PRE-SERVICE TEACHERS' SELF-EFFICACY FOR INCLUSIVE PRACTICES

By

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ABSTRACT

This study examines the perceived self-efficacy for inclusive practices in the classroom among pre-service teachers (N= 97) attending Middle Tennessee State University in the spring of 2018. All participants completed a standardized measure of teacher efficacy for inclusive practices, including subscales of efficacy to use inclusive instruction, efficacy in collaboration, and efficacy in managing behavior. The purpose of this study was to understand how formal training and personal experiences of preservice teachers relate to perceived self-efficacy of teaching inclusive classrooms. I also hoped to gain insight from the students enrolled in the teacher education program offered at Middle Tennessee State University and determine implications for inclusive teaching. Results indicate that there is no evidence to support that level education can predict levels of the measure of self-efficacy used here, but there is evidence to partially support that previous experience with inclusive classrooms can predict levels of self-efficacy to use inclusive instruction.

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CHAPTER 1: INTRODUCTION

The Tennessee Department of Education accepts the responsibility for the success of all students attending Tennessee public schools (Tennessee Department of Education, 2018a). The success of all students incorporates the success of the historically underserved populations as outlined in the Every Student Succeeds Act (Tennessee Department of Education, 2018a). These populations in Tennessee public schools include students with disabilities who are serviced under the Individuals with Disabilities Education Act of 2004. The Individuals with Disabilities Education Act (also known as IDEA, PL. 108-446, 2004 – formerly known as PL. 94-142, 1975) mandates U.S. school districts to provide a free appropriate public education in the least restricted environment for students with disabilities. IDEA 2004 informs the design and implementation of special education services in public schools (Tennessee Department of Education, 2018d). Inclusive practices refer to classroom strategies that influence the educational success for all students (Tennessee Department of Education, 2022a). Inclusive practices are important for students with disabilities to access the general education in the least restrictive environment (Tennessee Department of Education, 2018b).

Supporting students with disabilities in the least restrictive environment is a shared responsibility among all educational personnel (Tennessee Department of Education, 2018b). The Tennessee Department of Education's framework for special education explicitly states that the least restrictive environment allows for students with disabilities to interact as much as possible with students without disabilities while receiving the guaranteed free and appropriate education (Tennessee Department of Education, 2018d). The practice of inclusion encourages an appreciation towards diversity through differentiated instruction and relationship-building among students and staff (Valiandes et al., 2018). Inclusive practices are consistent with the strategies

used to improve overall student outcomes outlined in Tennessee's Multitiered System of

Supports Model (MTSS) which includes positive school climates, connectedness and engaging

academic instruction (Tennessee State Department of Education, 2018a).

Research into the evidence-based practices that support inclusivity is a growing interest

because the number of students with disabilities spending time in general education classrooms

has increased with each school year according to the National Center of Education statistics

(2021). The percentage of students with disabilities who are served in the mainstream classroom

continues to increase. Starting in 1989, the percentage of students served in the general education

classroom was around 32%. By 1999, it was about 46% and a decade later, that number rose to

almost 60%. As of 2019, that percentage has increased by 5% in the last decade (National Center

for Education Statistics, 2021). The same study found that the percentage of students with

disabilities who are spending at least 80% of their day in the mainstream classrooms has

increased roughly 14% each decade since 1989. At the start of Tennessee public schools' 2012

school year, 63% of students with disabilities were placed into general education classrooms;

70% of students were placed into the general education classrooms by the end of the 2016 school

year; and the number of students eligible for itinerant placement now has increased almost 8% in

the last decade for all Tennessee schools (Tennessee Department of Education, 2018b). There is

a burgeoning demand for research surrounding the topic of classroom inclusion and inclusive

practices as the percentage of students receiving special education services in mainstream

classrooms shows no signs of decreasing both locally and nationally.

A changing student demographic comes with changing expectations for teachers

(Tennessee State Department of Education, 2018b). General education teachers, being the

primary education provider, are expected to appropriately differentiate instruction as necessary to

meet the needs of their students (Tennessee State Department of Education, 2017). Educator preparation programs that provide up-to-date best practices for inclusion can help prepare general education teachers for the new challenges they must face in the coming years. Educators need to not only study the theoretical practices towards inclusion but to also implement those best practices. The educator preparation program at Middle Tennessee State University provides both coursework and clinical experience to support pre-service teachers with their need to stay current with best practices according to the Educator Preparation Report Card (Tennessee Department of Education, 2022). Tennessee's general education teachers must be willing to adapt to new standards of teaching to meet the needs of a diverse student population (Tennessee Department of Education, 2018b).

There is evidence to suggest that inclusive practice provides greater academic and social outcomes than segregating the students with disabilities from their peers without disabilities. High inclusion settings provide opportunities for students with disabilities to express more independence and self-direction when working on school assignments while simultaneously allowing them to practice learning strategies (Burns & Allen, 1998). To support this claim, a recent study found that students assigned to itinerant placement performed significantly better in math and reading compared to their peers who were not assigned to itinerant placement (Cole et al., 2021). Staff and faculty who participated in a different study (Burstein et al., 2004) reported a reduction in behavior problems as students receiving special education modeled behavior from their peers in the general education classroom. Increasing the integration of students into general education classrooms gives students with disabilities greater access to feedback for their academic work and access to reinforcement for appropriate behaviors (Burns & Allen, 1998; Messiou & Ainscow, 2020).

Teachers' perceived self-efficacy may play a role in the practices related to inclusion in the classroom setting (Bandura, 1997). Bandura (1997) states that self-efficacy is the strong belief in one's capabilities to achieve successful performances and can affect someone's willingness to pursue challenging tasks. It is important to understand the influences of and barriers to teachers' self-efficacy because it can influence their approach to instructional and behavioral management in the classroom (Bandura, 1997). Therefore, the following literature review will attempt to clarify the relationship between teachers' self-efficacy of practicing inclusion and their experiences while enrolled in an educator preparation program.

CHAPTER 2: LITERATURE REVIEW

The literature review will attempt to present the importance of having high self-efficacy of inclusive practices for teachers in the general education classroom. The first section discusses the current understanding of teacher self-efficacy and how it reinforces a productive classroom environment. Then, I will discuss the factors that help teachers develop their own self-efficacy specifically for practicing inclusion and the outcomes from that development. Based on the literature reviewed, I will then propose specific hypotheses to be addressed by the current study.

Teachers' Self-Efficacy

Self-efficacy is an individual's strong belief or certainty in his or her own capabilities to achieve successful performances (Bandura, 1997). The construct of teacher self-efficacy is multidimensional. Generally, a teacher's self-efficacy can be conceptualized into three broad components. Those are self-efficacy for instructional strategies, student engagement, and classroom management (Tschannen-Moran & Hoy, 2001). Teacher self-efficacy can further be observed through a variety of specific contexts. For example, an individual teacher's self-efficacy can differ for students with and without disabilities (Sawyer et al., 2022). Various contexts to overall teachers' efficacy within the three primary domains can include but are not limited to self-efficacy of instruction differentiation, self-efficacy of multicultural responsiveness, and, in the case of this current project, self-efficacy of inclusive practice.

Self-efficacy varies in terms of generality, strength, and context (Bandura, 1997). It is possible to have a high sense of self-efficacy in some areas and a low sense of self-efficacy in others. It is important to understand the significance of having a high teaching self-efficacy because it can influence a teacher's approach to difficult tasks and his or her overall performance in the classroom. It should be noted that teacher self-efficacy is not equivalent to teacher

performance. Self-efficacy can impact performance, but it is not reflective of the actual ability to teach (Cruz & Vasquez, 2020).

Self-efficacy is a broad concept, and the understanding of an instructor's overall teaching self-efficacy could be skewed by several situational factors that influence self-efficacy. To better understand the self-efficacy of pre-service teachers on inclusive practice, it is best to use a survey with questions specific to that context. The current literature provides scales for teaching self-efficacy, but there are few scales specific to inclusive practice. The one used for this study is one of the most recently validated ones, the Teacher Efficacy for Inclusive Practices scale (Park et al., 2016).

Teachers' beliefs about their own self-efficacy guide their behavior and attitudes, so beliefs about their own inefficacy can sabotage performance (Bandura, 1997). Teachers typically develop their sense of efficacy (or inefficacy) in a way that suggests self-efficacy is understood as a norm-referenced construct, and this means that teachers evaluate their self-efficacy based on their performance compared to the performance of other teachers (Ashton, 1984). These informal performance appraisals as well as their perceived experiences can lead to incorrectly perceived self-efficacies compared to their actual performance (Bandura, 1997). Self-efficacy is not performance but is a belief that can influence performance. Thus, perceived self-efficacy is defined by the subjective experiences of the teacher.

Self-Efficacy Outcomes for Teachers and Students

As subjective as it may be, perceived self-efficacy has real-world impacts. There is some evidence that low self-efficacy can explain feelings of teacher burnout (Gholami, 2015; Herman et al., 2018; Skaalvik & Skaalvik, 2007), while high self-efficacy is associated with greater job satisfaction (Klassen et al., 2009). There is also evidence to suggest that high self-efficacy is

negatively correlated to teacher stress when teaching students with autism spectrum disorder (Love et al., 2020). There is a adequate amount of research regarding significant student outcomes that can be linked to having a high teachers' self-efficacy.

Teachers' self-efficacy may have a significant correlation with their students' academic achievement (Mojavezi & Tamiz, 2012). There is some evidence that a high sense of teacher self-efficacy can positively impact students' math and reading achievement (Hajovsky et al, 2019; Herman et al., 2018; Sandaraj & Hashim, 2022; Shahzad & Naureen, 2017). A teacher's high self-efficacy can also positively predict levels of student motivation (Mojavezi & Tamiz, 2012). A teacher's high self-efficacy has been shown to positively predict a student's feelings of joy and negatively predict a student's feelings of boredom (Daumiller et al., 2021). These are some of the several student outcomes that are correlated to having a high self-efficacy. In general, a teacher's high self-efficacy can positively relate to educational performance.

Higher levels of teachers' self-efficacy are correlated with better relationships with their students (Hajovsky et al., 2020; Moyano et al., 2021). Alternatively, teachers who have low self-efficacy tend to be more critical of students and are less open to adjusting their teaching approaches. If teachers perceive themselves as highly self-efficacious, they are less likely to avoid difficult tasks and pursue solutions to their shortcomings (Bandura, 1997). There is evidence to suggest that attitudes towards inclusion are explained through teachers' self-efficacy (Desombre et al, 2019; Savolainen et al., 2022). Better attitudes towards inclusion do correlate with higher self-efficacy, and teachers with high self-efficacy of inclusive practice are more likely to implement inclusive interventions such as peer tutoring (Avrimidis et al. 2019). In general, a teacher's high self-efficacy is correlated with positive outcomes in the classroom environment.

Factors That Predict Teachers' Self-Efficacy of Inclusive Practice

Some researchers have examined factors that correlate to teachers' self-efficacy of inclusive practice. The current literature revealed two recurring factors that predict high and low levels of teachers' self-efficacy which are formal training and clinical experience.

Martins and Chacon (2021) found that when provided with formal training that included simulations of clinical experience, the level of self-efficacy for inclusive practices increases among in-service teachers. One study that agrees with this view found that the participating in-service teachers with several years of clinical experience but no formal training for special education still benefitted from receiving just the formal training alone (Chao et al., 2017). Another study (Mintz et al., 2020) revealed that pre-service teachers gaining clinical experience during the in-service period reported lower self-efficacy over time. Studies have found that the level of teacher self-efficacy increases with special education training (Emam & Al-Mahdy, 2020; Emam & Mohamed, 2011; Song et al., 2019; Specht et al., 2016; Tsakiridou & Polyzopoulou, 2014). Quality training is needed to prepare teachers for inclusive classrooms.

On the other hand, the personal experiences of a teacher as well as training can explain the differential levels of general teaching self-efficacy (Specht & Metsala, 2018). For example, general education teachers who have taught students with specific learning disabilities had an overall higher sense of general teaching self-efficacy than those who have not taught students with specific learning disabilities (Yakut, 2021). Pre-service teachers' general self-efficacy can increase with repeated clinical experiences (Atiles et al., 2012; Chiu, 2017; Leyser et al., 2011; Miesera & Gebhardt, 2018; Tsakiridou & Polyzopoulou, 2014). There is evidence to suggest that pre-service teachers' self-efficacy for inclusive practices can be developed through clinical experience (Puliatte et al., 2021). This does not imply that formal training is ineffective. A recent

study (Scheef et al., 2020) found that when pre-service teachers work with students with disabilities during their university coursework, participants felt comfortable with inclusive practice by the end of the semester. Specifically, the study involved two students who had intellectual disabilities who participated in a course alongside the enrolled students. From the current literature, these factors are two of the most investigated predictors of self-efficacy.

There is some evidence to suggest that teacher preparation programs help pre-service teachers develop a high sense of self-efficacy in various areas related to inclusion (Zagona et al., 2017). For example, Thomas et al. (2020) found that a community-embedded preparation program that allowed pre-service teachers to service the community through field experience raised their perceived levels of self-efficacy of cultural responsiveness. Leyser et al. (2011) found that the number of years teachers spent in a preparation program positively correlated with their perceived levels of self-efficacy of supporting positive student social relationships. Pre-service teachers who self-rated a "high" amount of experience working with children with disabilities had higher self-efficacy than pre-service teachers who had no experience (Subban et al., 2021).

The areas that the Tennessee State Board of Education report card currently addresses are overview, candidate profile, employment, provider impact, candidate assessment, and satisfaction. The Satisfaction domain indicates how strongly the in-service teachers feel that their preparation program prepared them for teaching using three measurements: coursework, clinical experience, and the overall score. The Board did not start reporting the candidate assessment and satisfaction domains until the 2019 report card; therefore, the 2018 report only contains the candidate profile, employment, and provider impact for in-service teachers at the same time the Teacher Efficacy for Inclusive Practices (TEIP) scale was submitted to the pre-service teachers.

The report cards reveals that most teachers agree that Middle Tennessee State University's educator preparation program's coursework prepared them for teaching and that the teachers reported to strongly agree that clinical experience prepared them for teaching. The overall preparedness did not significantly change over time from 2021's report card to 2022's report card and results remain satisfactory (Tennessee Board of Education, 2020; 2021). The two factors that support the development of self-efficacy are satisfactory to in-service teachers according to the report cards.

Statement of the Problem and Hypotheses

Teachers who take greater responsibility for their student's education tend to have higher self-efficacy than those who have low self-efficacy and avoid the possibility of failure (Bandura, 1997). When teachers are more engaged, so are the students (Messiou & Ainscow, 2020). High teacher self-efficacy generally correlates to beneficial outcomes for both teachers and students.

From the numerous types of self-efficacies, the one of interest for this study is the self-efficacy for inclusive practices because of the changing population of the general education classroom. The two predictive factors of teacher self-efficacy that have been the most heavily investigated in current literature are formal training and clinical experience. This study seeks to build upon the existing literature of how formal training and clinical experience influence the development of pre-service teachers' self-efficacy of inclusive practices. Ultimately, this will give us insight into the existing strengths and help us identify if there are any weaknesses of Middle Tennessee State University's educator preparation program.

H1: Participants with some experience teaching or working with students with disabilities will score higher on teacher efficacy than participants with limited or no experience. Teachers who report higher levels of experience generally have higher levels of self-efficacy (Specht & Metsala, 2018). Studies have shown that levels of general teaching self-efficacy can increase with experience (Subban et al., 2021). There are several studies that provide evidence that having in-service and pre-service experience influences self-efficacy. Levels of self-efficacy using inclusive instruction are expected to increase with having direct experiences specific to working with students with disabilities (Puliatte et al., 2021). Furthermore, just being around a student with a disability has been shown to increase self-efficacy (Scheef et al., 2020).

H2: Participants who have completed post-secondary education will score higher on the self-efficacy rating scale than participants who have completed only secondary education. There is evidence to suggest that the number of years spent in a program positively corelates with the level of self-efficacy (Leyser et al., 2011). Teachers who have training for inclusive education feel more prepared, and it is possible that those with higher levels of education should be more likely to receive formal training related to inclusive practices (Zagona et al., 2017). There is also evidence to suggest that practicing inclusion after having had formal training is more effective than practicing without it (Chao et al., 2017).

CHAPTER 3: METHOD

Participants

All participants ($N = 135$) were students over the age of 18 attending Middle Tennessee State University. Some of the participants were people who received emails from the Department of Elementary and Special Education. Others were offered extra credit in class after taking their final exam at the end of the spring semester of 2018 for completion of the entire survey. The emails disseminated by the Department of Elementary and Special Education removed the notice of compensation in the form of extra credit on their coursework.

A total of 38 participants were removed for not completing all the 20 questions derived from the Teacher Efficacy for Inclusive Practices (TEIP) scale, leaving 97 participants for the final analyses. All 20 questions were used to produce a total TEIP score. On the age variable, 88% of respondents were in the 18-29 range, 11% of respondents were in the 30-49 range, and 1% preferred not to answer. With respect to ethnicity, 83% of respondents were White, 11% were Black or African American, 5% were Hispanic or Latino, and 1% reported Native American or Pacific Islander. The level of education varied from having a high school degree to a Master's degree, with about half of the participants not having completed a college degree but having some type of formal training; 16% of respondents reported having a high school degree or equivalent (e.g., GED), 54% reported having some college experience but no college degree, 13% reported having an Associate's degree, 14% reported having a Bachelor's degree, and 2% reported having a Master's degree.

Materials

The measure used to understand the respondent's perceived self-efficacy was the Teacher Efficacy for Inclusive Practices (TEIP) scale (Park et al., 2016). The Teacher Efficacy for

Inclusive Practices (TEIP) scale is a 20-item measure that was developed in 2012 and later analyzed again in 2015 for the dimensionality of the factor structure (Park et al., 2016). The factorial cross-validation of the TEIP revealed that it is unidimensional in content. Because self-efficacy can be understood in several contexts, it is important that the self-efficacy measure is limited to factors of inclusive practice (those strategies related to maximizing access to the general education curriculum). The measure I sent to the College of Education uses a 7-point Likert response scale (1 = Strongly Disagree, 7 = Strongly Agree) (Park et al., 2016). The original scale stopped at 6 points, but I added a neutral option for participants who felt that the question did not apply in any way. I added this option for participants who have never been in the classroom at all. On the survey, 4 was listed as "Neither disagree nor agree."

The scale evaluates teaching self-efficacy using three factors: efficacy in inclusive instruction, efficacy in collaboration, and efficacy in managing behavior. The subscale efficacy in inclusive instruction has items such as "I am able to provide an alternate explanation or example when students are confused" and "I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated." The subscale efficacy in collaboration has items such as "I can assist families in helping their children do well in school," and "I can collaborate with other professionals (e.g., itinerant teachers or speech pathologists) in designing educational plans for students with disabilities." The subscale efficacy in managing behavior has items such as "I can control disruptive behaviour in the classroom," and "I am able to get children to follow classroom rules."

The participants then estimated the amount of time spent teaching or working with students with disabilities. Next, there was an open-ended question for any additional comments about their current teacher preparation program followed by a prompt for general comments

(please see Appendix B). Lastly, the participants were asked demographic questions with drop

down menus to choose from various groups (please see Appendix C). All other questions were

either related to demographics or comments participants wanted to let the researcher know. One

of the open-ended questions asked the participants to think of students with high-incidence

disabilities when answering. High-incidence disabilities refers to the disabilities that occur at a

higher frequency than other types of disorders. Therefore, students with high-incidence

disabilities are more likely to be seen in the general education setting. Demographic questions

covered their age, ethnicity, and field of study in terms of major/minor.

Procedures

The consent forms and survey data were collected through a software program called

Qualtrics. IRB approval was obtained prior to the collection of data (please see Appendix A).

Consent from each participant was obtained before starting the survey, and consent was listed as

a required statement on the Qualtrics survey software. Surveys were disseminated to students on

the email listing of the Department of Elementary and Special Education at the end of the spring

semester a few days before the week of final exams. The survey was emailed once more two

days later and again the following week. The emailed surveys were the ones listed without

compensation. The surveys listed for extra credit compensation were distributed in class after

taking their final exam in a few classes of one of my committee members (Dr. Alicia Pence).

The final data set was cleaned by Microsoft Excel before converting the file to a

statistical software suite for data analysis called SPSS (Statistical Package for the Social

Sciences). The criteria for exclusion was whether the participants completed all 20 questions.

Once data were cleaned, the next step was to code the questions related to the hypotheses. These

included the open-ended question requesting participants' estimations of time spent with students

with disabilities and reported highest level of education. The multiple levels of education

variable was reduced to a code of 1 or 2; 1 = *no college degree* (i.e., high school diploma, GED,

or "some college, no degree") and 2 = *college degree* (i.e., associate's, bachelor's, or master's

degree). The estimation of time was also coded with either a 1 or 2; 1 = *little to none* (some

responses may include phrases such as "not much," "very little," "limited," "none," or "unsure")

and 2 = *more than a little* (some responses may have included numerical estimates or listed

places of employment/volunteer work). SPSS was also used to sort the questions of the TEIP into

their corresponding subscales.

CHAPTER FOUR: RESULTS

All data analysis was conducted through the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were analyzed by calculating frequencies of the provided demographic responses. Of the remaining 97 participants who answered all questions from the Teacher Efficacy for Inclusive Practices (TEIP) scale, there were 85 responses for the demographic questions referring to their age, preferred student population, college major, and current level of education; 86 answered the question referring to the amount of experience they had working with students who have disabilities.

Descriptive Statistics

All means and standard deviations for each item and the mean of the total overall TEIP score are listed in Table 1. All 20 items produce a total overall TEIP score. Six different categories of demographic characteristics were analyzed. All demographic responses are presented in Table 1. These were the participant's age range, ethnicity, field of study (college major), highest level of education, time spent working with students with disabilities, and the preferred student population to work with. The participant information about age, ethnic group, and level of education categories are described in the Method section.

Three college majors were identified during data analysis. Of the 85 participants, 48% of respondents indicated that their major field of study was related to education. A participant whose major was related to education was any response that indicated undergraduate or graduate-level training for general education. For example, some were enrolled into the Early Childhood Education undergraduate-level program or the Curriculum and Instruction

Table 1

Average Scores for Each Item and Total TEIP

Item #	M	SD
Total TEIP Score	5.83	0.96
Item #		
1	5.89	1.38
2	6.16	1.01
3	5.73	1.23
4	5.90	1.07
5	6.00	1.24
6	6.15	0.99
7	5.71	1.20
8	5.85	1.18
9	5.73	1.20
10	6.03	1.09
11	4.82	1.65
12	6.21	1.05
13	5.94	1.41
14	5.95	1.08
15	6.18	1.30
16	5.62	1.30
17	6.04	1.16
18	6.20	1.07
19	5.12	1.59
20	5.45	1.47

Note. Higher scores indicate higher efficacy; scale 1-7. $N = 97$.

graduate-level program; 22% were Special Education majors and 29% reported their major as "Interdisciplinary." Seventy percent of participants had no college degree yet, with the remaining 30% reported having an Associate's, Bachelor's or Master's degree.

Four common student populations that the respondents would like to work with were identified. Elementary/primary grades were defined as K-5, middle grades were defined as 6-8, and high school/secondary grades were defined as 9-12. Reponses were categorized as "Special

Education" if the participant reported that he or she wanted to work with the Special Education

population. Responses were categorized as "Other" if the participant indicated that he or she was

either unsure or had no preference.

Table 2

Demographic Characteristics

Characteristic	Frequency	Percentage
Age Group		
18-29	75	88
30-49	9	11
Prefer not to answer	1	1
Ethnicity		
White	71	83
Black/African American	9	11
Hispanic	4	5
Pacific Islander	1	1
Level of Education		
High School Diploma/GED	60	70
College or Technical Degree	25	29
College Major		
(Related to) Education	41	48
Special Education	19	22
Interdisciplinary	25	30
Preferred Student Population		
Elementary/Primary Grades	49	58
Middle School Grades	9	11
High/Secondary Grades	7	8
Special Education	8	9
Other	12	14
Amount of Experience		
Limited Experience	19	22
Some Experience	67	78

Of the 85 participants. 58% reported a preference for working with the elementary school population, 11% would prefer working with the middle school population, 8% for working with the high school population, and 9% reported a preference for working with the student population receiving Special Education. The remaining 14% of responses fell in the "Other" category.

Of the 86 who reported the amount of experience spent working with students who have disabilities, a majority (78%) reported they had some time working with students compared to 22% who reported having limited or no time. Of the 85 who reported their level of education, a majority 71% reported having a degree compared to 29% who reported not having a degree from a post-secondary institution.

Tests of Hypotheses

The independent variables of previous amount of experience (some/limited or none) and level of education (secondary/post-secondary) were expected to relate to scores on the Teacher Efficacy for Inclusive Practices (TEIP) scale. Four scores were calculated from the TEIP, which include the overall TEIP score, Efficacy to Use Inclusive Instruction (EII), Efficacy in Collaboration (EC), and Efficacy in Managing Behavior (EMB). Each subscale for EII ($\alpha = .88$), EC ($\alpha = .90$), and EMB ($\alpha = .92$) consists of six items. Independent *t*-tests were used to test each of the hypotheses.

It was hypothesized that those having some experiences working with students with disabilities were likely to have higher scores on the TEIP overall efficacy score, and in particular the subscale Efficacy to Use Inclusive Instruction, than participants who had limited or no experience. It was also hypothesized that having a college degree would be associated with a higher overall efficacy score on the TEIP, and especially for EII subscale.

Hypothesis 1: Experience Working with Students with Disabilities

There was a significant difference in scores between different levels of experience when scoring the subscale EII. Thus, there was some support for the first hypothesis. However, results showed no significant difference in total TEIP scores. Results for each group are presented in Table 3. While there is no significant difference between groups with the other scores, each of the average scores for participants reporting some experiences were higher than each of the scores for participants reporting limited or no experiences. The group with some experience scored the highest on the subscale EII compared to other subscales. The group with limited or no experience scored higher on the subscale EC and EMB compared to the subscale EII.

Table 3

TEIP Scale t-test Results Based on Amount of Previous Experience

Total TEIP Score*	M	SD	t-score	p-value
Limited[1]	5.71	.73	1.72	.09
Some[2]	6.01	.67		
Subscale Scores				
Inclusive Instruction (EII)				
Limited[1]	5.62	.81	2.47	.02
Some[2]	6.07	.66		
Collaboration (EC)				
Limited[1]	5.76	.83	1.21	.23
Some[2]	6.02	.84		
Managing Behavior (EMB)				
Limited[1]	5.64	.85	1.07	.29
Some[2]	5.87	.81		

Note. Higher scores indicate higher efficacy. $N = 86$; [1]$n = 19$; [2]$n = 67$.

Hypothesis 2: Education level

Results showed no significant difference in scores between different levels of education for any of the scale scores or total TEIP score. Results for each group are presented in Table 4. Thus, there was no support for this hypothesis. While there is no significant difference between groups with the other scores, each of the average scores for participants reported having completed secondary education are higher than each of the scores for participants who reported having completed post-secondary education *except* for the subscale EC. Participants who completed post-secondary education scored higher on average for the EC subscale compared to participants who have completed only up to secondary education. However, the difference was not significant. Participants that have completed secondary education scored highest on the subscale EII compared to the other subscales. Participants that have completed post-secondary education scored higher on the subscale EC and the subscale EII compared to the subscale EMB.

Table 4

TEIP Scale T-test Results Based on Highest Completed Education

Total TEIP Score*	M	SD	*t*-score	p-value
Secondary[1]	5.97	.70	.48	.64
Post-Secondary[2]	5.89	.67		
Subscale Scores				
Inclusive Instruction				
Secondary[1]	6.02	.73	.89	.38
* Post-Secondary[2]	5.87	.70		
Collaboration				
Secondary[1]	5.96	.86	.15	.88
Post-Secondary[2]	5.99	.80		
Managing Behavior				
Secondary[1]	5.86	.82	.74	.47
Post-Secondary[2]	5.71	.84		

Note. Higher scores indicate higher efficacy. $N = 85$; [1]$n = 60$; [2]$n = 25$.

Supplementary Analyses

Three supplementary analyses of the demographic characteristics were conducted in addition to the tests of hypotheses. These analyses allow us to understand each effect (if any) of age, college major, and preferred student populations on TEIP total scale and subscale scores.

Age

Ages were grouped by three categories: 18-29, 30-49, and "Prefer not to answer." Only 1 responded with "Prefer not to answer." Thus, the following analyses are between the first two groups comprised of 84 individuals. Results showed no significant difference in scores between different age groups for any of the scale or total TEIP scores. Results for each group are presented in Table 5.

Table 5

TEIP Scale T-test Results Based on Age Group

Total TEIP Score*	M	SD	*t*-score	p-value
18-29[1]	5.95	.71	.30	.77
30-49[2]	5.88	.53		
Subscale Scores				
Inclusive Instruction EII				
18-29[1]	5.98	.74	.30	.77
30-49[2]	5.91	.67		
EC				
18-29[1]	5.97	.86	.14	.89
30-49[2]	5.93	.72		
EMB				
18-29[1]	5.82	.85	.41	.68
30-49[2]	5.70	.68		

Note. Higher scores indicate higher efficacy. $N = 84$; [1]$n = 75$; [2]$n = 9$.

While there was no significant difference between groups with the other scores, each of the average scores for participants in the age range 18-29 are higher than each of the scores for participants in the age range 30-49. Participants in the age range 18-29 scored higher on average compared to participants in the age range 30-49 for the overall total TEIP score. However, the difference was not significant. The participants in age range 18-29 scored higher on the subscale EII compared to other subscales.

College Major

Results showed no significant difference in scores between groups of college majors for any of the subscale or total TEIP scores. While there was no significant difference between groups, each of the average subscale scores are highest among participants with Special Education listed as their college major when compared to participants with either Education-related or Interdisciplinary listed as their majors. Results for each group are presented in Table 6. Participants enrolled in the Special Education program scored the highest average overall total TEIP score in comparison to students enrolled in Education-related or Interdisciplinary programs. There was no statistically significant difference among any of the selected groups for the overall total TEIP score. Participants enrolled in Education-related programs scored the highest on the subscale EII compared to other subscales on average. Participants enrolled in the Special Education program scored the highest on the subscale EC compared to other subscales on average. Participants enrolled in Interdisciplinary programs also scored the highest on the subscale EC compared to other subscales on average.

Table 6

TEIP Scale ANOVA Results Based on College Major

Total TEIP Score	M	SD	*F*-value	p-value
(Related to) Education[1]	5.86	.74	.86	.43
Special Education[2]	6.12	.62		
Interdisciplinary[3]	5.94	.67		
Total[*]	5.94	.69		
Subscale Scores				
Inclusive Instruction				
(Related to) Education[1]	5.93	.74	.45	.64
Special Education[2]	6.11	.71		
Interdisciplinary[3]	5.94	.71		
Total*	5.97	.72		
Collaboration				
(Related to) Education[1]	5.83	.94	1.20	.31
Special Education[2]	6.18	.64		
Interdisciplinary[3]	6.03	.79		
Total*	5.96	.84		
Managing Behavior				
(Related to) Education[1]	5.76	.85	.73	.49
Special Education[2]	6.02	.71		
Interdisciplinary[3]	5.76	.86		
Total*	5.82	.82		

Note. Higher scores indicate higher efficacy. [1]$n = 41$; [2]$n = 19$; [3]$n = 25$; * $N = 85$.

Preferred Student Population

Results showed no significant difference in scores between the five groups for any of the subscale scores or total TEIP score. Results for each group are presented in Table 7. The *p*-value indicates a trend towards significance. While there was no significant difference between groups, each of the average subscale scores were highest among participants with Special Education listed as their preferred student population when compared to other groups. Participants who indicated the elementary or primary level as the preferred student population had the second

highest efficacy scores overall compared to the other groups. Participants listing Special

Education scored the highest average overall total TEIP score. Participants listing middle school

scored the lowest average overall total TEIP score.

Table 7

Table 7. TEIP Scale ANOVA Results Based on Preferred Student Population

Total TEIP Score	M	SD	F-value	p-value
Elementary/Primary[1]	6.04	.63	2.28	.07
Middle School[2]	5.52	1.03		
High/Secondary[3]	5.72	.73		
SPED[4]	6.34	.51		
Other[5]	5.75	.56		
Total*	5.94	.69		
Subscale Scores				
Inclusive Instruction				
Elementary/Primary[1]	6.07	.65	2.00	.10
Middle School[2]	5.61	1.18		
High/Secondary[3]	5.74	.79		
SPED[4]	6.35	.60		
Other[5]	5.72	.47		
Total*	5.97	.72		
Collaboration				
Elementary/Primary[1]	6.10	.72	2.30	.07
Middle School[2]	5.30	1.36		
High/Secondary[3]	5.69	.77		
SPED[4]	6.25	.61		
Other[5]	5.89	.84		
Total*	5.96	.84		
Managing Behavior				
Elementary/Primary[1]	5.88	.81	1.61	.18
Middle School[2]	5.50	1.07		
High/Secondary[3]	5.64	.91		
SPED[4]	6.33	.53		
Other[5]	5.56	.71		
Total*	5.82	.82		

Note. Higher scores indicate higher efficacy. [1]$n = 49$; [2]$n = 9$; [3]$n = 7$; [4]$n = 8$; [5]$n = 12$; * $N = 85$.

Participant Perspectives of their Program

Of the 97 participants, 11 people chose not to comment on their program. The remaining 86 provided their opinions. There were mixed views when examining the comments that participants provided on the survey. Some indicated satisfaction and others indicated discontent with the current program. Some participants reported that experience was more helpful than the provided coursework, but others indicated the coursework helped them feel prepared and "sets a good foundation." One participant stated that the teacher preparation program at Middle Tennessee State University was "well put together." Another indicated that the program gave "a good starting point" to using inclusive practices.

The responses varied in length and content, but I attempted to categorize some of them based on the content in relation to the TEIP's subscale factors. Some of the comments were related to using inclusive instruction and managing behavior. Very few comments were related to collaboration with other professionals. Some of the participants who indicated their discontent included a general suggestion for improvement. One of the respondents indicated a desire for practice with managing disruptive behaviors, and another indicated the desire for more information about typical disabilities seen in the general education classroom. Compliments and suggestions are listed below in Table 8. In summary, several participants indicated that the coursework at Middle Tennessee State University (in 2018) provided a sufficient introductory view to inclusive practices in the general education classroom and noted areas for improvement.

Table 8. Participant Perspectives of MTSU's Teacher Program

Compliments	*Suggestions*
"I think the [the program] does a good job."	"We could use more classes on inclusive classroom teaching."
"I think [the program] has helped me tremendously."	"There needs to be a required class that we should take to teach us how to teach inclusively."
"I think I am being well-prepared for inclusive classrooms."	"The students in this program would benefit greatly if there were more psychology and developmental classes offered."
"I feel prepared for an inclusive classroom."	"Need more hands-on experience before residency."
"I feel that classes showed me how to differentiate learning among most students."	"I need more on how to teach [inclusively]..."
"It has been such a wonderful experience."	"I think more help with behavior management would be helpful."
I believe that MTSU is preparing us for the exceptional learner.	I feel like the program should include more classroom simulations.

CHAPTER 5: DISCUSSION

This study was conducted to better understand the factors that are related to high teacher self-efficacy for inclusive practices. The literature review suggested that clinical experience and formal training were two predictive factors of teacher self-efficacy. Demographic questions prompted responders to estimate the amount of time spent working with students with disabilities, and it was hypothesized that having some amount of time would predict higher levels of total overall TEIP scores than having a limited or no amount of time.

Demographic questions also prompted responders to indicate their highest level of education. It was hypothesized that participants who have completed post-secondary education would be higher than those who completed secondary education. It was also expected that the scores for the Efficacy for Inclusive Instruction subscale would be higher in comparison to the Efficacy in Collaboration and Efficacy in Behavior Management subscales. There was support found for the hypothesis that previous experience predicted higher scores in the Efficacy for Inclusive Instruction subscale in comparison to the other two subscales. No support was found for the other hypotheses.

While there was no statistically significant support for the hypothesis about the total overall TEIP score, it should be noted the average scores of the scales were higher when participants reported having more experience. A reason for this could be that participants with some experience received more opportunities to interact with students who have disabilities. They may be able to compare their perceived ability to other people who work alongside them. It is a possibility that experience plays a role in building their confidence in ability. Another possibility is that the participants who reported working in a location that serves students with disabilities (such as the Ann Campbell Early Learning Center located near Middle Tennessee

State University's campus) may have had high self-efficacy related inclusive practices prior to

any accumulation of experiences. It is also just as likely that they chose to work or volunteer for

activities related to supporting students with disabilities because they felt naturally inclined to do

so. Their level of experience may reflect their interests.

       The average means were lower when participants reported having more education in

areas of using inclusive instruction, managing behavior, and the overall efficacy but not by

much. Scores were higher for participants with more education in collaboration. A possible

reason for this could be that participants with more years of education are likely to have more

opportunities to practice skills related to collaboration than participants who have only

completed secondary education or are in the middle of completing their post-secondary

education.

Implications of the Research for Teacher Preparation

       Results from Table 1 showed that all respondents felt the most self-efficacious about

making their expectations clear for students but the least self-efficacious with handling

physically aggressive students. These two items are related to the Efficacy in Managing Behavior

subscale. The lowest score on the TEIP is consistent with the reported perspectives of the desire

for more instruction related to behavior management. These two scores may reflect the

coursework content related to setting clear behavioral expectations in the general education

classroom and to managing disruptive behavior. It is possible that the coursework provided at

Middle Tennessee State University is more effective at fostering teacher efficacy for setting clear

expectations than teacher efficacy for managing physically disruptive behavior. It may also be

that managing physically disruptive behavior is harder than setting clear expectations. The need

for more training related to efficacy in managing behaviors may also be supported by the comments and suggestions provided by the participants.

The results from Table 4 suggest that more training in general does not predict higher efficacy. Results from the survey indicated that participants received formal training to some degree, but it is unclear how much of their training is directed towards inclusive practices. The study conducted by Chao et al. (2017) may explain in some part why those who have completed less education reported higher levels of self-efficacy. In that study, teachers who have completed their training (and have been practicing in the field for years) still benefited from receiving professional development specifically about inclusive practices, which raised their self-efficacy (Chao et al., 2017). The results from Table 4 may reflect the coursework that the pre-service teachers in this study have not yet completed their teacher preparation program. Table 8 reflects the respondents' desires for more coursework related to inclusive instruction. The need for more training related to using inclusive instruction in a teacher preparation program can be seen with the results from Table 4 and Table 8.

There is statistically significant evidence from Table 3 that indicates some experience working with students with disabilities is related to higher levels of efficacy to use inclusive instruction. The group with limited experience (i.e., training-only with little to no experience) scored the lowest on the Efficacy to use Inclusive Instruction subscale, but not much lower than on the Efficacy for Managing Behavior subscale (about .2 points higher on Table 3). In comparison, the group with some training (i.e., training in addition to experience) perceived a difference in efficacy between the Efficacy to use Inclusive Instruction and Managing Behaviors subscales with a difference of about .30 points (Table 3).

The results from Table 3 indicate that having any kind of previous experience relates to changes in the perception of self-efficacy for managing behaviors in comparison to other factors of inclusive practices. Results from Table 3 and 8 suggest that coursework at Middle Tennessee State University may need improvement with strengthening teacher efficacy for managing behaviors as the pre-service teachers gain real-world experiences. Disposition – more confident and experienced

There were no significant differences on any of the scales or total TEIP score between groups when observing differences in age groups, college majors, and preferred student populations. However, there was a noticeable trend towards significance when analyzing differences between groups of college majors. The participants who listed their primary field of study as Special Education scored highest compared to those who listed their field of study as either Education-related or Interdisciplinary. A possible reason for the trend towards significance may be the content provided in courses designed for a Special Education major are tailored to inclusive education or it could be that respondents recognize how challenging it is to manage difficult behavior.

Something else to consider is the discrepancy between the number of students who listed their major as Special Education and the number of students who listed their preferred student population as students receiving special education. This may be explained by the fact that up to 80% of students at Middle Tennessee State University change their majors (Middle Tennessee State University, 2021). It could be that Interdisciplinary majors tend to switch to the Special Education major later through school. The number of participants who reported "other" as the preferred student population may have contributed to the lower number of participants who reported that they were sure about the preference.

These results are important to understanding the qualities of a teacher preparation program that strengthen the self-efficacy of general education teachers. The lack of understanding of inclusive practice means that teachers are likely to leave the responsibility of delivering core instruction to their students receiving special education to someone else, such as the special education teacher (Kurth & Foley, 2014). There are fewer teachers each year graduating from Tennessee teacher preparation programs of late (Tennessee Department of Education, 2017). There is also frequent turnover in Tennessee schools (Collins, 2020). The frequent turnover of teachers may indicate inadequate training (Collins, 2020). However, high self-efficacy can mitigate the stress they feel (Bandura, 1997). When teachers have high self-efficacy, they are more likely to engage in behaviors related to problem-solving than in behaviors related to withdrawal (Bandura, 1997).

Limitations and Directions for Future Research

There were limitations to this study regarding the quantity and the quality of the sample. This survey was shared with people at the end of the 2018 spring semester, and the short time constraint may have affected the quantity of the sample. It should be noted that the survey was given during the week of final exams, and participants may have been less inclined to take the time to finish the survey. Additionally, some participants received course credit for their time while others were not. I may have received more responses if I offered an incentive to everyone.

It is possible that the sample size was too small to see more statistically significant differences between groups. There was no evidence to support the first hypothesis, but the data trend pointed towards a statistically significant difference between levels of experience. There was also a trend towards significance among the group of people who were enrolled in the

Special Education program. If the sample size was increased, there may have been a statistical significance with these groups.

In terms of quality, the population I chose to survey was pre-service teachers because they can speak to the present condition of the program. If I had access to in-service teachers, the results for the first hypothesis may be different because their amount of experience is expected to increase. The perceptions of the teacher preparation program may also differ as they compare their real-world experiences to the training received in their courses. I would also like to note that the range of participants for each college major category was wide. I did not feel that I had too few respondents enrolled in each major.

In this study, I categorized responses into three groups of Education-related majors, all Special Education majors, and all Interdisciplinary majors. What this means is that there were some participants who were placed in the Education-related majors but were not necessarily general education teachers. For example, I categorized participants who were majoring in Early Childhood Education in the same group as participants who were majoring in Curriculum and Instruction. Future research may consider categorizing the fields of study into more specific categories to analyze differences in teacher self-efficacy based on the program that they are enrolled in. This could help with understanding each program's effectiveness at strengthening the efficacy for inclusive practices.

The other quality of the sample that I feel was limited was the number of respondents who reported their preferred population were students receiving special education. I would also like to know more about the respondents that were undecided between wanting to work with the student population receiving special education or general education. I think future studies could

further explore the levels of the measure of self-efficacy in pre-service teachers who report their uncertainty for working with the student population receiving special education.

There was a limitation related to data collection. In this study, I did not collect data on sex or gender. However, current literature suggests that there is a possibility that sex and gender may be weakly correlated with teacher self-efficacy. There is inconsistent research about whether sex influences a teacher's efficacy beliefs (both pre-service and in-service). Some research found that female teachers felt more self-efficacious than male teachers (Emam & Al-Mahdy, 2020), but others (Specht & Metsala, 2018) have found that male teachers felt more self-efficacious than female teachers. There is additional evidence from a recent study to support the lack of significance for sex on teacher self-efficacy of inclusive practice (Tumkaya & Miller, 2020). Future research studies may want to confirm this by continuing to investigate sex and gender differences of pre-service teachers.

The data were collected pre-COVID, so it would benefit future research to follow up with a post-COVID sample. Information collected from participant perspectives indicated that there was a need for their coursework to translate to their real-world experiences. Those expectations of what happens in the general education classroom may have changed since the initiation of the COVID pandemic. Additionally, access to real-world experiences was limited to pre-service teachers due to increased precautions and multiple school closures during the height of the COVID pandemic. During this period, the delivery of the formal training also changed as Middle Tennessee State University moved to a hybrid format. It is possible that the change in format may have an effect on strengthening or weakening teacher self-efficacy for inclusive practices, but future studies should explore this possibility.

I did not ask for explicit suggestions for improvement in the survey, so there were many comments that did not indicate what the teacher preparation program was doing right or wrong. A topic to consider in future studies should be the analysis of the common concerns that pre-service teachers have about inclusive practices and categorize them by the TEIP's subscale factors: using inclusive instruction, collaboration, and managing behaviors.

CONCLUSION

The purpose of this research was to explore the measures of self-efficacy for inclusive practices in pre-service teachers enrolled an educator preparation program. It was predicted that respondents with more experience teaching or working with students with disabilities will have higher levels of self-efficacy for inclusive practices than respondents reporting little to no experience. It was also predicted that respondents who completed post-secondary education would have higher levels of self-efficacy than respondents who completed secondary education.

The results did not match my expectations, but I still believe these results are useful to future program planning of teacher preparation programs. There may be some evidence that experience working or teaching inclusive classrooms may positively relate to an increase in self-efficacy for inclusive instruction. However, the results lack statistical power in the overall total TEIP score. There is also no evidence to support the hypothesis that finishing post-secondary education is positively related to higher levels of the measure of self-efficacy used in this study.

These results hold implications for the current direction of Middle Tennessee State University's teacher preparation programs and may also represent a sample of what other educator preparation programs are currently facing across Tennessee. This study addresses a potential factor that may be related to Tennessee's current staffing problems with teachers, which is low self-efficacy for inclusive practices. These problems include the decline in graduation rates for teachers each year and the increase in turnover rate for teachers. The study also adds to current research about the possible factors that are related to teachers' efficacy for inclusive practices and its related measures.

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APPENDIX A

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129

MIDDLE TENNESSEE
STATE UNIVERSITY

IRBN007 – EXEMPTION DETERMINATION NOTICE

Monday, April 23, 2018

Investigator(s):   Crystal Sivilay; Tom Brinthaupt
Investigator(s') Email(s): cys2e@mtmail.mtsu.edu; tom.brinthaupt@mtsu.edu
Department: Psychology

Study Title: Survey of Self-Efficacy for Inclusive Practice
Protocol ID: **18-1251**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the research category *(2) Educational Tests* A summary of the IRB action and other particulars in regard to this protocol application is tabulated as shown below:

IRB Action	EXEMPT from furhter IRB review***	
Date of expiration	**NOT APPLICABLE**	
Participant Size	250 (two hundred fifty)	
Participant Pool	**Adults age 18+**	
Mandatory Restrictions	1. Participants must be age 18+ 2. Informed consent must be obtained 3. Identifying information may not be collected	
Additional Restrictions	**None**	
Comments	None	
Amendments	**Date**	**Post-Approval Amendments**
		None

***This exemption determination only allows above defined protocol from further IRB review such as continuing review. However, the following post-approval requirements still apply:

- Addition/removal of subject population should not be implemented without IRB approval
- Change in investigators must be notified and approved
- Modifications to procedures must be clearly articulated in an addendum request and the proposed changes must not be incorporated without an approval
- Be advised that the proposed change must comply within the requirements for exemption
- Changes to the research location must be approved – appropriate permission letter(s) from external institutions must accompany the addendum request form
- Changes to funding source must be notified via email (irb_submissions@mtsu.edu)
- The exemption does not expire as long as the protocol is in good standing

APPENDIX B

Restart Block   Tools   ⌄   ▯   Share Preview

What experience (e.g. activities, amount of time, required or voluntary, etc.) did you you have teaching or working with students with high-incidence disabilities during your teacher preparation program? This can include any internships that you may have.

Do you have any thoughts about your teacher preparation program in preparing you for teaching inclusive classrooms?

Additional Comments (Optional):

→

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APPENDIX C

Restart Block   Tools   ⌄   ▯   Share Preview

What grade level(s) and subject(s) do you want to teach? If undecided, type "undecided."

What is your major(s) and minor(s)?

What is your highest level of education?

What is your age

What is you ethnicity?

→

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