath et al. (2020) decided not to change the factor structure and chose also to constrain their new, 47-item version of the SETI to a single factor for the purpose of comparison between uses. Following a factor analysis, they found factor loadings ranging from .45 to .76 and their model accounted for 40.4% of the
variance. Additionally, while the original instrument had a Cronbach’s alpha value of .94, the Cronbach’s alpha value for the adjusted SETI rose to a .97, suggesting strong internal consistency. These values were computed from data pulled from a comparable sample of 149 CES doctoral students.

A similar instrument worth examining is the Teaching Appraisal for Counselor Educators (TACE; Olguin, 2004). This instrument, developed to assess counselor educators’ levels of confidence in their teaching abilities, is also a 35-item measurement. However, the TACE utilizes a five-factor structure based on theory related to teaching competency in counselor education. These five factors by Olguin (2004) include (a) classroom competency (e.g., “I am able to maintain the attention of students in class”), (b) professional competency (e.g., “I am familiar with section F of the American Counseling Association’s Code of Ethics”), (c) intrapersonal competency (e.g., “I am enthusiastic about teaching counseling-related courses”), (d) student competency (e.g., “I am concerned about student learning”), and (e) interpersonal competency (e.g., “I am warm and friendly toward students”; p. 63). Items are measured on an 11-point Likert scale with anchors ranging from 0 (Do not agree) to 5 (Moderately agree) to 10 (Totally agree). This structure of response format is closer to that recommended by Bandura (1997), as it provides a wider variety of options in responses. However, there were a few limitations in the development of this instrument. First, although the instrument yielded a Cronbach’s alpha value of .94, indicating high internal consistency, a series of subsequent factor analyses did not yield a meaningful model. This then caused the researchers to base their five-factor structure solely in theory, which brings into question the validity of the purported factor structure. A second limitation, indicated by the authors, was that their sample size of 132 did not align with the recommendation of five participants per survey item (Stevens, 1996), which also
calls into question the validity of the instrument. Lastly, both the ordering of items and wording of the questions were called into question, as they did not align with suggestions of formatting within the literature. Therefore, Olguin (2004) urged future researchers to conduct further validation on the instrument.

**Teaching Competency**

Being competent in teaching and being efficacious in teaching may often be confused among those evaluating the area of teaching and pedagogy. As stated in an earlier section, *teaching self-efficacy* can be defined as “a person’s confidence in his or her ability to select and utilize appropriate teaching behaviors effectively to achieve student learning” (Suddeath, 2018, p. 14). However, teaching competence refers to “an integrated set of personal characteristics, knowledge, skills, and attitudes that are needed for effective performance in various contexts” (Tigelaar et al., 2004, p. 255). The former seeks to explain how teachers feel about their own abilities related to pedagogical tasks and the latter refers to the actual teaching ability that exists within these teachers. Despite their differences, each of these constructs may influence the other (e.g., a teacher who is professionally competent may feel more efficacious and a teacher feeling efficacious may be more likely to develop professional competence). Therefore, in examining teaching self-efficacy, it is important to consider what characteristics and abilities are expected for a teacher to be considered competent within their profession.

Many models for teaching competency are based in expectations set forth by the standards of national organizations related to teaching. Some of these organizations include The National Board for Professional Teaching Standards, which seeks to create standards for teachers in the K-12 setting, or The Council for Accreditation of Counseling and Related Educational Programs (CACREP), which is largely an accrediting body for counseling programs but that
maintains a set of standards for individuals preparing to teach in counselor education. Independent of the focus of the organization, most standards share the same general purpose: to describe what an accomplished teacher should know and be able to do within their respective setting to have a positive impact on student learning (CACREP, 2015; National Board for Professional Teaching Standards, 2016).

An early model of teaching competence by Borich and Fenton (1977) has suggested that professional teaching competence may consist of three categories: (a) knowledge competence, (b) performance competence, and (c) consequence competence. Knowledge competence represents a cognitive understanding of the subject matter in which one is teaching. Performance competence refers directly to the skills one exhibits in their day-to-day teaching engagements. Consequence competence can be seen in the student outcomes resulting from one’s teaching abilities and methods. While subsequent models of teaching competency (e.g., Oliver, 1990; Swank & Houseknecht, 2019; Tigelaar et al., 2004) differ in the terms they use to classify competencies and the number of competencies they include, each of these models include some variation of these three main areas of knowledge, performance, and consequence.

In developing these models of teaching competency, many researchers have utilized the Delphi method (Linstone & Turoff, 1975). This method, which employs a panel of experts, is commonly used to come to a consensus on an important topic (Swank & Houseknecht, 2019). According to Linstone and Turoff (1975), the Delphi technique involves four phases of deliberation: (a) Each member of the panel of experts provides their own contributions of what they deem important related to the subject matter, (b) The panel of experts come together to assess level of agreement and pertinence of information, (c) Differences among the panel are explored and evaluated, and (d) The panel of experts return their evaluation and consensus of the
results are analyzed. Tigelaar et al. (2004) applied the Delphi method to provide validation for their framework for teaching competency within higher education. Educational experts \( (N = 63) \) from various disciplines in higher education, with greater than five years of experience in teaching, were selected to participate within the panel of experts. These experts confirmed Tigelaar et al.’s (2004) teaching competency framework that consisted of five domains: (a) The Person as Teacher (i.e., personal characteristics of the teacher, such as being a skilled communicator, having a positive attitude, or exhibiting respect toward students); (b) Expert on Content Knowledge (i.e., having a thorough knowledge of the subject matter); (c) Facilitator of Learning Processes (i.e., developing educational materials, giving effective feedback, and assessing student’s learning results); (d) Organiser (i.e., cooperating with colleagues and contributing to curriculum); and (e) Scholar/Lifelong Learner (i.e., being capable of reflecting on one’s own teaching performance). Here, a connection can be formed from this model to Borich and Fenton’s (1977) model. Tigelaar et al. (2004) included the category of knowledge competence with the inclusion of the \textit{expert on content knowledge} domain. Performance competencies were represented through a combination of the \textit{facilitator of learning processes} and \textit{person as teacher} domains. Lastly, consequence competence was also demonstrated within the \textit{facilitator of learning processes} domain in that this domain includes having the ability to adjust teaching interventions based on learning results (i.e., student outcomes). The use of the Delphi technique provided the opportunity for Tigelaar et al. (2004) to create a much more comprehensive model, including additional aspects of colleague and curriculum interaction and personal reflection. This method further ensured a content valid model of teaching competency.

The Delphi technique also has been applied in the validation of a framework for teaching competencies in counselor education by Swank and Houseknecht (2019). Paneled experts within
this validation study were required to hold a doctoral degree in counselor education and to have supplemental teaching experience in one of the following areas: (a) a publication on teaching, (b) a position or membership in a group focused on teaching, or (c) an award for teaching excellence. This selected panel of experts agreed on 152 teaching competencies across the four domains of knowledge, skills, professional behaviors, and dispositions. Knowledge competencies in counselor education, according to this model, include competencies relating to a cognitive understanding of the subject area (e.g., counseling theories, best practices of counselors, etc.); a familiarity with models of adult learning; a demonstrated understanding of ethical, legal, and accrediting standards (related to organizations such as ACA, CACREP, etc.); and a consideration for “the personal characteristics and academic goals of students” (Swank & Houseknecht, 2019, p. 168). The skills domain consists of five various categories related to teaching and pedagogy: (a) meaningful engagement with students, (b) competent course instruction, (c) the ability to facilitate the gatekeeping process, (d) effective course preparation, and (e) teacher evaluation (both peer and self-evaluation). Professional behaviors competencies call for the enactment of ethically and legally informed practice as an educator, as well as professional interactions with colleagues and students. Lastly, the dispositions domain covers competencies related to personal characteristics of the teacher, including personal traits, beliefs, values, and interpersonal interactions. This model follows in the footsteps of Borich and Fenton (1977) and Tigelaar et al. (2019) but is novel in its focus on the field of counselor education and the inclusion of specific competencies that address the unique nature of this field. This focus aligns with the teaching expectations set forth by the CACREP standards on teaching in counselor education, which include the following:

- roles and responsibilities related to educating counselors
• pedagogy and teaching methods relevant to counselor education
• models of adult development and learning
• instructional and curriculum design, delivery, and evaluation methods relevant to counselor education
• effective approaches for online instruction
• screening, remediation, and gatekeeping functions relevant to teaching
• assessment of learning
• ethical and culturally relevant strategies used in counselor preparation
• the role of mentoring in counselor education (CACREP, 2015)

Nearly all the teaching standards can be accounted for within the teaching competencies outlined and validated by Swank and Houseknecht (2019). Between the use of a panel of experts recognized within the field and the connection to the most relevant set of standards in counselor education, this model may be most relevant when exploring the expectations of counselor educators in the domain of teaching. When considering teaching self-efficacy in counselor educators, then, it may be important to assess their confidence levels in their ability to perform the various teaching-related skills and behaviors found within this model.

**Teaching Preparation**

Teacher preparation methods may heavily influence both the development of teaching competency and feelings of teaching self-efficacy within those engaged in education. Various teaching standards (e.g., The National Board for Professional Teaching Standards, CACREP, etc.) may prescribe what students should be learning, but do not include *how* students should be learning (Suddeath et al., 2020). This decision, then, is left to the various programs across numerous universities educating those pursuing careers in both K-12 and higher education.
environments. However, there appears to be a disparity in approaches to teaching preparation between these two areas in that “higher education faculty are not held to the same standard of pedagogical preparation as primary and secondary teachers” (Jensen, 2011, p. 30). A review of teaching preparation practices across these areas highlights this difference.

**Teaching Preparation for Primary and Secondary Schools**

The standards for attaining licensure to teach in a primary or secondary school settings, which are set forth by the U.S. government and specified by each state, are deemed strict and often unyielding. According to Jensen (2011), the following degree of post-secondary training reflects the minimum US federal guidelines for satisfactory education in teaching at the high school level:

To become a high school teacher, minimum state standards require an average of 54 credit hours of subject-specific content, approximately equivalent to any basic science major, with typically an additional 16 to 24 credit hours of pedagogical training, and 12 plus credit hours of student teaching, which translates to a minimum of ten weeks of fulltime teaching in the classroom. (p. 30)

Jensen (2011) goes on to review research backing the assertion that it may not be the subject-specific training that makes an effective teacher, but the pedagogical training that leads to effective and efficacious teachers. Individuals pursuing a career in K-12 education are required to take numerous credit hours of pedagogical training and engage in several hours of direct teaching within a classroom (i.e., student teaching). Liu and Qi (2012) have shown that some programs within the United States may require students to engage in half day teaching at their placements for 32 weeks or full day teaching for 16 weeks, all within the last academic year of their programs. Often, these students are expected to develop and implement a minimum of 100
lesson plans by the completion of the student teaching experience (Liu & Qi, 2012) and are commonly required to engage in activity planning, observation experiences, meetings with resource teachers, parent teacher conferences, home visits, and Individualized Education Plan (IEP) meetings (Sumrall et al., 2017). These requirements may demonstrate the intensity of teaching preparation practices for pre-services teachers entering the K-12 environment.

A model developed by Adoniou (2013) has demonstrated the potential importance of the integration of four distinct contexts in teaching preparation in primary/secondary environments: (a) personal reasons for entering teaching, (b) university-based teacher preparation, (c) practicum experiences (i.e., student teaching opportunities), and (d) first employment contexts. “When the contexts operate in ways which are actively cognizant of the others, a connection is built which allows a continuity of experience, learning and conversation for the pre-service teacher and the beginning teacher” (Adoniou, 2013, p. 52). This model, then, posits that preparing teachers should be a shared responsibility among the student, the university, and the school placements (both for student teaching and first employments). This collaboration may help to provide a comprehensive training for pre-service teachers as they anticipate entering the field of education.

**Teaching Preparation for Higher Education Environments**

As stated previously, the extensive requirements for preparing K-12 teachers do not mirror preparation practices for those seeking to teach in higher education. In fact, the only qualification usually required to teach in higher education is the possession of a masters or doctoral degree in the subject matter of interest, and most of these degree programs do not include any specific courses on pedagogy (Jensen, 2011). Due to this lack of expectation for additional training in teaching and pedagogy for higher education faculty, there is limited research in this area. However, multiple researchers have explored the relationship between
pedagogical training and teaching effectiveness in currently employed faculty members (e.g., Gibbs & Coffey, 2004; Jensen, 2011; Postareff et al., 2007, 2008). This may indicate that teaching preparation practices for faculty in higher education may not come until after they have been employed in the field. Gibbs and Coffey (2004) found that engaging in one of these trainings could impact teaching effectiveness in the following areas: (a) the adoption of a student focus, which may improve student outcomes; (b) the general improvement in teaching skill; and (c) an improved perspective on teaching culture. Postareff et al. (2007) suggest that these improvements may be the result of an increase of awareness surrounding one’s own teaching approach, an essential factor in improving teaching practices. However, changes in awareness and approach have been shown to occur slowly. “It takes at least a 1-year long training process until positive effects emerge. In fact, shorter training seems to make teachers more uncertain about themselves as teachers” (Postareff et al., 2007, p. 568). Unfortunately, although lengthy training in pedagogy is built into the educational experiences of those pursuing a career in K-12 teaching, this extensive training in teaching for higher education faculty generally does not occur until they have begun employment. This may mean, then, that if they desire to enhance their teaching abilities through a pedagogical training, they must find the time above and beyond their current educational responsibilities to complete a potentially year-long training. While the results could be effective, the expectation may be somewhat unrealistic as the workload of a fulltime faculty member may not allow for additional time to complete this extensive of a training.

Teaching Preparation in CES Environments

Hunt and Gilmore (2011) sought to answer the following research questions: “(a) How are doctoral programs in counselor education training their CES students to teach? And (b) What are the experiences of CES students who have completed a teaching internship?” (p. 145). This
study used qualitative and quantitative questions to survey both faculty members and students to gain information regarding the training methods (e.g., teaching course, teaching internship, coteaching opportunities, etc.) used within their respective programs, as well as the students’ experiences with these specific methods. These responses were mainly recorded through open-ended survey questions. Responses from 16 program coordinators noted that their programs were providing some level of teaching opportunities to their students, “even if it was not offered in a formalized and systematic way” (p. 149). Most commonly, programs required a coteaching experience (here, “coteaching” is used synonymously with “teaching internship” by the authors) where students assisted a counselor education faculty member in teaching a related master’s-level course. These opportunities are not unlike teaching assistantships, a term used within other CES literature. Within these experiences, students are often required to assist their assigned faculty member with curriculum development, leading class discussions, grading, and lecturing. The autonomy allotted to the doctoral students in these endeavors varied slightly depending on the programs and the specific faculty members. Several programs also stated the inclusion of a didactic course on teaching. However, the responses of 14 doctoral students suggested that many of the didactic courses for teaching focused on the development of lesson plans and provided few opportunities for hands-on teaching experiences. The incorporation of these experiences within teaching courses was a recommendation of many students within the study. Additionally, these participants identified mentorship, support and guidance from faculty and peers, and weekly supervision as helpful aspects in the pursuit of teaching preparedness in counselor education. It is important to highlight how the implementation of teaching courses and training programs may not be enough on their own. Providing additional support and resources may be necessary to graduate effective counselor educators (Hunt & Gilmore, 2011).
Baltrinic et al. (2016) utilized a phenomenological approach to further understand the experiences of CES doctoral students engaging in coteaching opportunities. Results supported Hunt and Gilmore’s (2011) findings that students emphasize the need for a comprehensive experience when coteaching alongside a faculty member. According to Baltrinic et al. (2016), for best results, this comprehensive experience should include (a) the development of a trusting relationship with their faculty mentor, (b) progressively challenging teaching-related tasks inside and outside the classroom, (c) close supervision and guidance, (d) clearly defined expectations and roles, and (e) encouragement of the development of teaching competencies that will transfer to future teaching roles. This model allows for a program that supports the relational, structural, and developmental needs of students who are preparing to teach. However, not all CES programs are consistent in the provision of coteaching opportunities and, even when coteaching is included within the program, these experiences may not be consistent in the levels of challenge and support provided to students (Baltrinic et al., 2016). This inconsistency may be due to a limited amount of time or resources at certain institutions. Therefore, Baltrinic et al. (2016) have suggested that CES program coordinators be “eclectic in their approaches to coteaching given their time constraints, workloads, and available resources” (p. 41).

This review of literature has suggested that teaching preparation practices may be more prevalent within CES programs than other higher education doctoral programs. Additionally, research has indicated that CES programs have implemented many of the noted recommendations and that required teaching courses and required teaching fieldwork are more common than they have been in the past (Waalkes et al., 2018). However, despite these considerations, many CES doctoral students continue to report that their programs lack an emphasis on teaching preparation (Hunt & Gilmore, 2011; Suddeath, 2018; Waalkes et al.,
2018). This may also be demonstrated in the limited feelings of teaching self-efficacy within these students (Olguin, 2004; Suddeath et al., 2020; Tollerud, 1990). With CES programs making considerable improvements in this area, but students seemingly still feeling unprepared, how might this issue be resolved? An area for consideration is the encouragement of teaching practices outside of students’ educational programs.

Teaching Preparation Through Early Adjunct Faculty Experiences

Limited research exists on doctoral students of any professional field engaging in early adjunct faculty experiences. For this discussion, early adjunct faculty experiences may be defined as adjunct faculty experiences occurring prior to the completion of students’ doctoral programs. Further, it appears that the literature lacks an examination of a potential relationship between these experiences and doctoral students’ self-efficacy toward teaching. Much of the research on adjunct faculty experiences focuses on teaching effectiveness of adjunct instructors (Hanson et al., 2018) and supporting adjunct instructors through faculty development and inclusion interventions (Bolitzer, 2019; Burroughs, 2019; Danaei, 2019; Durso, 2011; Green, 2007). While demographics of adjunct instructors exist (e.g., average age, marital status, level of academic degree attained, etc.), even stating that individuals with master’s degrees hold the highest number of adjunct faculty positions at 56% (Yakoboski, 2019), this information does not include whether any of these individuals are currently engaged in a doctoral program. Additionally, the various types of individuals who may be seeking adjunct positions have been reported to include: (a) retired professors looking to remain active, (b) individuals hoping to later achieve a tenure-track position, and (c) those who may have other responsibilities but would like to continue to teach for the purpose of enjoyment (Green, 2007). However, doctoral students engaging in early adjunct experiences for the purpose of enhancing teaching ability and teaching
efficacy have not been cited as a potential population of individuals seeking these opportunities. This gap calls for further research in this area.

Conclusion

This review sought to provide an examination of the existing literature on various concepts related to the present research. These concepts included general self-efficacy (and its measurements), sub-constructs of self-efficacy, teaching self-efficacy (and its measurements), teaching competency, and teaching preparation. Key findings have indicated the bidirectional effects that may exist among the development of teaching competency and the development of teaching self-efficacy (e.g., Gibbs & Coffey, 2004; Hunt & Gilmore, 2011; Jensen, 2011; Postareff et al., 2007, 2008). Studies also have identified how development in these areas may be heavily influenced by teaching preparation practices among higher education institutions (e.g., Baltrinic et al., 2016; Suddeath, 2018; Waalkes, 2018). This is prominently discussed within the field of counselor education and supervision.

Many of these same researchers (e.g., Baltrinic et al., 2016, Suddeath, 2018; Suddeath et al., 2020; Waalkes et al., 2018) also have addressed the ongoing disconnect between the presence of internal teaching preparation practices in CES programs and the continued expression of unpreparedness among many students and graduates of these programs. Further, research on the cause of this disconnect appears limited. Current literature does not seem to include how CES doctoral students may develop competencies and increase teaching self-efficacy through external pedagogical experiences (e.g., a bachelor’s or master’s degree in education, a background of teaching at the primary/secondary school level, or early adjunct experiences). The current study seeks to narrow these gaps in the literature.
CHAPTER 3: METHODOLOGY

Overview

The purpose of this study was to investigate if pedagogical experiences external to CES doctoral programs (i.e., a bachelor’s degree in education and adjunct faculty experiences in higher education) predict these perceived levels of teaching self-efficacy above and beyond internal teaching preparation practices within CES doctoral programs (i.e., coursework in college teaching, fieldwork in college teaching, and frequency of supervision). This chapter centers on the methodology that was employed within this study. The study utilized a previously created and validated instrument to score levels of perceived teaching self-efficacy among counselor education and supervision (CES) doctoral students. Also included within this chapter are the intended participant population, and related sampling, and the recruitment protocols utilized to gather the sample.

Research Question and Hypothesis

The following research question was posed to guide this study:

1. Among advanced doctoral students in counselor education and supervision, do external pedagogical experiences (i.e., a bachelor’s or master’s degree in education and adjunct faculty experiences in higher education) statistically predict levels of teaching self-efficacy after accounting for internal teaching preparation practices (i.e., coursework in college teaching, fieldwork in college teaching, and frequency of supervision)?

Hypothesis

Few studies have investigated the possible effects of external pedagogical experiences on the perceived levels of teaching self-efficacy among advanced CES doctoral students. Previous
findings (e.g., Suddeath, 2020) have indicated that the quality and frequency of internal teaching preparation practices are important in strengthening teaching self-efficacy within this population. However, even with the inclusion of these teaching preparation practices within CES programs, many CES doctoral students continue to express low levels of teaching self-efficacy (Baltrinic et al., 2016, Suddeath, 2018; Suddeath et al., 2020; Waalkes et al., 2018). Therefore, it was hypothesized that external pedagogical experiences may further affect individual levels of teaching self-efficacy when accounting for these previously researched variables. While it was expected that significant relationships may exist among the variables under investigation within the current study, existing literature did not suggest a clear directionality of how they would affect one another. Therefore, the research question posed within this study was exploratory.

**Data Collection and Procedures**

**General Procedures**

Data were collected from advanced doctoral students currently enrolled in CES programs. The focus on this group of individuals within the CES population was selected following Tollerud’s (1990) findings that individuals identifying with this descriptor were found to be less confident in their teaching abilities as compared to those already working full-time within the field following graduation. The focus on these individuals seemed appropriate as the aim of the current study was to understand further the potential factors contributing to levels of teaching self-efficacy, which hold an association with levels of confidence in teaching.

Participants were recruited through counselor education and supervision programs at various universities and through counseling-related listservs (including CESNET, the counselor education and supervision network). To best ensure consistency of academic preparation of the participants, there was an intentionality to recruit only CES students from programs accredited
by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). These participants were recruited from within the United States. Participants’ responses were collected anonymously. Participants within this study were exposed to minimal risk as the data collection procedures did not allow the researcher to trace any of the information back to the individual participant. Data collection only occurred upon approval from Duquesne University’s Institutional Review Board (IRB).

**Research Design**

To answer this study’s primary research question, a quantitative, predictive research design involving survey data collection was implemented. According to Wollman (2018), “This type of research tries to extrapolate from the analysis of existing phenomena, policies, or other entities in order to predict something that has not been tried, tested, or proposed before” (slide 8). This design was appropriate for the present study because the study sought to predict the potential effect of external pedagogical practices on teaching self-efficacy, an approach that has not yet been tested in prior literature, to this researcher’s knowledge. Additionally, the involvement of survey data collection within this study allowed the researcher to assess efficiently (a) participants’ demographic information, (b) their exposure to internal teaching preparation practices, (c) their exposure to external pedagogical experiences, and (d) their self-reported levels of teaching self-efficacy; while (e) still protecting their anonymity. Self-reported levels of teaching self-efficacy were measured using the Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990), a previously validated instrument, accompanied by numerous researcher-designed survey questions (inspired by Tollerud’s (1990) questionnaire) to assess exposure to internal teaching preparation practices and external pedagogical experiences.
Data Collection

Data were collected via a survey combining (a) a validated scale on teaching self-efficacy (SETI; Tollerud, 1990), (b) a teaching and doctoral training experience questionnaire like that of Tollerud’s (1990), and (c) a demographic section. The first portion of the survey included the 35-item SETI (Tollerud, 1990) assessing each participant’s self-reported levels of teaching self-efficacy. The students then answered questions related to prior teaching education, prior teaching experiences, doctoral-level training in teaching, pedagogy coursework, and experiences with supervision while teaching. The instrument used to assess these areas was developed from this study but based on a similar questionnaire developed by Tollerud (1990). Lastly, demographic variables (e.g., age, race, gender, etc.) were assessed on this survey. These variables were used for informative purposes but did not play a large role in the data analysis.

Recruitment of participants was completed electronically and occurred (a) through direct contact with various department heads of CES doctoral programs (through email) and (b) through counseling-related listservs (including CESNET, the counselor education and supervision email network). Qualtrics Survey Software, which uses state-of-the-art encryption for data security, was the administration software for this survey. Upon choosing to participate in the study, participants were provided with information related to informed consent that allowed them to decide whether to engage in the study only after knowing the expectations of their participation. At the end of the survey, participants were given the option to complete a separate Qualtrics survey for a potential gift card incentive. This survey was separate as to protect the anonymity of the participants’ responses for the study.
Variables

Several predictor variables and a single dependent variable were used within this study. The predictor variables include three previously established variables of internal teaching preparation practices (coursework in college teaching, fieldwork in college teaching, and frequency of supervision) and two newly identified test variables relating to external pedagogical experiences (a bachelor’s degree in education and adjunct faculty experiences in higher education). This section will outline each of these variables and suggest how they were measured. Measurements of the former variables are informed by prior research investigating these constructs (e.g., Suddeath 2018; Suddeath et al., 2020).

Predictor Variables

Coursework in college teaching. According to Suddeath et al. (2020), formal coursework in college teaching “refers to curricular experiences designed to provide basic foundational knowledge about effective teaching” (p. 60). This variable was measured by number of instructional methods courses completed by each participant. Participants were asked to submit a numbered response to this question.

Fieldwork in college teaching. Fieldwork in college teaching is considered the experiential component within a CES doctoral program (Suddeath et al., 2020). This is most often completed in the context of a teaching assistantship/co-teaching experience, where a student works alongside a CES faculty member in teaching a course related to counseling. The amount of teaching experience a student receives within this component may vary depending on the nature of the course and the intentions of their supervising faculty member. This variable was measured by the number of semesters each participant had engaged in a teaching
assistantship/co-teaching experience. Participants were asked to submit a numbered response to this question.

**Frequency of supervision.** “Supervision or mentoring of teaching includes the provision of feedback and support by a counselor education faculty member to a CES doctoral student for the purpose of strengthening the student’s competency in teaching” (Suddehth et al., 2020, p. 60). This variable was measured by the average number of minutes spent being supervised by a faculty member outside of the classroom on a weekly basis during a student’s fieldwork in college teaching experience. Participants were asked to submit a numbered response (in minutes) to this question.

**Bachelor’s or master’s degree in education.** A bachelor’s degree in education was considered any undergraduate degree having focused on teaching and/or education. This may have included early childhood education, elementary education, general education, special education, or other education-related degrees. Similarly, a master’s degree in any of these related fields were included within this variable. The variable was measured by having participants respond either yes or no to having completed an undergraduate or graduate degree of this nature.

**Adjunct faculty experiences in higher education.** The term “adjunct faculty” is often used within the literature to refer to a part-time faculty member, someone who may serve as the instructor of record for a variety of courses, but who does not have a full time or tenure-track appointment (Hanson et al., 2018; Masri, 2018; Yakoboski, 2018). Therefore, “adjunct experiences” refer to the experiences a CES doctoral student may have had to engage in the role of an adjunct faculty member. The use of the clarifier “early” is to demonstrate a focus on the experiences that have occurred either prior to or during students’ participation in their CES doctoral program. This variable was measured by the number of courses participants completed.
as instructor of record. Participants were asked to submit a numbered response to this question. Participants affirming adjunct faculty experiences were asked, using the conditional logic function in Qualtrics, additional questions about their teaching, including if they have had undergraduate or graduate teaching experiences (or both) and if they have taught counseling-related or non-counseling related courses (or both).

**Dependent Variable**

The dependent variable for this study was self-reported levels of teaching self-efficacy. Teaching self-efficacy, as defined by Suddeath (2018), refers to “a person’s confidence in his or her ability to select and utilize appropriate teaching behaviors effectively to achieve student learning” (p. 14). This variable was measured and scored according to participant responses on a validated scale for this construct. The scale of measurement was the Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990).

**Instruments**

**Self-Efficacy Toward Teaching Inventory (SETI)**

The original SETI (Tollerud, 1990) is a 35-item instrument asking participants to rate their confidence in their ability to be effective in a variety of teaching skills and behaviors implemented specifically within counseling programs. The scale provides the following prompt to respondents: “How confident are you in your ability to…”. Participants then rate their confidence on a variety of statements across five domains: course preparation, instructor behavior, materials, evaluation and examination, and clinical skills training. Level of confidence is rated on four-point Likert scale from 1 (“not confident”) to 4 (“completely confident”). Sample items include statements such as “write a course syllabus,” “draw students into discussions,” and “evaluate student assignments.” The Cronbach procedure of internal consistency was used to assess the reliability of this instrument. The resulting Cronbach’s alpha
coefficient was exemplary at .94. Content validity of the instrument was ensured using an expert panel of experienced counselor educators, who assisted in the creation of the five teaching domains in CES. A factor analysis of the original instrument indicated a one-factor model with factor loadings from .39 to .78, accounting for 35% of the variance (Tollerud, 1990).

Since the development of the original instrument, Suddeath et al. (2020) has utilized the SETI within a study examining the impact of teaching preparation practices on self-efficacy toward teaching. To ensure the applicability of the instrument, the researchers again engaged a panel of expert counselor educators who made recommendations to add and/or modify items. Suddeath et al.’s (2020) modifications resulted in a 47-item instrument. New items reflected a consideration for the use of technology within the classroom and teaching adult learners, which are variables that have increased in focus since the publication of the original SETI. Modified items mainly were updated to align with the most recent revision of the CACREP Standards (in 2016). All 47 items remained consistent within the five original domains established by Tollerud (1990). The exploratory factor analysis for this modified version of the SETI was constrained to one factor so that the researchers might compare to the original study. As the instrument intends to measure teaching self-efficacy across five domains (Tollerud, 1990; Suddeath et al., 2020), indicating multiple dimensions, it is possible that the instrument may have elicited multiple factors should it not have been constrained by the authors. Nonetheless, factor loadings for the 47-item scale ranged from .45 to .76 and accounted for 40.4% of the variance. Cronbach’s alpha for the modified version suggested strong internal consistency with a coefficient of .97.

**Teaching Preparation Practices and Pedagogical Experiences Questionnaire**

This questionnaire was designed for this study and was based on an original questionnaire developed by Tollerud (1990). It was used to gather descriptive and experiential
information from participants regarding each of the five predictor variables: coursework in college teaching, fieldwork in college teaching, frequency of supervision, obtainment of a bachelor’s degree in education, and adjunct faculty experiences in higher education. Participants were asked to provide numbered responses to questions about the variables, as described earlier in this chapter. Results from these responses were calculated and used to assess level of prediction of the dependent variable.

Demographics Questionnaire

This section focused on personal information about the participant but did not include questions asking participants to provide identifiable information. Types of information assessed within this section included age, race, ethnicity, and gender. This information is reported in Chapter 4 and was used to inform the researcher about the representativeness of the sample (e.g., to address possible limitations and future research), but was not used in the data analysis for the current study.

Data Analysis

Initial Analysis

Analysis of the data was completed only after having proposed this study and having been granted consent from the Institutional Review Board (IRB). The method of analysis was a two-step hierarchical linear regression. According to To and Mandracchia (2019), this type of analysis can be described as follows:

Hierarchical linear regression is a special case of multiple linear regression in which additional variables are entered into the equation in subsequent blocks to draw conclusions about how these added predictor variables change the model’s ability to statistically predict the criterion (i.e., dependent) variable. This is often used in order to
evaluate whether one or more variables statistically predict a criterion variable while statistically “controlling for” on or more other variables. (p. 2)

The intention of this study aligned with the purpose of a two-step hierarchical linear regression in that the current study sought to evaluate whether external pedagogical experiences statistically account for unique variance in levels of self-efficacy toward teaching, above and beyond the variance accounted for by the previously established variables of internal teaching preparation practices. To achieve this goal, the established variables of frequency of supervision, coursework in college teaching, and fieldwork in college teaching were entered first into the analysis based upon the previously demonstrated relationships of these variables to the dependent variable. A hierarchical analysis by Suddeath et al. (2020) found that supervision was a significant predictor of self-efficacy toward teaching, explaining the greatest proportion of variability in self-efficacy scores at 56%. Coursework in college teaching and fieldwork in college teaching also contributed to the prediction of varying levels of self-efficacy toward teaching with proportions of variability at 23% and 21%, respectively.

Following the contribution of the previously established variables, additional predictors that the current study was seeking to test then were entered into the analysis to assess how much variance for which they may account above and beyond that accounted for by the previously established variables. This was the second step of the analysis. To and Mandracchia (2019) suggest these variables be entered in order from best known to least known. As research on external pedagogical experiences and their effect on self-efficacy toward teaching is limited, previous literature did not suggest an order for these variables. However, there is a difference in the amount of research conducted on (a) the relationship between primary/secondary teaching preparation/experiences and self-efficacy toward teaching and (b) the relationship between
higher education teaching preparation/experiences and self-efficacy toward teaching. From the examination of the literature discussed within chapter two, the latter relationship has received far less focus within research. Therefore, the current study ordered the test variables based on the amount of literature found in each area. The variables were entered as follows: obtainment of a bachelor’s or master’s degree in teaching/education followed by adjunct faculty experiences in higher education.

Prior to conducting the hierarchical linear regression, variance inflation factor (VIF) and tolerance statistics were assessed to ensure there were only limited levels of multicollinearity within the data. Additionally, the researcher assessed for outliers using the Cook’s Distance statistic and evaluated normality, homoscedasticity, and linearity within the data using a normal P-P plot of regression standardized residuals and a scatterplot. These assumptions were met prior to the implementation of the hierarchical linear regression.

**Factor Analysis**

Following the initial analysis of data through a hierarchical linear regression, the current study sought to complete an exploratory factor analysis (EFA) on the Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990). To ensure the data was suited for factor analysis, the researcher conducted a Kaiser-Meyer-Okin (KMO) measure of sampling adequacy as well as a Bartlett’s test of sphericity. The data was deemed appropriate to conduct the analysis. Previous examinations of this instrument through EFA have constrained it to a single factor model (e.g., Tollerud, 1990; Suddeath et al., 2020). Researchers had yet to examine the potential of a multi-factor model for this instrument, limiting a full understanding of the SETI’s measurement. It was the hope of this researcher to examine the SETI through an EFA to assess any potential connection between the factor(s) of this instrument and the established domains of teaching competency. Multiple potential factors were identified which led the research to conduct
multiple subsequent hierarchical regression analyses with each of the factors acting as the dependent variable.

**Sample**

A sample of advanced CES doctoral students from various universities across the United States were used in this study. According to the results of a power analysis using G*Power, a sufficient sample size for a hierarchical regression was $N = 59$. This sample was calculated estimating three tested predictors and a total of six overall predictors with power $(1 – \beta)$ set at 0.80 and $p < 0.05$. Ferguson (2009) has suggested a minimum effect size ($r$) of 0.20 for social science research, which aligns with previous studies related to the current topic (e.g., Suddearth, 2018); therefore, this effect size was used to calculate the necessary sample size for a hierarchical regression.

However, in considering the implementation of a factor analysis on the selected instrument, a larger sample size was necessary. Most researchers utilize a ratio of number of participants ($N$) to the number of variables being analyzed ($p$; Mvududu & Sink, 2013). The recommended ratio within literature varies greatly, often cited as anywhere from 3 to 20 participants per variable (e.g., Cattell, 1978; Comrey & Lee, 1992). Therefore, Mvududu and Sink (2013) recommend a middle ground of 10 participants per variable. The original instrument (SETI; Tollerud, 1990) is a 35-item scale. This might suggest that the optimal sample size for the intended study would be approximately 350 participants. However, given that a factor analysis is not the primary aspect of the present investigation, the researcher aimed for the minimum recommended ratio of 3 participants per variable. The intended sample size then was approximately 105 participants. However, due to a limited participant pool and various cases of missing data, the final number of participants was smaller than desired ($N = 87$). This will be
discussed as a limitation to the study. This study included all eligible advanced CES doctoral students with a range of cultural and developmental backgrounds. Due to the nature of doctoral programs, the age range of eligible students varied.
CHAPTER 4: RESULTS

The purpose of this study was to investigate the potential effects of having completed coursework and fieldwork in college teaching, frequency of supervision, the completion of a teaching degree, and number of previous and current adjunct faculty experiences on advanced CES doctoral students’ teaching self-efficacy. This study also examined the factor structure of the instrument utilized to operationalize the main outcome variable within the study, the Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990).

The results of this study indicate that external pedagogical experiences (i.e., holding a teaching degree or having adjunct teaching experiences) are related to an increase in teaching self-efficacy among CES doctoral students. Surprisingly, despite Suddeath et al.’s (2020) findings having indicated a significant relationship between internal preparation practices (i.e., coursework in college teaching, fieldwork in college teaching, and frequency of supervision) and teaching self-efficacy, the results of this study did not indicate the same relationship. Rather, no differences were found in levels of teaching self-efficacy based on these internal variables. Additionally, results of an exploratory factor analysis (EFA) on the Self-Efficacy Toward Teaching Inventory indicated a 31-item, five-factor model with loadings from .39 to .86, explaining nearly 70% of the variance. The results are presented through the use of tables, with their statistical analyses highlighted within the narrative.

Descriptive Analysis of Sample

Demographic Variables

Of the 96 initial participants, 87 completed the survey beyond the demographic questions. Therefore, only these 87 participants were included in the analysis. Participants completed a demographic questionnaire, a teaching preparation practices and pedagogical experiences
questionnaire, and the Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990). Mean replacement was used to account for missing data for partially completed files. Missing data accounted for less than 1% of total data. Descriptive statistics were used to report demographic presentation of the sample.

The gender breakdown for the 87 participants was as follows: 19 males, 65 females, 1 non-binary, and 3 other (Table 1). In regard to race, the sample consisted of 61 white, 16 Black or African American, 1 American Indian or Alaska Native, 2 Asian, 5 mixed race, and 2 other (Table 2). Representation of ethnicity included 7 Hispanic or Latino or of Spanish origin, 77 Not Hispanic or Latino or of Spanish origin, and 3 other (Table 3). Ages of participants ranged from 25 years old to 58 years old with representation in the following age groupings: 13.3% were 20-29, 47.8% were 30-39, 24.4% were 40-49, and 11.1% were 50-59 (Table 4).

**Table 1**

*Demographic Breakdown by Gender*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>19</td>
<td>21.1%</td>
</tr>
<tr>
<td>Female</td>
<td>65</td>
<td>72.2%</td>
</tr>
<tr>
<td>Non-binary</td>
<td>1</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

**Table 2**

*Demographic Breakdown by Race*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>61</td>
<td>67.8%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>16</td>
<td>17.8%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>1</td>
<td>1.1%</td>
</tr>
<tr>
<td>Asian</td>
<td>2</td>
<td>2.2%</td>
</tr>
<tr>
<td>Mixed Race</td>
<td>5</td>
<td>5.6%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2.2%</td>
</tr>
</tbody>
</table>
Table 3

*Demographic Breakdown by Ethnicity*

<table>
<thead>
<tr>
<th></th>
<th>( N )</th>
<th>( % )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic or Latino or Spanish Origin</td>
<td>7</td>
<td>7.8%</td>
</tr>
<tr>
<td>Not Hispanic or Latino or Spanish Origin</td>
<td>77</td>
<td>85.6%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Table 4

*Demographic Breakdown by Age*

<table>
<thead>
<tr>
<th>Age</th>
<th>( N )</th>
<th>( % )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 20-29</td>
<td>12</td>
<td>13.3%</td>
</tr>
<tr>
<td>Age 30-39</td>
<td>43</td>
<td>47.8%</td>
</tr>
<tr>
<td>Age 40-49</td>
<td>22</td>
<td>24.4%</td>
</tr>
<tr>
<td>Age 50-59</td>
<td>10</td>
<td>11.1%</td>
</tr>
</tbody>
</table>

**Pre-screening Measures**

To better accommodate outliers and to create ordinal data within the variable of adjunct faculty experiences in higher education (to avoid violating the normality assumption), responses were grouped into four categories related to the number of classes that had been taught by the participant (i.e., 1 = 0 courses taught, 2 = 1-4 courses taught, 3 = 5-8 courses taught, and 4 = 9+ courses taught). Following a review of the literature, no apparent instructions or recommendations exist for how a variable such as this might be grouped together. Therefore, this grouping was based on intuition and consultation with a research expert; in particular, the last grouping of “9+ courses taught” was established to address the drop-off in number of adjunct teaching experiences above nine, and the conceptual rationale that more than that number of
experience would be unlikely to meaningfully influence one’s teaching self-efficacy. Intervals within the group were based on the average number of courses taught by an adjunct professor per semester ($N = 3$; Magda et al., 2015; Yakoboski, 2019).

A reliability analysis was conducted for the SETI. The 35-item instrument ($\alpha = .97$) met the conventional cutoffs for acceptable reliability (Tavakol & Denick, 2011). The data were screened for any potentially invalid responses (e.g., straightlining). Additionally, analyses were conducted to identify any potential violations of assumptions for the analyses conducted for this study (Tabachnick & Fidell, 2019). The effect of outliers was assessed through the Cook’s Distance statistic with a maximum value of .121, which falls below the standard cutoff of 1. Similarly, the effect of potentially influential data points was assessed through DFBeta statistics. All DFBeta values fell below the standard cutoff of 1 (Field, 2018). The sample of scores was found to be normally distributed using a Normal P-P Plot (Figure 1) with data points falling closely along the regression line. Additionally, there was found to be no multicollinearity within the data with Variance Inflation Factor values below 10 and Tolerance levels above .1 (Table 5). Finally, homoscedasticity was assessed using a scatterplot (Figure 2). Here, there is no obvious pattern within the data and all data points fall between the standard cutoffs of -3 and 3.
Figure 1

*Normal P-P Plot of Regression Standardized Residual for Overall SETI Measure*

![Normal P-P Plot](image)

Figure 2

*Scatterplot of Standardized Residuals for Overall SETI Measure*

![Scatterplot](image)
Table 5

Collinearity Statistics for Models Examining the Influence of Predictor Variables on SETI Scores

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
</tr>
<tr>
<td>DichotomousCoursework</td>
<td>.968</td>
</tr>
<tr>
<td>DichotomousFieldwork</td>
<td>.930</td>
</tr>
<tr>
<td>AmountOfSupervision</td>
<td>.928</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
</tr>
<tr>
<td>DichotomousCoursework</td>
<td>.962</td>
</tr>
<tr>
<td>DichotomousFieldwork</td>
<td>.912</td>
</tr>
<tr>
<td>AmountOfSupervision</td>
<td>.916</td>
</tr>
<tr>
<td>TeachingDegreeHeld</td>
<td>.968</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
</tr>
<tr>
<td>DichotomousCoursework</td>
<td>.961</td>
</tr>
<tr>
<td>DichotomousFieldwork</td>
<td>.906</td>
</tr>
<tr>
<td>AmountOfSupervision</td>
<td>.913</td>
</tr>
<tr>
<td>TeachingDegreeHeld</td>
<td>.947</td>
</tr>
<tr>
<td>AmountOfAdjunct</td>
<td>.964</td>
</tr>
</tbody>
</table>

Research Question and Primary Analysis

The primary analysis for this study sought to answer the following research question:

Among advanced doctoral students in counselor education and supervision, do external pedagogical experiences (i.e., a bachelor’s or master’s degree in education and adjunct faculty experiences in higher education) predict levels of teaching self-efficacy after accounting for internal teaching preparation practices (i.e., coursework in college teaching, fieldwork in college teaching, and frequency of supervision)? It was hypothesized that external pedagogical experiences may further predict individual levels of teaching self-efficacy when accounting for these previously researched variables. While significant relationships may exist among the
variables under investigation within the current study, existing literature had not suggested a clear directionality of how they would affect one another.

To answer the stated research question, a hierarchical linear regression was conducted to investigate potentially predictive relationships between teaching self-efficacy and the five predictor variables related to internal teaching preparation practices and external pedagogical experiences. For model one of the analysis, the predictor variables of coursework in college teaching, fieldwork in college teaching, and frequency of supervision were entered into the analysis. These variables represent factors previously researched in connection to teaching self-efficacy, which were found to have a significant relationship with this dependent variable (Suddeath, 2018; Suddeath et al., 2020). Models two and three of the analysis included the predictor variables of a bachelor’s or master’s degree in education and adjunct faculty experiences, respectively. This order was determined based on the amount of previous research conducted on each of these variables and their relations to teaching self-efficacy (To & Mandracchia, 2019).

Table 6

ANOVA Results for Models Examining the Influence of Predictor Variables on SETI Scores

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(^a)</td>
<td>Regression</td>
<td>1.892</td>
<td>3</td>
<td>.631</td>
<td>1.525</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>34.328</td>
<td>83</td>
<td>.414</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36.220</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2(^b)</td>
<td>Regression</td>
<td>4.143</td>
<td>4</td>
<td>1.036</td>
<td>2.648</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>32.077</td>
<td>82</td>
<td>.391</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36.220</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3(^c)</td>
<td>Regression</td>
<td>5.351</td>
<td>5</td>
<td>1.070</td>
<td>2.808</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>30.870</td>
<td>81</td>
<td>.381</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36.220</td>
<td>86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.
Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld. Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

The results of model one within the hierarchical linear regression analysis, which included the variables related to internal preparation practices, revealed the overall model was not statistically significant and accounted for a limited amount of variance in teaching self-efficacy ($R^2 = .05$, $F(3, 83) = 1.53$, $p = .21$; see Tables 6 and 7). This indicates that, for the present sample, 95% of the variation in teaching self-efficacy cannot be explained by the internal preparation practices of coursework in college teaching, fieldwork in college teaching, and frequency of supervision. Additionally, individual variables of coursework in college teaching ($\beta = .19$, $p = .08$), fieldwork in college teaching ($\beta = -.06$, $p = .58$), and frequency of supervision ($\beta = .11$, $p = .32$) were not found to be statistically significant as individual predictors of teaching self-efficacy among this sample (see Table 8).

Table 7

Model Summary Results for Models Examining the influence of Predictor Variables on SETI Scores

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Sig. F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$F$ Change</td>
<td>$df$</td>
</tr>
<tr>
<td>1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.229&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.052</td>
<td>.018</td>
<td>.64311</td>
<td>.052</td>
<td>1.525</td>
</tr>
<tr>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.338&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.114</td>
<td>.071</td>
<td>.62545</td>
<td>.062</td>
<td>5.754</td>
</tr>
<tr>
<td>3&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.384&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.148</td>
<td>.095</td>
<td>.61734</td>
<td>.033</td>
<td>3.168</td>
</tr>
</tbody>
</table>
Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork. Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld. Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

For model two, the predictor variable of teaching degree held (i.e., a bachelor’s or master’s degree in teaching) was added to the analysis. The results after the inclusion of this variable indicated a statistically significant model, accounting for 11% of the variance in teaching self-efficacy ($R^2 = .11$, $F(4, 82) = 2.64, p = .04$; see Tables 6 and 7). The addition of a teaching degree held doubled the amount of variance the model accounted for in teaching self-efficacy. Individually, this variable representing a bachelor’s or master’s degree in teaching was found to be statistically significant ($\beta = .25, p = .02$; see Table 8) in predicting teaching self-efficacy. This may indicate that individuals who have obtained a teaching degree (whether it be a bachelor’s degree or a master’s degree) demonstrate increased levels of teaching self-efficacy as compared to those who have not completed such a degree prior to their doctoral programs.

Table 8

| Coefficients for Individual Predictor Variables on SETI Scores |
|---------------------------------|-----------------|-----------------|
| Model                           | Unstandardized Coefficients | Standardized Coefficients |
| Model                           | B                | Std. Error      | $\beta$ | Sig. |
| 1 (Constant)                    | 3.567            | .375            | <.001   |
| DichotomousCoursework           | .454             | .258            | .191    | .082 |
| DichotomousFieldwork            | -.190            | .341            | -.062   | .580 |
Finally, in model three, the predictor variable of adjunct faculty experiences (labeled AmountOfAdjunct) was added to the analysis. The results following this addition indicated a statistically significant model, accounting for 15% of the variance in teaching self-efficacy ($R^2 = .15$, $F(5, 81) = 2.81$, $p = .02$; see Tables 6 and 7). Individually, this variable assessing the amount of adjunct faculty experiences as a predictor of teaching self-efficacy was not statistically significant at the traditional critical $p$-value cut-off of $p < .05$ ($\beta = .19$, $p = .08$; see Table 8); however, it has an effect size that would be considered by Cohen’s (1988) standards as small but potentially meaningful.

**Factor Analysis**

Following the initial analysis of a hierarchical linear regression, the 35-item SETI was subjected to multiple rounds of an exploratory factor analysis (EFA). Following the guidelines from Worthington and Whittaker (2006), multiple rounds of analysis were implemented to produce the most meaningful results (i.e., to eliminate items that fail to contribute meaningfully to the instrument and to optimize the function of the scale). Although this instrument previously

<table>
<thead>
<tr>
<th></th>
<th>AmountOfSupervision</th>
<th>(Constant)</th>
<th>DichotomousCoursework</th>
<th>DichotomousFieldwork</th>
<th>AmountOfSupervision</th>
<th>TeachingDegreeHeld</th>
<th>AmountOfAdjunct</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>.001</td>
<td>.001</td>
<td>.111</td>
<td>.320</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.531</td>
<td>.365</td>
<td>-.098</td>
<td>.371</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (Constant)</td>
<td></td>
<td>3.283</td>
<td>.386</td>
<td>&lt;-.001</td>
<td>.019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
has undergone the EFA process (Tollerud, 1990; Suddeath et al., 2020), for conceptual reasons these researchers constrained factor loadings to a single factor in each of these analyses. A separate EFA investigating the possibility of a multi-factor structure had yet to be conducted, to this researcher’s knowledge. Therefore, to fully understand the instrument used to understand teaching self-efficacy as it relates to the primary research question, the current study found it important to conduct an exploratory factor analysis on the SETI. The Kaiser-Meyer-Olkin measure of sampling adequacy (.92) and Bartlett’s test of sphericity ($p < .001$) indicated that the items were suitable for factor analysis in the present sample (Tabachnick & Fidell, 2019). All communalities, which indicate the proportion of variance accounted by each individual variable for one factor (Carpenter, 2018), ranged from .55 to .89. The conventional range for communalities in the social sciences is between .40 and .70 with any values above .80 being considered high (Costello & Osborne, 2005).

The initial step of the present analysis involved conducting an exploratory factor analysis on all 35 items of the Self-Efficacy Toward Teaching Inventory (SETI). With the Eigenvalue cut-off set at 1, the results indicated a six-factor structure, accounting for 72.7% of the variance. However, items loading on the sixth factor showed low pattern coefficients ranging from only .22 to .35. Due to this low showing of coefficients indicating an inadequate factor, the following five rounds of the EFA analysis were constrained to five factors.

The first round of the EFA that constrained the structure to five factors, examined all 35 items on the SETI. Upon review of the items, considering a .32 standard cutoff for pattern coefficients and ensuring a .15 difference between items that multi-loaded per Tabachnick and Fidell’s (2019) guidelines, steps were taken to drop items that did not meet these standards. For example, item #24 of the SETI triple loaded on factor one (.21), factor two (-.22), and factor four
All pattern coefficients fell below the standard cutoff and did not demonstrate a .15 difference between loadings. Additionally, the item itself demonstrated a double-barreled question. Therefore, this item was dropped when moving to the second round of the EFA. The results of round two of the five-factor EFA showed a similar concern for item #23 of the SETI with the item loading across three factors and pattern coefficients all ranging from .23 and .30. This item was subsequently dropped in the next round of the five-factor analysis. In the third and fourth rounds, items #21 and #18 were dropped, respectively, due to similar concerns related to multiple loadings and low pattern coefficients. Finally, in the fifth round of the EFA, a 31-item instrument was represented across five factors, explaining 69.9% of the variance in items.

For the first factor, representing teaching self-efficacy related to grading student work, five items were retained, with pattern coefficients ranging from .39 to .79 and a Cronbach’s α of .92 (Table 9). The item representing the lowest pattern coefficient, .39, was considered for removal from the model. However, an inter-item correlational analysis of this subscale indicated a slight decrease in the Cronbach’s α should the item be removed. Therefore, this item was retained. The complete factor reflected participants’ perceptions of their confidence in their ability to grade student materials, such as exams and written assignments, as well as to provide feedback on these graded materials. The second factor, teaching self-efficacy related to class planning and facilitation, retained eight items, with pattern coefficients ranging from .41 to .81 and a Cronbach’s α of .93 (Table 9). The complete factor reflected participants’ perceptions of their confidence in their ability to plan and facilitate individual class sessions, from implementing class exercises and discussions to delivering lectures. For the third factor, interacting with students, nine items were retained, with pattern coefficients ranging from .42 to .68 and a Cronbach’s α of .91 (Table 9). The complete factor reflected participants’ perceptions
of their confidence in their ability to interact with students regarding their multicultural and individual differences, their concerns and questions, and their counseling classwork and assignments. The fourth factor, related to overall course preparation, retained six items with pattern coefficients ranging from .42 to .86 and a Cronbach’s α of .88 (Table 9). The complete factor reflected participants’ perceptions of their confidence in their ability to prepare for a course collectively, including developing syllabi, lectures, and student assignments, as well as selecting appropriate textbooks and reading assignments. Finally, for the fifth factor of soliciting feedback, three items were retained with pattern coefficients ranging from .54 to .83 and a Cronbach’s α of .90. The complete factor reflected participants’ perceptions of their confidence in their ability to seek out feedback, whether it be from students, peers, or themselves.

Hierarchical Linear Regression Analyses of Subscales

Following the completion of the EFA, individual hierarchical linear regressions were conducted examining the effects of the five predictor variables on each of the identified factors (i.e., variables of internal preparation practice, holding a teaching degree, and adjunct faculty experiences) of the SETI. For each of these analyses, predictor variables were entered into the analysis in the same order used within the original hierarchical linear regression analysis for this study. Additionally, the same analyses were conducted to identify any potential violations of assumptions for each of the subscales as were performed on the overall scale, with no notable violations.
Table 9

Results of an Exploratory Factor Analysis of the Self-Efficacy Toward Teaching Inventory

*(SETI)*

<table>
<thead>
<tr>
<th>Factors and Items</th>
<th>Cronbach’s α</th>
<th>Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Grading</strong></td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>State class grading criteria</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>Score and interpret examinations</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>Evaluate student assignments</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>Utilize exams as learning tools</td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>Provide constructive feedback on exams and assignments</td>
<td>.55</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2: Class Planning and Facilitation</strong></td>
<td>.93</td>
<td></td>
</tr>
<tr>
<td>Plan discussions</td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td>Plan class exercises</td>
<td>.41</td>
<td></td>
</tr>
<tr>
<td>Deliver lectures</td>
<td>.64</td>
<td></td>
</tr>
<tr>
<td>Initiate class discussion</td>
<td>.81</td>
<td></td>
</tr>
<tr>
<td>Draw students into discussions</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>Communicate at a level that matches students’ ability to comprehend</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>Ask open, stimulating questions</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td>Manage student disagreements with instructor</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3: Interacting with Students</strong></td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>Encourage participation of women and minorities in class</td>
<td>.42</td>
<td></td>
</tr>
<tr>
<td>Respond to individual differences in an inclusive way</td>
<td>.52</td>
<td></td>
</tr>
<tr>
<td>Show respect for student ideas and abilities</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>Respond to students’ questions</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>Respond to student emotional reactions in class</td>
<td>.64</td>
<td></td>
</tr>
<tr>
<td>Provide supportive feedback for counseling skills</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td>Provide challenging feedback for counseling skills</td>
<td>.64</td>
<td></td>
</tr>
<tr>
<td>Demonstrate ethical behavior</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>Model counseling skills</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 4: Course Preparation</strong></td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td>State goals and objectives clearly for the class</td>
<td>.42</td>
<td></td>
</tr>
<tr>
<td>Plan lectures</td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>Write a course syllabus</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>Select textbooks for the class</td>
<td>.86</td>
<td></td>
</tr>
<tr>
<td>Select readings for the class</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Develop student assignments</td>
<td>.58</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 5: Soliciting feedback</strong></td>
<td>.90</td>
<td></td>
</tr>
<tr>
<td>Utilize student evaluations</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>Utilize self-evaluation in teaching</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>Arrange for constructive peer feedback and suggestions</td>
<td>.70</td>
<td></td>
</tr>
</tbody>
</table>
### Table 10

*ANOVA Results for Models Examining the influence of Predictor Variables on SETI Subscale 1: Grading*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Regression</td>
<td>1.046</td>
<td>3</td>
<td>.349</td>
<td>.427</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>67.744</td>
<td>83</td>
<td>.816</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>68.790</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Regression</td>
<td>3.305</td>
<td>4</td>
<td>.826</td>
<td>1.034</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>65.485</td>
<td>82</td>
<td>.799</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>68.790</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Regression</td>
<td>4.057</td>
<td>5</td>
<td>.811</td>
<td>1.015</td>
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<tr>
<td></td>
<td>Residual</td>
<td>64.733</td>
<td>81</td>
<td>.799</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>68.790</td>
<td>86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.

<sup>b</sup> Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld.

<sup>c</sup> Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

**Grading**

For this subscale, the first model, which included the internal preparation practices (i.e., coursework in college teaching, fieldwork in college teaching, and amount of supervision) accounted for less than 2% of the variance in scores of teaching self-efficacy related to grading student work and did not indicate any significant differences in scores ($R^2 = .015$, $F(3, 83) = .427, p = .73$; see Tables 10 and 11). The second model, which included the internal preparation practices but subsequently added the variable related to holding a teaching degree, accounted for less than 5% of the variance in scores related to grading student work and did not indicate any significant differences in scores ($R^2 = .048$, $F(4, 82) = 1.03, p = .40$; see Tables 10 and 11).
Similarly, the final model, which added the variable of amount of adjunct experience, was not significant and only accounted for approximately 6% of the variance in scores related to grading student work ($R^2 = .059, F(5, 81) = 1.02, p = .41$; see Tables 10 and 11). These results may indicate that the five predictor variables included within this study do not significantly predict variance in scores for teaching self-efficacy related to grading of student work. The individual variable related to holding a teaching degree has a small but meaningful effect size ($\beta = .18, p = .10$; see Table 12), but the individual variable related to number of adjunct faculty experiences failed to demonstrate statistical significance ($\beta = .11, p = .34$; see Table 12).

Table 11

Model Summary Results for Models Examining the influence of Predictor Variables on SETI Subscale 1: Grading

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
<th>$R^2$ Change</th>
<th>$F$ Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1$^a$</td>
<td>.123$^a$</td>
<td>.015</td>
<td>-.020</td>
<td>.903</td>
<td>.015</td>
<td>.427</td>
<td>3</td>
<td>83</td>
<td>.734</td>
</tr>
<tr>
<td>2$^b$</td>
<td>.219$^b$</td>
<td>.048</td>
<td>.002</td>
<td>.893</td>
<td>.033</td>
<td>2.828</td>
<td>1</td>
<td>82</td>
<td>.096</td>
</tr>
<tr>
<td>3$^c$</td>
<td>.243$^c$</td>
<td>.059</td>
<td>.001</td>
<td>.893</td>
<td>.011</td>
<td>.942</td>
<td>1</td>
<td>81</td>
<td>.335</td>
</tr>
</tbody>
</table>

$^a$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.

$^b$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld.

$^c$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

Table 12

Coefficients for Individual Predictor Variables for Scores on SETI Subscale 1: Grading
<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>β</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>3.744</td>
<td>.527</td>
</tr>
<tr>
<td></td>
<td>DichotomousCoursework</td>
<td>.275</td>
<td>.362</td>
</tr>
<tr>
<td></td>
<td>DichotomousFieldwork</td>
<td>-.315</td>
<td>.480</td>
</tr>
<tr>
<td></td>
<td>AmountOfSupervision</td>
<td>.001</td>
<td>.002</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>3.708</td>
<td>.522</td>
</tr>
<tr>
<td></td>
<td>DichotomousCoursework</td>
<td>.323</td>
<td>.359</td>
</tr>
<tr>
<td></td>
<td>DichotomousFieldwork</td>
<td>-.427</td>
<td>.479</td>
</tr>
<tr>
<td></td>
<td>AmountOfSupervision</td>
<td>.002</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>TeachingDegreeHeld</td>
<td>.423</td>
<td>.251</td>
</tr>
<tr>
<td>3</td>
<td>(Constant)</td>
<td>3.512</td>
<td>.560</td>
</tr>
<tr>
<td></td>
<td>DichotomousCoursework</td>
<td>.311</td>
<td>.359</td>
</tr>
<tr>
<td></td>
<td>DichotomousFieldwork</td>
<td>-.389</td>
<td>.481</td>
</tr>
<tr>
<td></td>
<td>AmountOfSupervision</td>
<td>.001</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>TeachingDegreeHeld</td>
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<td>.254</td>
</tr>
<tr>
<td></td>
<td>AmountOfAdjunct</td>
<td>.091</td>
<td>.094</td>
</tr>
</tbody>
</table>

**Class Planning and Facilitation**

For this subscale, model 1, containing the internal preparation practices did not yield statistically significant results and accounted for only 3% of the variance in scores of teaching self-efficacy related to class planning and facilitation ($R^2 = .03, F(3, 83) = .973, p = .409$; see Tables 13 and 14). However, models two ($R^2 = .13, F(4, 82) = 2.96, p = .03$; see Tables 13 and 14) and three ($R^2 = .15, F(5, 81) = 2.77, p = .02$; see Tables 13 and 14), which added the variables related to external preparation practices, were significant and accounted for 13-15% of the variance. This may indicate that holding a bachelor’s or master’s degree in teaching and engaging in adjunct faculty experiences may improve one’s teaching self-efficacy related to planning for and facilitating class sessions. However, when considered independently, the
predictor variable related to number of adjunct experiences was not significant ($\beta = .14, p = .18$; see Table 15), whereas holding a teaching degree was ($\beta = .31, p = .00$; see Table 15).

**Table 13**

*ANOVA Results for Models Examining the Influence of Predictor Variables on SETI Subscale 2: Class Planning and Facilitation*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>$df$</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Regression 1.546</td>
<td>3</td>
<td>.515</td>
<td>.973</td>
<td>.409&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>Residual 43.949</td>
<td>83</td>
<td>.530</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total 45.496</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Regression 5.738</td>
<td>4</td>
<td>1.434</td>
<td>2.958</td>
<td>.025&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Residual 39.758</td>
<td>82</td>
<td>.485</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total 45.496</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Regression 6.634</td>
<td>5</td>
<td>1.327</td>
<td>2.765</td>
<td>.023&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Residual 38.862</td>
<td>81</td>
<td>.480</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total 45.496</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.

<sup>b</sup>Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld.

<sup>c</sup>Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

**Table 14**

*Model Summary Results for Models Examining the Influence of Predictor Variables on SETI Subscale 2: Class Planning and Facilitation*
### Table 15

**Coefficients for Individual Predictor Variables for Scores on SETI Subscale 2: Class Planning and Facilitation**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>Std. Error of the Estimate</th>
<th>$F$ Change</th>
<th>$df_1$</th>
<th>$df_2$</th>
<th>Sig. $F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1$^a$</td>
<td>.184$^a$</td>
<td>.034</td>
<td>-.001</td>
<td>.728</td>
<td>.034</td>
<td>.973</td>
<td>3</td>
<td>83</td>
</tr>
<tr>
<td>2$^b$</td>
<td>.355$^b$</td>
<td>.126</td>
<td>.083</td>
<td>.696</td>
<td>.092</td>
<td>8.645</td>
<td>1</td>
<td>82</td>
</tr>
<tr>
<td>3$^c$</td>
<td>.382$^c$</td>
<td>.146</td>
<td>.093</td>
<td>.693</td>
<td>.020</td>
<td>1.868</td>
<td>1</td>
<td>81</td>
</tr>
</tbody>
</table>

$^a$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.  
$^b$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld.  
$^c$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct
<table>
<thead>
<tr>
<th></th>
<th>TeachingDegreeHeld</th>
<th>0.616</th>
<th>0.197</th>
<th>0.330</th>
<th>0.002</th>
</tr>
</thead>
<tbody>
<tr>
<td>AmountOfAdjunct</td>
<td>0.099</td>
<td>0.073</td>
<td>0.143</td>
<td>0.175</td>
<td></td>
</tr>
</tbody>
</table>

**Interacting with Students**

For this subscale, models accounted for 4-11% of variance in scores related to teaching self-efficacy when interacting with students. Additionally, the predictor variables did not indicate any significant difference in scores in models one ($R^2 = .04, F(3, 83) = 1.23, p = .31$; see Tables 16 and 17), two ($R^2 = .07, F(4, 82) = 1.56, p = .19$; see Tables 16 and 17), or three ($R^2 = .11, F(5, 81) = 1.92, p = .10$; see Tables 16 and 17), but model three demonstrated a small but potentially meaningful effect size.

**Table 16**

ANOVA Results for Models Examining the Influence of Predictor Variables on SETI Subscale 3: Interacting with Students

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1^a$</td>
<td>Regression</td>
<td>1.345</td>
<td>3</td>
<td>.448</td>
<td>1.225</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>30.362</td>
<td>83</td>
<td>.366</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31.707</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$2^a$</td>
<td>Regression</td>
<td>2.247</td>
<td>4</td>
<td>.562</td>
<td>1.564</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>29.460</td>
<td>82</td>
<td>.359</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31.707</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$3^b$</td>
<td>Regression</td>
<td>3.352</td>
<td>5</td>
<td>.670</td>
<td>1.915</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>28.355</td>
<td>81</td>
<td>.350</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31.707</td>
<td>86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.

Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld.

Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

Table 17

Model Summary Results for Models Examining the Influence of Predictor Variables on SETI Subscale 3: Interacting with Students

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1$^a$</td>
<td>.206$^a$</td>
<td>.042</td>
<td>.008</td>
<td>.60482</td>
<td>$F$ Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$df$ 1 $df$ 2</td>
</tr>
<tr>
<td>2$^b$</td>
<td>.266$^b$</td>
<td>.071</td>
<td>.026</td>
<td>.59939</td>
<td>.028</td>
</tr>
<tr>
<td>3$^c$</td>
<td>.325$^c$</td>
<td>.106</td>
<td>.051</td>
<td>.59166</td>
<td>.035</td>
</tr>
</tbody>
</table>

$^a$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork. $^b$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld. $^c$ Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

Table 18

Coefficients for Individual Predictor Variables for Scores on SETI Subscale 3: Interacting with Students

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>β</td>
</tr>
</tbody>
</table>

81
For this subscale, model one continued to yield inadequate significance levels and accounted for just under 6% of the variance in teaching self-efficacy scores related to course preparation ($R^2 = .06, F(3, 83) = 1.65, p = .183$; see Tables 19 and 20). However, with the addition of teaching degree held in model two, the critical .05 $p$-value for statistical significance was met, and the model accounted for 11% of the variance in scores ($R^2 = .11, F(4, 82) = 2.48, p = .05$; see Tables 19 and 20). Finally, after accounting for amount of adjunct experience, model three demonstrated a significant difference in scores of teaching self-efficacy related to course preparation, accounting for 18% of the variance ($R^2 = .18, F(5, 81) = 3.66, p = .01$; see Tables 19 and 20). This model indicates that both external preparation practices significantly predict levels of teaching self-efficacy related to course preparation in the sampled participants (holding a teaching degree: $\beta = .27, p = .01$; number of adjunct experiences: $\beta = .28, p = .01$; see Table 21).
Table 19

ANOVA Results for Models Examining the Influence of Predictor Variables on SETI Subscale 4: Course Preparation

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Regression</td>
<td>2.819</td>
<td>3</td>
<td>.940</td>
<td>1.654</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>47.164</td>
<td>83</td>
<td>.568</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>49.983</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Regression</td>
<td>5.393</td>
<td>4</td>
<td>1.348</td>
<td>2.479</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>44.590</td>
<td>82</td>
<td>.544</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>49.983</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Regression</td>
<td>9.209</td>
<td>5</td>
<td>1.842</td>
<td>3.659</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>40.775</td>
<td>81</td>
<td>.503</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>49.983</td>
<td>86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.

<sup>b</sup>Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld.

<sup>c</sup>Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

Table 20

Model Summary Results for Models Examining the Influence of Predictor Variables on SETI Subscale 4: Course Preparation

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
<th>$R^2$ Change</th>
<th>$F$ Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. $F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.237&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.056</td>
<td>.022</td>
<td>.75382</td>
<td>.056</td>
<td>1.654</td>
<td>3</td>
<td>83</td>
<td>.183</td>
</tr>
<tr>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.328&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.108</td>
<td>.064</td>
<td>.73742</td>
<td>.051</td>
<td>4.733</td>
<td>1</td>
<td>82</td>
<td>.032</td>
</tr>
<tr>
<td>3&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.429&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.184</td>
<td>.134</td>
<td>.70950</td>
<td>.076</td>
<td>7.580</td>
<td>1</td>
<td>81</td>
<td>.007</td>
</tr>
</tbody>
</table>
Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork. b Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld. c Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct

Table 21

Coefficients for Individual Predictor Variables for Scores on SETI Subscale 4: Course Preparation

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>β</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.950</td>
<td>.440</td>
<td>.223</td>
</tr>
<tr>
<td></td>
<td>DichotomousCoursework</td>
<td>.622</td>
<td>.302</td>
</tr>
<tr>
<td></td>
<td>DichotomousFieldwork</td>
<td>.031</td>
<td>.400</td>
</tr>
<tr>
<td></td>
<td>AmountOfSupervision</td>
<td>.001</td>
<td>.002</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.911</td>
<td>.431</td>
<td>.242</td>
</tr>
<tr>
<td></td>
<td>DichotomousCoursework</td>
<td>.674</td>
<td>.296</td>
</tr>
<tr>
<td></td>
<td>DichotomousFieldwork</td>
<td>-.089</td>
<td>.395</td>
</tr>
<tr>
<td></td>
<td>AmountOfSupervision</td>
<td>.001</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>TeachingDegreeHeld</td>
<td>.451</td>
<td>.207</td>
</tr>
<tr>
<td>3</td>
<td>(Constant)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.470</td>
<td>.444</td>
<td>.231</td>
</tr>
<tr>
<td></td>
<td>DichotomousCoursework</td>
<td>.648</td>
<td>.285</td>
</tr>
<tr>
<td></td>
<td>DichotomousFieldwork</td>
<td>-.003</td>
<td>.382</td>
</tr>
<tr>
<td></td>
<td>AmountOfSupervision</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>TeachingDegreeHeld</td>
<td>.533</td>
<td>.202</td>
</tr>
<tr>
<td></td>
<td>AmountOfAdjunct</td>
<td>.205</td>
<td>.074</td>
</tr>
</tbody>
</table>

Soliciting Feedback
For this final subscale, related to soliciting feedback from students, peers, and oneself, model one ($R^2 = .07, F(3, 83) = 1.94, p = .13$; see Table 22 and 23) did not indicate statistical significance. While models two ($R^2 = .10, F(4, 82) = 2.38, p = .06$; see Table 22 and 23) and three ($R^2 = .11, F(5, 82) = 1.94, p = .10$; see tables 22 and 23) also did not indicate statistical significance, they did demonstrate small but potentially meaningful effect sizes. The third model, however, did not explain any additional variance ($F_{\text{change}} = .27, p = .61$; see Table 23), indicating that the number of adjunct experiences was not a statistically significant predictor of this teaching self-efficacy related to soliciting feedback.

### Table 22

**ANOVA Results for Models Examining the Influence of Predictor Variables on SETI Subscale 5: Soliciting Feedback**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>$df$</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Regression</td>
<td>5.054</td>
<td>3</td>
<td>1.685</td>
<td>1.944</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>71.937</td>
<td>83</td>
<td>.867</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>76.991</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Regression</td>
<td>8.002</td>
<td>4</td>
<td>2.001</td>
<td>2.378</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>68.989</td>
<td>82</td>
<td>.841</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>76.991</td>
<td>86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Regression</td>
<td>8.231</td>
<td>5</td>
<td>1.646</td>
<td>1.939</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>68.760</td>
<td>81</td>
<td>.849</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>76.991</td>
<td>86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.

<sup>b</sup> Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld.

<sup>c</sup> Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork, TeachingDegreeHeld, AmountOfAdjunct
Table 23

*Model Summary Results for Models Examining the Influence of Predictor Variables on SETI*

*Subscale 5: Soliciting Feedback*

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Sig. F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F Change</td>
<td>df1</td>
</tr>
<tr>
<td>1a</td>
<td>.256</td>
<td>.066</td>
<td>.032</td>
<td>.93097</td>
<td>.066</td>
<td>1.944</td>
</tr>
<tr>
<td>2b</td>
<td>.322</td>
<td>.104</td>
<td>.060</td>
<td>.91724</td>
<td>.038</td>
<td>3.504</td>
</tr>
<tr>
<td>3c</td>
<td>.327</td>
<td>.107</td>
<td>.052</td>
<td>.92135</td>
<td>.003</td>
<td>.269</td>
</tr>
</tbody>
</table>

*Predictors: (Constant), AmountOfSupervision, DichotomousCoursework, DichotomousFieldwork.*

Table 24

*Coefficients for Individual Predictor Variables for Scores on SETI Subscale 5: Soliciting Feedback*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>β</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.348</td>
<td>.543</td>
<td>.219</td>
</tr>
<tr>
<td>DichotomousCoursework</td>
<td>.758</td>
<td>.373</td>
<td>.219</td>
</tr>
<tr>
<td>DichotomousFieldwork</td>
<td>-.426</td>
<td>.494</td>
<td>-.095</td>
</tr>
<tr>
<td>AmountOfSupervision</td>
<td>.002</td>
<td>.002</td>
<td>.111</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.306</td>
<td>.536</td>
<td>.235</td>
</tr>
<tr>
<td>DichotomousCoursework</td>
<td>.814</td>
<td>.369</td>
<td>.235</td>
</tr>
<tr>
<td>DichotomousFieldwork</td>
<td>-.555</td>
<td>.492</td>
<td>-.123</td>
</tr>
<tr>
<td>AmountOfSupervision</td>
<td>.002</td>
<td>.002</td>
<td>.134</td>
</tr>
<tr>
<td>TeachingDegreeHeld</td>
<td>.483</td>
<td>.258</td>
<td>.199</td>
</tr>
</tbody>
</table>
Summary of Results

The results of the analyses conducted in this study showed statistically significant
relationships between variables of external preparation practices and increased levels of teaching
self-efficacy among advanced doctoral students in counselor education and supervision.
Specifically, results showed that holding a teaching degree may significantly predict one’s
development of teaching self-efficacy. While other variables, such as those of internal teaching
preparation or adjunct faculty experiences, did not yield significant results, the small but
potentially meaningful effect sizes (Cohen, 1988) related to these models should be noted.

The results of an exploratory factor analysis (EFA) indicated a 31-item, five-factor model
with loadings from .39 to .86, explaining nearly 70% of the variance. The five factors identified
were translated into the following five subscales of teaching self-efficacy: grading, course
planning and facilitation, interacting with students, course preparation, and soliciting feedback.
The identified five factors within this model were used as dependent variables in a subsequent
set of hierarchical regression analyses. These analyses revealed that holding a teaching degree, as
well as adjunct faculty experiences, significantly predicted scores of teaching self-efficacy
related to course planning and facilitation and course preparation. However, variables of internal
preparation practices and variables of external pedagogical experiences did not indicate
significant predictions of teaching self-efficacy related to grading, interacting with students, or soliciting feedback.

These results indicate potentially meaningful implications for the field of counselor education and supervision. While there were some limitations to this study that may have affected the indicated results, the findings suggest several directions for future research as well as several areas for improvement in the way in which doctoral students become prepared to engage in teaching related behaviors.
CHAPTER 5: DISCUSSION

The purpose of this research was to seek to understand the potential influence of external pedagogical experiences—namely, bachelor’s and master’s degree-level training in education, and adjunct teaching experiences in higher education—on perceived levels of teaching self-efficacy among advanced CES doctoral students, above and beyond internal preparation practices. An emphasis was placed on the difference in effects between external pedagogical experiences and internal preparation practices. However, a model accounting for the potential effects of all variables combined also was explored. The central construct being explored within this research was teaching self-efficacy, as measured by The Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990). Within this study, this instrument underwent an exploratory factor analysis to assess the potential of a multi-factor structure. This chapter presents a summary of the study, an explanation of major findings from the study, a consideration of the limitations of this research, and a discussion of recommendations for future research as well as implications for the field of counselor education.

Summary of the Study

This study aimed to understand the influence of various internal and external factors related to teaching on the teaching self-efficacy of advanced doctoral students in counselor education and supervision. Previous literature examined the relationship between internal preparation practices on teaching self-efficacy among CES doctoral students (Suddeath, 2018; Suddeath et al., 2020), but there was no apparent research examining factors of external pedagogical experiences on teaching self-efficacy within this population. Therefore, the intention behind this study was to fill this gap within the research. As many CES doctoral students continue to report feeling unprepared to teach upon graduation from their doctoral programs (Buller, 2013; Hall, 2007; Hunt & Gilmore, 2011; Olguin, 2004; Suddeath et al., 2020; Suddeath,
2018; Waalkes et al., 2018), this study sought to better understand factors that might increase their teaching self-efficacy.

The results of this study indicate that external pedagogical experiences (i.e., holding a teaching degree or having adjunct teaching experiences) are related to an increase in teaching self-efficacy among CES doctoral students. Surprisingly, despite Suddeath et al.’s (2020) findings having indicated a significant relationship between internal preparation practices (i.e., coursework in college teaching, fieldwork in college teaching, and frequency of supervision) and teaching self-efficacy, the results of this study did not indicate the same relationship. Rather, no differences were found in levels of teaching self-efficacy based on these internal variables.

Prior research conducted on the instrument used within this study, the Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990), had constrained the instrument to a single factor structure. However, results of an exploratory factor analysis within this study indicated the potential for a multi-factor structure within the instrument. Further exploratory analyses were conducted to examine relationships between each of the identified subscales of teaching self-efficacy and the variables of internal preparation practices and external pedagogical experiences. Results of these analyses are discussed below.

**Major Findings**

The research question and corresponding hypothesis for this study were exploratory. No apparent justification based on the literature could be made to indicate an anticipated directionality within the current research. It was hypothesized that there may be a relationship between the variables of external pedagogical experiences and teaching self-efficacy in counselor education and supervision, but the type of relationship was not specified. The findings of this study, therefore, will be discussed in consideration with existing literature that most
closely connects with the constructs investigated within this research. The existing literature has featured relationships between internal preparation practices and teaching self-efficacy, as well as examinations of teaching self-efficacy among individuals teaching at the primary and secondary school levels. However, this research has not focused on external pedagogical experiences and their potential influence on the current population of interest.

**Findings Concerning the Primary Research Question**

The primary research question posed within this study was as follows:

> Among advanced doctoral students in counselor education and supervision, do external pedagogical experiences (i.e., a bachelor’s or master’s degree in education and adjunct faculty experiences in higher education) statistically predict levels of teaching self-efficacy after accounting for internal teaching preparation practices (i.e., coursework in college teaching, fieldwork in college teaching, and frequency of supervision)?

Results from a hierarchical linear regression conducted to answer this research question elicited some statistically significant findings, as well as marginally statistically significant finding with potentially meaningful effect sizes that warrant attention. The findings of a relationship between external pedagogical experiences and teaching self-efficacy lends itself to the assertion that current internal preparation practices may be insufficient in enhancing CES doctoral students’ self-efficacy toward teaching (Hall, 2007; Suddeath, 2018; Tollerud, 1990; Waalkes et al., 2018). This assertion is furthered by the findings that failed to find a significant relationship between internal preparation practices and teaching self-efficacy among this population—findings controverting those of Suddeath et al. (2020). These relationships, or lack thereof, provide an argument for additional preparation methods akin to those included within a bachelor’s or
master’s degree in teaching, as well the pursuit of experiences that allow doctoral students the opportunity to be an instructor of record. These advancements may prove especially important in helping CES doctoral students to feel efficacious in teaching.

Specifically, holding either a bachelor’s or a master’s degree in teaching was found to be related to teaching self-efficacy, both as an individual factor and in conjunction with the second variable of external pedagogical experiences, adjunct faculty experiences in higher education. This relationship may indicate that the extensive preparation practices discussed within the literature (Adoniou, 2013; Jensen, 2011; Liu & Qi, 2012; Sumrall et al., 2017) for those intending to teach at the primary or secondary school levels may demonstrate increased success in delivering students who feel a heightened level of teaching self-efficacy as compared to students exiting doctoral programs in counselor education and supervision. Further, these findings align with Jensen’s (2011) implication that it may not be the subject-specific training that makes an effective teacher, but the generalized pedagogical training included within these teaching degrees that leads to effective and efficacious teachers.

The individual variable of adjunct faculty experiences in higher education yielded only marginally significant results related to teaching self-efficacy in general, beyond that of the teaching degree variable along with the internal preparation practices variables from the first step of the hierarchical analysis. Though it should be viewed as tentative, given that it was only marginally significant, this result may advance Tollerud’s (1990) findings that individuals who are already teaching in the field demonstrate higher levels of teaching self-efficacy than advanced doctoral students without this experience. Additionally, the presence of a small but meaningful effect size, in combination with the marginally statistically significant result, for this
variable may indicate that an increased sample size may have yielded a significant relationship between adjunct faculty experiences and self-efficacy toward teaching.

**Findings Concerning the EFA of the SETI**

In her work examining the factor structure of the original 35-item Self-Efficacy Toward Teaching Inventory (SETI), Tollerud (1990) found a one-factor model accounting for 35% of the variance (which is below the conventional cut-off of 60%; Tabachnick & Fidell, 2019). A later factor analysis on the instrument conducted by Suddeath et al. (2020) constrained their updated version of the SETI (containing 47 items) to one factor for the purpose of comparison between their results and those of Tollerud (1990). Despite the original intention of the SETI, as well as the intent of Suddeath et al.’s (2020) version, being to measure five domains of teaching self-efficacy, research had yet to explore the potential of a multi-structure instrument. Rather, all known research has only considered the SETI as unidimensional. Therefore, the present study utilized an exploratory factor analysis to confront this gap within the research.

Results of the exploratory factor analysis (EFA) indicated a 31-item, five-factor model with loadings from .39 to .86, explaining nearly 70% of the variance. Four items from the original SETI were dropped due to complicated wording (e.g., double-barreled questions) and low factor loadings. The five resulting factors were assigned the following labels: grading, class planning and facilitation, interacting with students, course preparation, and soliciting feedback. These distinctions only partially aligned with the intended domains of the first two version of the SETI: course preparation, instructor behavior, materials, evaluation and examination, and clinical skills training (Suddeath et al., 2020; Tollerud, 1990). In all versions of the SETI, course preparation appears the most common domain measured within the instrument. Other domains overlap between the current version of the SETI and the existing versions (e.g., evaluation and
examination could relate to grading or soliciting feedback). However, an important distinction is the lack of prevalence of clinical skills as an indicated domain within the current research. Despite the intention of the instrument to measure teaching self-efficacy within counselor education, this domain did not stand out as an individual factor within the present exploratory factor analysis.

In addition to comparing the five identified factors from the present analysis to previous intentions and examinations of the SETI, the five-factor instrument was also compared to expectations related to the development of teaching competency in counselor education by Swank and Houseknecht (2019). This model, used as the conceptual framework for this study, includes 152 teaching competencies across four domains: knowledge, skills, professional behaviors, and dispositions. When creating the SETI, Tollerud (1990) intended for participants to rate their confidence in their ability to be effective in the various teaching skills and behaviors included within the instrument. It is unsurprising, then, that the five factors discovered within the SETI in the present study largely align with the “skills” domain within Swank and Houseknecht’s (2019) model of teaching competency. This domain consists of five various categories related to teaching and pedagogy: (a) meaningful engagement with students, (b) competent course instruction, (c) the ability to facilitate the gatekeeping process, (d) effective course preparation, and (e) teacher evaluation (both peer and self-evaluation). Skills related to meaningful engagement with students can be assessed through the subscale of interacting with students, while skills related to competent course instruction connect to the subscale of class planning and facilitation. Effective course preparation skills map clearly onto the subscale of course preparation and skills related to teacher evaluation (both peer and self-evaluation) are a near match for items related to soliciting feedback on the SETI. The only inconsistency in
connection between the five identified factors of the SETI and the five domains included under teaching skills related to teaching competency appears to be akin to the disconnect that occurs with the intention of the original SETI. The fifth skill in this part of the model, the ability to facilitate the gatekeeping process, can be considered a counseling-specific (i.e., clinical) skill. Again, this theme did not appear prevalent within the five-factor model of the SETI.

**Findings Concerning the Analyses of the SETI Subscales**

Following the completion of the EFA, this study sought—in a preliminary and exploratory fashion—to reexamine the variables of internal preparation practices and external pedagogical experiences through the lens of each of the subscales identified within the EFA. This was achieved by conducting an individual hierarchical linear regression analysis for each of the subscales with the five identified factors acting as the dependent variables. The results of these analyses yielded some significant findings.

**Subscale 1: Grading**

Despite grading being a common expectation within the teaching role in counselor education (Hunt & Gilmore, 2011), results examining the potential relationship between the predictor variables and teaching self-efficacy specific to grading of student materials did not yield any significant results within this analysis. Although this appears to indicate that both internal preparation practices and external pedagogical experiences do not influence highly how efficacious CES doctoral students feel when grading materials, a marginally significant result combined with a small, but meaningful effect size (Cohen, 1988) related to the relationship between holding a teaching degree and grading student work may indicate that a larger sample of participants may have yielded a more highly significant result.
Subscale 2: Class Planning and Facilitation

Results examining the potential relationship between the predictor variables and teaching self-efficacy specific to class planning and facilitation yielded some significant findings. Whereas the set of internal preparation practices variables did not significantly predict these scores, variables related to external pedagogical experiences demonstrated a significant relationship with this dependent variable. Previous studies have expressed a need for teaching preparation courses to include more practical components related to class planning and facilitation in counselor education (Hall & Hulse-Killacky, 2010; Hunt & Gilmore, 2011; Suddeath et al., 2020). This disparity may be related to why a significant relationship did not exist between internal preparation practices and teaching self-efficacy related to class planning and facilitation despite coursework in college teaching being only one of three variables encompassed in internal preparation practices.

Alternatively, the significant relationship between external pedagogical experiences and teaching self-efficacy related to class planning and facilitation lends itself to the argument that holding a teaching degree—which often requires extensive training in lesson and activity planning, participation in observation experiences, and an average of ten weeks of fulltime student teaching in a classroom (Jensen, 2011; Liu & Qi, 2012)—may effectively increase CES students’ confidence in their abilities to plan for and facilitate class sessions. There has been no apparent research supporting a connection between adjunct faculty experiences and teaching self-efficacy in this area. However, this variable’s significant contribution to this model may indicate that the higher the number of courses taught as an instructor of record, where instructors are required to plan and facilitate classes, the higher one’s confidence may be in their ability to succeed in this area.
Subscale 3: Interacting with Students

Meaningful engagement with students is cited as a core competency of a counselor educator (Swank & Houseknecht, 2019) and one that should possibly be a focus of both internal preparation practices and external pedagogical experience. However, the results of this study yielded only a marginally significant connection between the predictor variables and teaching self-efficacy related to interacting with students. Although this marginal level of significance may suggest that there is no meaningful relationship between these variables, it should not be overlooked. Various factors, such as the sample size of this study, could have limited the level of significance. Therefore, future research might seek to evaluate further this relationship.

Although this apparent lack of connection may be somewhat surprising, there is a possibility that there may be some socially-oriented considerations that factor into the results of this subscale that were not examined within this study; for example, one’s general levels of social self-efficacy. This type of efficacy is characterized by the confidence in one’s ability to engage in the socially interactional tasks necessary to be effective in a variety of social situations (Anderson & Betz, 2001). Whether a CES student feels confident in their ability to effectively interact with their students could have less to do with the teaching preparation they have experienced and more to do with how confident they are in their ability to engage in the socially interactional tasks necessary to be effective within and outside of a classroom. Nonetheless, a marginally significant result combined with a small, but meaningful effect size (Cohen, 1988) for the relationship between external preparation practices and teaching self-efficacy related to interacting with students also could indicate that a larger sample of participants may have yielded a more highly significant result.

Subscale 4: Course Preparation
Similar to the subscale for class planning and facilitation, findings from this study indicated that teaching self-efficacy related to course preparation was significantly associated with external pedagogical experiences but held no meaningful relationship to internal preparation practices. This also could be associated with the limited amount of hands-on teaching experience CES students feel that they receive within their doctoral programs (Hall & Hulse-Killacky, 2010; Hunt & Gilmore, 2011; Suddeath et al., 2020), while those pursuing teaching degrees experience intensified, yet seemingly effective, teaching preparation (Jensen, 2011; Liu & Qi, 2012) and adjunct faculty experiences ensure participation in hands-on teaching activities, with opportunities for additional faculty development (Bolitzer, 2019; Burroughs, 2019; Danaei, 2019; Durso, 2011; Green, 2007). This perspective of external pedagogical experiences does not solidify their relationship to teaching self-efficacy related to course preparation, but the connection between these variables appears logical when based within the existing literature.

**Subscale 5: Soliciting Feedback**

Developing skills concerning engagement in teacher evaluation (both peer and self-evaluation) is another essential teaching competency according to Swank and Houseknecht (2019). However, results from this study have indicated a lack of significance between internal preparation practices and one’s confidence in their ability to execute this skill, and only marginally significant results between one of the external pedagogical practices—having a bachelor’s or master’s degree in teaching—and one’s confidence in their ability to execute this skill. As the experiences included within the predictor variables appear to be the most common methods for experiencing teacher evaluation through the solicitation of feedback, it is hard to imagine what might be the most influential teaching-related factor in developing teaching self-efficacy in this area. It is possible that, like teaching self-efficacy related to interacting with
students, personal characteristics of the individual may largely affect one’s teaching self-efficacy related to soliciting feedback. However, though it should be viewed as tentative, given that the relationship was only marginally significant, future research might consider further the potential effect of a holding a teaching degree on teaching self-efficacy related to soliciting feedback.

Ten Cate (2013) asserts that, often, to cope well with corrective feedback, one must already have a heightened level of self-confidence. As previously stated, the concept of self-confidence represents a broad belief about one’s behavior and lacks a target of certainty (Bandura, 1997; Schunk & Pajares, 2001; Zimmerman, 2000) whereas the concept of self-efficacy has that target of certainty—in this case, teaching self-efficacy. Ten Cate’s (2013) assertion may inform the present findings by inferring that one must already have an increased level of self-confidence to feel efficacious about soliciting, and subsequently receiving, feedback. This may then indicate that teaching experiences likely do not have as much influence on one’s skills in this area as does one’s existing level of self-confidence.

Limitations

Despite several significant findings within the present study, multiple limitations should be addressed. The main limitation was the modest sample size. Although the sample of 87 participants met requirements for a hierarchical linear regression according to a power analysis using G*Power ($N = 59$), it did not meet the desired and recommended number of participants for the exploratory factor analysis ($N = 105$), as the lowest recommended ratio for an EFA is 3 participants per item (Cattell, 1978; Comrey & Lee, 1992). Previous EFA’s conducted on the SETI had numbers of participants ranging from 149 (Suddeath et al., 2020) to 336 (Tollerud, 1990). The limited sample size may have impacted the indicated factor structure, as well as the results identified for each of the SETI subscales. Therefore, these results should be viewed as
preliminary and exploratory with a consideration for further research in this area, which will be discussed later.

A second limitation within this study was the use of a self-report questionnaire, as this can pose a threat of response bias in data analysis. Considering participants’ potential desire to want to be perceived as feeling efficacious in teaching, they may have responded to items on the SETI with how they wish to feel or be perceived as feeling about each of the indicated teaching skills and behaviors rather than their genuine feelings of efficacy related to these skills and behaviors. It may have been meaningful to compare students’ feelings of efficacy in each of these areas with faculty members’ ratings of the students’ competency in each of these areas. However, this may have changed the nature of and intention behind the study.

An additional limitation was the Self-Efficacy Toward Teaching Inventory (SETI; Tollerud, 1990) as a measure itself. This instrument was developed nearly thirty years prior to the present study and included some outdated language as well as some problematic wording of questions (e.g., double-barreled questions). These concerns could pose a threat to the validity of the instrument as it may not accurately be measuring the intended construct as it is understood today, as well as the reliability of the instrument as the complicated questions may result in a lack of consistency in participant responses related to the construct.

Finally, the anticipated limitations related to the selection of a quantitative methodology and the potential for outside influences on varying levels of teaching self-efficacy remain present. The factors contributing to an individual’s varying levels of self-efficacy toward teaching could be numerous. This study focused on the variables of coursework in college teaching, fieldwork in college teaching, frequency of supervision, obtainment of a bachelor’s or master’s degree in education, previous experience teaching at the primary/secondary school
level, and early adjunct experiences. Whereas other potential variables may influence self-efficacy toward teaching, they were beyond the scope of the present study. Additionally, quantitative studies, as compared to qualitative studies, do not allow for participants to explain their answer choices and they do not give the researcher the opportunity to understand how the participants interpreted questions. This could have caused some of the variability in responses for which the researcher was unable to account.

**Implications for the Field of Counselor Education**

**Teaching Preparation and Training**

The results of this study provide implications for the field of counselor education, both for educators and for doctoral students. The results of this study have aligned with previous research that indicate the current internal preparation practices within CES doctoral programs somewhat have been insufficient in increasing the teaching self-efficacy of students prior to their graduation and transition into the field (Buller, 2013; Hall, 2007; Hunt & Gilmore, 2011; Olguin, 2004; Suddeath et al., 2020; Suddeath, 2018; Waalkes et al., 2018). Although changes have been made to improve preparation practices (Baltrinic et al., 2016; Baltrinic et al., 2018; Hunt & Gilmore, 2011; Olson-Morrison et al., 2019; Prieto & Meyers, 1999; Suddeath et al., 2020), findings from this research indicate that preparation practices occurring within bachelor’s and master’s level teaching degrees potentially have been more successful in graduating efficacious teachers. According to Suddeath et al. (2020), the 2016 CACREP standards prescribe “the ‘what’ but not the ‘how’ of teaching preparation, which has unintentionally left some CES doctoral students with insufficient training in teaching” (p. 70). While implications from Suddeath et al. (2020) suggested they were unsure as to how programs should provide further teaching experience, counselor educators might consider examining their own practices in comparison
with the practices of various undergraduate and graduate teaching programs to see how they might intensify their focus on teaching and implement increasingly effective teaching preparation strategies.

For example, to become a high school teacher, undergraduate education students typically undergo 16 to 24 credit hours of pedagogical training in addition to their studies in subject-specific content (Jensen, 2011). While this may not be feasible within the framework of a doctoral program in counselor education, the current average of teaching related training received by doctoral students is 3 to 6 credits (Hunt & Gilmore, 2011). This disparity in teaching preparation could be just one of many arguments for why those who hold a teaching degree demonstrate higher levels of self-efficacy toward teaching. Allotting an increased amount of credit hours toward teaching may improve CES students’ confidence in their ability to engage in teaching related activities. An additional argument may be related to the amount of time undergraduate education students spend preparing in the classroom as compared to counselor education students. Some undergraduate education programs within the United States require their students to engage in half day teaching at their placements for five days a week for 32 weeks or full day teaching five days a week for 16 weeks (Liu & Qi, 2012). This would amount to approximately 640 hours spent in a classroom prior to the completion of the students’ degrees. For CES students, the average requirement related to teaching practice is to complete a single co-teaching experience where they assist a faculty member in teaching a master’s level counseling course over the course of a semester (Hunt & Gilmore, 2011). On average, if these classes are an estimated 2.5-3 hours in length occurring once a week over the course of 15 weeks, CES students may be spending only approximately 37.5-45 hours in a classroom as a part of their pedagogical training within the program.
If increasing credit hours in teaching is not feasible for a program, increasing the amount of required, supplemental classroom hours (as a part of achieving credit hours in teaching) may be an effective alternative intervention. Overall, the structure and content of current co-teaching practices may need to be re-evaluated. In addition to increasing the number of required classroom teaching hours, this may include intentional changes related to Baltrinic et al.’s (2016) recommendations. These recommendations involve the inclusion of the following components: (a) the opportunity for the development of a trusting relationship with the student’s supervising faculty mentor, (b) progressively challenging teaching-related tasks inside and outside the classroom, (c) close supervision and guidance, (d) clearly defined expectations and roles, and (e) encouragement of the development of teaching competencies that will transfer to future teaching roles. Should some of these changes be unrealistic for some programs, a recommendation might be to follow Suddeath et al.’s (2020) recommendation that only those students who are especially interested in becoming counselor educators have additional or varying requirements related to teaching (e.g., a teaching “track”).

**Teaching Supervision and Applied Experiences**

Subsequently, the current results contribute to counselor educators’ understanding of the importance of a hands-on application of teaching skills beyond those applications experienced within the confines of teaching assistantships, as they are currently structured. In addition to re-structuring co-teaching experiences, opportunities for applying teaching skills may come in the form of adjunct faculty experiences. Counselor educators could assist their students in obtaining these experiences in two potential ways. First, following the teaching assistantship component, departments might integrate the opportunity for students to teach a master’s level course within their own department as part of the doctoral program. This may allow students to take ownership
over a course and exercise the skills necessary to increase their teaching self-efficacy and enter the field feeling more competent to engage in faculty positions. The second strategy for assisting students in obtaining adjunct faculty experiences is to create alliances with nearby universities so that counselor educators might assist their students in connecting with other departments at other universities and filling additional adjunct teaching needs as they arise.

Implications from the current study should not be directed solely toward counselor educators, however, but toward CES doctoral students as well. Results have indicated that seeking out external teaching experiences could significantly influence one’s teaching self-efficacy. Should students feel as though their programs are not providing enough experience in teaching, and they are uncertain that they will feel competent upon entering the field after graduation, they should take an initiative to seek out external teaching experiences on their own. It is not only the responsibility of faculty members but of students to ensure competent practice in academia and specifically counselor education.

**Directions for Future Research**

There are several empirical implications resulting from this study as well. These implications may lend well to future research within the field of counselor education. In the scope of factors influencing teaching self-efficacy in CES doctoral students, there remains much to be discovered. The predictor variables included within this study account for only a limited amount of variance in scores related to teaching self-efficacy. Further research might identify some of the personal characteristics included within this discussion, such as social self-efficacy and self-confidence, and their relation to teaching self-efficacy, as well as various other factors that might contribute to this construct of focus. To further the utility of research in this area, studies might employ qualitative methodologies that allow for participants to fully explain their responses to the posed questions. For example, a question posed in a qualitative interview might
ask “What are your experiences with the teaching preparation practices employed within your doctoral program?” or “Following the teaching preparation provided in your doctoral program, how confident are you in your ability to engage in teaching practices within the field?” These questions (as well as others) may provide some insight into counselor educators’ understanding of teaching self-efficacy that has been restricted in existing literature and within the present study. Additionally, this study focused primarily on the existence and quantity of teaching-related experiences in counselor education students. Future research might investigate questions comparing quality of experiences (e.g., quality of various formats of co-teaching experiences or quality of adjunct faculty experiences) to provide an understanding to the field regarding how these opportunities might be improved to further effect positively students’ teaching self-efficacy.

Furthermore, research examining the structure of the SETI (preferably with a larger sample size) could provide a new understanding of the instrument. Although the intended sample of the current study, advanced doctoral students, is limited in overall size, future research could expand the sample either to include CES doctoral students at earlier stages in the program or new professionals in counselor education. The exploratory research conducted with this study and the associated results give reason for further investigation into the possibility of a multi-factor structure occurring within this instrument. Moreover, an investigation combining the possibility of a multi-factor structure with an updated validation of the items of the SETI, similar to the work of Suddeath et al. (2020), could result in a more effective measure of teaching self-efficacy in counselor education.

Finally, findings from the existing literature as well as the current study have indicated that many students leaving CES have difficulty acclimating to the teaching environment
(Waalkes et al., 2018). Limited levels of teaching self-efficacy continue to occur within this population despite the implementation of several responsive instructional strategies within CES programs (e.g., improving teaching internships, integrating teaching mentorship, etc.). What might this say about students enrolled in doctoral programs in various other fields (e.g., biology, engineering, healthcare, business, etc.) that do not receive any instruction related to teaching methods and teaching effectiveness, but are nonetheless joining the ranks of higher education faculty upon graduation? Research exploring levels of teaching self-efficacy across a variety of career fields may provide utility to academia altogether. Although outside of the field of counselor education, it is the responsibility of all educators to pursue teaching effectiveness and teaching competency in higher education.
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Appendix A: Informed Consent

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CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE:
Perceived Levels of Teaching Self-Efficacy Among Advanced CES Doctoral Students Engaging in External Pedagogical Experiences

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SOURCE OF SUPPORT:
This study is being performed as partial fulfillment of the requirements for the Doctor of Philosophy degree in Counselor Education and Supervision in the School of Education at Duquesne University.

STUDY OVERVIEW:
Participation in this study includes rating levels of confidence (from 1-“not confident” to 4-“completely confident) in teaching ability across a variety of teaching related skills and behaviors. Further, you will be asked to answer questions related to your teaching background and the teaching-related preparation you have received both within and external to your doctoral programs in counselor education and supervision (CES). This study aims to identify how teaching self-efficacy may be affected by various factors related to teaching preparation and experiences. The study will aim to inform both counselor educators and CES doctoral students with knowledge of potential factors influencing teaching self-efficacy to further teaching
preparation practices within and external to CES doctoral programs. I am expecting a total of 105+ participants.

PURPOSE:

You are being asked to participate in a research project that is investigating the potential factors influencing teaching self-efficacy among advanced counselor education and supervision (CES) doctoral students.

In order to qualify for participation, you must:

- Currently be enrolled in a CACREP-accredited doctoral program in counselor education and supervision (or enrolled in a program seeking CACREP accreditation)
- Currently be within your final semester of coursework or beyond (e.g., engaged in dissertation work)

PARTICIPANT PROCEDURES:

If you provide your consent to participate, you will be asked to select the link to the survey and complete the questions on the survey, taking approximately 15-20 minutes. You will be asked to complete the survey one time. The survey consists of questions assessing your level of teaching self-efficacy as well as your engagement in teaching preparation practices and teaching experiences.

RISKS AND BENEFITS:

There are minimal risks associated with participating in this study; none greater than those encountered in everyday life. Some of the questions asked of you may potentially trigger stress or some other psychological effect. If you are feeling the need for mental health assistance, please call the SAMHSA help line at 1-800-662-4357 for immediate assistance. The benefits of participating in this study include a better understanding of your own teaching self-efficacy as well as potential benefits to the field of counselor education as a whole.

COMPENSATION:

Participants will be asked to select a separate link to a separate Qualtrics survey, which will ask participants for identifying information and name separate from the research survey responses in order to ensure confidentiality of identifiers. No identifying information (e.g., name, address, etc.) will be collected from participants to ensure anonymity. If participants choose to participate in the optional incentive survey, only participants email addresses and names will be identified, and will not at anytime be linked to survey responses. This information will only be used to contact participants should they be chosen to receive the compensation of an Amazon gift card.

There is no cost for you to participate in this research project.

CONFIDENTIALITY:
Your participation in this study, and any identifiable personal information you provide, will be kept confidential to every extent possible, and will be destroyed 3 years after the data collection is completed. Your name will never appear on any survey or research instruments. All written and electronic forms and study materials will be kept secure. Confidentially will be maintained via a password-protected survey software, Qualtrics. The optional incentive survey will ask for name and email address and will not be confidential. However, survey responses cannot be linked to the incentive survey in anyway. No one will have access to the data except the primary investigator and advisor. In addition, any publications or presentations about this research will only use data that is combined together with all subjects; therefore, no one will be able to determine how you responded.

RIGHT TO WITHDRAW:

You are under no obligation to start or continue this study. You can withdraw at any time without penalty or consequence by not completing the study or leaving the survey unfinished. Any survey that is unfinished will be considered withdrawn. Survey responses are anonymous and cannot be tracked back to the individual participant. Hence, once fully completed and submitted, a survey cannot be withdrawn.

SUMMARY OF RESULTS:

A summary of the results of this study will be provided to at no cost. You may request this summary by contacting the researchers and requesting it. The information provided to you will not be your individual responses, but rather a summary of what was discovered during the research project as a whole.

FUTURE USE OF DATA:

Any information collected that can identify you will not be used for future research studies, nor will it be provided to other researchers. Data will be destroyed within 3 years of data collection.

VOLUNTARY CONSENT:

I have read this informed consent form and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw at any time, for any reason without any consequences. Based on this, I certify I am willing to participate in this research project.

I understand that if I have any questions about my participation in this study, I may contact Erika Williams via phone at 330-442-8210 or via email at leonharde@duq.edu. If I have any questions regarding my rights and protections as a subject in this study, I can contact Dr. David Delmonico, Chair of the Duquesne University Institutional Review Board for the Protection of Human Subjects at 412.396.1886 or at irb@duq.edu. If you proceed to the next page, it indicates that you have agreed to consent to your participation in the research study.
Hello, my name is Erika Williams and I am a doctoral candidate in Counselor Education and Supervision at Duquesne University. I am conducting a study investigating the potential factors influencing teaching self-efficacy among advanced counselor education and supervision (CES) doctoral students as a part of my doctoral requirements. I am requesting your participation in the hopes that I might produce results that could provide valuable individual, educational, and empirical insights to the field of counselor education.

To qualify for participation, you must:

- Currently be enrolled in a CACREP-accredited doctoral program in counselor education and supervision OR be enrolled in a program currently seeking CACREP accreditation
- Currently be within your final semester of coursework or beyond (e.g., engaged in dissertation work)

Survey information: The anticipated duration of this survey is approximately 15 minutes. You will be asked to complete the survey one time only. The survey consists of questions assessing your level of teaching self-efficacy as well as your engagement in teaching preparation practices and teaching experiences. Demographic information will also be requested for reporting purposes only.

Compensation: At the end of the survey, participants will have the opportunity to access a separate link to submit their email address for random drawings to receive an Amazon gift card at the completion of the study. Participants who complete the survey by [insert date here] will be entered into a drawing to win one $100 Amazon gift card. Participants who complete the survey after [insert date here] will be entered into a drawing to win one of two $50 Amazon gift cards.

Confidentiality: Your participation in this study, and any identifiable personal information you provide, will be kept confidential to every extent possible. Your name will never appear on any survey or research instruments. All written and electronic forms and study materials will be kept secure. Confidentially will be maintained via a password-protected survey software, Qualtrics. The optional incentive survey will be accessed through a separate link at the end of the survey and ask for your email address. However, this information will not be linked to your survey responses in any way. No one will have access to the data except the primary investigator and advisor.

This study was approved by the Duquesne University Institutional Review Board.
Contacts: If you have any questions about this study, please contact the responsible parties: Investigator: Erika Williams, Duquesne University, leonharde@duq.edu Advising Faculty Member: Dr. Matthew Joseph, Duquesne University, josephm4@duq.edu Duquesne University Institutional Review Board: Dr. David Delmonico, Duquesne University, delmonico@duq.edu

Please click on the link below to be directed to the full informed consent and survey. You are under no obligation to start or to continue this study. You can withdraw at any time without penalty or consequence by not completing the study or leaving the survey unfinished. Any survey that is unfinished will be considered withdrawn. Survey responses are anonymous and cannot be tracked back to the individual participant. Hence, once fully completed and submitted, a survey cannot be withdrawn. By consenting to participation, found in the following link, you acknowledge that you have been fully informed about the procedures listed in the consent. You understand what has been asked of you and the benefits and risks of participation. You agree that you are 18 years of age or older, meet the indicated criteria for participation, and that you are participating freely and voluntarily.

[CLICK HERE TO ENTER THE SURVEY]
https://duq.az1.qualtrics.com/jfe/form/SV_0fHpVqPhM0vgtYG

Thank you for your consideration and your participation.

Best,

Erika Williams
Doctoral Candidate
Duquesne University
leonharde@duq.edu
Appendix C: Demographics, Teaching Preparation Practices, and Pedagogical Experiences Questionnaire

1. Which of the following best reflects your identified gender?
   - [ ] Male
   - [ ] Female
   - [ ] Non-binary
   - [ ] Other (Please specify): ________________

2. What is your current age? ________________

3. Which of the following best reflects your race? (Select all that apply)
   - [ ] White
   - [ ] Black or African American
   - [ ] American Indian or Alaska Native
   - [ ] Asian
   - [ ] Native Hawaiian or Pacific Islander
   - [ ] Other (Please specify): ________________

4. Which of the following best reflects your ethnicity?
   - [ ] Hispanic or Latino or Spanish Origin
   - [ ] Not Hispanic or Latino or Spanish Origin
   - [ ] Other (Please specify): ________________

5. Which of the following best reflects your experience(s) with coursework in college teaching (e.g., instructional methods or a related course) over the course of your doctoral program?
   - [ ] I have already completed at least one course on college teaching
   - [ ] I am currently enrolled in a course on college teaching
   - [ ] I have not and will not complete a course on college teaching

* Display the following question if: “Which of the following best reflects your experience(s) with coursework in college teaching” = I have already completed at least one course on college teaching

   5a. How many courses have you completed in college teaching?
* Display the following question if: “Which of the following best reflects your experience(s) with coursework in college teaching” = I am currently enrolled in a course on college teaching

5a. How many courses in college teaching have you completed prior to the current term? (If none, type 0)

6. Which of the following best reflects your experience(s) with fieldwork in college teaching (e.g., teaching assistantship/coteaching experience/teaching internship) over the course of your doctoral program?

[ ] I have already completed at least one semester of fieldwork in college teaching
[ ] I am currently enrolled in a fieldwork experience in college teaching
[ ] I have not and will not complete any fieldwork in college teaching

* Display the following question if: “Which of the following best reflects your experience(s) with coursework in college teaching” = I have already completed at least one semester of fieldwork in college teaching

6a. How many semesters of fieldwork in college teaching have you completed?

* Display the following question if: “Which of the following best reflects your experience(s) with coursework in college teaching” = I am currently enrolled in a fieldwork experience in college teaching

6a. How many semesters of fieldwork in college teaching have you completed prior to the current term? (If none, type 0)

7. During your fieldwork in college teaching experience(s), what was the average number of minutes spent being supervised by a faculty member outside of the classroom on a weekly basis? (Enter 0 if you received no supervision and N/A if you did not engage in any fieldwork in college teaching): ________________________________

8. To what degree do you believe your doctoral training in teaching (e.g., coursework in college teaching, fieldwork in college teaching, and the frequency of teaching supervision) has effectively prepared you to perform skills and techniques related to teaching?

[ ] Training was not at all effective
[ ] Training was somewhat effective
[ ] Training was moderately effective
[ ] Training was very effective
[ ] Training was completely effective
9. Have you completed a bachelor’s degree in education (e.g., early childhood education, elementary education, general education, special education, or other education-related degrees)?

[ ] Yes
[ ] No

10. Have you completed a master’s degree in education (e.g., early childhood education, elementary education, general education, special education, or other education-related degrees)?

[ ] Yes
[ ] No

11. Are you or have you ever been a certified professional teacher at the primary or secondary level?

[ ] Yes
[ ] No

*Display the following questions if: “Are you or have you ever been a certified professional teacher at the primary or secondary level?” = Yes*

11a. How many years have you taught in the classroom?

11b. At what level(s) have you taught? (Select all that apply)

[ ] Elementary school
[ ] Middle School
[ ] High School
[ ] Other

12. Have you served as an adjunct faculty member at a college or university (i.e., been hired on a course-by-course basis to serve as the instructor of record)?

[ ] Yes
[ ] No

*Display the following questions if: “Have you served as an adjunct faculty member at a college or university (i.e., been hired on a course-by-course basis to serve as the instructor of record)” = Yes*

12a. Please indicate the number of courses in which you have served as the instructor of record: ____________________________
12b. At what level(s) have you taught an adjunct course? (Select all that apply)

[ ] Undergraduate
[ ] Graduate

12c. What was the relation of the adjunct courses taught to the counseling field? (Select all that apply)

[ ] One or more of the courses were within the counseling field
[ ] One or more of the courses were somewhat related to the counseling field (e.g., psychology, social work, etc.)
[ ] One or more of the courses were unrelated to the counseling field
Appendix D: The Self-Efficacy Toward Teaching Inventory

Self-Efficacy Toward Teaching Inventory
(Tollerud, 1990)

Please rate how confident you are in your ability to be effective in each of the following teaching skills and behaviors on a scale from 1 to 5. Circle the number that best reflects your confidence level.

1 2 3 4 5
Not at all confident Somewhat confident Moderately confident Very confident Completely confident

HOW CONFIDENT ARE YOU IN YOUR ABILITY TO….

1. State goals and objectives clearly for the class 1 2 3 4 5
2. Plan lectures 1 2 3 4 5
3. Write a course syllabus 1 2 3 4 5
4. Plan discussions 1 2 3 4 5
5. Plan class exercises 1 2 3 4 5
6. Select textbooks for the class 1 2 3 4 5
7. Select readings for the class 1 2 3 4 5
8. Develop student assignments 1 2 3 4 5
9. State class grading criteria 1 2 3 4 5
10. Deliver lectures 1 2 3 4 5
11. Initiate class discussion 1 2 3 4 5
12. Draw students into discussions 1 2 3 4 5
13. Communicate at a level that matches students’ ability to comprehend 1 2 3 4 5
14. Ask open, stimulating questions 1 2 3 4 5
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<tbody>
<tr>
<td>15. Encourage participation of women and minorities in class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>16. Respond to individual differences in an inclusive way</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>17. Manage student disagreements with instructor</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. Communicate consistently both verbally and non-verbally</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. Show respect for student ideas and abilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Respond to students’ questions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>21. Respond in a timely manner to student difficulties</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>22. Respond to student emotional reactions in class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>23. Integrate readings and lectures</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>24. Construct essay questions that require integration of content, critical thinking, and self-expression</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>25. Score and interpret examinations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>26. Evaluate student assignments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>27. Utilize exams as learning tools</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>28. Provide constructive feedback on exams and assignments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>29. Utilize student evaluations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>30. Utilize self-evaluation in teaching</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>31. Arrange for constructive peer feedback and suggestions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td></td>
<td>32. Provide supportive feedback for counseling skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>33. Provide challenging feedback for counseling skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>34. Demonstrate ethical behavior</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td></td>
<td>35. Model counseling skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
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