COUNSELOR IN TRAINING PERCEIVED ABILITY TO LEARN CURRICULUM STANDARDS AND THE MODERATING EFFECT OF MINDSET ON LEARNING

by

Jody Vernam

Liberty University

A Dissertation Presented in Partial Fulfillment of the Requirements for the Degree

Doctor of Philosophy

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Doctor of Philosophy Liberty University, Lynchburg, VA

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ABSTRACT

Counselor educators strive to identify learner variables to improve counselor in training (CIT) learning during challenging tasks that align with the curriculum standards of the Council for the Accreditation of Counseling and Educational Related Programs (CACREP). Implicit mindset (IM), either incremental or entity, is robustly associated with enhanced learning outcomes over time for challenging tasks. The purpose of this research was to describe CIT perceived challenge in learning CACREP curriculum standards and to analyze the moderating effect of IM on CIT learning. This research (1) described CIT perceived ability to learn CACREP curriculum standards (PALCCS), (2) examined the moderating effect of IM on the relationship between CIT PALCCS and both CIT GPA and CIT Counselor Preparation Comprehensive Examination (CPCE) scores and (3) examined the moderating role of IM on the relationship between CIT completed credit hours and CIT PALCCS. In this convenience sample from an online CACREP-accredited master's in counseling program, CITs agreed they could learn the CACREP curriculum standards. Contrary to hypotheses, CIT IM negatively correlated with graduate GPA, CPCE score, and CIT PALCCS. CIT completed credit hours negatively correlated with CIT PALCCS. CIT IM did not moderate the relationship between CIT PALCCS and CIT GPA. CIT IM did not moderate the relationship between CIT completed credit hours and CIT PALCCS. CIT IM moderated the relationship between CIT PALCCS and CIT CPCE scores. Specifically, CIT CPCE scores increased as CIT PALCCS increased at a lower ICM level; however, CPCE scores tended to decrease as CIT PALCCS increased at higher ICM levels. Implications for future research and counselor education pedagogy are discussed.

Keywords: counselor education, implicit mindset, incremental mindset, entity mindset, counselors-in-training, challenging tasks, learning outcomes

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List of Abbreviations

Council for the Accreditation of Counseling and Related Educational Programs (CACREP)

Counselor Educator(s) (CE/CEs)

Counselor(s) in Training (CIT/CITs)

Counselor Preparation Comprehensive Exam (CPCE)

Entity Mindset (EM)

Grade Point Average (GPA)

Implicit Mindset (IM)

Implicit Theory of Intelligence Scale (ITIS)

Incremental Mindset (ICM)

Multicultural and Social Justice Counseling Competencies (MSJCCs)

Perceived Ability to Learn CACREP Curriculum Standards (PALCCS)

Research Question(s) (RQ/RQs)

CHAPTER ONE: INTRODUCTION

The field of counselor education encourages counselor educators (CEs) to teach using empirically validated methods (Korcuska, 2016) that are derived from learning theory (Barrio Minton et al., 2018). CEs strive to find teaching strategies to assist in learning challenging tasks associated with the professional counseling identity (Barrio Minton & Wachter Morris, 2020) and aligned with the curriculum standards of the Council for Accreditation of Counseling and Educational Related Programs (CACREP, 2015). CEs consider learner variables aside from the teaching method that influence CIT learning (Kuo et al., 2017; Paone et al., 2015; Suddeath et al., 2020; Zeleke et al., 2018). One learner variable, implicit mindset (IM), is strongly associated with positive learning outcomes during challenging tasks (Burnette et al., 2013; Dweck, 2000, 2016; Macakova & Wood, 2022; Tseng et al., 2020; Yeager, Romero et al., 2016) with adult learners (Aronson et al., 2002; Blackwell et al., 2007; Broda et al., 2018; Macakova & Wood, 2022; Paunesku et al., 2015; Wang et al., 2021; Yeager, Romero et al., 2016, Yeager, Walton, et al., 2016; Yeager et al., 2019). As a moderator of learning (Aronson et al., 2002; Brandisauskiene et al., 2021; De Vries et al., 2021), IM might play a role in CIT learning. The purpose of this research was to describe CIT perceived challenge in learning CACREP curriculum standards and to analyze the moderating effect of IM on CIT learning.

Chapter one provides a summary of the background of the problem, the problem statement that supports the need for the present research study, the purpose and significance of this study, research questions (RQs), and concludes with pertinent definitions. The background describes how CEs seek to identify learner variables associated with CITs learning challenging

academic and professional development tasks. This chapter also identified how the overarching problem is that mechanisms of learning challenging academic tasks are not well understood by CEs, leaving a need for CEs to identify not only teaching methods, but also aspects of the cognitive and affective experience of the learner to benefit CIT learning outcomes. Chapter one provides the foundation to support the exploration of the influence of CIT mindset on CIT learning outcomes for challenging academic tasks.

Background of the Problem

CEs endeavor to implement teaching practices to develop CITs to respond to challenges associated with developing the professional counselor identity (Baltrinic & Wachter Morris, 2020; Lloyd-Hazlett & Foster, 2017; Shulman, 2005). Leaders within the field of counselor education recommend CEs derive teaching practices from learning theory with empirical support (Barrio Minton et al., 2018; Barrio Minton et al., 2014; Korcuska, 2016). To improve teaching practices CEs have explored the role of different learner variables in CIT learning, such as CIT cognitive and affective experiences (Paone et al., 2015; Kuo et al., 2017). These learner variables do not occur separately from the chosen teaching method but are embedded within the pedagogy (Kalantzis & Cope, 2012), meaning that cognitive, affective, and behavioral variables can influence learning outcomes within the social context of learning (Bandura, 1971). Learner variables occurring within a chosen teaching method are worth considering as CEs improve teaching methods for challenging academic and professional development tasks.

CEs and CITs have identified certain academic and professional development tasks as challenging to teach and learn, such as the intentional integration of basic skills with the application of theory (Dollarhide et al., 2007), demonstrating empathy (Bayne & Jangha, 2016), research and program evaluation (Jorgensen & Duncan, 2015), suicide assessment and

intervention (Elliott & Henninger, 2020), multicultural counseling competency (Dorn-Medeiros et al., 2020; King, 2021), and building CIT resilience to handle the challenges of professional practice (Schure et al., 2008). Research in counselor education has explored how teaching practices and learner variables help CITs embrace these challenging curriculum standards (Kuo et al., 2017; Paone et al., 2015; Suddeath et al., 2020; Zeleke et al., 2018). While much of the counselor education literature has focused on the effect of the actual teaching practice in overcoming challenges to teaching and learning (Adams et al., 2015; Dollarhide et al., 2007; Killian & Floren, 2020; Schure et al., 2008; Urbani et al., 2002), some research has identified the influence of learner variables, such as, self-regulated learning strategies (Zeleke et al., 2018); cognitive and affective experiences of the learner, such as guilt and empathy (Paone et al., 2015); failure avoidance (Kuo et al., 2017); life experience within a specific cultural group (Deroche et al., 2020); and faculty-student relationship satisfaction (Suddeath et al., 2020). The literature review of this present work suggests that learner variables can influence CIT learning; however, the findings differ across curriculum standards (Elliott & Henninger, 2020; Steele & Rawls, 2015; Suddeath et al., 2020).

Learning across curriculum standards may vary due to cognitive or affective learner variables rather than teaching format, e.g. lecture or experiential, (Steele & Rawls, 2015; Suddeath et al., 2020). For example, CITs reported equally improved self-efficacy in suicide assessment, regardless of employed teaching format, e.g., role-play, lecture content, or both (Elliott & Henninger, 2020). Contrastingly, when teaching research skills, a content-focused teaching format was not the only factor associated with increased researcher self-efficacy in CITs (Steele & Rawls, 2015). Other research suggested that the interaction of faculty-student relationship satisfaction with student failure avoidance positively influenced research skill

learning outcomes (Kuo et al., 2017). CITs who trained within the same counselor education program expressed significantly different levels of general counseling competency by race/ethnicity and specific competency area (Lam et al., 2013). Caucasian and Asian CITs expressed lower levels of counseling competency than CITs from other racial or ethnic identities, who were within the same cohort. This difference in learning outcomes by race and ethnicity was specific to competencies of multicultural counseling and counseling difficult clients. Lam et al. (2013) did not examine possible factors or learner variables that might have led to the difference in counseling self-efficacy. Paone et al. (2015) suggested that the learner variable of white guilt may influence CITs' expressions of empathy while learning about racism as a multicultural counseling competency. Multiple learner variables interact with teaching practices to produce learning outcomes, and these variables are not well understood in the CIT learning process for challenging academic and professional development tasks (Dollarhide et al., 2007; Grant, 2006; Paone et al., 2015; Suddeath et al., 2021).

One well-researched learner variable, IM, either incremental mindset (ICM) or entity mindset (EM), could be a learner variable of interest in the CIT learning process during challenging tasks. Firstly, successful learning during challenging tasks demonstrates a positive relationship to the presence of ICM (Burnette et al., 2013; Dweck, 2000, 2016; Macakova & Wood, 2022; Tseng et al., 2020; Yeager, Romero et al., 2016). ICM is associated with positive learning outcomes from childhood to adulthood, especially in the face of challenges and adversity (Blackwell et al., 2007; Burnette et al., 2013; Burnette et al., 2018; Caniëls et al., 2018; Diener & Dweck, 1978; DeVries et al., 2021; Mueller & Dweck, 1998; Yeager et al., 2013). IM research meets the counselor education field's objectives (Barrio Minton et al., 2018; Korcuska, 2016) for teaching practices originating from empirical support with a foundation in learning

theory (Dweck, 2000, 2016). The educational field widely adopts the teaching of ICM to positively influence the trajectory of student learning (Brandisauskiene et al., 2021; Dweck, 2016; Jorif & Burleigh, 2022; Masaki, 2021; Watkins & Mortimore, 1999). ICM's role in CIT learning warrants consideration to benefit the teaching and learning of challenging CIT academic and professional development tasks. Exploration of the role of IM in CIT learning meets the need for CEs to improve teaching practices by focusing on learning theory (Barrio Minton et al., 2018) while exploring the role of a cognitive learner variable that may differentially influence CIT learning across the different curriculum standards.

Problem Statement

The counselor education literature suggests that learner variables and teaching format influence CIT learning (Dollarhide et al., 2007; Grant, 2006; Paone et al., 2015; Steele & Rawls, 2015). However, CEs do not clearly understand how CIT learning is affected by factors other than teaching method, especially for challenging tasks (Deroche et al., 2020; Grant, 2006; Kuo et al., 2017; Suddeath et al., 2020; Paone et al., 2015). Researchers identified the influence of some learner variables on CIT learning, including self-regulating learning strategies (Zeleke et al., 2018); cognitive and affective experiences, such as guilt and empathy (Paone et al., 2015); faculty-student relationship satisfaction (Suddeath et al., 2020); life experience within a specific cultural group (Deroche et al., 2020) and failure avoidance (Kuo et al., 2017). For example, self-efficacy in suicide assessment may be equally learned using lectures, role-play, or both (Elliott & Henninger, 2020). However, researcher self-efficacy may be influenced by variables outside of the chosen teaching method (Steele & Rawls, 2015), such as the interaction of failure avoidance and faculty-student relationship satisfaction (Kuo et al., 2017). CEs would do well to explore additional learner variables that impede or enhance the attainment of desired learning outcomes

for CITs. These studies evince that CEs need to attend to and manage cognitive and affective learner variables. As CEs take steps to identify and manage these learner variables, CEs can find direction in the field of education.

Following findings from social and educational psychology (Diener & Dweck, 1978; Devries et al., 2021; Mueller & Dweck, 1998; Yeager, Romero et al., 2016, Yeager, Walton, et al., 2016), the education field recognized that a learner's IM could affect learning outcomes (Brandisauskiene et al., 2021; Dweck, 2016; Jorif & Burleigh, 2022; Masaki, 2021; Watkins & Mortimore, 1999), especially for challenging tasks, (Burnette et al., 2013; Dweck, 2000, 2016; Macakova & Wood, 2022; Tseng et al., 2020; Yeager, Romero et al., 2016). The well-established association between ICM and improved learning outcomes in post-secondary student populations (Aronson et al., 2002; Broda et al., 2018; Bryant & Aytes, 2019. Murphy & Dweck et al., 2010; Robbins & Pals, 2012; Yeager, Walton et al., 2016) supports the exploration of the relationship between ICM and CIT learning outcomes. Implications of such research could inform CE teaching practices for the most challenging academic and professional development tasks to teach and learn, addressing a clear gap in the counselor education pedagogy literature (Dollarhide et al., 2007; Grant, 2006; Paone et al., 2015; Steele & Rawls, 2015).

Purpose Statement

The purpose of this research was to describe CIT perceived challenge in learning CACREP curriculum standards and to analyze the moderating effect of IM on CIT learning. Research in the education field establishes the presence of either EM or ICM as a clear moderator of learning outcomes, especially during challenging tasks (Blackwell et al., 2007; Burnette et al., 2018; Caniëls et al., 2018; De Vries et al., 2021; Yeager et al., 2013). Educators can teach ICM to improve learning outcomes (Aronson et al., 2002; Brandisauskiene et al., 2021;

Broda et al., 2018; De Vries et al., 2021; Yeager, Walton et al., 2016) meaning CEs could teach ICM to improve CIT learning. Understanding the role of IM in CIT learning, especially for tasks CITs consider challenging, could inform CE teaching practices. The purpose of this research was to describe CIT perceived challenge in learning CACREP curriculum standards and to analyze the moderating effect of IM on CIT learning. First, the research examines CITs currently enrolled in a CACREP-accredited master's program and reports their perceived ability to learn the CACREP curriculum standards (PALCCS). Second, this research study analyzed the moderating effect of IM on the relationship between CIT PALCCS and CIT learning outcomes. Finally, this research explored the moderating effect of IM on the relationship between CIT completed credit hours and CIT PALCCS. As CEs continue to concretely identify the teaching methods and learner variables associated with challenging academic and professional development tasks (Bayne & Jangha, 2016; Dollarhide et al., 2007; King, 2021), they can apply effective teaching interventions found within the fields of social psychology and education (Diener & Dweck, 1978; Mueller & Dweck, 1998; Watkins & Mortimore, 1999).

Significance of Study

This research informs CE educational practices for challenging CIT academic and professional development tasks by analyzing the effect of IM on the relationship between CITs' perceived challenge of expected curriculum standards and CIT learning outcomes. This research informs research methods that assess counselor education pedagogy. This study employed social cognitive learning theory (Bandura, 1971) as applied to completing challenging tasks. This research study applied the research findings on the relationship between implicit theories and learning (Dweck, 206) to study the role of IM in CIT learning. If EM hinders or ICM enhances

CIT learning outcomes, then CEs could investigate if teaching ICM improves CIT learning outcomes for challenging tasks.

Research Questions

Considering the need to understand the role of IM in CIT learning processes, the following RQs will guide this research study:

RQ1: How do CITs report their perceived ability to learn the CACREP curriculum standards?

RQ2: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT graduate grade point average (GPA)?

RQ3: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT Counselor Preparation Comprehensive Examination (CPCE) scores?

RQ4: To what extent does CIT IM moderate the relationship between CIT completed credit hours and CIT PALCCS?

Assumptions and Limitations

There were three assumptions to this research study. First, the research study assumed that participants would answer the perceived ability to learn scale honestly rather than through social desirability. The survey answers were not being reported to participants' professors, which lessened the likelihood that the participants would answer how they thought their professor wanted them to respond. Second, the research study assumed that GPA and performance on standardized tests measured learning. This research used graduate GPA and CPCE scores to measure learning. While graduate GPA varies based on the grading system used by a university and the professor teaching the course, the CPCE is a psychometrically validated standardized test designed to measure knowledge expected from the CACREP curriculum standards (Erford et al., 2020). Finally, this research utilized self-reporting of some outcome measures, assuming

participants remembered accurate answers to the questions. While assumptions existed, the research study took steps to limit the influence of these assumptions.

This study had several limitations. While participants were online students and represented diverse geographic regions within the United States, the data were collected at an institution that adheres to a Christian mission. As such, the results could not be generalized to the CIT population at large. Secondly, the PALCCS should not be interpreted as a psychometric scale but rather as a measure of the specific items as they are worded and their aggregate score. While the development of the PALCCS followed the example of previous work to use the Multicultural and Social Justice Counseling Competencies ([MSJCC], Ratt et al., 2015) to assess CIT multicultural learning outcomes (Zeleke et al., 2018), the PALCCS had not undergone the rigorous testing needed to establish it as a psychometric measure of the perceived ability to learn the 2016 CACREP curriculum standards found in Section 2.F (CACREP, 2015).

The descriptive data from RQ1 did not provide evidence of a causal relationship and could only have been interpreted as a description of the responses in the present sample of CITs. Finally, the moderation analyses for RQs 2-4 did not have an experimental manipulation and did not suggest causality (Hayes, 2018; Vogt et al., 2014). Rather the findings were observations of the influence of IM on learning outcomes as entered in the data analysis for this sample. Even with these limitations, the results of this research study can still guide future research decisions for CEs exploring the role of IM on CIT learning outcomes.

Definitions

1. *Entity Beliefs* – Entity beliefs are lay person's cognitions that psychological traits and constructs are fixed and unchangeable (Dweck, 2016; Yeager & Dweck, 2012).

2. *Entity Intelligence Mindset* – Entity intelligence mindset is a set of beliefs that intelligence is unchangeable over the life span (Dweck & Leggett, 1988; Dweck, 2000; Dweck, 2016).
3. *Entity Mindset* – Entity mindset, also known in the vernacular as a *fixed mindset*, is a view that one adopts for oneself that includes beliefs that psychological traits or constructs are fixed and unchangeable (Dweck & Leggett, 1988; Dweck, 2000; Dweck, 2016).
4. *Entity Theory* – Entity theory is a lay theory through which a person learns that psychological traits or constructs cannot change (Dweck, 2000).
5. *Entity Theory of Intelligence* – Entity Theory of Intelligence is a lay theory through which a person learns that intelligence cannot change, or is fixed, over the lifespan (Dweck, 2000).
6. *Entity Theory of Personality* – Entity Theory of Personality is a lay theory through which a person learns that personal attributes cannot change, or are fixed, over the lifespan (Dweck, 2000).
7. *Implicit Theories* – Implicit theories are how a lay person conceptualizes a psychological trait or constructs, such as personality, intelligence, and morality (Dweck et al., 1995).
8. *Implicit Intelligence Mindset* – Implicit intelligence mindset is a set of beliefs that intelligence is either malleable (incremental) or unchangeable (entity) over the life (Dweck & Leggett, 1988; Dweck, 2000; Dweck, 2016).
9. *Implicit Mindset* – Implicit mindset is a set of beliefs that the psychological constructs of intelligence, morality, and personality can either change or not change over one's life (Dweck & Leggett, 1988; Dweck, 2000; Dweck, 2016).

10. *Incremental Beliefs* – Incremental beliefs are a lay person's cognitions that psychological traits and constructs are malleable (Dweck, 2016; Yeager & Dweck, 2012).
11. *Incremental Intelligence Mindset* – Incremental intelligence mindset is a set of beliefs that intelligence is malleable over the life span (Dweck & Leggett, 1988; Dweck, 2000; Dweck, 2016).
12. *Incremental Mindset* – Incremental mindset, also known in the vernacular as a *growth mindset*, is a view that one adopts for oneself that includes beliefs that psychological traits or constructs are malleable and changeable over the life span (Dweck & Leggett, 1988; Dweck, 2000; Dweck, 2016).
13. *Incremental Theory* – Incremental theory is a lay theory through which a person is taught that psychological traits or constructs can change over life (Dweck, 2000).
14. *Incremental Theory of Intelligence* – Incremental Theory of Intelligence is a lay theory through which a person is taught that intelligence can change over the lifespan (Dweck, 2000).
15. *Incremental Theory of Personality* – Incremental Theory of Personality is a lay theory through which a person is taught that personal attributes can change over the lifespan (Dweck, 2000).
16. *Mindset* – Mindset is a view one adopts for oneself, influencing how one approaches a challenge (Dweck, 2016).
17. *Pedagogy* – Pedagogy is a relational activity between educator and learner that involves conscious actions by the educator to benefit the learner (Kalantzis & Cope, 2012; Watkins & Mortimore, 1999).

Summary

Chapter one summarized the need to research effective teaching practices for CITs that address learner variables that impede or enhance learning challenging tasks. Chapter one included a problem statement to emphasize the need to explore the role of IM in CIT learning processes, the specific purpose and significance of this study, RQs, and pertinent definitions. This chapter highlighted the literature within counselor education that has explored the role of teaching practices and learner variables on CIT learning. Exploring the mechanisms that influence CIT learning of challenging academic tasks suggests CEs should identify teaching methods and aspects of the learner's cognitive and affective experience that could enhance the CIT learning process during challenging tasks that are empirically validated and derived from learning theory.

Organization of Remaining Chapters

This dissertation continues with chapters two through five. Chapter two reviews the literature, theoretical framework, RQs, and support for each research hypothesis. Chapter three provides the methodology that was used to answer the RQs. Chapter four provides the data analysis findings for the research study, specified to each RQ. Chapter five details conclusions from the research study and offers future research suggestions.

CHAPTER TWO: REVIEW OF THE LITERATURE

Chapter one described how CEs aim to identify and manage learner variables (Kuo et al., 2017; Paone et al., 2015; Suddeath et al., 2020; Zeleke et al., 2018) to assist teaching challenging tasks (Barrio Minton & Wachter Morris, 2020). Given that CEs encourage using teaching practices grounded in learning theory (Barrio-Minton et al., 2018), chapter one introduced the possibility of IM as an empirically supported learner variable of interest to enhance CIT learning during challenging tasks (Aronson et al., 2002; Blackwell et al., 2007; Broda et al., 2018; Macakova & Wood, 2022; Paunesku et al., 2015; Wang et al., 2021; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016; Yeager et al., 2019). Next, chapter two describes the theoretical framework driving the proposed research study. The literature review details empirical support for the role of IM in learning and concludes by synthesizing IM with the most challenging CIT learning tasks. Finally, chapter two highlights how the literature supports the exploration of learner variables, such as IM, which could impede or enhance CIT learning during challenging tasks.

Theoretical Framework

To determine more effective teaching practices for challenging academic and professional development tasks, CEs are tasked with finding teaching practices with empirical support (Korcuska, 2016) derived from learning theory (Barrio Minton et al., 2018). The teaching practices associated with IM are derived from a social-cognitive learning theory (Dweck & Leggett, 1988) and have been extensively studied (Dweck, 2016; Yeager & Dweck, 2012). In a social-cognitive theory framework, individual cognitions, other personal factors,

individual behaviors, and environmental factors interact to predict future cognitions and behaviors (Bandura, 1971; Schunk, 2001).

Social Cognitive Learning Theory

In social cognitive learning theory, an individual's cognitions, behaviors, environmental factors, and other personal factors, such as emotions, interact to create the learning experience (Bandura, 1971; Schunk, 2001). Students' beliefs about how likely they will succeed on a future task (cognitions) are influenced by their beliefs (cognitions) about past performance (cognitions), thereby influencing learning behaviors, such as study habits (behaviors). Beliefs about performance are influenced by messages or available opportunities within the student's environment (environmental factors). A student's emotional reaction (or other personal factors) affects responses to these cognitions and performance behaviors. In social-cognitive theory, learning occurs via the reciprocal interaction of the educator's messages (environmental factors), student beliefs (cognitions), student learning habits and performance (behaviors), and student effect (personal factors). Via reciprocal interactions, the experiences create reinforcement or punishment loops. Bandura (1993) noted specific cognitive frameworks that can influence these learning loops. How a person views the process of learning impedes or enhances the learning process, such as a person's belief about the ability of people to learn new skills. Dweck (2016) explored the specific influence of beliefs about a person's ability to grow in psychological constructs, such as intelligence, across the lifespan on learning outcomes.

Implicit Theories

In the late 1970s, Dweck initiated the application of the social-cognitive learning framework to the relationship between student beliefs about acquiring intellectual abilities (cognitions) and learning behaviors (Diener & Dweck, 1978, 1980; Dweck, 1975). Following

initial research on expressed helplessness when faced with failure (Diener & Dweck, 1975, 1980; Dweck, 1975), Dweck and Leggett (1988) introduced implicit theories within a social-cognitive learning model. Implicit theories are how laypeople conceptualize psychological traits or constructs, such as intelligence, personality, or morality (Dweck et al., 1995). An individual can view intelligence or personal attributes as either unchangeable or malleable. Implicit theories of psychological traits and constructs have two belief categories, incremental and entity (Dweck & Leggett, 1988; Dweck, 1999; Yeager & Dweck, 2012). Incremental beliefs are a lay person's cognitions that psychological traits and constructs are malleable. Entity beliefs are lay person's cognitions that psychological constructs are fixed and unchangeable. Implicit theories of intelligence and personality are specific to each construct and can be incremental or entity (Dweck, 2000). Incremental beliefs about intelligence maintain that intelligence can change. Incremental beliefs of personality maintain that personal attributes can change. In the social-cognitive learning theory framework, a student's belief that intelligence can change by learning from mistakes (cognition) increases the student's engagement with challenging tasks (behavior). The educator's messages to students that they will learn from mistakes and become smarter (environment) can influence their beliefs about intelligence (cognitions) and can affect task engagement (behaviors) in a reciprocal, reinforcing feedback loop.

Dweck (2016) asserted that implicit beliefs form mindsets or views a person embraces when engaging in a challenging task. Dweck noted that when applied to a challenging task, a person's mindset can include a mixture of entity and incremental beliefs. An individual can be taught an incremental theory of intelligence, personality, or morality. Through the social-cognitive learning framework, once an incremental or entity theory is adopted, the associated mindset will influence the individual's values, approach to intellectual and challenging tasks, and

how they interpret and respond to events (Dweck, 2000). Aligned with cognitive theory's assertion that cognitions do not just influence a person through a singular sequence of linear thoughts (Beck, 1996), implicit theories support that an individual's beliefs (cognitions) form an interconnected systemic network that both inform and are informed by the individual's internal and external experiences over time (Dweck, 2000, 2016). According to implicit theory, a person with EM would respond to a challenging task with procrastination or avoidance of possible failure, while a person with an ICM would respond with learning engagement behaviors (Dweck & Legett, 1988; Dweck, 2016). Applied to counselor education, CIT might find it challenging to integrate theory using basic skills intentionally (Adams et al., 2015; Grant, 2006). The CIT might have an entity belief, such as "I'll never be able to think like my professor and choose a skill based upon a theory." If the CIT has ICM, then implicit theory suggests that the CIT will engage in cognitions and behaviors that moderate the entity belief (Dweck, 2000), such that the CIT would engage in successful learning. Alternatively, if the CIT has EM, when facing a challenging task, the CIT will engage in unsuccessful learning behaviors, such as avoidance. Quantitative findings to support Dweck's (2016) theoretical model of the moderating influence of IM are explained in the next section.

Empirical Findings: Implicit Theories

As Dweck (2000, 2016) developed implicit theories, empirical support for the positive influence of ICM about intelligence and personality on the learning process emerged. The presence of ICM and teaching incremental lay theory is associated with positive learning outcomes in children, adolescents, and adults (Blackwell et al., 2007; Broda et al., 2018; Macakova & Wood, 2022; Paunesku et al., 2015; Wang et al., 2021; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016; Yeager et al., 2019). Of significant importance is empirical

support of how the presence of IM influences outcomes of adult learning (Aronson et al., 2002), as well as variables that influence the adoption and expression of ICM (Blackwell et al., 2007; Burnette et al.., 2013; Caniëls et al., 2018; Macakova & Wood, 2022; Walton & Yeager, 2020; Wang et al., 2021). If counselor educators are to implement teaching incremental theory, then counselor educators will benefit from understanding how ICM is associated with adult learning.

A review of empirical findings strongly supports that ICM can be learned by children, adolescents, and adults (Aronson et al., 2002; Blackwell et al., 2007; Broda et al., 2018; Burnette et al., 2018; Bryant & Aytes, 2019; Paunesku et al., 2015; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016; Yeager et al., 2019). Once adopted, ICM is sustained over time (Robins & Pals, 2002). An abundance of research suggested that the presence of ICM is associated with improved learning outcomes from childhood to adulthood, such as math scores, core subject grade point averages, attendance, and graduating from secondary and post-secondary institutions (Aronson et al., 2002; Blackwell et al., 2007; Broda et al., 2018; Macakova & Wood, 2022; Paunesku et al.; Wang et al., 2021; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016; Yeager et al., 2019). In addition, an individual with ICM is more likely to adopt beliefs and behaviors associated with positive learning outcomes, such as motivational beliefs, self-efficacy beliefs, meta-cognitive learning skills, self-regulatory learning behaviors, and increased work engagement (Blackwell et al., 2007; Burnette et al., 2013; Caniëls et al., 2018; Macakova & Wood, 2022; Wang et al., 2021). Individuals with EM are likelier to express poorer psychological well-being, which can influence learning (Robins & Pals, 2002; Tuckwiller & Dardick, 2018). Research suggests that the presence of a significant life transition (Burnette et al., 2013; Burnette et al., 2018; Broda et al., 2018; Wang et al., 2021) and the presence of environmental factors can enhance or diminish the relationship between IM and learning

outcomes, such as the perception of the life transition as either positive or negative and the experience of school norms that encourage or discourage embracing challenging academic tasks (De Vries et al.., 2021; Walton & Yeager, 2020; Yeager et al., 2019). These findings are detailed in the remaining sections of this chapter.

Presence of Incremental Mindset

Research supports that the presence of incremental intelligence mindset influences the students' interactions in the environment, leading to strengthened learning outcomes as time progresses (Aronson et al., 2002; Blackwell et al., 2007; Broda et al., 2018; Macakova & Wood, 2022; Paunesku et al., 2015; Wang et al., 2021; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016; Yeager et al., 2019). The students' motivation beliefs, self-efficacy beliefs, affective experiences, environmental experiences, and learning behaviors influence the relationship between IM on learning outcomes (Blackwell et al., 2007; Burnette et al., 2013; Caniëls et al., 2018; Macakova & Wood, 2022; Wang et al., 2021). A critical finding related to the presence of ICM is that the presence of a challenge demonstrates a differential response seen in individuals with either EM or ICM (Black et al., 2007; Diener & Dweck, 1978, 1980; De Vries et al.., 2021; Walton & Yeager, 2020; Yeager, 2017; Yeager et al., 2013; Yeager, Walton et al., 2016; Yeager et al., 2019). IM research first demonstrated that the presence of ICM influences the learning trajectory of children and adolescents, which is described next.

Children and Adolescents

Research with children and adolescents suggests that the presence of ICM predicts positive learning outcomes and learning behaviors, which strengthens learning over time (Blackwell et al., 2007; Burnette et al., 2013; Dweck, 2000, 2016; Dweck & Leggett, 1988; Yeager, Walton et al., 2016; Wang et al., 2021). A five-year longitudinal design demonstrated

that ICM positively predicted math scores in middle schoolers as they transitioned to high school with an enhanced effect over time (Blackwell et al., 2007). As students progressed through high school, those with ICM experienced a greater increase in math scores than students with EM (Blackwell et al., 2007). The presence of ICM also positively predicted motivational beliefs: beliefs that positive efforts would attain good results, beliefs in the value of learning, and plans to use effective learning strategies (Blackwell et al., 2007). The presence of ICM negatively predicted helpless attributions ("I'm not smart enough." or "I'm not good at this subject."). While Blackwell et al. (2007) demonstrated that these motivational beliefs interact with IM to influence the learning process, other research established that IM interacts with learning skills to influence the learning process (Wang et al., 2021). ICM predicted higher math scores over time (Wang et al., 2021). The effect was enhanced for adolescents expressing higher meta-cognitive skill usage, suggesting that ICM and successful learning skills combine to augment learning outcomes.

According to the theoretical framework of implicit theories (Dweck, 2016), children with ICM interact in the environment such that they embrace challenges and try new learning strategies. By trying new strategies, they develop the needed metacognitive skills to learn (Dweck & Leggett, 1988; Dweck, 2016), creating a reinforcing loop that enhances learning outcomes. A study by Wang et al. (2021) showed that adolescent students with ICM were likelier to try new learning strategies, increasing their use of learning skills over time. According to Dweck and Leggett (1988), children with EM do not embrace challenges nor try new strategies, inhibiting the development of necessary learning skills. While the presence of either EM or ICM in childhood and adolescence influences learning outcomes, CEs need to consider the role of IM

in adult learning. Research demonstrated similar findings for the presence of ICM in adults, (Burnette et al., 2013; Komarraju & Nadler, 2013; Macakova & Wood, 2022; Tseng et al. 2020).

Adults

The presence of ICM in adults supports the theoretical framework that having ICM over time will result in positive learning behaviors and the demonstration of positive learning outcomes (Dweck & Leggett, 1988; Dweck, 2016). Results from a sample of ages 5-42 years demonstrated that ICM presence predicted self-regulatory learning mechanisms (Burnette et al., 2013). Researchers coded the studies' findings as goal setting (learning vs. performance-oriented and approach vs. avoidance), goal operating (helpless vs. mastery-oriented learning strategies), and goal monitoring (affect and expectations). ICM predicted a higher likelihood of setting learning-oriented goals, while EM predicted setting performance-oriented goals. The presence of ICM strongly predicted an approach style over an avoidance style toward both learning and performance-oriented goals. The presence of ICM also positively predicted the presence of master-oriented goals and negatively predicted helpless-oriented goals. Regarding goal monitoring, ICM negatively predicted negative effects and diminished completion expectations. The relationship of ICM to goal operating and goal monitoring was stronger in the presence of a failure feedback or a setback, supporting early findings that children with EM who face challenges are likely to avoid the task and avoid trying new strategies (Dweck & Leggett, 1988; Dweck, 2016).

Following Dweck and Leggett's (1988) early work, other researchers examined the relationship among IM, learning engagement, and adult self-efficacy. Using data from a sample of first-time online university learners over one semester, Tseng et al. (2020) analyzed the effect of ICM on either learning self-efficacy or online learning engagement across different majors

and courses. The presence of ICM positively predicted behaviors associated with online learning engagement; however, no significant prediction of course-specific self-efficacy was measured over one semester. According to the social cognitive learning model of implicit theories (Dweck, 2000, 2016; Dweck & Leggett, 1988), one would expect, as students with ICM engage in online learning, that over time, one might see a relationship between ICM and self-efficacy. Tseng et al. (2020) included students who completed the course. One possibility is that students with EM are likelier to drop a challenging course, thereby biasing the sample.

Another study examined the relationships among IM, general self-efficacy, and GPA (Macakova & Wood, 2022). The researchers explored the relationship of IM to grades when mediated by self-efficacy beliefs in a sample of currently enrolled undergraduate and graduate university students. The researchers used self-reporting grades over one academic term of the current year during data collection. The research found no direct effect of ICM on grades; however, the design did not report consideration of covariates or use of core subject GPAs, as suggested in previous studies (Yeager et al., 2019; Yeager, Walton et al., 2016). Macakova and Wood (2022) found that self-efficacy beliefs mediated the relationship between IM and grades, such that ICM positively predicted higher self-efficacy beliefs, which predicted higher grades. Macakova and Wood used a different self-efficacy measure than Tseng et al. (2020). Tseng et al. measured self-efficacy concerning the specific course in which the student was enrolled at the time of the survey. Macakova and Wood used a general self-efficacy measure that could be applied to any task. Tseng et al. focused on first-time online students and online course self-efficacy. Possibly, the students in the latter study did not have the time to build self-efficacy with the specific task at hand, as noted in previous research (Blackwell et al., 2007; Paunesku et al., 2015). As Dweck (2016) described, during the state of the challenge, many factors affect the

expressed mindset. Over time, adopting ICM positively influences successful learning behaviors, while other variables can still interact with how ICM is behaviorally expressed (Walton & Yeager, 2020).

Research from adults and children demonstrates that the presence of ICM has positive impacts on the learning process (Blackwell et al., 2007; Burnette et al., 2013; Komarraju & Nadler, 2013; Yeager, Walton et al., 2016), while students with EM may avoid challenges and trying new strategies, thereby diminishing learning over time (Dweck, 2016). If the *presence* of ICM is associated with enhanced learning during challenges, the next consideration is if ICM can be *taught and retained* to benefit learning outcomes. Research substantiates ICM can be taught to and retained by children and adults to benefit learning during challenges (Black et al., 2007; De Vries et al., 2021; Diener & Dweck, 1978, 1980; Wang et al., 2021; Yeager, 2017; Yeager et al., 2013; Yeager et al., 2019).

Teaching Incremental Theory

As reviewed above, the presence of ICM is associated with a successful learning process (Blackwell et al., 2007; Burnette et al., 2013; Komarraju & Nadler, 2013; Yeager, Walton et al., 2016). Incremental theory can be taught and sustained over time (Robins & Pals, 2002; Wang et al., 2021). Teaching incremental theory has an enhanced effect on learning outcomes during challenges (Black et al., 2007; Diener & Dweck, 1978, 1980; De Vries et al., 2021; Yeager, 2017; Yeager et al., 2013; Yeager et al., 2019). Contextual factors influence the effect of teaching ICM on learning outcomes (Walton & Yeager, 2020; Wang et al., 2021). The strengthening effect of teaching incremental theory on long-term learning outcomes fits within the social-cognitive theoretical framework that reciprocal reinforcing feedback processes exist among cognitions, affect, behaviors, and other personal factors to influence the learning process

(Bandura, 1971; Schunk, 2001). This section next details the effects associated with teaching incremental theory to children and adolescents on learning.

Children and Adolescents

Children and adolescents can be taught incremental theory (Blackwell et al., 2007; Brougham & Kashubeck-West, 2018; Burnette et al., 2018; Paunesku et al., 2015; Yeager, Romero et al., 2016), which can lead to an adoption of ICM that is sustained through middle school, high school, and college (Robins & Pals, 2002; Yeager, Walton et al., 2016; Wang et al., 2021). A longitudinal study showed that teaching middle school students incremental intelligence theory is associated with increased ICM, and increased math scores compared to controls over time (Blackwell et al., 2007). Before teaching incremental intelligence theory, pre-test EM students had a downward trend in math scores from the end of 6th grade to the middle of 7th grade. Students with EM at pre-test benefited most from learning incremental theory, as EM students overturned the downward math grade trajectory at the end of the academic year in 7th grade (Blackwell et al., 2007). Paunesku et al. (2015) corroborated that teaching incremental theory improves math scores and core subject GPAs. In a sample of high school students at risk of dropout, the students who were taught incremental theory demonstrated significantly improved academic performance during the semester immediately following the intervention in all core subjects: math, science, English, and social studies. Other studies explored the relationship between teaching incremental theory and learning behaviors and outcomes (Burnette et al., 2018; Paunesku et al., 2015; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016).

Within a sample of 10th-grade females from a rural, low-performing high school, teaching incremental intelligence theory resulted in an increased ICM immediately after the teaching intervention and four months post-intervention (Burnette et al., 2018). Contrary to other findings

with greater statistical power (Paunesku et al., 2015; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016), the study did not detect an immediate or long-term effect of learning ICM on learning motivation, learning efficacy, or social belonging. Nor did the study detect an effect of learning ICM on grades. Regarding grades, the study did not report a clear timeline of when grades were measured post-intervention nor consideration of covariates. The study did not use core subjects to calculate GPA as previous studies did (Yeager, Romero et al., 2016; Yeager, Walton et al., 2016). Burnette et al. (2018) noted a lack of statistical power to find statistically significant results. Additionally, Burnette et al. argued that a challenging or life transition experience did not enhance the differential effect of ICM versus EM. Arguably, the sample of 10^{th}-grade students were not experiencing a challenge as they had already transitioned to 9^{th} grade in the previous year. While these findings seem contradictory to more robust studies (Yeager, Romero et al., 2016; Yeager, Walton et al., 2016), the possibility exists that the sample was not large enough to detect the moderating influence of changing EM to ICM (Burnette et al., 2018). As suggested by the researchers, contextual factors may have played a role in student adoption of ICM (Burnette et al., 2018). Next this section considers research findings about the influence of contextual factors on the expression of IM in children and adolescents.

Contextual factors influence the adoption of ICM and the effect of ICM on learning outcomes (Brougham & Kashubeck-West, 2018; King & Trinidad, 2021; Yeager, Romero et al., 2016). School counselors analyzed the effect of teaching incremental intelligence theory to students in their urban high schools (Brougham & Kashubeck-West, 2018). Students who were taught incremental intelligence theory demonstrated an increase in ICM. However, contrary to previous findings (Paunesku et al., 2015; Yeager, Romero et al., 2016), the results showed a significant decrease in GPA in the treatment group compared to the control group. The authors

noted that approximately 16 weeks lapsed between the pre- and post-intervention GPAs (Brougham & Kashubeck-West, 2018). Previous studies had almost a 32-week lapse between intervention and post-intervention for GPA measures (Paunesku et al., 2015). Students who learned the incremental intelligence theory and adopted ICM may not have had the opportunity to engage in new strategies that would positively affect GPA, as suggested by other researchers (Aronson et al., 2002; Paunesku et al., 2015). While students who learned incremental intelligence theory tended to have a higher attendance rate than students in the control group, the authors noted a lower statistical power to detect any difference (Brougham & Kashubeck-West, 2018). They also suggest that contextual factors, such as the significant difference in student poverty levels between the two schools used in the sample, may mediate the moderating effect of adopting ICM on grades. A lower SES with lower GPAs than students from a higher SES supported this supposition (King & Trinidad, 2021). Perhaps the presence of poverty is associated with other variables, such as lack of time to study due to employment or lack of proper nutrition, that influence learning habits and performance, thereby mediating the effect of ICM on learning. Recent research explored the mediating effects of context on the influence of ICM.

Walton and Yeager (2020) noted that when students learn an incremental theory, adopting ICM is dependent upon contextual factors. In a sample of middle school students who were taught incremental theory online, the increase in GPA over time was more pronounced for students who reported having peer norms of seeking academic challenges (Yeager et al., 2019). The authors suggested that the norms of the environment mediate the expression and impact of ICM, begging the question of whether short-term contextual factors affect learning incremental theory.

A short-term study demonstrated that students who learn incremental theory in the presence of a purpose intervention exhibited better performance than controls on a middle school English assignment (Reeves et al., 2021). The control group received the traditional incremental theory intervention, and the experimental group received the traditional incremental theory intervention plus a handwritten note from the teacher to provide purpose to completing the writing assignment, such as, “I am giving you this assignment because you have the potential to help others.” The students who had the addition of purpose performed better on the assignment than the controls, suggesting that environmental messages affect the expression of ICM (Murphy & Dweck, 2010). Possibly, the purpose intervention enhances the normal ICM intervention effect or creates a task-specific adoption of ICM. Since previous research suggested that to see the effect of ICM on grades, the individual needs time for the reciprocal reinforcement loop to occur between positive learning behaviors and incremental beliefs (Blackwell et al., 2007; Paunesku et al., 2015). Interestingly, teaching incremental theory with a purpose intervention closed the achievement gap between non-native English-speaking and native English-speaking students in an English writing assignment (Reeves et al., 2021). This finding suggested that pairing the intervention with immediate reinforcement can immediately affect a specific assignment’s learning outcomes. Aligned with other findings (Du et al., 2021), the role of environmental messages affected the expression of ICM. While research with children and adolescents continuously demonstrates that teaching ICM is an effective intervention to benefit learning outcomes, researchers are now exploring the influencing role of contextual factors. Research with adult learners demonstrates similar findings on the role of ICM in learning outcomes, which is reported next.

Adults

Teaching incremental theory to adults is also associated with improved learning outcomes and pro-learning behaviors (Aronson et al., 2002; Broda et al., 2018; Du et al., 2021; Yeager, Walton et al., 2016). Using a between-subjects experimental design, teaching incremental theory of intelligence was with increased ICM and increased GPA for Caucasian and African American college students (Aronson et al., 2002). African American college students, who were taught an incremental theory, demonstrated increased academic enjoyment and identification with academics. As with children and adolescents (Paunesku et al., 2015; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016), the effect of learning incremental theory of intelligence strengthened over time on GPA and ICM for both African American and Caucasian students. Other research considered learning incremental intelligence theory's effect on disadvantaged adult learners.

Teaching incremental theory may have a pronounced effect on disadvantaged adult learners. Yeager and colleagues (Yeager, Walton et al., 2016) studied first-year students at a selective university. When disadvantaged first-year students were taught the lay theory of incremental intelligence pre-matriculation, they experienced a significant increase in the likelihood of graduating on time compared to disadvantaged students in the control condition. Broda et al. (2018) identified that the effect of learning incremental intelligence theory was only for college students with a lower pre-treatment level of ICM. In this study, teaching incremental intelligence theory was associated with a significant increase in a semester and cumulative GPA for first-year Latino university students compared to Latino students who did not receive the incremental intelligence theory intervention. The incremental intelligence theory intervention had no statistically significant effect on African American or Caucasian students. The authors

argued that the differential findings might be due to Latino students' lower pre-treatment measures of ICM compared to African American and Caucasian students. Another limitation was that the researchers did not calculate GPA based on core course subjects as in previous studies with high school students (Yeager, Romero et al., 2016). While the influence of contextual factors is not clearly understood, research supports that ICM can be taught to adult learners with a positive impact on learning outcomes (Aronson et al., 2002; Broda et al., 2018; Yeager, Walton et al., 2016).

Research with children, adolescents, and adult learners demonstrated that students could be taught ICM. Students who learn ICM demonstrated improved learning outcomes over time, while the mediating effect of contextual factors on the relationship between ICM and positive learning outcomes was not clearly understood. Additional research with adults explored contextual factors associated with adult learning.

Implicit Mindset and Associated Variables in Adults

Research associated with contextual factors on the moderating role of IM demonstrates several nuanced relationships (Bryant & Aytes, 2019; Caniëls et al., 2018; De Vries et al., 2021; Murphy & Dweck, 2010). Messages from the organization’s environment can influence the expression of entity or ICM (Murphy & Dweck, 2010). EM may moderate extraversion during a negatively perceived life transition (De Vries et al., 2021). Intense training experiences could influence the mindset of adults with EM to become ICM (Bryant & Aytes, 2019). Finally, adults with EM may respond with higher work engagement to non-transformative leadership styles (Caniëls et al., 2018). Before concluding chapter two, the next section of chapter two explores contextual factors of consideration with adult learners.

Organizational Environment

In a series of four experiments with college students, Murphy and Dweck (2010) demonstrated that the anticipated mindset of an organization (entity or incremental) influenced how students perceive their core characteristics, how they present themselves to apply to the organization, and how they hire an individual. Throughout studies three and four, students matched the presented mindset of a tutoring club to 1) their perception of their core characteristics, 2) what characteristics they needed to demonstrate to apply to the tutoring club, and 3) what characteristics to value when hiring someone for a position in a different organization that did not espouse a particular mindset preference. The findings suggested that when a person belongs to an organization, the organizational messages influence how mindsets are adopted and expressed by that person.

Expression of Extraversion

Using a sample of emerging adults facing a life transition, De Vries et al. (2021) explored the relationship between incremental personality mindset and the expression of personality traits, such as extraversion, such as moving from home or graduating from either secondary or post-secondary institutions. Individuals with an incremental personality mindset equally expressed extraversion during a life transition, regardless of a negative or positive perception of the life transition. However, individuals with entity personality mindset, who perceived a negative life transition, expressed less extraversion than individuals with entity personality mindset who perceived a positive transition. The research findings suggested that the perception of the event might influence the relationship between IM and engaged behaviors during a challenging life transition.

Intense and Challenging Work Experiences

Using an in-vivo, quasi-experimental within-subjects design, Bryant and Aytes (2019) found that participation in an intense summer 14-week leadership training that required employees to respond to novel and challenging situations was associated with a significant increase in the presence of ICM, but only for employees who had EM at pre-intervention.

Work Engagement

Leadership style and IM interact to influence work behaviors. Guo et al. (2018) examined the mediating role of psychological capital on employees' expressed fear of an authoritarian employer. While the research did not explicitly measure ICM, the psychological capital measure (Sweetman et al., 2011) included an assessment of behaviors associated with IM, such as the ability to move on from a setback and the ability to think of ways to resolve a challenge at work (Dweck, 2016). Employees with an authoritarian leader expressed more fear in the relationship, but this effect was attributed primarily to employees with low psychological capital (Guo et al., 2018). While this research did not definitively examine IM, another study (Caniëls et al. 2018) explored the relationship between IM and leadership styles.

Caniëls et al. (2018) found that IM moderated the relationship between a proactive personality and having a transformational leader in work engagement. Work engagement was defined as the dedication to work, including employees' ratings of significance, enthusiasm, inspiration, pride, and challenge (Bakker et al., 2003). Employees with EM had a stronger relationship between proactive personality and work engagement when they had a leader with a low transformational leadership style (Caniëls et al. 2018). Employees with ICM had a stronger relationship between proactive personality and work engagement when they had a leader with a high transformational leadership style. The researchers suggested that employees with EM might

respond with better work engagement if the leadership style matches the employee's EM (Caniëls et al., 2018). Given that EM is associated with avoidance during possible failure (Burnette et al., 2013; Dweck, 1975; Diener & Dweck, 1978, 1980), expressed transformational leadership style could create an expectation of success without a balance of teaching incremental theory to those with EM, thereby triggering avoidance behavior to the possibility of failure. Research on work engagement and IM supports that faculty leadership style across the multiple CE roles of gatekeeper, advisory, mentor, and professor could, theoretically, interact with CIT IM to influence academic (work) outcomes.

Research findings that incremental theory can be taught to adults (Aronson et al., 2002; Broda et al., 2018; Yeager, Walton et al., 2016) lends support to introduce the exploration of CIT IM within the CE literature. While contextual factors influence IM expression in adults (Bryant & Aytes, 2019; Caniëls et al., 2018; De Vries et al., 2021; Murphy & Dweck, 2010), understanding the relationship between CIT learning and IM during challenging tasks creates a foundation for exploring this research area.

Summary of Implicit Mindset Empirical Findings

In summary, ICM has strong empirical support as an effective teaching practice relevant to the academic success of adult learners (Aronson et al., 2002; Broda et al., 2018; Yeager, Walton et al., 2016). The nuanced relationship between IM and learning outcomes requires considering the influence of contextual factors, such as support and messages from the learning environment and the presence and perception of challenging academic tasks and life transitions (Bryant & Aytes, 2019; Caniëls et al., 2018; De Vries et al., 2021; Murphy & Dweck, 2010). Including ICM teaching practices in counselor education has significant empirical support; however, the question remains of how teaching ICM might integrate with the current pedagogy

and teaching methods of counselor education. Chapter two continues with the exploration of counselor education pedagogy for challenging academic and professional tasks.

Implicit Mindset in Counselor Education Pedagogy

In the counselor education literature, Baltrinic and Wachter Morris (2020) echoed Nelson and Neufeldt's (1998) broad definition of pedagogy as the art and science of teaching, with neither author referencing how the education field defines the construct. Other researchers on pedagogy in the counselor education literature do not define the term (Barrio Minton et al., 2014; Barrio Minton et al., 2018; Brackette, 2014; Elliott & Henninger, 2020; Killian & Floren, 2020; Korcuska, 2016; Zeleke et al., 2018). The educational literature defines pedagogy as "…any conscious activity by one person designed to enhance learning in another" (Watkins and Mortimore, 1999, p. 3) and as a relational activity of the "…microdynamic of moments of teaching and learning" (Kalantzis & Cope, 2012, p.22). While IM literature describes teaching ICM as a light touch intervention rather than a pedagogy (Yeager & Dweck, 2012; Broda et al., 2018), the act of teaching ICM, when completed by CEs for CIT learning, qualifies teaching ICM as a pedagogy. Specifically, teaching ICM is a conscious, relational activity between the teacher and student to assist learning.

The methods to teach ICM are included in pedagogy textbooks for educators (Watkins & Mortimore, 1999) and are taught as an educational tool by educators in the field (Jorif & Burleigh, 2022; Masaki, 2021). Even if one does not consider teaching ICM a teaching practice or pedagogy, the construct as an educational intervention to influence learning can provide depth to CEs' understanding of CIT learning processes. If this research finds a positive relationship between ICM and learning outcomes, future research might be explored to determine if teaching ICM to CITs improves CIT learning outcomes. First, the next section of chapter two addresses

how teaching incremental theory might inform the knowledge base of CIT learning processes during challenging academic and professional development tasks. Chapter two concludes with how teaching implicit theories integrates with expected learning outcomes for CITs in counselor education.

Implicit Theories Integrated with Challenges to CIT Learning

CEs continue to discern the best teaching practices for developmental tasks significantly challenging to CITs. Examples of challenging tasks to teach and learn in counselor education include broaching skills (Day-Vines et al., 2020; King, 2021), the connection of theory to the intentional use of basic skills (Dollarhide et al., 2007; Grant, 2006), demonstrating empathy (Paone et al., 2015), research skills (Steele & Rawls, 2015), suicide assessment and intervention (Elliott & Henninger, 2020), multicultural counseling competency (Zeleke et al., 2018), building CIT resilience (Schure et al., 2008), and teaching skills for doctoral students (Suddeath et al., 2021). Teaching these complex and challenging tasks requires consideration of many details, such as scaffolding across the curriculum (King, 2021), constructing definitions to teach and operationalize for measurement (Bayne & Jangha, 2016), and awareness of CIT affective, cognitive, and behavioral responses to the teaching method (Dollarhide et al., 2007; Grant, 2006; Paone et al., 2015). IM is a cognitive response that interacts with affective, behavioral, and other cognitive variables in the learning process during challenging tasks (Dweck, 2000; Dweck, 2016). The remainder of this section synthesizes the existing research on the interaction of teaching methods and learner variables on learning outcomes to identify how IM might fit within the pedagogy of CEs.

Application of Theory to Basic Skill Use

While CITs show competency in learning basic skills for demonstrative purposes (Buser, 2008; Crews et al., 2005; Duys & Hedstrom, 2000; Schaefle et al., 2005; Crews et al., 2005; Urbani et al., 2002), learning how to apply theory with intentional skill used in session is a significant challenge for CITs (Adams et al., 2015; Baker et al., 1990; Nelson & Neufeldt, 1998; Dollarhide et al., 2007; Grant, 2006). CEs suggest different teaching formats to assist CIT learning of the complex task of intentional skill use to apply counseling theories, such as scaffolding of basic skills before advanced skills (Adams et al., 2015), experiential teaching practices (Nelson & Neufeldt, 1998; Urbani et al., 2002), and addressing cognitive and affective experiences of the CIT (Grant, 2006; Dollarhide et al., 2007).

CEs agree that one significant challenge for CITs is their anxiety associated with the intentional choice of which skill to use to counsel from a specific counseling theory (Grant, 2006; Dollarhide et al., 2007; Adams et al., 2015). Grant (2006) noted that new CITs struggle with a desire to choose the correct skill in session, which distracts their focus from the counseling process, thereby impeding the advanced learning process of theory-based skill use and using skills to gain a deeper understanding of presenting problem. To assist CIT learning, CEs have removed barriers that impede learning, such as anxiety from the desire to be correct (Dollarhide et al., 2007; McAuliffe & Erikson, 2002). CEs suggested scaffolding techniques break the complex task of advanced basic skill use into smaller tasks, such as conceptual mapping (Adams et al., 2015). CEs also assisted advanced learning with the transparent counseling modeling (Dollarhide et al., 2007), during which the CE described the theoretical thinking process that guides which skill is chosen for use during mock sessions. According to social-cognitive learning framework teaching incremental theory could benefit CIT learning this

complex skill. A CIT might approach advanced skill application with an entity belief: "I'll never be able to think like my professor and engage so effortlessly." Exploration of the role of implicit theory in CIT learning could provide CEs with a preliminary understanding of what type of learning-associated cognitions (if any) need to be addressed to benefit CIT learning during challenging tasks, including advanced application of basic skills.

Diagnosing

Counselor education literature noted some challenges related to CIT training and education in diagnosing, such as the presence of diagnostic variance (Hays et al., 2009), diagnosing a wider range of clinical presentations post-practicum (Storlie et al., 2017), and reducing counselor bias in diagnosing (Feisthamel & Schwartz, 2007; Grimmett et al., 2016). Diagnostic variance existed to a significant degree among a sample of counselors from diverse training, credentialing, and practice backgrounds, although a majority of the sample (73%) were still enrolled in a master's program (Hays et al., 2009). Recent CIT graduates identified diagnosing mental illness and complex presentation as challenging (Freadling & Foss-Kelly, 2014; Storlie et al., 2017). CITs reported diagnosing clients to be a challenge in internship due to a wider range of diagnostic exposure than in practicum (Storlie et al., 2017), and CITs described a need for more training in diagnosing before internship (Freadling & Foss-Kelly, 2014). Research also suggested that counselor bias was a challenge when teaching diagnosing skills (Feisthamel & Schwartz, 2007; Grimmett et al., 2016), such that clients are often diagnosed differently based on race. CEs would benefit from exploring beneficial teaching methods to assist CIT in learning this challenging task (Freadling & Foss-Kelly, 2014; Storlie et al., 2017; Grimmett et al., 2016).

CEs continue to discuss effective strategies and priorities to teach diagnosing skills (Dougherty, 2005; Lowell & Alshammari, 2019; Toman & Rak, 2000; Tomlinson-Clarke, 2014; West et al., 2021). CEs advocated using films to teach diagnosing (Toman & Rak, 2000) and avatars for experiential learning (Lowell & Alshammari, 2019). Lowell and Alshammari (2019) found that CITs considered avatar simulation and discussion the most effective method for learning diagnosing and assessment interviewing compared to three other teaching methods: literature review and class discussion, video review and video review with class discussion, and role-play and discussion. CEs prioritized teaching CITs ethical considerations associated with diagnosing, such as how to communicate the diagnosis to a client, impact on client beliefs about recovery, the use of assessments (Dougherty, 2005). CEs also considered how to integrate the use of the Diagnostic and Statistical Manual within the holistic, wellness approach associated with the professional counseling identity (Tomlinson-Clarke, 2014). CEs connected the challenge of teaching diagnosing to a dissonance between the values of the profession (Dougherty, 2005; Tomlinson-Clarke, 2014) and the perception of the impact of giving a diagnosis (Storlie et al., 2017). CEs took the approach of preparing a scientist of counseling to assist CITs with recognizing the need to learn diagnosing processes (West et al., 2021). While CEs may differ in prioritizing diagnosing over other required CIT skills, CEs and CITs identified the skill of diagnosing as a challenge, leading CEs to seek effective teaching methods (Dougherty, 2005; Lowell & Alshammari, 2019; Toman & Rak, 2000; Tomlinson-Clarke, 2014; West et al., 2021). While clear connections to CIT IM cannot be drawn from the current research findings on how CITs learn to diagnose, it is supported that CITs find this task challenging to learn (Freadling & Foss-Kelly, 2014; Storlie et al., 2017).

Demonstrating Empathy

CEs suggest that teaching empathy and learning to demonstrate empathy is challenging (Bayne & Jangha, 2016; Paone et al., 2015; Golubovic et al., 2021; Shupe & O'Connell, 2005; Schure et al., 2008). Challenges include the complexity of the construct, a need for a safe environment (Bayne & Jangha, 2016), and a requirement that CEs attend to the cognitive and affective reactions from CITs in the expression of empathy (Paone et al., 2015). Following the definition of empathy primarily as the skill of perspective-taking (Bayne & Jangha, 2021), CEs supported using both didactic and experiential methods to teach empathy (Golubovic et al., 2021; Shupe & O'Connell, 2005; Schure et al., 2008). While Bayne and Jangha (2016) noted that differing conceptual views of empathy and scales to measure empathy hindered CEs' understanding of how to teach empathy best, other research connected CIT affective and cognitive experiences to possibly impairing empathy development (Paone et al., 2015).

Paone et al. (2015) explored the effectiveness of a graduate-level course on learning outcomes associated with multicultural competency development. Learning outcomes were explicitly defined as a change in CITs' affective, cognitive, and behavioral responses associated with the constructs of white privilege and color blindness, including a specific measure of white empathy (defined and measured as levels of sadness, helplessness, and anger towards racism) and white guilt (defined and measured as remorse regarding unearned advantages). A significant increase occurred in white guilt when measured pre and post-course completion, but there was no significant difference in white empathy. The authors suggested that the affective response of guilt may have impeded the development of white empathy towards the experience of non-Caucasians. The research did not report the mean, standard deviation, and range for white empathy scores. Possibly, CITs in this sample already demonstrated high white empathy post-

course, which would have limited the intervention's ability to impact white empathy scores. Considering that teaching empathy requires consideration of other affective and cognitive experiences, such as guilt, (Paone et al., 2015), research into other cognitive experiences on CIT learning of empathy is warranted. While there is no clear connection between implicit theory to CIT learning of empathy, the possibility exists that a cognitive learner variable has the potential to play a role in CIT learning of challenging professional development tasks, such as empathy.

Students Learning to Teach CITs

While this example describes the challenge doctoral students face when learning how to teach CITs, the findings connected the students' cognitive and affective experience to learning a challenging task by addressing the intrapersonal experience of the student. Suddeath et al. (2020) analyzed the relationship between teaching variables, including coursework in teaching, counselor education program fieldwork in teaching, frequency of faculty teaching supervision, and satisfaction with the faculty teaching supervisory relationship (controlling for teaching experience prior to the fieldwork, gender, and race/ethnicity). Satisfaction with the teaching supervisory relationship was the strongest predictor of teaching self-efficacy, accounting for 56% of the variance in teaching self-efficacy scores. These findings suggested that the relational component of messages between the faculty member and the student plays a role in the development of teaching self-efficacy. Considering the advisory relationship more strongly predicts teaching self-efficacy than the content from coursework, one would expect that the relationship addressed the affective and cognitive needs of the CIT that might have impeded learning. Considering the findings that incremental student mindset moderates the influence of a positive teacher-student relationship on learning outcomes (Brandisauskiene et al., 2021), CEs might benefit from understanding the role of IM in CIT learning. Research related to CIT

mindset and faculty messages that present entity or incremental beliefs could inform if faculty or CIT entity beliefs are possibly impeding CIT learning when they face a challenge.

Research and Program Evaluation Skills

CEs recognize learning research and program evaluation skills is challenging for CITs (Steele & Rawls, 2015; Jorgensen & Duncan, 2015). Steele and Rawls (2015) assessed if CITs felt adequately prepared through their master's program to understand the 2009 CACREP Research and Evaluation Program Standards. The researchers identified that CITs felt moderately prepared to understand the six standards and that there were no statistically significant differences in perceived preparation by type of program, accredited or not, or counseling specialties. CITs least agreed with readiness for two objectives: preparation to use statistical methods to conduct research and program evaluation, followed by preparation to apply needs assessments and program evaluations to inform program modifications. The researchers also evaluated CIT attitudes toward quantitative research. CITs had low to moderate attitudes towards quantitative research with no differences between the program's accreditation status or counseling specialty. CITs highest attitude was toward the value of quantitative research to the counseling field and the lowest attitude was toward the ability to conduct quantitative research. The correlation between the quantitative research attitudes and perceived preparations to understand the CACREP standards was moderately positive and statistically significant. Due to the moderate correlation, the researchers suggested that perceived preparation to understand the CACREP standards was not the only variable influencing CIT research efficacy with quantitative methods. Steele and Rawls (2015) suggested that CEs must re-evaluate teaching methods to explore non-content-focused teaching practices to help CITs improve research efficacy, especially using quantitative methods and engagement in assessments and program evaluation.

Teaching incremental theory could be a non-content-focused teaching practice to impact CIT research learning outcomes positively.

Another study highlighted the possible interactions among the cognitive, affective, and behavioral factors in learning to consume, conduct, and disseminate research. Kuo et al. (2017) found that among doctoral students, who identify as planning to become counselor educators, researchers' self-efficacy and research motivation positively predicted publication rather than the advisory relationship. Failure avoidance or the desire to avoid research projects out of fear of failure was significantly and negatively correlated with a publication, such that students produce fewer publications at higher fear of failure. However, the interaction of failure avoidance with the advisory relationship significantly predicted publication. Failure avoidance is associated with higher publication outcomes in students who reported positive advisory relationships but not in students who report failure avoidance and negative advisory relationships. These findings suggested that when a graduate student experiences a desire to avoid failure, a positive advisory relationship can influence outcomes associated with learning, such as publication.

Considering a desire to avoid failure is associated with EM (Dweck & Leggett, 1988; Dweck, 2016), theoretically, the advisory relationship in the presence of a challenging task could help the graduate student to overcome EM that might normally lead the graduate student to not achieve nor excel in expected learning outcomes, such as publication. The described findings on learning to be a researcher suggested that different contextual variables, such as a supportive relationship (Kuo et al., 2017), can influence the CIT learning process in research and program evaluation skills (Steele & Rawls, 2015). Understanding these nuances concerning the presence of an ICM or EM in both CITs and faculty might assist CEs in designing teaching methods to enhance or overcome cognitive and affective influences on learning.

Suicide Assessment and Intervention

The counselor education literature noted some challenges to teaching and learning suicide assessment (Wachter Morris & Barrio Minton, 2012; Elliott & Henninger, 2020). Obstreperously, CITs reported that learning to assess and manage suicide risk elicits "fear" and "freak out" (Elliott & Henninger, 2020, p. 3010). While CEs suggest that existing teaching methods meet the challenge of developing CIT competency in suicide assessment and intervention (Wacther Morris & Barrio Minton, 2012; Elliott & Henniger, 2020), researchers need to consider how they measure learning outcomes to better assess if CITs have met their perceived challenge in learning to assess and manage suicide risk.

Notably, participation in training courses within and outside the counselor education program was associated with increased self-efficacy for suicide intervention (Wachter Morris & Barrio Minton, 2012). CITs who participated in a crisis intervention course or completed clock hours of crisis intervention training during their master's program reported higher self-efficacy across the first two years post-graduation than counselors with no specific training (Wachter Morris & Barrio Minton, 2012). These researchers reported a mean score of adequate self-efficacy in crisis intervention (3 on a 5-point Likert scale) at graduation and two years post-graduation. While course participation was associated with increased crisis intervention self-efficacy at graduation and two years post-graduation, counselors did not report an above-adequate ability to assess and manage crises, including suicide assessment. This finding begets CEs to question if teaching methods are meeting the challenge of teaching these skills if CITs do not rank themselves above adequate in their ability to assess and manage crises that include suicide risk.

In addition to evaluating crisis intervention training (Steele & Rawls, 2015), CEs have evaluated specific teaching methods on CIT learning suicide assessment and intervention (Elliott & Henninger, 2020). Research supported that self-efficacy with suicide intervention can be taught via numerous methods, including methods that lack any experiential component, such as reading how to assess suicide without a roleplay or interactive dialogue component (Elliott & Henninger, 2020). Elliott and Henninger (2020) explored the effectiveness of three methods to teach suicide assessment (written module only, written module plus active role-play, and written module plus group discussion) using self-efficacy in suicide assessment as the learning outcome. The teaching methods were designed with the principles of social learning theory, adult learning theory, and experiential learning theory, which supports that self-efficacy and skills are developed through experience, observation of the skill, role-play, and when the adult student has some control over the content and direction of their education. Despite Henninger's argument that learning theory predicts a greater increase in self-efficacy for CITs that receive the interactive discussions and/or the experiential role-play, teaching content only through the written module equally increased CIT self-efficacy in suicide assessment. The researchers did not report the range of self-efficacy scores. If self-efficacy scores were not reported at an adequate or above-adequate level, then the teaching methods could have increased self-efficacy to a small degree but not to an above-adequate level. Elliott & Henninger (2020) did note that self-efficacy does not necessarily mean proficiency demonstrated in the desired skill.

When self-efficacy is used as the learning outcome, the challenge of teaching suicide assessment and intervention seems to be met through courses and training (Elliott & Henninger, 2020; Wachter Morris & Barrio Minton, 2012). However, CEs might want to measure actual skill demonstration or consider if efficacy in suicide assessment can be enhanced, beyond

adequate, by improved management of other factors associated with learning. An additional consideration is that even after specific course training, CITs might have a reduction in suicide assessment and intervention self-efficacy when they encounter a task in the field, as seen in teaching self-efficacy (Suddeath et al., 2021). Mullen et al. (2015) found that the largest increase in counseling self-efficacy occurs after completing the content courses rather than after the final internship. While they proposed that more growth happened with the content portion of CIT training and education than during clinical experience, the possibility exists that the challenge of clinical experience influenced the expression of efficacy beliefs by CITs, as seen with teaching efficacy in doctoral students (Suddeath et al., 2021). Theoretically, a multitude of entity beliefs could influence CIT counseling self-efficacy when faced with the challenge of clinical practice, such as "Wow, it is way harder to assess and intervene with a suicidal client in person." or "I can diagnose on paper, but not with a real person." or "People can't really change. I can't help them. This is impossible." Understanding the role of IM in the learning process when CITs face the challenge of performing the skill with an actual client might help CEs proactively target impeding learner variables. A foundational understanding of the role of implicit theories in the CIT learning process of challenging tasks lays the groundwork to understand better the cognitive and affective experiences that might affect CIT learning of challenging tasks, including suicide assessment and intervention.

Multicultural Counseling Competency

Teaching and learning multicultural counseling competencies challenge CEs and CITs (Dorn-Medeiros et al., 2020; Yoon et al., 2014) as CEs must manage CITs' cognitive and affective reactions that influence the learning process (Paone et al., 2015). To meet this challenge, Zeleke et al. (2018) utilized self-regulated learning theory to guide the design of

teaching methods provided during a multicultural counseling course. Learning outcomes were perceived in three areas: knowledge of multicultural issues in counseling, awareness of self and other cultural identity, and knowledge of skills needed to provide multicultural counseling. The CITs reported increased knowledge of multicultural issues and awareness of self and other cultural identities but no change in perceived learning of skills to provide multicultural counseling. The authors noted that CITs minimally engaged in counseling practice during the course, suggesting the teaching practices did not focus on the challenge of applying the knowledge.

Self-regulated learning is under the theoretical umbrella of social-cognitive theory (Zimmerman, 2000). In self-regulated learning, the cognitive, affective, and behavioral experiences are planned, monitored, and adapted to enhance motivation to improve learning. The presence of EM or ICM is a self-regulation strategy that influences the learning process (Boylan et al., 2018; Conley, 2014; Farrington et al., 2012). Foundationally, when using self-regulated learning theory to guide teaching practices, CEs may want to understand the role of IM in the CIT learning process.

Building CIT Resilience to Handle Challenges of Being a Professional Counselor

CEs endeavor to train CITs to handle the challenges of practicing as professional counselors (Schure et al., 2008). In a longitudinal study over four years, CEs measured CITs' ability to cope with the expected challenges they would face during practice as a professional counselor (Shure et al.). A 15-week elective course to learn mindfulness and yoga improved the following learning outcomes: physical health, ability to handle negative emotions, ability to reduce anxiety in session to be more present and client-focused, and contemplation by CITs of how they could change as a person. CITs reported that the course prompted them to think about

"…the kind of person that I am…" and "…the kind of person that I want to be…" (p. 50). While not necessarily intentional integration of implicit theory research, the CEs created a learning environment that prompted CITs to evaluate their IM of personality as a learning outcome for CITs to face the challenges of becoming professional counselors. A proficient professional counselor requires self-regulation skills to handle challenges (Shure et al., 2008). CITs could consider if teaching incremental theories within courses could foster the development of the professional counselor's resiliency in the face of challenges.

Unknown Challenges Resulting in Discrepant Learning Outcomes

Unknown contextual factors affect learning outcomes for CITs from different demographic groups, requiring CEs to tailor a curriculum to match the needs of CITs from diverse cultural experiences and backgrounds (Killian & Floren, 2020). Arguably, the cognitive and affective variables associated with diminished learning outcomes for CITs within different demographic groups are not understood (Lam et al., 2013). Differences in learning outcomes existed in a sample of CITs from a mid-sized public university in the United States with a diverse population of students (Lam et al., 2013). Caucasian and Asian CITs reported lower total counseling self-efficacy, including lower cultural competence and lower efficacy to help difficult clients than CITs from other racial/ethnic groups, including African American and Latinos. The graduate student makeup of the sampled counseling program was majority Latino and Caucasian CITs. The variables that resulted in decreased learning and/or perceived learning by Caucasian and Latino CITs were not elucidated in this research. The authors suggested that CITs of different races and ethnicities bring different cultural experiences that shape their self-efficacy learning beliefs, suggesting that CEs must match teaching methods to CIT self-efficacy beliefs. Suppositionally, a CIT's ICM or EM could influence their self-efficacy beliefs (Komarraju &

Nadler, 2013; Macakova & Wood, 2022) and, subsequently, CIT's affective and behavioral engagement with the learning environment (Dweck, 2000; 2016). CITs could perceive different messages from the learning environment due to differences in CIT IM derived from different cultural experiences, producing different learning outcomes (Caniëls et al., 2018; Murphy & Dweck, 2010). CEs might benefit from elucidating variables, such as faculty and CIT IM, which might lead to discrepant learning among CITs from different demographic or cultural backgrounds.

Summary: Implicit Theories and CE Teaching and CIT Learning Challenges

Teaching incremental theory demonstrates a positive relationship between learning outcomes and pro-learning behaviors (Dweck, 2016). While other variables, including affective and cognitive experiences, influence how ICM is expressed over time (DeVries et al., 2021; Macakova & Wood, 2022), the starting point is for the individual to have ICM (Blackwell et al., 2007; Dweck & Leggett, 1988). Understanding the role of ICM and EM in CIT learning processes with challenging tasks could reveal a better understanding of how to teach CITs through these challenges. When challenged, CITs with EM might respond as expected to avoid the challenging task and avoid trying new learning strategies (Dweck, 2016). CEs might benefit from teaching incremental theory to CITs as it is associated with positive learning outcomes for adult learners (Aronson et al., 2002; Macakova & Wood, 2022; Tseng et al., 2020; Yeager, Walton et al., 2016). CEs can discover concrete environmental messages associated with other variables that could overcome the influence of entity beliefs while learning challenging tasks, such as the learning messages given via satisfactory advising relationships (Kuo et al., 2017; Suddeath et al., 2020). While CEs could teach ICM based upon the strong empirical support of

the known benefits to learning outcomes, a logical starting point for CEs is to understand the relationship between IM and CIT learning outcomes, especially for challenging tasks.

Summary: Chapter Two

Chapter two first covered the theoretical construct of IM within social cognitive learning theory and empirical support that the presence and teaching of ICM are associated with enhanced learning outcomes among children, adolescents, and adults. Chapter two examined how the presence and teaching of ICM might fit within counselor education pedagogy. Next, chapter three will provide the planned research method to address the identified RQs, pursuant to exploring the relationship between IM and CIT learning outcomes.

CHAPTER THREE: METHODS

CIT learning is influenced by learning factors other than the content and teaching method, especially for challenging academic and professional tasks (Dollarhide et al., 2007; Grant, 2006; Kuo et al., 2017; Paone et al., 2015; Steele & Rawls, 2015; Suddeath et al., 2020, Suddeath et al., 2021). IM influences the learning process, especially for challenging tasks (Burnette et al., 2013; Dweck, 2000, 2016; Macakova & Wood, 2022; Tseng et al., 2020; Yeager, Romero et al., 2016). This research analyzed if IM influences CIT learning of challenging academic and professional development tasks. The purpose of this research was to describe CIT perceived challenge in learning CACREP curriculum standards and to analyze the moderating effect of IM on CIT learning.

First, following Zeleke et al.'s (2018) example of using the MSJCCs as a learning outcome, the research described how CITs perceived their ability to learn specific academic and professional tasks aligned with the CACREP 2016 curriculum standards (CACREP, 2015). Next, following the findings that demonstrate that ICM predicts enhanced objective learning outcomes (Aronson et al., 2002; Claro et al., 2016; Macakova & Wood, 2022) during challenging tasks (Black et al., 2007; Diener & Dweck, 1978, 1980; De Vries et al.., 2021; Walton & Yeager, 2020; Yeager, 2017; Yeager et al., 2013; Yeager, Walton et al., 2016; Yeager et al., 2019), this research examined the moderating effect of IM on the relationship between PALCCS and CIT GPA and CIT CPCE scores. Finally, given IM is expressed in learning over time (Dweck, 2016) and perception of acquired learning is often used as a learning outcome in counselor education research (Elliott & Henninger, 2020; Melchert et al., 1996; Steele & Rawls, 2015; Suddeath et al., 2021; Kuo et al., 2017; Urbani et al., 2002; Wachter Morris & Barrio Minton, 2012; Zeleke

et al., 2018), this research explored if IM moderates the relationship between CIT completed credit hours and CIT perception of ability to learn. Chapter three describes the research method. First, the chapter describes the research design and then restates the RQs with a rationale, hypotheses, and conceptual model (RQs 3-5). Next, chapter three describes the participants and setting, the instrumentation, procedures, and planned data analyses, concluding with a summary.

Design

This research study utilized one group, nonexperimental, cross-sectional design in social science research to establish covariation (Hayes, 2018; Vogt et al., 2014). The cross-sectional design was self-administered via online forced-choice survey questions (Vogt et al., 2014). Participants self-reported undergraduate GPA, graduate cumulative GPA, completed credit hours in the program, graduate degrees earned in a related field, GRE scores, and CPCE scores. All responses were forced, except for GRE scores and CPCE scores, as not all participants would have these scores. The online assessments and questionnaires were administered in their shortest forms to increase the likelihood of respondent completion (Dillman et al., 2014). A cross-sectional survey design was appropriate for these RQs so the researcher could initiate exploration of IM in the counselor education literature without a significant expenditure of time and resources (Vogt et al., 2014). Additionally, time was not being studied as a variable of interest (Vogt et al., 2014). While the results of this study did not provide temporal order or elimination of competing explanations, the results informed the framework and potential need for future experimental designs (Hayes, 2018). Using covariates was supported to reduce the confounding influence of variables known to have covariance with the moderator and outcome variables (Hayes, 2018).

The online assessments and questionnaires were posted during the second and third weeks of the Spring 2023 semester to the online advising center for an online CACREP-accredited program of master's students in the clinical mental health track. A demographic questionnaire was used to gather data needed to describe the sample and use covariates. For RQ1, individual items ratings on the CIT PALCCS were used to identify which tasks were perceived as challenging by CITs. For RQ2 and RQ3, the mean CIT PALCCS score was used as a predictor variable to the outcome variables of CIT GPA and CIT CPCE scores (learning outcomes) with the mean Implicit Theory of Intelligence Scale score ([ITIS] Dweck et al., 1995) as the moderator. Finally, for RQ4, the mean CIT PALCCS score was used as an outcome variable (learning outcome), with completed credit hours as the predictor variable and mean ITIS score as the moderator. The next section restates each RQ, including the rationale for the question, proposed conceptual model, and corresponding hypotheses.

Research Questions and Hypotheses

Considering the need to understand the influence of IM on CIT learning processes with challenging tasks this research answered the following questions. The upcoming section describes the statistical models (RQs 2-4), rationale, and hypotheses for testing each RQ.

RQ1: How do CITs report their perceived ability to learn the CACREP curriculum standards?

How CITs perceive their ability to perform the expected competencies to become a professional counselor describes learning efficacy specific to the professional counseling field. Foundationally, describing a counseling-specific learning efficacy is a logical starting point before measuring other variables that would influence CIT perceived ability to learn, including, but not limited to, the psychological construct of self-efficacy, prior learning, motivation,

resiliency traits, affective responses to the task, and CIT mindset. Additionally, future research utilizing implicit theory may need to explore the perceived challenge to learning the different curriculum competencies, as the research suggests the effect of teaching ICM on learning outcomes may be related to the individual's perceived challenge of the task (Blackwell et al., 2007; Burnette et al., 2013, 2018; Caniëls et al., 2018; Diener & Dweck, 1978; DeVries et al., 2021; Mueller & Dweck, 1998; Yeager et al., 2013). There are no null or alternative hypotheses for this RQ. Rather, descriptive data described CIT reports of perceived ability to learn each specific CACREP curriculum standard.

RQ2: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT GPA?

Historically, CEs have primarily used self-efficacy measures as learning outcomes (Elliott & Henninger, 2020; Melchert et al., 1996; Steele & Rawls, 2015; Suddeath et al., 2021; Kuo et al., 2017; Urbani et al., 2002; Wachter Morris et al., 2012). While these measures have value, self-efficacy measures are subjective perceptions of learning, rather than an objective measure of actual learning (Bandura, 1971; Elliott et al., 2018; Zeleke et al., (2018). Suddeath et al. (2021) demonstrated that doctoral students might express a high level of perceived learning associated with their ability to teach in the classroom setting but not in the field, which could relate to realizing how challenging the task is once performed in the field. As noted in the literature review, it is hard to determine if the teaching method has fully taught the skill if the subjective measure of adequate self-efficacy demonstrates a significant difference in CIT learning to a ceiling of adequate self-efficacy rather than above adequate or exceptional. While CIT PALCCS may be beneficial to research the role of IM in CIT learning relative to perceived challenges, and in the absence of objective learning outcomes, it would be of benefit to first

know the relationship of CIT PALCCS and IM to objective learning outcomes, such as GPA and CPCE scores. Figure 1 demonstrates the conceptual model for both RQ2 and RQ3. A rationale is provided for each hypothesis.

H2a

CIT PALCCS will have a statistically significant direct effect on CIT GPA. Given that other measures of efficacy are associated with higher GPAs (Komarraju & Nadler, 2013; Macakova & Wood, 2022), it is expected that higher CIT PALCCS will predict higher GPAs.

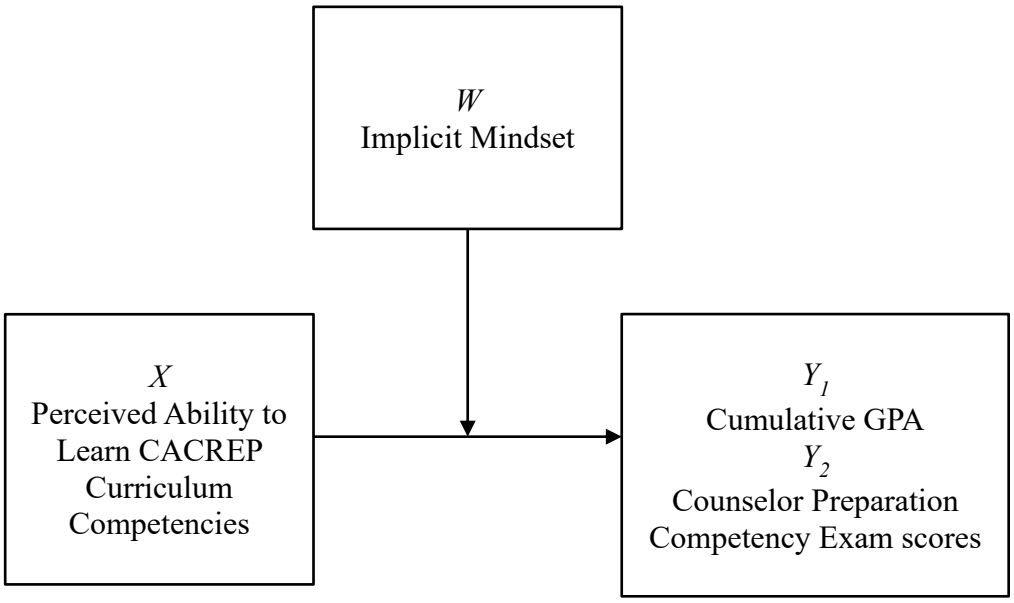
H2b

IM will moderate the relationship between CIT PALCCS and CIT GPA. Specifically, the moderating effect will be seen at lower IM scores (EM) on the relationship between CIT PALCCS and CIT GPA. Lower CIT PALCCS (tasks perceived as less easy to learn) will affect CIT GPA at lower IM scores but not at higher IM scores.

Given that theoretically ICM is associated with positive learning behaviors regardless of how challenging a student perceives a task (Dweck, 2016), it is expected lower and higher CIT PALCCS will have the same positive relationship to CIT GPA in the presence of ICM. Differentially, EM will predict lower CIT GPA at lower CIT PALCCS. EM will not influence CIT GPA at higher CIT PALCCS. Theoretically EM is associated with positive learning behaviors when a task is perceived as easy or not a challenge, but negative learning behaviors when a task is perceived as challenging (Dweck & Leggett, 1988; Dweck, 2016). It is expected individuals with EM during a challenge (less perceived ability to learn) will be less engaged in beneficial learning behaviors. EM would predict a lower CIT GPA in the presence of lower CIT PALCCS (less perceived ability to learn), but not higher CIT PALCCS.

Figure 1

Conceptual Model of the Moderating Effect of Implicit Mindset on the Relationship Between Perceived Ability to Learn CACREP Curriculum Standards and CIT Learning



RQ3: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT CPCE scores?

Figure 1 illustrates RQ3 will utilize the same conceptual model as RQ2 but with a different outcome variable. The extant literature has utilized GPA as the standard learning outcome measure with IM (Aronson et al., 2002; Yeager, Romero et al., 2016, Yeager, Walton et al., 2016, 2019); however, it remains unknown if a graduate GPA is a sensitive learning outcome measure in counselor education graduate programs, as graduate GPAs tend to have a high negative skew with a ceiling effect (Gonzalez et al., 2014; Verostek et al., 2021). As such, CIT GPA may not be a sensitive objective measure in the CIT population. Due to the unknown sensitivity of CIT GPA, this research study explored the moderating role of IM on CPCE scores.

H3a

CIT PALCCS will have a statistically significant direct effect on CIT CPCE scores. As with Hypothesis 2a, given that measures of self-efficacy are associated with higher grade percentages and higher ICM (Komarraju & Nadler, 2013; Macakova & Wood, 2022), CIT PALCCS is expected to have a positive relationship with CPCE scores. Higher PALCCS will predict higher CPCE scores.

H3b

IM will moderate the relationship between CIT PALCCS and CIT CPCE scores. At higher IM scores (ICM) higher and lower CIT PALCCS will predict higher CPCE scores. However, at lower IM scores (EM), lower PALCCS will predict lower CPCE scores. Research has demonstrated that ICM is associated with higher exam scores (Claro et al., 2016), theoretically a student with ICM would engage in positive learning behaviors regardless of how challenging a student perceives a task (Dweck, 2016). Therefore, it is expected that CITs with an ICM (higher IM score) will stay engaged in learning regardless of the perceived challenge. Given that theoretically an EM is associated with positive learning behaviors when a task is perceived as easy or not a challenge, but negative learning behaviors when a task is perceived as challenging (Dweck & Leggett, 1988; Dweck, 2016), it is expected that EM will predict lower CPCE scores in the presence of lower PALCCS (lower perceived ability to learn), but this effect will not be seen at higher IM scores (ICM).

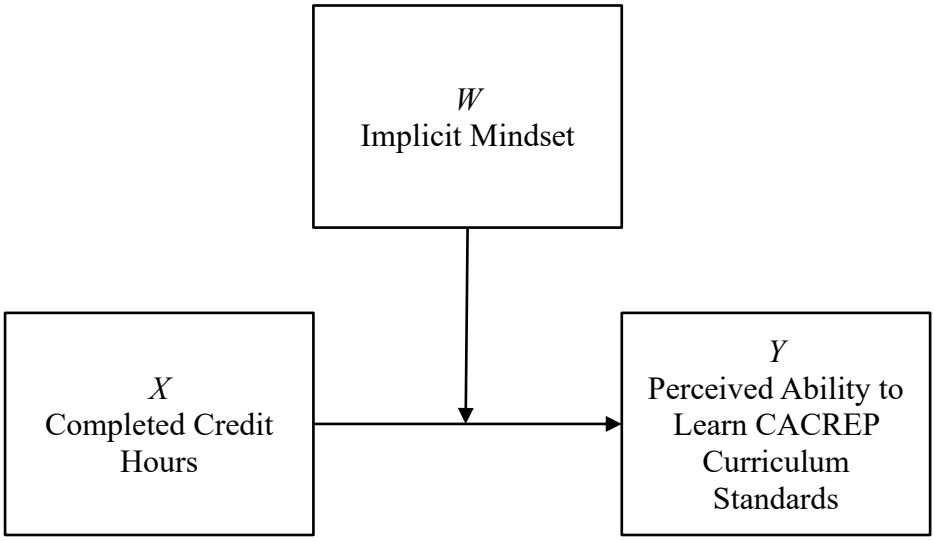
RQ4: To what extent does CIT IM moderate the relationship between CIT completed credit hours and CIT PALCCS?

Figure 2 shows the conceptual model representing RQ4. Establishing the use of PALCCS as a measure to explore learning outcomes in counselor education would benefit from further

demonstration that PALCCS is associated with other variables that CEs would expect to increase CIT learning, such as the number of completed credit hours in the master's program.

Figure 2

Conceptual Model on Moderating Effect of IM on the Relationship Between CIT Completed Credit Hours and CIT PALCCS



H4a

Completed credit hours will have a statistically significant direct effect on PALCCS. It was expected that higher completed credit hours would predict higher PALCCS. One would expect that as CITs learn, PALCCS would increase if the pedagogy was teaching them to meet the expected CACREP curriculum standards.

H4b

IM will have a moderating effect on the relationship between completed credit hours and PALCCS. Since IM influences the relationship between teaching and learning during a challenge (Dweck & Leggett, 1988; Dweck, 2016), the effect of teaching (completed credit hours) on PALCCSs would be moderated by IM. Specifically, students with ICM would remain engaged in

pro-learning behaviors as challenged, while students with EM would disengage in pro-learning behaviors as challenged (Dweck & Leggett, 1988; Dweck, 2016). As completed credit hours increase, CITs with higher IM scores (ICM) and lower PALCCS would see an increase in PALCCS. However, the effect for CITs with EM would not be seen. Lower IM scores (EM) predict the same PALCCS regardless of completed credit hours, meaning PALCCS would stay the same for CITs with EM across levels of completed credit hours. As credit hours increase, CITs with ICM would increase in PALCCS, and PALCCS for CITs with EM would remain stable at all levels of completed credit hours.

In other words, given that ICM is associated with enhanced learning outcomes and higher learning engagement over time (Aronson et al., 2002; Yeager & Dweck, 2012; Blackwell et al., 2007), the longer that CITs have to engage in challenging tasks, the more likely CITs with ICM will develop new learning strategies (Dweck, 2016). It is expected that, as credit hours increase, ICM will be associated with higher PALCCS, while PALCCS will remain unchanged at EM level. As CITs with ICM engage more in the challenging curriculum, the students with lower PALCCS and ICM will see an increase in PALCCS more so than students with EM. Given that theoretically, EM is associated with lower engagement in learning tasks and less use of new strategies when challenged (Dweck & Legett, 1988; Dweck, 2016), the amount of time in coursework would be expected to have less benefit on learning outcomes for individuals with EM. The relationship of EM to PALCCS would remain unchanged regardless of completed credit hours.

Participants and Setting

The participants from this study were solicited from an online clinical mental health counseling track of a CACREP accredited master's in counseling program in the Mid-Atlantic

region of the United States that identifies as an institution clearly affiliated with the Christian faith. Inclusion criteria required the students to reside in the United States of America to avoid special requirements needed to conduct research with participants residing outside of the United States. Inclusion criteria required participants to be currently enrolled in the online clinical mental health track of the institution's CACREP accredited master's in counseling program.

Instrumentation

Demographic Questionnaire

Consistent with CACREP (2018) reporting on master's level student demographics, the demographic questionnaire asked for age, sex, religious affiliation, and race/ethnicity. Given that the most recent demographic data on gender in master's level CACREP-accredited programs reported that 0% to 0.06% of students identified as alternative gender identity (CACREP, 2018) and that the statistical analyses as seen in the extant literature, suggests the use of a dichotomous male or female as the covariate with the ITIS (Paunesku et al., 2015; Yeager et al., 2013, 2016a, Yeager, Walton et al., 2016, 2019; Watkins & Mortimore, 1999), individuals were asked to identify as either male or female. Religious affiliation was asked due to the Christian affiliation of the university from which the sample was taken, as it limited the generalizability of findings.

Perceived Ability to Learn CACREP Curriculum Standards

A measure of perceived ability to learn CACREP curriculum standards (PALCCS) was developed by three current counselor educators and one doctoral student with experience educating and supervising CITs. See Appendix A for the PALCCS. The set of Likert scale items provides a rating for 11 different specific CACREP curriculum standards that can be summed to create an aggregate PALCCS score.

Following the example of using the MSJCCs (Ratts et al., 2015) as the framework for assessing the learning outcome of CIT multicultural competency (Zeleke et al., 2017), the research team utilized the content from Section 2.F of the 2016 CACREP Counseling Curriculum standards that apply to all CACREP accredited master's level counseling programs (school counseling, clinical mental health, marriage, and family, or addictions). Each of the eight CACREP curriculum standards expands into 95 detailed expectations, often overlapping. The ethical practice standard (2.F.1, CACREP, 2016) references the need to learn systemic barriers to client success, which is also covered in 2.F.2. Based upon their experiences within counselor education and supervision and a review of the literature, the research team condensed the 95 detailed expectations into 11 Likert scale items that collectively covered the content of the eight curriculum standards. Condensing from 95 potential items to 11 items reduced the time needed for respondents to complete the assessment, which assisted with survey completion rates (Dillman et al., 2014).

The language of ability to learn was used in the Likert statements rather than asking about the efficacy of performing. The researchers were interested in understanding how well CITs think they can learn each expected curriculum standard rather than their current perceived self-efficacy. Asking about the perceived ability to learn indicated the extent to which the task was perceived as challenging to learn more distinctly than asking the extent to which a CIT expressed the ability to perform the task. The research team utilized the wording ("I am confident in my ability to develop the skills to…") and Likert scale rating (1= strongly disagree to 6 = strongly agree) found in the research of perceived ability to perform professional tasks in another licensed profession (Alshehri et al., 2019).

Towards establishing construct validity, the team revised the language during the revision process to match that of the 2016 CACREP Counseling Curriculum Standards. The language of interpret, conduct, and report research was used to match the language in the standards. To help establish content validity, the team utilized their experience as counselor educators and supervisors and findings from counselor education literature to complete further revisions. The team recognized that CITs struggle with the application of theory in their work as CEs. The counselor education literature recognized the application of theory as a learning challenge (Adams et al., 2015; Baker et al., 1990; Nelson & Neufeldt, 1998; Dollarhide et al., 2007; Grant, 2006). The 2016 CACREP curriculum standards require counselor education programs to cover knowledge and skills for (4.B) for counseling theories in several of the curriculum standard areas (2.F.2.b; 2.F.3.a-d; 2.F.4.a; 2.F.5.a, c), supporting the use of an item to assess the perceived ability to apply counseling theories to practice. Due to research suggesting that counselors differentially express the level of challenge associated with consuming and producing research (Steele & Rawls, 2015), the research and program evaluation standard was split between consumption and production. Through the revision process that combined experience and literature findings, the team condensed and revised the 95 detailed items of the 2016 CACREP curriculum standards into the 11 perceived ability-to-learn statements used in the PALCCS. Cronbach α in this sample was .91.

Implicit Theory of Intelligence Scale

The ITIS (Dweck et al., 1995) is available with free, open access via Standford SPARQtools and EdInstruments (see Appendix B). The scales that measure implicit theories of personality, intelligence, and morality have been identified as growth mindset scales (De Vries et al., 2021; Dweck, 2016). Consistent with previous research (Aronson et al., 2002; Burnette et al.,

2018; Caniëls et al., 2018; Macakova & Wood, 2022; Tseng et al., 2020; Yeager, Romero et al., 2016), the present work utilized only the ITIS to measure IM. The ITIS (Dweck et al., 1995) uses six statements with a six-point Likert scale (1 = strongly agree to 6 = strongly disagree) to assess the extent to which one believes intelligence can change, e.g., "You can learn new things, but you can't really change your intelligence." Consistent with other research, only three EM statements were used to avoid social desirability bias (Claro et al., 2016; Dweck et al., 1995; Yeager et al., 2019). According to established criteria, EM is identified as a score of 3 or below, and ICM is identified as a score of 4 or above (Dweck et al., 1995). The ITIS has moderate to high internal reliability, with Cronbach α ranging from .78 (Blackwell et al., 2007) to .98 (Dweck et al., 1995) and excellent test-retest reliability of .77 (Blackwell et al., 2007). The ITIS score is independent of age, sex, political affiliation, and religious affiliation (Dweck et al., 1995; Dweck, 2000). The ITIS measures a construct separate from self-presentation, such as social desirability. The ITIS also measures a construct different from cognitive ability, confidence in one's intellectual ability, and confidence in the world. Cronbach α in this sample was .93.

GPA

Participants self-reported graduate cumulative GPA for all completed credit hours within the CACREP Accredited Clinical Mental Health Program. Participants self-reported their final undergraduate GPA.

Counselor Preparation Comprehensive Examination

The CPCE is constructed by The Center for Credentialing and Education and administered through Pearson Education Incorporated (Center for Credentialing and Education, 2023). The CPCE-Total score results from scoring 136 of 160 items that represent the eight core CACREP curriculum standard areas (Erford et al., 2020), with the unscored items being

evaluated for use in future versions of the test. The CPCE-Total score had a reported reliability of .87 (Center for Credentialing and Education in Schmidt et al., 2009). Participants self-reported their CPCE-Total score.

Procedures

The informed consent, inclusion criteria questions, demographic questions, PALCCS, and ITIS, were synthesized into a Qualtrics survey. The Qualtrics survey setting included a repeat participant safeguard by not allowing repeated IP addresses to retake the survey. No incentive was offered for participation in the study. Following IRB approval, the recruitment request was posted via an anonymous online link to the academic advising center of the program's learning management platform. The link was posted on the Monday of the second and third weeks of the Spring 2023 semester. Data were collected from the link for a total of 22 days. After giving informed consent and confirming inclusion criteria, participants completed the demographic questionnaire, self-reported learning outcomes, and completed the PALCCS and the ITIS.

Data Processing and Analysis

The section describes the data analyses for each RQ. The researcher used IBM SPSS Statistics Version 29 with the PROCESS macro to analyze data from the cross-sectional design (Hayes, 2018). Data analyses followed the moderation analysis detailed by Hayes (2018) with the inclusion of covariates. The addition of covariates to the statistical analysis assists with removing the confounding influence of variables associated with the variables of interest, thereby strengthening the researcher's descriptive inferences about the variables of interest (Hayes, 2018). Undergraduate GPA and GRE score positively predict counseling graduate students' cumulative GPA (Schmid et al., 2009; Hatchett et al., 2017; Hartwig et al., 2016),

providing support for using these variables as covariates in RQ2. Undergraduate GPA and GRE scores positively predict counseling graduate student CPCE scores (Schmid et al., 2009; Hatchett et al., 2017; Hartwig et al., 2016), providing support for using these variables as covariates in RQ3. Previous IM research used sex as a dichotomous covariate (Paunesku et al., 2015; Yeager et al., 2013, 2016a, Yeager, Walton et al., 2016, 2019; Watkins & Mortimore, 1999), supporting the use of sex as a covariate in all moderation models. The input of covariates in the moderation models followed the recommendations of Hayes (2018).

RQ1: How do CITs report their perceived ability to learn the CACREP curriculum standards?

Descriptive statistics for the 11 specific CACREP curriculum standards in the PALCCS were calculated. The descriptive statistics report included how CITs rated each specific standard in perceived ability to learn from lowest to highest. The frequency of mean PALCCS scores by standard was reported for each of the 11 standards identified by each of the 11 items in the PALCCS.

RQ2: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT GPA?

Model 1 of Process Macro for SPSS (Hayes, 2018) with covariates was used to test the simple moderation of the effect of CIT aggregate PALCCS on CIT GPA by CIT IM.

RQ3: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT CPCE scores?

Model 1 of Process Macro for SPSS (Hayes, 2018) with covariates was used to test the simple moderation of the effect of CIT aggregate PALCCS on CIT CPCE scores by CIT IM.

RQ4: To what extent does CIT IM moderate the relationship between CIT completed credit hours and CIT PALCCS?

Model 1 of Process Macro for SPSS (Hayes, 2018) with covariates was used to test the simple moderation of the effect of CIT completed credit hours on CIT PALCCS by CIT IM.

Summary

This chapter detailed the planned one-group research design with cross-sectional data analysis. RQs, rationales, and hypotheses were explicated, including planned data analyses. Conceptual models were provided for RQs 2-4. Instrumentation, including the demographic questionnaire, the PALCCS, and the ITIS, were described with the inclusion of validity and reliability measures. The development of the PALCCS was described in detail. The rationale for the use of covariates in the statistical analyses was provided. Chapter four provides the findings of the data analyses for the RQs.

CHAPTER FOUR: RESULTS

Chapter four provides results for the research study. First the chapter restates the purpose of the research. Next the chapter details data screening, preparation, and the sample description. Data analyses and results are reported for each RQ. The chapter concludes with a summary of the results.

Restatement of the Purpose

Pursuant to the expectations of the field of counselor education (Barrio Minton et al., 2018; Barrio Minton & Wachter Morris, 2020; Korcuska, 2016), the purpose of this research was to describe CIT perceived challenge in learning CACREP curriculum standards and to analyze the moderating effect of IM on CIT learning. A learner's IM, as either entity or incremental, moderates learning outcomes, especially during challenging tasks (Blackwell et al., 2007; Burnette et al., 2018; Caniëls et al., 2018; De Vries et al., 2021; Yeager et al., 2013). Educators can teach incremental theory to overcome the diminished learning outcomes associated with EM (Aronson et al., 2002; Brandisauskiene et al., 2021; Broda et al., 2018; De Vries et al., 2021, Yeager, Walton et al., 2016), meaning that CEs could teach ICM to enhance CIT learning. Understanding the role of IM in CIT learning, especially for tasks CITs consider difficult to learn, could inform CE teaching practices. There were three specific purposes for this research. First, the research described how CITs, who are currently enrolled in a CACREP-accredited online master's program, report their perceived ability to learn the CACREP curriculum standards as measured by the PALCCS. Second, this research examined the moderating effect of IM on the relationship between CIT PALCCS and CIT learning outcomes. Finally, this research

analyzed the moderating effect of IM on the relationship between CIT completed credit hours and CIT PALCCS. As CEs endeavor to identify teaching methods and learner variables associated with improved learning for challenging academic and professional development tasks (Bayne & Jangha, 2016; Dollarhide et al., 2007; King, 2021), CEs can consider the role of pro-learning variables (Diener & Dweck, 1978; Mueller & Dweck, 1998; Watkins & Mortimore, 1999), such as IM.

Data Screening, Preparation, and Description

A total of 309 responses were downloaded from Qualtrics to SPSS. The researcher removed four responses that did not meet inclusion criteria, resulting in 305 responses with total completion of study questions. Response times ranged from 183,328 seconds to 89 seconds. The researcher was able to complete the survey in 120 seconds. To lessen the likelihood of including careless responses, the researcher removed five participants with response times under 120 seconds, resulting in 301 total participants. The new range of response time was 183,328 seconds to 125 seconds. Outliers for all continuous variables were assessed using SPSS box plots and the third and first interquartile ranges. Outliers outside of the third or first interquartile range were removed. Only cumulative graduate GPA had an extreme outlier, so this participant was removed, resulting in 300 participants with complete responses. Only nine participants reported GRE scores. These participants were retained for use in the study, but GRE scores were not utilized in the data analyses.

PALCCS responses for each Likert statement were one equaled strongest agreement with perceived ability to learn, and seven equaled least agreement with perceived ability to learn. PALCCS scores were reversed-scored to assist interpretation, such that one equaled the lowest perceived ability to learn and seven equaled the highest perceived ability to learn. ITIS responses

for each Likert statement were a rating of one corresponded to agreement with entity beliefs, and a rating of six corresponded with agreement to incremental beliefs. An ITIS average score of three or below endorses EM, 3.01-3.99 endorses a mixed mindset, and 4.00 or above endorses ICM (Dweck et al., 1995; Claro et al., 2016). Two variables for each participant, mean IT IS score and mean PALCCS score, were computed by calculating the overall mean for each participant from each item on both measures. The 11 PALCCS and three ITIS items were used to calculate each participant's mean PALCCS and ITIS scores. The mean PALCCS and mean IT IS scores were used for the moderation analyses in RQs 2-4.

One concern was the potential confounding influence of participants with a previous degree in a related field on the CIT PALCCS mean score. Of the 300 participants, 31 reported having a graduate degree in a related field to counseling. A logical expectation is that completing a previous degree within a related field might result in higher PALCCS for those participants. An independent samples *t* test was performed to assess if PALCCS mean scores differed significantly for a group of participants ($n = 31$) with a previous graduate degree in a related field (Group Yes) compared with a group of participants ($n = 269$) without a previous graduate degree in a related field (Group No). Levene's test supported the assumption of homogeneity of variance, $F = .05$, $p = .830$, for comparison of unequal sample sizes (Warner, 2013). PALCCS mean scores were negatively skewed and not normally distributed; however, homogeneity of variances was supported, and the sample sizes were greater than 30 supporting the use of a parametric test (Warner, 2013). PALCCS mean scores did not differ significantly, $t(298) = -.497$, $p = .310$, one-tailed. The mean for PALLCS mean score Group No ($M = 6.22$, $SD = .63$) was only 0.06 Likert rating points different from the mean for PALCCS mean score for Group Yes ($M = 6.16$, $SD = .67$). Given that the mean of the PALCCS mean scores did not differ

significantly between Group Yes and Group No, participants with a graduate degree in a related field were retained, resulting in 300 participants for the study.

Participant Demographics

Demographics were collected for sex, race, religious affiliation, and age. The sample included 244 females (81%) and 56 males (19%). The ages ranged from 21 to 62 (M = 37.74, SD = 10.73). The religious affiliations were 74% Protestant (n = 223), 8% Catholic (n = 24), 7% other (n = 21), 7% no religious affiliation (n = 20), 3% Mormon (n = 8), and 0.3% each for Jewish (n = 1), Muslim (n = 1), and Buddhist (n = 1). Participants were 75% Caucasian/white (n = 226), 9% African American/Black (n = 28), 5% Multiracial (n = 16), 5% Hispanic/Latino (n = 14), 3% other (n = 8), 2% American Indian/Alaskan Native (n = 6), 1% Asian American (n = 2), and 0% Asian.

Sample Description Statistics for All Study Variables

Minimum scores, means, and standard deviations were calculated for all study variables and are reported according to participant demographics for the total sample, sex, and race. Included variables are undergraduate GPA, graduate GPA, CPCE scores, completed credit hours, PALCCS mean score, and ITIS mean score. Table 1 provides descriptive statistics for the overall sample and for each sex. Table 2 shows statistics for the overall sample and each race/ethnicity. The sample (n = 300) mindset categories were: 17% entity (n = 51), 28.7% mixed (n = 86), and 54.3% incremental (n = 163).

Table 1

Descriptive Statistics of Study Variables for Total Sample and by Sex

Variable	*n*	Min.	Max.	*M*	*SD*
Graduate GPA	286	2.90	4.00	3.78	0.28
Female	235	2.90	4.00	3.78	0.28
Male	51	2.90	4.00	3.79	0.28
CPCE score	35	36	134	89.54	18.68
Female	31	36	134	89.23	18.74
Male	4	62	110	92.00	20.80
Completed credit hours	300	0	60	30.91	18.51
Female	244	0	60	32.25	18.30
Male	56	0	60	25.07	18.47
Mean PALCCS score	300	4.00	7.00	6.21	0.63
Female	244	4.00	7.00	6.19	0.64
Male	56	4.91	7.00	6.30	0.60
Mean ITIS score	300	1.00	6.00	4.32	1.11
Female	244	1.67	6.00	4.32	1.10
Male	56	1.00	6.00	4.31	1.19
Undergrad GPA	300	2.00	4.00	3.48	0.41
Female	244	2.10	4.00	3.49	0.40
Male	56	2.00	4.00	3.47	0.46

Table 2

Descriptive Statistics of Study Variables for Total Sample and by Race

Variable	*n*	Min.	Max.	*M*	*SD*
Graduate GPA	286	2.90	4.00	3.78	0.28
Caucasian/White	214	2.90	4.00	3.81	0.26
African American	28	3.00	4.00	3.69	0.31
Multiracial	16	2.90	4.00	3.63	0.37
Hispanic/Latino	14	3.16	4.00	3.70	0.27
Other	8	3.48	4.00	3.87	0.18
American Indian/Alaskan Native	4	3.05	3.88	3.66	0.41
Asian American	2	3.90	4.00	3.95	0.07
CPCE score	35	36	134	89.54	18.68
Caucasian/White	24	62	117	91.67	14.54
African American	3	36	95	68.00	29.82
Multiracial	2	110	134	122.00	16.97
Hispanic/Latino	2	68	91	79.50	16.26
Other	2	64	81	72.50	12.02
American Indian/Alaskan Native	1	N/A	N/A	N/A	N/A
Asian American	1	N/A	N/A	N/A	N/A

Completed credit hours	300	0	60	30.91	18.51
Caucasian/White	226	0	60	30.11	18.31
African American	28	0	57	31.11	18.07
Multiracial	16	6	60	32.44	22.00
Hispanic/Latino	14	9	60	43.00	16.70
Other	8	12	60	34.00	19.21
American Indian/Alaskan Native	6	0	57	20.00	20.84
Asian American	2	27	57	42.00	21.21
Mean PALCCS score	300	4.00	7.00	6.21	0.63
Caucasian/White	226	4.09	7.00	6.23	0.62
African American	28	4.73	7.00	6.25	0.55
Multiracial	16	5.18	7.00	6.28	0.54
Hispanic/Latino	14	4.64	7.00	6.14	0.78
Other	8	4.00	7.00	5.72	0.94
American Indian/Alaskan Native	6	5.09	7.00	6.42	0.74
Asian American	2	4.82	5.45	5.14	0.45
Mean ITIS score	300	1.00	6.00	4.32	1.11
Caucasian/White	226	1.00	6.00	4.25	1.15
African American	28	3.67	6.00	5.02	0.70
Multiracial	16	2.67	6.00	4.15	0.94
Hispanic/Latino	14	1.67	5.00	3.93	0.94
Other	8	2.00	5.67	4.29	1.30
American Indian/Alaskan Native	6	4.00	6.00	5.00	0.63
Asian American	2	4.33	4.67	4.50	0.24
Undergrad GPA	300	2.00	4.00	3.48	0.41
Caucasian/White	226	2.10	4.00	3.49	0.42
African American/Black	28	2.70	4.00	3.40	0.38
Multiracial	16	2.00	3.90	3.28	0.51
Hispanic/Latino	14	3.30	4.00	3.64	0.22
Other	8	2.80	4.00	3.60	0.41
American Indian/Alaskan Native	6	2.75	3.92	3.47	0.46
Asian American	2	3.60	4.00	3.80	0.28

Assumptions for Interpretation and Statistical Inference

Hayes (2028) recommended consideration of normality, homoscedasticity, and independence for ordinary least squares regression analyses. Linearity is assumed if normality is present (Statistics Solutions, 2023).

Plots of the residuals were examined to determine normality for regression analyses (Statistics Solutions, 2023). Residuals were plotted for each tested relationship.

A review of the normal P-P plot of residuals and scatter plot of residuals for CPCE scores demonstrated normality and homoscedasticity with CPCE scores as the outcome variable for both mean PALCCS and mean ITIS scores. Variance inflation factors (VIF) for CPCE scores were below five, supporting that the multicollinearity assumption was met. The histogram of the sample distribution of CPCE scores was deemed normal.

A review of the normal P-P plot of residuals and scatter plot of residuals for graduate GPAs demonstrated normality and homoscedasticity with graduate GPA as the outcome variable for both mean PALCCS and mean ITIS scores. VIFs for graduate GPA were below five, supporting the multicollinearity assumption that was met. However, as expected, histogram analysis of the sample distribution showed a strong negative skew to the sample for graduate GPA (Gonzalez et al., 2014; Verostek et al., 2021).

A review of the normal P-P plot of residuals and scatter plot of residuals for undergraduate GPAs demonstrated normality and homoscedasticity with undergraduate GPA as the outcome variable for both mean PALCCS and mean ITIS scores. VIFs for undergraduate GPA were below five, supporting the multicollinearity assumption that was met. The histogram of the sampling distribution of undergraduate GPAs demonstrated a negative skew; however, the skew was less pronounced than graduate GPAs, and the histogram was deemed adequately normal.

A review of normal P-P plot of residuals and scatter plot of residuals for PALCCS mean score demonstrated normality and homoscedasticity with mean PALCCS scores as the outcome variable for completed credit hours. VIF for the mean PALCCS scores was below five, supporting the multicollinearity assumption. The histogram of the sampling distribution of mean PALCCS scores had a strong negative skew and was not deemed normal.

A review of the normal P-P plot of residuals and scatter plot of residuals for ITIS mean score demonstrated normality and homoscedasticity with ITIS as the outcome variable for mean PALCCS scores and completed credit hours. VIFs for ITIS mean score were below five, supporting the assumption of multicollinearity was met. ITIS mean score sample distribution also had a slight negative skew but was deemed adequately normal.

A review of the normal P-P plot of residuals and scatter plot of residuals for completed credit hours demonstrated normality and homoscedasticity with completed credit hours as the predictor variable to mean PALCCS and mean ITIS scores. VIFs for completed credit hours were below five, supporting multicollinearity. The sample distribution for completed credit hours demonstrated adequate normality.

Despite negative skews to the sample distributions for several variables, the normality and homoscedasticity of the residuals and VIFs below five supported the use of ordinary least squares analysis (Hayes, 2018; Statistics Solutions, 2023). Interpretation of bivariate correlations by parametric tests should be approached with caution as analysis of sample distribution histograms, and normal Q-Q plots were deemed adequately normal only for completed credit hours, CPCE scores, ITIS scores, and undergraduate GPA (Warner, 2013).

Statistical Power for Moderation Analysis

Warner (2013) suggested a minimum sample size of 143 data points for moderation models with main and interaction effects at an α of .05 and a low R^2 (R^2 = .10) for a statistical power of .80. All samples except the CPCE scores (n = 35) were above n = 143. See Table 1 for sample sizes.

Data Analysis

Correlations

Bivariate Pearson's R correlations were calculated for all study variables. Cronbach α's were calculated for PALCCS and ITIS items. Table 3 shows Pearson's R correlations and Cronbach α's. Completed credit hours had a weak, negative statistically significant correlation with mean PALCCS scores. Undergraduate GPA had a weak, positive statistically significant correlation to Graduate GPA. Graduate GPA also had a moderate, positive statistically significant correlation to CPCE scores. Mean ITIS scores had weak, negative statistically significant correlations with Graduate GPA, CPCE scores, and mean PALCCS scores.

Table 3

Pearson's R for All Study Variables and Cronbach's α' for PALCCS and ITIS

	Graduate GPA	CPCE scores	Completed credit hours	Mean PALCCS scores	Mean ITIS scores	Undergrad GPA
Graduate GPA	1	.565**	-.058	-.069	-.127*	.330**
CPCE scores	--	1	-.274	-.196	-.419*	.216
Completed credit hours	--	--	1	-.224**	-.054	.027
Mean PALCCS score	--	--	--	1	-.118**	-.036
Mean ITIS score	--	--	--	--	1	-.056
Undergrad GPA	--	--	--	---	--	1
Cronbach's α	--	--	--	0.91	0.93	--

**Correlations significant at .01 level (2-tailed).
*Correlations significant at .05 level (2-tailed).

RQ1: How do CITs report their perceived ability to learn the CACREP curriculum standards?

Mean and standard deviations were calculated for each of the 11 PALCCS items and ranked by mean to describe how CITs in this sample reported their perceived ability to learn the

CACREP curriculum standards. Table 4 shows these descriptive statistics. Ability to conduct research was the lowest mean (M = 5.51, SD = 1.26). Making ethical decisions based on ethical codes and clinical judgment was the highest mean (M = 6.59, SD = .59).

Frequencies were calculated for each of the 11 PALCCS items for the sample (see Table 5); 93% or more of CITs in this sample reported agreement with their ability to learn all CACREP Standards, except with the ability to conduct and report research to inform counseling practice, for which 81% expressed agreement.

Table 4

Means, Standard Deviations, and Ranges for 11 Items of PALCCS and Mean PALCCS of all Items (n = 300)

Items	Min.	Max.	*M*	*SD*
Make ethical decisions based upon ethical codes and clinical Judgment	4.00	7.00	6.59	0.59
Assess how personality, background, values, and abilities contribute to career success	3.00	7.00	6.34	0.78
Counsel diverse groups of people with differences in culture, religion, and experience of systemic oppression	1.00	7.00	6.32	0.87
Conceptualize problems and diagnose accurately	2.00	7.00	6.31	0.76
Use appropriate counseling interventions based upon Research	3.00	7.00	6.30	0.82
Apply counseling models and theories with use of counseling techniques to help people have positive outcomes	2.00	7.00	6.30	0.87
Advocate for the counseling profession within the Community	2.00	7.00	6.29	0.84
Lead group counseling	1.00	7.00	6.22	0.91
Identify appropriate assessments and interpret results with Clients	2.00	7.00	6.14	0.93
Interpret published research to inform counseling practice	1.00	7.00	6.02	0.98
Conduct and report research to inform counseling practice	1.00	7.00	5.51	1.26
Mean PALCCS score	4.00	7.00	6.21	0.63

Note. PALCCS items are ranked from highest to lowest by mean. Each PALCCS items started with "I am confident that (after education and training) I will be able to develop the skills to" Likert ratings ranged from 1 to 7, 1 = strongly agree, 4 = neutral, 7 = strongly disagree.

Table 5

Frequencies of Likert Ratings for 11 Items of PALCCS (n = 300)

Items	Strongly Agree/Mostly Agree/Agree		Neutral		Strongly Disagree/Mostly Disagree/Disagree	
	n	%	*n*	%	*N*	%
Make ethical decisions based upon ethical codes and clinical judgment	299	99.67	1	0.33	0	0.00
Assess how personality, background, values, and abilities contribute to career success	292	97.33	6	2.00	2	0.67
Counsel diverse groups of people with differences in culture, religion, and experience of systemic oppression	292	97.33	3	1.00	5	1.67
Conceptualize problems and diagnose accurately	297	99.00	2	0.67	1	0.33
Use appropriate counseling interventions based upon research	294	98.00	3	1.00	3	1.00
Apply counseling models and theories with use of counseling techniques to help people have positive outcomes	291	97.00	6	2.00	3	1.00
Advocate for the counseling profession within the community	290	96.67	6	2.00	4	1.33
Lead group counseling	288	96.00	10	3.33	2	0.67
Identify appropriate assessments and interpret results with clients	283	94.33	11	3.67	6	2.00
Interpret published research to inform counseling practice	280	93.33	14	4.67	6	2.00
Conduct and report research to inform counseling practice	244	81.33	38	12.67	18	6.00

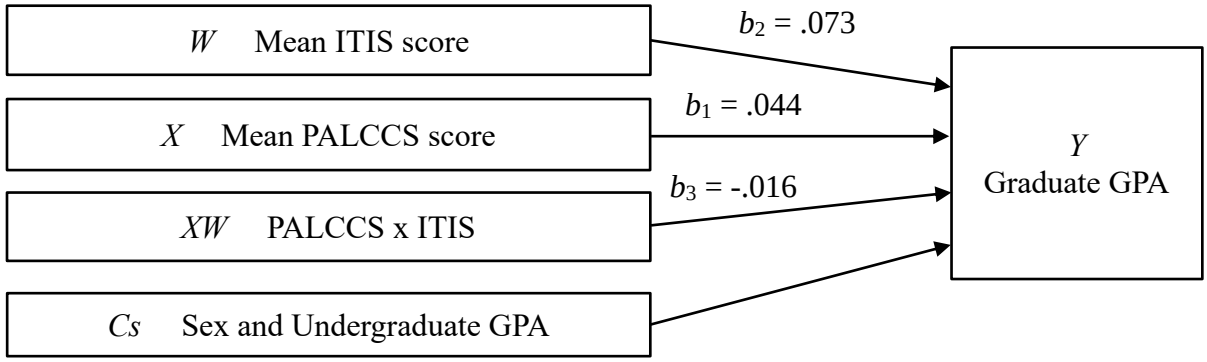
RQ2: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT GPA?

Model one of Haye's (2018) conditional process analysis PROCESS macro v4.2 in SPSS version 29 with 95% confidence intervals and 5000 bootstrap samples was used to test the extent to which CIT IM moderates the relationship between CIT PALCCS and CIT GPA. Mean PALCCS score was the predictor variable. Participants self-reported their graduate GPAs and endorsed the mindset categories of EM at n = 48 (16.8%), mixed at n = 84 (29.4%), and ICM at n = 154 (53.4%). Self-reported cumulative graduate GPAs for the master's program courses were the outcome variable. Mean ITIS score was the moderator. Sex and undergraduate GPA were covariates (Hatchett et al., 2017; Hartwig et al., 2016; Schmid et al., 2009; Paunesku et al., 2015; Yeager et al., 2013, 2016a, Yeager, Walton et al., 2016, 2019; Watkins & Mortimore, 1999). Figure 3 shows the statistical model.

The overall model was statistically significant, R = .352, R^2 = .124, MSE = 0.069, F(5, 280) =7.927, p <.001. The interaction and main effects were not statistically significant (see Table 6). The overall model was not statistically significant without the planned covariates, R = .140, R^2 = .020, MSE = 0.077, F(3, 282) = 1.868, p =.135. A statistically non-significant model without covariates suggests that the covariate of undergraduate GPA was responsible for the statistical significance of the overall model with covariates included. The hypothesis that there would be a main effect of CIT PALCCS on CIT graduate GPA was not supported. The hypothesis that there would be a moderating effect of IM on the relationship between CIT PALCCS and CIT graduate GPA was not supported. The trend of the focal effect of the model is plotted in Figure 4 to guide future research designs.

Figure 3

Statistical Model of the Moderating Effect of IM on the Relationship between CIT PALCCS and CIT Graduate GPA



Note. No hypothesized effects were statistically significant. Table 6 shows coefficients for covariates.

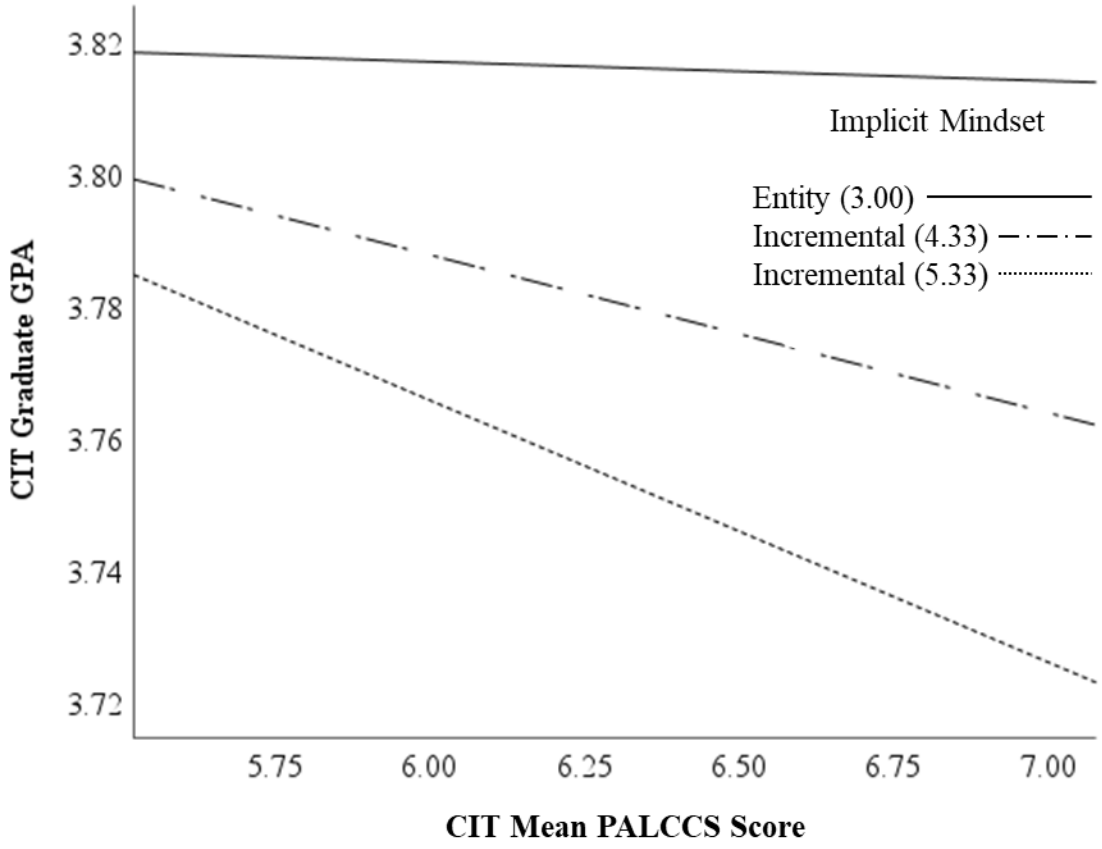
Table 6

Conditional Process Analysis Results for Simple Moderation Models RQs 2-4

Source	*b*	*Se*	*T*	*P*	95% CI *LL*	95% CI *UL*
CIT Graduate GPA $R = .352$, $R^2 = .124$, $MSE = .069$, $F(5, 280) = 7.927$, $p < .001$						
Mean PALCCS score	.044	.103	.429	.668	-.159	.248
Mean ITIS score	.073	.147	.496	.620	-.216	.361
Interaction	-.016	.024	-.672	.502	-.062	.030
Constant	2.868	.673	4.262	< .001	1.543	4.192
Sex (covariate)	-.010	.041	-.252	.801	-.090	.070
Undergrad GPA (covariate)	.220	.038	5.779	< .001	.145	.295
CIT CPCE score $R = .580$, $R^2 = ..337$, $MSE = 271.317$, $F(5, 29) = 2.945$, $p < .050$						
Mean PALCCS score	49.455	27.478	1.800	.082	-6.744	105.654
Mean ITIS score	62.352	34.942	1.785	.085	-9.113	133.818
Interaction	-11.653	5.808	-2.006	.054	-23.532	.227
Constant	-206.8250	173.263	-1.194	<.05	-561.222	147.522
Sex (covariate)	3.480	9.151	.380	.707	-15.236	22.197
Undergrad GPA (covariate)	8.033	7.262	1.106	.278	-6.820	22.886
CIT PALCCS $R = .257$, $R^2 = .066$, $MSE = .383$, $F(5, 294) = 4.151$, $p < .001$						
Completed credit hours	-.000	.008	-.0366	.971	-.016	.016
Mean ITIS score	.107	.062	1.725	.086	-.015	.229
Interaction	-.002	.002	-.887	.376	-.005	.002
Constant	6.211	.442	14.055	< .001	5.341	7.081
Sex (covariate)	-.065	.093	-.703	.483	-.248	.118
Undergrad GPA (covariate)	-.035	.087	-.409	.683	-.206	.135

Figure 4

Focal Effect of Moderation by IM on the Relationship of CIT PALCCS on CIT Graduate GPA



Note. Hypothesized effects were not statistically significant.

RQ3: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT CPCE scores?

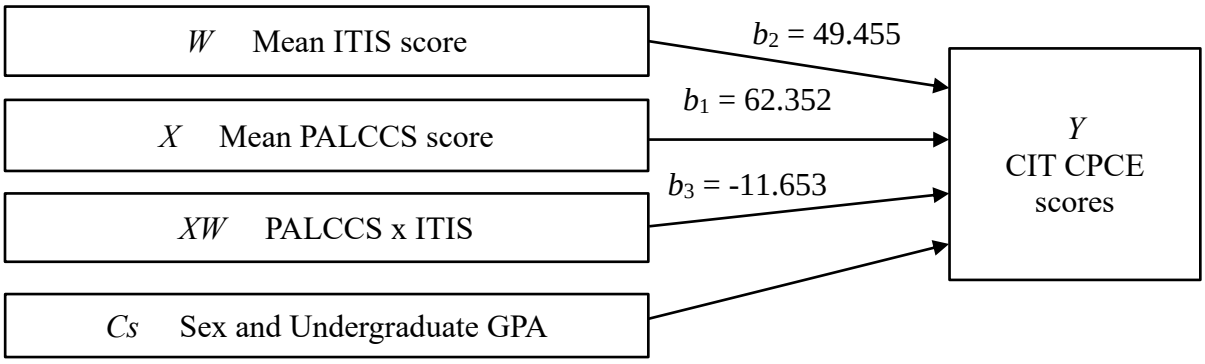
Model one of Haye's (2018) conditional process analysis PROCESS macro v4.2 in SPSS version 29 with 95% confidence intervals and 5000 bootstrap samples was used to test the extent to which CIT IM moderated the relationship between CIT PALCCS and CIT CPCE. Sex and undergraduate GPA were covariates. Figure 5 shows the statistical model, which was statistically significant with and without the covariates.

The overall model was statistically significant, R=.580, R^2 = .337, MSE = 271.317, F(5, 29) = 2.9445, p <.05. The interaction effect was marginally statistically significant, R^2 =.092, F(1, 29) = 4.025, *p* =.054. No other tested effects were statistically significant. Results are shown in Table 6. This sample (*n* = 35) was primarily participants who endorsed ICM, with 11.4% entity (*n* = 5), 25.7% mixed (*n* = 9), and 62.9% incremental (*n* = 22) mindset categories. ICM is a mean score of 4.00 or above on the ITIS Scale (Dweck et al., 1995; Claro et al., 2016). A PALCCS score of five or above is an agreement rating (agree, mostly agree, strongly agree).

The hypothesis that CIT PALCCS would have a main effect on CIT CPCE was not supported. A main effect is unnecessary in conditional process analysis to interpret the interaction effect (Hayes, 2018). The hypothesis that CIT IM would moderate the relationship between CITS PALCCS and CIT CPCE scores was marginally supported; however, not at the expected mindset level. Due to the marginally statistically significant interaction effect, the focal effect of moderation by mean ITIS score on the relationship between mean PALCCS score and CPCE scores (Figure 6) was plotted. The interaction effect occurred in participants within ICM category and the agreement scores on PALCCS. Participants with a PALCCS of agree (5) tended to have equivalent CPCE scores regardless of ICM level. The level of ICM moderated the interaction at the higher PALCCS level. Participants with a higher PALCCS differed in CPCE scores based on ICM level. CIT CPCE scores increased, with CIT PALCCS at the lowest ICM level. A change occurred at the two higher ICM levels, and CPCE scores tended to decrease as PALCCS increased.

Figure 5

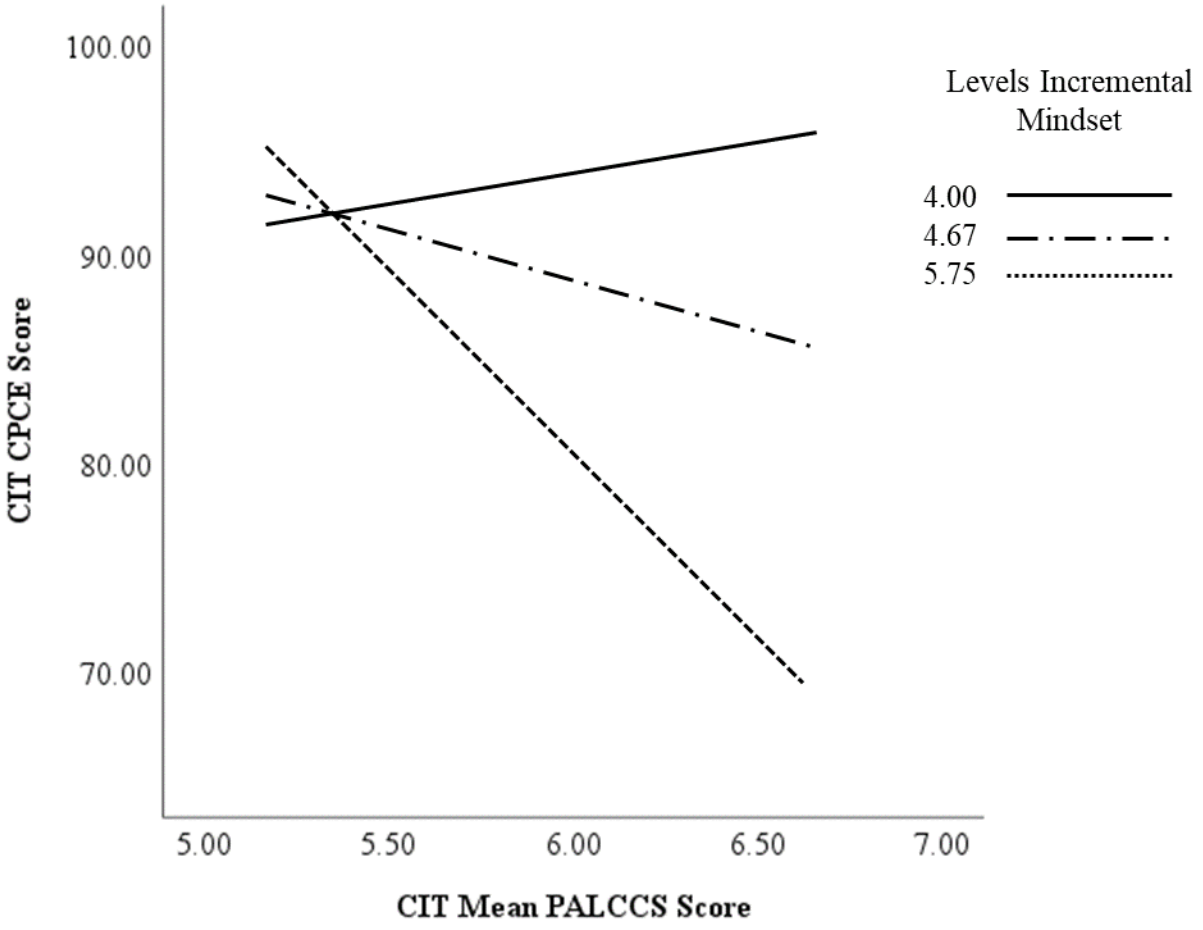
Statistical Model on Moderating Effect of IM on the Relationship between CIT Mean PALCCS Scores and CIT CPCE Scores



Note. No results were statistically significant. The moderating interaction was almost significant at $p = .054$. Coefficients for covariates can be found in Table 6.

Figure 6

Focal Effect of Moderation by ICM on the Relationship Between CIT Mean PALCCS Scores and CIT CPCE Scores



Note. The moderating effect of CIT ITIS mean score on the relationship between CIT PALCCS mean score and CIT CPCE score was marginally significant (p = .054) (see Table 6).

RQ4: To what extent does CIT IM moderate the relationship between CIT completed credit hours and CIT PALCCS?

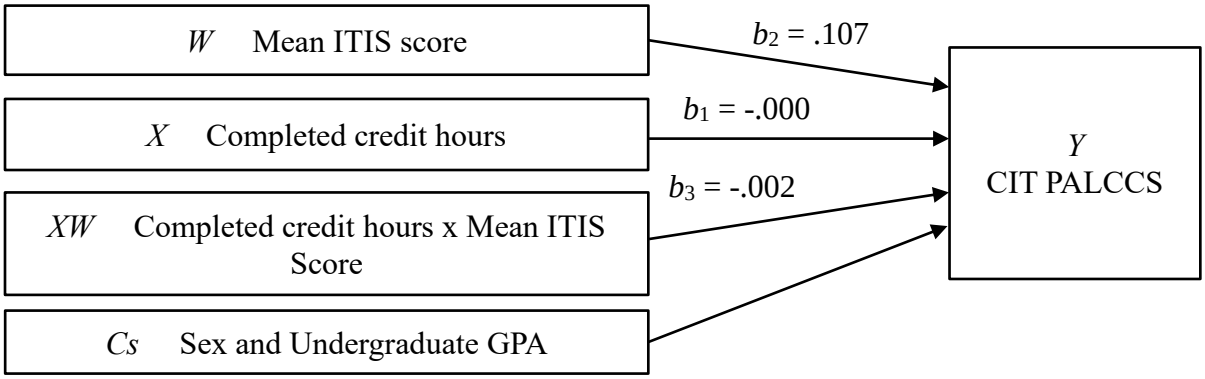
Model one of Haye's (2018) conditional process analysis PROCESS macro v4.2 in SPSS version 29 with 95% confidence intervals and 5000 bootstrap samples was used to test the extent

to which CIT mean PALCCS scores. Sex and undergraduate GPA were covariates. Figure 7 shows the statistical model.

The overall model was statistically significant, R = .257, R^2 = .066, MSE = .383, F(5, 294) = 4.151, p <.05. The main and interaction effects were not statistically significant. Results are shown in Table 6. Even though the interaction and main effects were not statistically significant, to guide future research designs, the focal effect of moderation by CIT IM on the relationship between CIT completed credit hours and CIT PALCCS was plotted (see Figure 8). The hypothesis that CIT completed credit hours would have a main effect on CIT PALCCS was not supported. The hypothesis that CIT IM would moderate the relationship between CIT completed credit hours and CIT PALCCS was not supported.

Figure 7

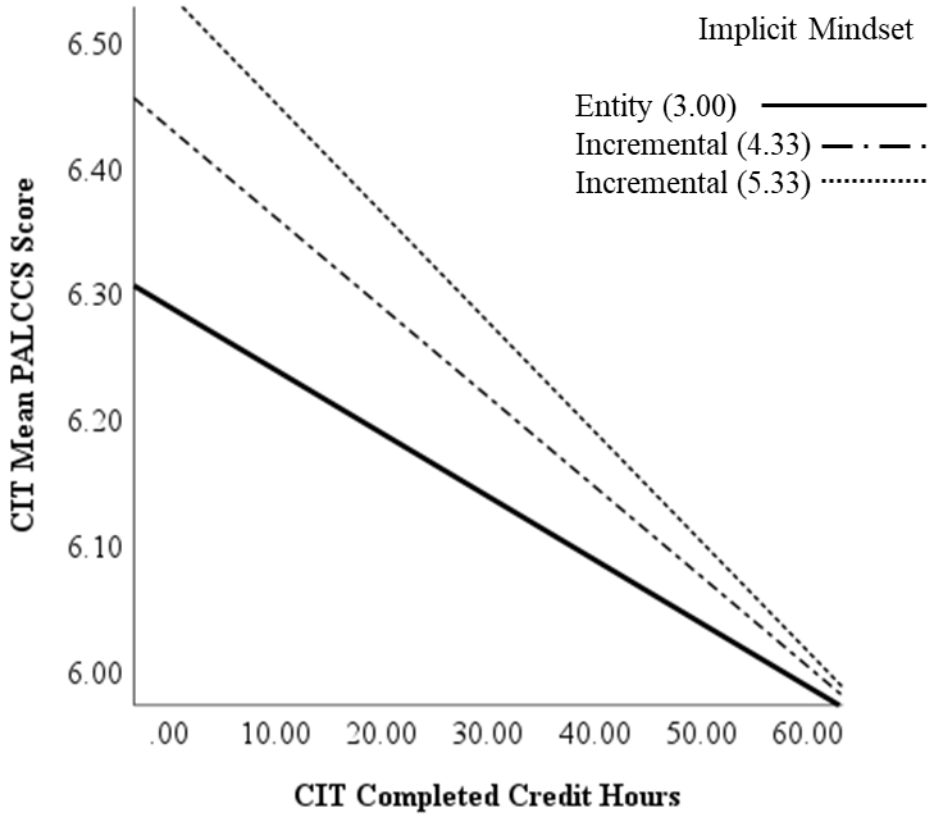
Statistical Model of Moderating Effect of IM on the Relationship between CIT Completed credit hours and CIT PALCCS



Note. No hypothesized effects were statistically significant. Table 6 shows coefficients for covariates.

Figure 8

Moderating Effect of IM on Relationship Between CIT Completed credit hours and CIT PALCCS



Note. The interaction effect was not statistically significant.

Summary

Data analyses and results are described for RQs 1-4. Descriptive observations are provided for RQ1. Moderation analysis results are provided for RQ 2-4.

CITs in this sample tended to agree (ranging from 81.33% - 99.67% for each measured standard) that they could learn each CACREP curriculum standard as measured by the PALCCS. The lower-rated agreements with the ability to learn occurred within the standards associated with using assessments with clients and standards associated with research. Note that these observations are descriptive reports of the data. No differences were tested for significance.

Neither RQ2 nor RQ4 hypotheses were supported. For RQ2, the main effect of CIT PALCCS on CIT graduate GPA and the moderating effect of mean ITIS score on the relationship between CIT PALLCS and CIT graduate GPA was not supported. For RQ4, the main effect of CIT completed credit hours on CIT PALCCS and the moderating effect of ITIS mean score on the relationship between CIT completed credit hours and CIT PALCCS was not supported. Both models had primarily ICM representations and agreement statements on the PALCCS.

RQ3 had the only marginally significant iteration effect (p = .054). The hypothesis that CIT PALCCS would have a main effect on CIT CPCE scores was not supported. The hypothesis that ITIS mean score would moderate the interaction between CIT Mean PALCCS and CIT CPCE scores was supported; however, not at the expected mindset category. This sample contained the following mindset categories: 11.4% entity (n=5), 25.7% mixed (n=9), and 62.9% incremental (n=22). For participants with ICM, a stronger ICM moderated the relationship between CIT PALCCS and CIT CPCE score. CPCE scores tended to increase as PALCCS increased at the lowest score of ICM but not at higher scores of ICM. At higher scores of ICM, CPCE scores tended to decrease as PALCCS increased.

Chapter four provided data analysis results for each research question. Chapter five concludes the present work. Chapter five reiterates the purpose of the study and provides a summary, findings, and recommendations from the research study results.

CHAPTER FIVE: SUMMARY, FINDINGS, AND RECOMMENDATIONS

Chapter five integrates chapters one, two, and three into a summary, presents findings with associated conclusions, and provides recommendations for future research and counselor education pedagogy. The summary provides an overview of the research design relevant to the literature review from chapters one and two. Methods from chapter three and results from the data analyses in chapter four are integrated to provide the findings and conclusions from the research study. Finally, the chapter concludes with recommendations for future research and counselor education pedagogy.

Summary

The counselor education literature suggests that learner variables and a chosen teaching method influence CIT learning (Dollarhide et al., 2007; Grant, 2006; Paone et al., 2015; Steele & Rawls, 2015). Via a cross-sectional research design, this research study addressed the problem that CEs do not clearly understand how CIT learning is affected by factors other than a chosen teaching format, especially for challenging tasks (Deroche et al., 2020; Grant, 2006; Kuo et al., 2017; Suddeath et al., 2020; Paone et al., 2015). CEs identify the influence of some learner variables on CIT learning, including self-regulating learning strategies (Zeleke et al., 2018); faculty-student relationship satisfaction (Suddeath et al., 2020); life experience within a specific cultural group (Deroche et al., 2020); failure avoidance (Kuo et al., 2017); and cognitive and affective experiences (Paone et al., 2015). IM is a cognitive experience well-researched in the educational and social psychology literature that influences learning outcomes (Dweck, 2016), yet IM has not been explored in the CIT population. Considering the moderating role of IM (Brandisauskiene et al., 2021; De Vries et al., 2021; Yeager et al., 2019) on learning outcomes,

this research study aimed to introduce IM, expressed as either entity or incremental, as a moderator of CIT learning outcomes. Considering the need to identify learner variables that influence learning challenging tasks (Dollarhide et al., 2007; Grant, 2006; Paone et al., 2015; Steele & Rawls, 2015), this research study introduced the PALCCS to describe how CITs report a perceived ability to learn the CACREP curriculum standards.

The literature review provided the theoretical framework from a social cognitive learning theory lens (Bandura, 1971, 1993; Schunk, 2001) and detailed the positive learning outcomes associated with ICM within post-secondary student populations (Aronson et al., 2002; Broda et al. 2018; Bryant & Aytes, 2019, Murphy & Dweck et al., 2010; Robbins & Pals, 2012; Yeager, Walton et al., 2016). ICM is associated with increased GPA (Aronson et al., 2002; Yeager, Walton et al., 2016) and math scores (Wang et al., 2021). ICM is also associated with positive outcomes during challenging tasks or transitions (Burnette et al., 2013; Caniëls et al., 2018; Macakova & Wood, 2022; Tseng et al., 2020; Yeager, Romero et al., 2016). This research evaluated the relationship between IM and measures of CIT learning outcomes to explore if IM influences CIT learning, Graduate GPA, and CIT CPCE scores. Given that a challenge is needed to see the effect of ICM on learning outcomes (Burnette et al., 2013; Caniëls et al., 2018; Macakova & Wood, 2022; Tseng et al., 2020; Yeager, Romero et al., 2016), this research included CIT PALCCS to describe how CITs rate the challenge of a task by their perceived ability to learn. CIT PALCCS was utilized as a predictor variable to explore the moderating role of IM (Brandisauskiene et al., 2021; De Vries et al., 2021; Yeager et al., 2019) on CIT learning outcomes. Providing that ICM enhances learning over time (Aronson et al., 2002; Yeager & Dweck, 2012; Blackwell et al., 2007), the research study utilized a measure of CIT progression through the learning process: completed credit hours. CIT completed credit hours was utilized as

a predictor variable to explore the moderating effect of IM on the relationship between CIT completed credit hours and CIT PALCCS. The findings from chapter four are integrated with conclusions in the next section of chapter five according to each of the RQs.

Findings and Conclusions

This research study included five RQs to explore the influence of IM on CIT learning outcomes concerning CIT's perceived ability to learn the expected standards of professional counseling, especially for challenging tasks. The participants came from a convenience sample of master's level students from an online CACREP-accredited clinical mental health counseling program. The CITs in this sample predominantly endorsed ICM (54.3%) over EM (17%). A total of 300 responses were utilized for RQ1 and RQ4, 286 responses for RQ2, and 35 responses for RQ3. Next, this chapter integrates the findings from chapter three with the literature review to draw conclusions for each of the four RQs.

RQ1: How do CITs report their perceived ability to learn the CACREP curriculum standards?

The results from the sample of this study indicate that CITs predominantly agree that they can learn the CACREP curriculum standards as measured by the PALCCS, with 81.33% to 99.67% of CITs reporting "strongly agree, mostly agree, or agree" on all the 11 items that comprised the PALCCS. Some of the observations in this sample match previous observations, while others seem discrepant.

Similar to previous findings (Steele & Rawls, 2015), CITs endorsed a higher preparedness to value research over preparedness to conduct research. While 93.33% of CITs in the sample rated agreement to "interpret research to inform counseling practice," 81.33% rated agreement to "conduct and report research to inform counseling practice."

Contrastingly, CITs have reported diagnosing clients as a challenge in an internship when exposed to an array of diagnostic presentations not seen in practicum (Storlie et al., 2017); however, only three CITs in this sample of 300 reported a neutral/disagreement rating on the PALCCS items, "conceptualize problems and diagnose accurately." While CEs propose that CITs struggle with anxiety when choosing a basic skill in-vivo to apply a specific theory appropriately (Grant, 2006; Dollarhide et al., 2007; Adams et al., 2015), 291 of the 300 CITs in the sample endorsed agreement in their ability to learn to "apply counseling models and theories with use of counseling techniques to help people have positive outcomes." CEs also identify multicultural counseling competency as challenging to teach and learn (Dorn-Medeiros et al., 2020; Yoon et al., 2014). This sample of CITs (292 participants out of $N = 300$) preponderantly agreed with their ability to learn to "counsel diverse groups of people with differences in culture, religion, and experience of systemic oppression."

While the observations of this sample's responses to the PALCCS match and differ from previous research findings, it is important to note that these observations are descriptive and not analyzed for statistical differences.

Finally, the observation that most CITs perceive they can learn each of the measured items of the PALCCS suggests that CITs may not find the expected skill development overly challenging. However, the trend of the correlational finding in this study was that CIT PALCCS decreased as CIT completed credit hours increased. Perhaps, as proposed by Suddeath et al. (2021), CITs may not experience a task as challenging until performing the task in the field. As CITs are exposed to more curricula, CITs may realize the expected learning outcomes are more challenging in action than previously thought. Notably, the distribution plots of CIT PALCCS mean scores had a high negative skew, limiting the interpretation of the negative relationship

trend (Warner, 2013). A sample of CITs with a less skewed distribution of PALCCS and completed credit hours is needed to report definitive conclusions.

RQ2: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT GPA?

Conditional process analysis of this sample of CITs who self-reported graduate GPA in the CACREP accredited master's program in clinical mental health (n = 286) did not demonstrate a statistically significant main or moderation effect in the model testing the effect of IM on the relationship between CIT PALCCS and CIT Graduate GPA. Teaching incremental theory is associated with increased undergraduate GPA (Aronson et al., 2002; Broad et al., 2018), and IM theory suggests that EM results in less engaged learning behaviors when challenged (Dweck, 2016). It was expected that at lower PALCCS (higher perceived challenge), EM would be associated with a lower GPA due to less engagement in learning by combining these two suppositions. This sample contained predominantly high PALCCS. Figure 4 shows the focal predictor data of this model (notably not statistically significant). EM level appears associated with little change in CIT graduate GPA across levels of PALCCS, while ICM level seems to decrease as PALCCS increases. The plotted PALCCS scores are "agree, mostly agree, or strongly agree" with the ability to learn. The negative skew to the PALCCS distribution likely limited detection of an effect at lower PALCCS, which would be CITs expressing a challenge to learning.

The data trend in Figure 4 suggests that ICM might be associated with a decrease in CIT graduate GPA at higher levels of PALCCS. In contrast, Mackova and Wood (2022) found that ICM predicted an increase in undergraduate GPA at higher levels of self-efficacy. However, motivation was not measured by Mackova and Wood (2022) nor in this research study.

Potentially undergraduates would be motivated to have a high GPA as it affects their ability to be accepted into graduate school. Graduate students might not have the motivation to have a high GPA as they have already been accepted to graduate school. While conjectural, motivation could play a role in expressing IM on learning behaviors that lead to learning outcomes in CITs. While some research on IM has been reported measuring motivation, the researchers measured self-efficacy and reported it as motivation (King & Trinidad, 2021). While the relationship of motivation on the relationship between IM and learning outcomes remains unknown, motivation to achieve high standards on learning outcomes may be an important variable for consideration with the CIT population. Other variables of influence (Brandisauskiene et al., 2021; De Vries et al., 2021; Yeager et al., 2019) need exploration to fully elucidate the relationship among IM, perceived ability to learn, and learning outcomes in CITs.

RQ3: To what extent does CIT IM moderate the relationship between CIT PALCCS and CIT CPCE scores?

Although not at the expected level of EM, the conditional process analysis found a marginally statistically significant moderation by IM on the relationship between CIT PALCCS and CIT CPCE scores (p =.054). A stronger main effect of CIT PALCCS to CIT CPCE scores may have been detected with greater statistical power. The sample size (n = 35) was not at the recommended size needed (n = 143) for statistical power at a .80 level in a moderation analysis (Warner, 2013). The PALCCS distribution was predominantly “agree, mostly agree, strongly agree,” limiting the effect principally to CITs who were not expressing a clear challenge in their ability to learn. ICM is associated with engaged learning regardless of how challenging the task is (Dweck, 2016), increased work engagement (Caniëls et al., 2018), and increased test scores (Paunesku et al., 2015). According to IM theory (Dweck, 2016), it was expected that CITs at the

incremental level would be engaged in learning regardless of how challenging the task was. The moderating effect of IM on the relationship between CIT PALCCS and CIT CPCE scores was not expected at the incremental level.

The graph of the focal predictor for the moderating effect shows that the moderating effect occurred within ICM scores (see Figure 6). At the lowest ICM score (4.00), CIT CPCE scores tended to increase as CIT PALCCS increased. However, as ICM strengthened (4.67 and 5.75), the effect of IM changed, and CPCE scores tended to decrease as PALCCS increased. As speculated with the learning outcome of CIT graduate GPA, perhaps motivation influences the expression of ICM in CITs on CPCE scores. CPCE scores are pass/fail for master's level students to graduate from a program. CITs may prioritize time and only study enough to pass but not enough to perform at the student's highest potential. A high perceived ability to learn combined with the belief that one can become more intelligent might result in less preparation to pass in the presence of an exam for which the actual score only needs to be passing. While speculative, motivation may need to be considered when exploring the role of IM on learning outcomes in CITs. Moreover, a larger sample of CITs with CPCE scores is needed to improve statistical power.

RQ4: To what extent does CIT IM moderate the relationship between CIT completed credit hours and CIT PALCCS?

Conditional process analysis did not find a statistically significant main or moderation effect within the moderation model of the effect of IM on the relationship between CIT completed credit hours and CIT PALCCS. Logically, it was expected that as CITs progressed through the program and learned the expected competencies of the CACREP curriculum standards, CITs would increase in perceived ability to learn. According to IM theory (Dweck,

2016), individuals with ICM will engage in pro-learning behaviors, and individuals with EM will engage in avoidance behaviors when facing challenging tasks. These suppositions led to the expectation that CIT completed credit hours would positively and directly affect PALCCS and that this effect would be moderated at ICM level. ICM is associated with enhanced learning outcomes and higher learning engagement over time (Aronson et al., 2002; Yeager & Dweck, 2012; Blackwell et al., 2007). At ICM level, as a CIT progresses through a program, there would be higher learning engagement during challenging tasks (Dweck, 2016), resulting in a higher perceived ability to learn. At EM level, CITs would not engage when facing a challenge, resulting in no change in PALCCS as CITs progress through the program.

The statistical analysis and the observed trends in the data did not support these hypotheses. Contrastingly, CIT completed credit hours had a weak, statistically significant negative correlation with the PALCCS mean score (r = -.224, p < .05, two-tailed). While the high negative skew to the PALCCS sample distribution limits the interpretation of this correlation (Warner, 2013), the trend in the data suggests that PALCCS could decrease as CITs progress through the program. CITs demonstrated a decrease in self-efficacy when exposed to completion of the expected task in the field versus in the classroom or lecture (Suddeath et al., 2021). As CITs progress through the program, they may become more aware of how challenging the expected learning standards are via increased experiential and in-vivo learning experiences, thereby decreasing their PALCCS.

Figure 8 graphs the focal predictor values for moderating effect of CIT completed credit hours on CIT PALCCS. While not statistically significant, the trend in this sample of CITs is that mean PALCCS score decreases as CITs progress through the program regardless of mindset level. As noted by other self-efficacy research in counselor education (Steele & Rawls, 2015;

Elliott & Henninger, 2020), the perceived ability may not be an accurate and reliable learning outcome to detect the moderating effect of IM as CITs progress through the program. Learning outcomes that measure the expected standards might improve the ability to detect a moderating effect of IM.

Recommendations for Future Research

These findings indicate several implications for future research. Implications include consideration of an improved sampling procedure for the population of interest, more accurate and reliable learning outcomes, consideration of contextual factors, especially factors correlated with differences by demographic groupings, and inclusion of other variables that influence learning outcomes.

First, while ordinary least squares analysis was deemed appropriate by the results of plotting the residuals and analyzing VIF scores (Hayes, 2018; Statistics Solutions, 2023), the high negative skew to the sample distribution of several variables, including the mean PALCCS Mean score, limited interpretation of the bivariate correlations (Warner, 2013). All variables except undergraduate GPA and CPCE scores trended towards a negative skew in the sampling distributions. The sampling procedure may not have captured CITs with lower PALCCS or CITs with EM. Only currently enrolled CITs who volunteered to participate were included. CITs with enrollment in the past year might include CITs who have left the program for not meeting the GPA requirement or other contextual factors. ICM is associated with graduating on time for disadvantaged university students (Yeager, Walton et al., 2016). CEs will want to target data collection from CITs in remediation or who have paused completion of the degree, as these individuals may add to the range of scores in collected variables and inform remediation practices. Also, a sampling procedure might capture a larger range of scores if conducted across

many different programs. Incentives may be necessary to encourage more CITs to participate in the study to get a more diverse data set. An improved sampling procedure needs to be considered for future research.

Even with a better sampling procedure, PALCCS and CIT graduate GPAs may remain highly negatively skewed. CEs will want to identify more accurate and reliable learning outcomes (Elliott & Henninger, 2020; Steele & Rawls, 2015). Self-efficacy has shown discrepant relationships with IM (Macakova & Wood, 2022; Tseng et al., 2020). Perceived ability ratings may not be an accurate and reliable learning outcome to determine which learner variables need to be addressed by CEs to improve CIT learning. These learning outcomes do not demonstrate if learning has occurred (Elliott & Henninger, 2020; Steele & Rawls, 2015). CPCE scores show promise in the results of this study as an objective measure of learning. However, a larger sample size is needed for statistical power. CEs will need to develop objective measures for desired learning outcomes that show a range of meaningful scores, such as detailed grading rubrics matching specific assignments for CACREP curriculum standards. The grading rubrics must describe the desired learning outcome in observable and measurable terms. A researcher could score the rubrics rather than the faculty teaching the desired learning outcome to lessen the possibility of biased scoring. Scores from the detailed rubrics of specific learning outcomes might demonstrate more clearly if learning occurs and provide an accurate, sensitive, and reliable measure to detect the influence of IM on CIT learning.

Demographic groups could have differences that derive from correlations with factors that can be addressed via teaching interventions to improve learning outcomes. In this sample, differences in learning outcomes, PALCCS, and IM scores among different demographic groups were not statistically assessed. All 28 African American/Black participants endorsed ICM. CEs

might want to explore differences in learning outcomes via learner variables by race/ethnicity, as seen in previous research (Aronson et al., 2002; Broad et al., 2018; Lam et al., 2013). Collaterally, CEs will want to analyze specific factors associated with race/ethnicity that can be addressed through teaching interventions. Specific factors associated with SES (Brougham & Kashubeck-West, 2018; King & Trinidad, 2021), such as time available to study, may affect the expression of ICM. Speculatively, CEs may find that demands influence CIT expression of IM on time due to work hours or family responsibilities. Specific factor exploration, in addition to differences by racial/ethnic groups, would need to be considered in future research designs.

Finally, regression analyses and cross-sectional designs limit interpretation to correlational relationships of only the measured variables (Hayes, 2018). As hypothesized, the expression of CIT IM may play a role in the learning process, but other non-measured variables are likely important in how IM is expressed (Brougham & Kashubeck-West, 2018; Walton & Yeager, 2020). The inclusion of other variables would strengthen the conclusions that can be drawn from the regression analyses. In future cross-sectional research designs, CEs need to consider the role of additional variables on learning outcomes, such as motivation to perform at a high academic standard, demands on time, and other affective or cognitive experiences.

The results of this study support several future research considerations. Improved sampling procedure would better capture the population of CITs. Inclusion of additional variables of interest would improve detection and interpretation of the relationship between IM and CIT learning outcomes. CIT learning outcomes need to be accurate, sensitive, and reliable. CEs can consider variations by race/ethnicity and associated factors in the relationship of IM on learning outcomes. Finally, in-vivo quasi-experimental research designs would more accurately

assess the effectiveness of a teaching incremental theory on objective learning outcomes while assessing the influence of IM on the learning process.

Recommendations for Counselor Education

Given the need for improved research design, implications for teaching practices within counselor education pedagogy are limited. CEs need to consider CIT-specific contextual factors (Brougham & Kashubeck-West, 2018; Walton & Yeager, 2020) that influence the role of IM on CIT learning outcomes. While previous research in college student populations has demonstrated ICM is associated with enhanced learning outcomes (Aronson et al., 2002; Broda et al., 2018; Bryant & Aytes, 2019; Murphy et al., 2010; Robbins & Pals, 2012; Yeager, Walton et al., 2016), the finding that CPCE scores may decrease as PALCCS increases as CITs endorse higher levels of ICM, suggests that CEs might need to consider the role of other variables that influence the relationship between IM and learning, such as the motivation to achieve a high academic standard or the presence of supportive factors (Kuo et al., 2017). Figure 9 provides an example of the potential role of IM in CIT learning outcomes.

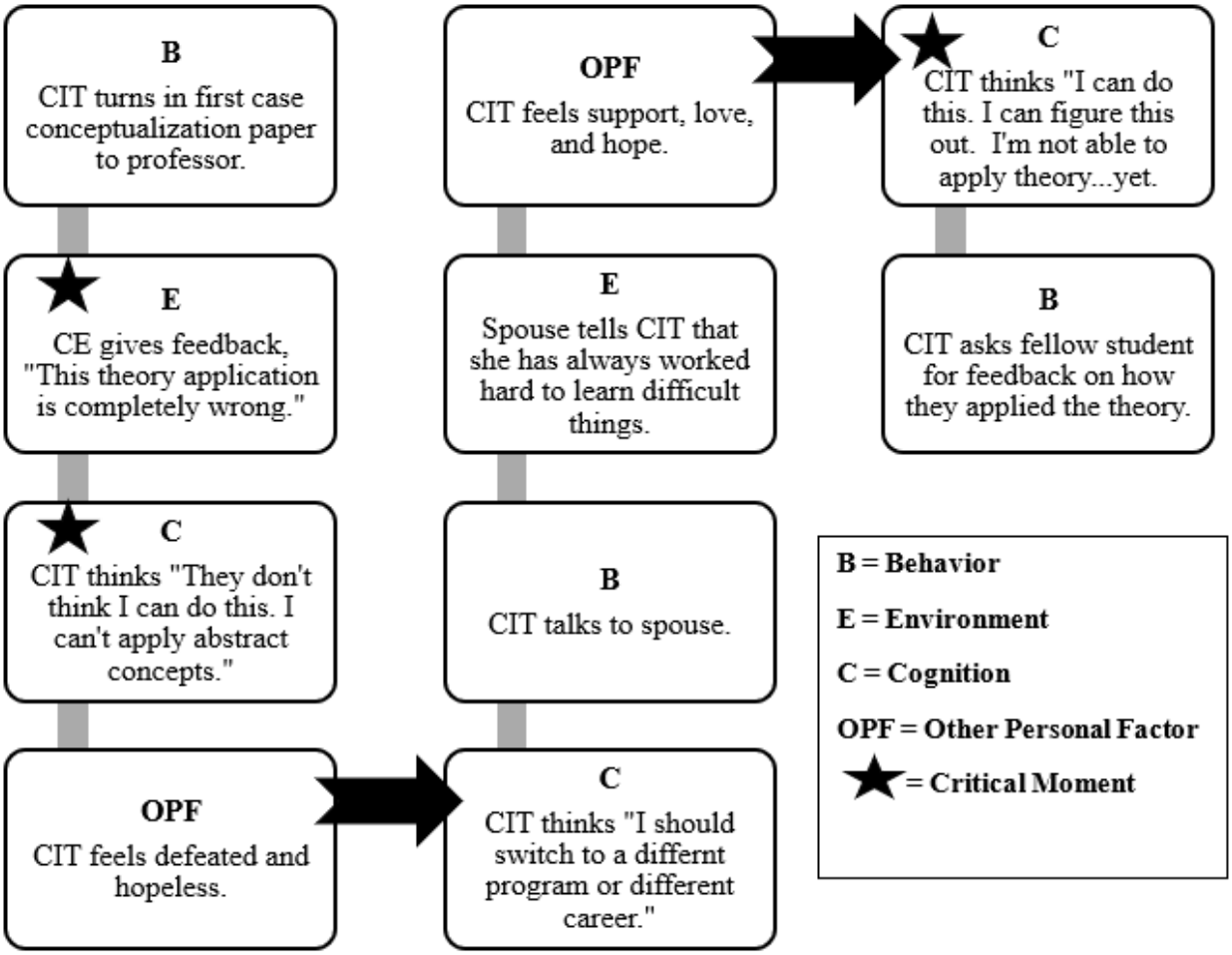
Figure 9 illustrates how CIT IM might be expressed during a CIT learning process according to IM (Dweck, 2016) and social cognitive learning theories (Bandura, 1971, 1993; Schunk, 2001). The CIT submits a challenging academic task to a CE in this hypothetical example. CE feedback to the CIT elicits an entity belief. As Dweck (2016) notes, students can react to a challenge with both entity and incremental beliefs, but the endorsed mindset will moderate the student's learning engagement over time. Progressing through the learning process, the CIT demonstrates ICM. The CIT uses learned strategies supported by ICM to move forward in the learning process and to embrace the challenge. If the CIT had EM, then the strategies would have supported the entity beliefs and resulted in unproductive learning behaviors, such as

quitting the challenging task or procrastinating. Note that the CIT had access to a support person who reinforced ICM. Messages from the environment (Murphy & Dweck, 2010; Kuo et al., 2017) or the match of the professor to the student's mindset (Caniëls et al., 2018) could influence the expression of IM. Other contextual factors (Brougham & Kashubeck-West, 2018; Walton & Yeager, 2020) could influence the relationship between IM and learning outcomes, such as motivation to perform to a high academic standard, availability of supports, or time available to engage in academic tasks.

The theoretical framework (Dweck, 2016) and the marginally statistically significant finding that CIT ICM moderates the relationship between CIT PALCCS and CIT CPCE scores demonstrate the need to explore IM and other factors on CIT learning outcomes. Given the described limitations of this research, these results are not definitive and require replication. Finally, the results of this research do not indicate, beyond theoretical speculation, if teaching incremental theory to the CIT population could assist learning during challenging academic and professional development tasks (Bayne & Jangha, 2016; Dollarhide et al., 2007; King, 2021). Teaching incremental theory is considered a beneficial teaching method in post-secondary populations (Aronson et al., 2002; Broda et al., 2018; Bryant & Aytes, 2019; Yeager, Walton, et al., 2016). Correction of the research design limitations of this study in future research could elucidate conclusions for application of incremental theory to CE teaching practices. Arguably, ICM's role in CIT learning processes warrants continued consideration to benefit the teaching and learning of challenging CIT academic and professional development tasks. Next, chapter five provides a summary of recommendations supported by the findings, conclusions, and implications.

Figure 9

The Learning Process of a CIT as it Applies to Implicit Theories Within a Social-Cognitive Learning Framework



Recommendations

Several recommendations are warranted from the results of this research study, primarily related to research design. First, CEs should utilize sampling procedures that gather data from the entire population of CITs, ensuring that CITs in remediation, pausing studies in the program, or from diverse demographic groups are adequately represented in the sample. CEs should consider multiple learner variables of interest relevant to the CIT population. CEs need to develop

objective measures of learning outcomes matched to CACREP curriculum standards for use with in-vivo quasi-experimental research designs that analyze the effect of specific teaching methods. Research needs to replicate the moderating effect of ICM on the relationship between CIT ICM and CPCE scores, while including other variables that might affect the relationship between ICM and CIT learning outcomes. Finally, CEs need to analyze the effect of IM while measuring associated variables using in-vivo quasi-experimental designs.

Limitations of the Study

This study had several limitations. The participants were a convenience sample that does not accurately represent the breadth of the population of interest. Not all instruments were psychometrically validated. Several outcome variables were self-report. Finally, limitations exist in the ability to make statistical interpretations.

While participants are online students and thus represent diverse geographic regions nationally and globally, the data were collected at an institution that adheres to a Christian mission. The participant racial/ethnic demographics were 75% Caucasian/White, 9% African American/Black, 5% Multiracial, 5% Hispanic/Latino, 3% Other, 2% American Indian/Alaskan Native, 1% Asian American, and 0% Asian, which does not match the racial/ethnic demographics reported in the population of master's level CITs in CACREP accredited programs for 2021 (CACREP, 2022). As such the results are not generalizable to the CIT population.

Participants self-reported all predictor and outcome variables. Self-report may not be accurate to the actual score. Participants may have misremembered scores or hastily entered an answer rather than trying to remember accurately.

While steps were taken to establish construct validity of the PALCCS, the measure should not be interpreted as a psychometric scale, but rather as a measure of the specific items as

they are worded and their aggregate score for this sample. The PALCCS has not undergone the rigorous testing needed to establish it as a psychometric measure of the perceived ability to learn the CACREP (2016) curriculum standards found in Section 2.F.

Several limitations apply to the interpretation of the data analyses. RQ1 provides only description of how the current sample of CITs perceive their ability to learn the CACREP curriculum standards. RQ1 does not demonstrate if one standard is perceived differently from another via statistical analysis. RQs 2-4 utilize cross-sectional design with no experimental manipulation and the results do not suggest causality (Hayes, 2018; Vogt et al., 2014). The results represent the influence of IM on learning outcomes for this convenience sample of CITs and only for the measured variables. Regression coefficients of the multiple regression analysis can only be interpreted in magnitude via the relationship to each other and for the measured variables (Hayes, 2018; Vogt et al., 2014). Even with these limitations, the results of this research study can guide future research decisions for CEs who are exploring the role of IM on CIT learning outcomes.

Summary

This chapter detailed the findings and implications from this research study that examined the moderating role of CIT IM on CIT learning outcomes. The purpose and planned research study were integrated with the literature from chapters one and two to support the presenting problem and purpose for this study. The methods described in chapter three are reviewed and integrated within the findings and implications. Finally, results from the data analyses in chapter four are interpreted relevant to chapters one through three for interpretation of the findings.

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APPENDIX A

Perceived Ability to Learn CACREP Curriculum Standards (PALCCS)

Please rate your agreement with the following items.

1 = strongly agree; 2 = agree; 3 = mostly agree; 4 = neutral, 5 = mostly disagree; 6 = disagree; 7 = strongly disagree.

I am confident that (after education and training) I will be able to develop the skills to:

1. counsel diverse groups of people with differences in culture, religion, and experience of systemic oppression.
2. make ethical decisions based upon ethical codes and clinical judgment.
3. advocate for the counseling profession within the community.
4. assess how personality, background, values, and abilities contribute to career success.
5. conceptualize problems and diagnose accurately.
6. use appropriate counseling interventions based upon research.
7. apply counseling models and theories with use of counseling techniques to help people have positive outcomes.
8. lead group counseling.
9. identify appropriate assessments and interpret results with clients.
10. interpret published research to inform counseling practice.
11. conduct and report research to inform counseling practice.

APPENDIX B

Implicit Theory of Intelligence Scale (ITIS Scale)

The ITIS Scale is also known as the Growth Mindset Scale and is found at Stanford SPARQtools.