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Effects of Principal's Gender, Leadership, and Teacher's Certification Type on Teacher Self-Efficacy

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Abstract
This quasi-experimental vignette study investigated if principal's leadership style and gender and teacher's certification type affect teacher's classroom management self-efficacy. A 3-way ANCOVA was conducted to determine if teachers' classroom management self-efficacy differs based on certification pathway, principal's gender, and leadership style after holding the teacher's gender, age, ethnicity, assignment type, and total years of experience constant. The analysis revealed no statistically significant main effects of certification type and principal's gender. However, the ANCOVA indicated a statistically significant difference based on leadership style: teacher's self-efficacy was higher when principal was described as supportive rather than directive

Keywords: Teacher Certification Types; Classroom Management Self-efficacy; Leadership Styles

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Introduction

With nearly 1,000 teachers leaving the profession daily, our nation's schools are responding to this imminent crisis by working tirelessly to ensure that skilled teachers are prepared to fill the two million positions that will be available in the coming years (DeMonte, 2015; Schargel & Iqbal, 2012; Vilorio, 2016). One response to the crisis was the 2001 implementation of the No Child Left Behind (NCLB) Act, which mandated that each core subject (i.e., English/language arts, mathematics, science, and social studies) classroom must have a highly qualified teacher (Carroll & Foster, 2010; Flores, Desjean-Perrotta, & Steinmetz, 2004; Milner, 2010). The highly qualified status requires teachers to possess their bachelor's degree, teaching licensure/certification in a core subject area, and proven-competence in the subjects they teach (Darling-Hammond & Berry, 2006). However, in more recent years, the Every Student Succeeds Act (ESSA) replaced No Child Left Behind. States are no longer required to monitor teacher quality under ESSA, but their Title I teachers must be licensed (U.S. Department of Education, 2018). Even though the concept of a highly qualified status is one that should benefit students, the variances in teacher certification programs could prove challenging in acquiring authentic, highly qualified teachers who are ready to enter a real classroom.

Regardless of their certification type, many teachers struggle to ensure that students are academically engaged because of their inability to effectively manage the classroom while addressing disruptive student behaviors (Brouwer & Korthagen, 2005; Pace, Boykins, & Davis, 2013; Shaukat & Iqbal, 2012). These teachers are overwhelmed. Hence, their feelings of low self-efficacy with regards to classroom management intensify with increases in student enrollment and overcrowded classrooms (Fox & Peters, 2013; NCES, 2016; Shaukat & Iqbal, 2012). The Metropolitan Center for Urban Education (2008) suggested that an effectively managed classroom, which incorporates concepts such as conflict resolution, student ownership, and choice as a part of their daily routines, will promote positive student-directed behavior. However, training teachers on the skills needed to manage their classrooms effectively is not sufficient (Marzano, Marzano, & Pickering, 2003). Teachers need continuing support from principals and other school leaders (e.g., mentors and master teachers) to foster long-term commitment to positively manage both the activities of the classroom and challenging students (Lewis, 2008). Consequently, principals should demonstrate flexibility in leadership based on their knowledge of teachers' needs to increase teachers' self-efficacy (Leithwood, Harris, & Hopkins, 2008).

It is this flexibility in leadership—based upon teachers' needs—that suggests an opportunity to employ a particular leadership strategy that may make a difference in improving teachers' classroom management self-efficacy. The situational leadership model suggests that the leader—a school principal in this case—interacts with each follower—teachers in this case—flexibly or differentially, based upon the abilities of the followers and their willingness to carry out the tasks at hand (Blanchard, 2001). For researchers to delve deeper into the leader and follower relationships, the influence of gender on leadership style and effectiveness should be examined more thoroughly (Ayman & Karobik, 2010). To be effective in such a culturally diverse world, leaders must understand how they respond in different situations and how their preferred leadership styles may be different from what their followers prefer, therefore, reducing misinterpretations and misunderstandings (Eklund, Barry, & Grunberg, 2017). The principal can use varying styles of leadership to increase the likelihood of their teachers succeeding at a given task that improves teacher self-efficacy and effectiveness. As a result, this study seeks to determine whether teacher certification, the principal's gender, and leadership style have different effects on teachers' classroom management self-efficacy.

Justification of the Study

By the fifth year of a teacher's tenure in the classroom, nearly 50% are either leaving teaching or contemplating departure, often due to frustrations regarding ineffective classroom management skills (Ingersoll, Merrill, Stuckey, & Collins, 2018; Pace et al., 2013; U.S. Department of Education, 2018). Moreover, insufficient principal support has been cited as a critical reason for teachers leaving the profession (Ingersoll & Smith, 2003). Is it possible that the support that the principals are providing is not flexible enough to attend to the specific needs of the teachers? Many times, these teachers are left to fend for themselves within their classrooms, yet they are expected to be effective and create substantial student gains. (Ingersoll, 2012). For instance, teachers are required to plan instruction,

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incorporate and design appropriate learning activities, structure organizational routines, and procedures, and implement disciplinary interventions as needed (Marzano et al., 2003). Although each of these actions is necessary for effective classroom management, support from leadership is also essential. Classrooms may be perceived as individual silos where teachers are autonomously positioned while occasionally getting a supervisory visit from the principal. The lack of support or perception of lack of support, combined with inefficient classroom management skills, could threaten a teacher's self-efficacy (Fox & Peters, 2013; Zientek, 2006) and cause teachers to leave the profession (Putman, 2009). Consequently, the combination of the two may limit student learning. The findings from this research study could prove beneficial to all stakeholders, including policymakers, colleges and universities, school districts, principals, teachers, students, and communities.

Purpose of the Study

In light of this, the field of education may benefit from a richer understanding of how leadership practices influence teacher self-efficacy. Principals are the critical component to the overall effectiveness of their schools, and teachers are essential to student learning. Understanding the relationship between the two is of importance. As such, the purpose of this quasi-experimental vignette study was to determine if principals' leadership styles and genders, and teachers' certification types have different effects on teachers' classroom management self-efficacy.

No studies, including teacher's certification, principal's leadership style, and gender regarding classroom management self-efficacy, as a part of this experimental model was identified in the literature review. This study examined the relationships among principal's situational leadership styles, principals' genders, teachers' certification types, and teachers' classroom management self-efficacy. The potential for the significance of this study may be considered in three situations. First, principal leadership relates to teacher self-efficacy; therefore, understanding how to adjust leadership styles in a given situation based upon the developmental level of the teacher is essential. Second, knowing the relationship between certification type and teachers' self-efficacy might assist educational stakeholders in making more informed decisions regarding certification policy and certification requirements. Next, few studies address the relationship between gender and leadership styles (Eagly & Karau, 2002).

There are concerns regarding leaders' genders and their influence on perceived leadership effectiveness. Knowing whether the gender of the principal influences how teachers see his or her style of leadership could prove beneficial in increasing society's awareness of social role inequities, namely the underrepresentation of females as principals. Lastly, lacking or ineffective classroom management skills is one of the leading causes for teachers deciding to leave the teaching profession. Providing best practices and practical classroom management experiences in teacher certification programs may help improve teacher confidence upon entering the classroom. Support from the published literature for the significance of this study is shared below.

Although there is a relationship between principal leadership and teacher efficacy, the precise manner in which principal leadership influences teacher self-efficacy is still up for debate (Ebmeier, 2003). Regardless, academic leaders are critical to ensuring their teachers, schools, and students succeed (Hipp, 1996; Hoy, 2000; Woolfolk & Hoy, 1990). Teachers desire to work for principals who guide and support them early in their careers (Brock & Grady, 2001). However, veteran teachers are interested in principals who provide job-embedded learning opportunities that are focused on their needs (McLaughlin & Marsh, 1990; Tschannen-Moran & Woolfolk Hoy, 2007).

When teachers experience a principal who can successfully respond to their concerns and who cultivates their innovative practice, increased teacher self-efficacy may result (Tschannen-Moran & Hoy, 2001). Knowing how and when to apply appropriate leadership styles depending on specific situations and teacher needs is pertinent for success (Blanchard, Zigarmi, & Nelson, 1993; Cox, Graves, Hinkes, Parker, & Swender, 2014). With the constant changes in federal laws and state mandates for education, it would benefit stakeholders to have principals in schools who are flexible, knowledgeable, and skilled enough to navigate successfully the challenges that come with change (Cochran-Smith et al., 2012).

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The number of individuals choosing an alternative path to begin teaching has increased since the alternative program's inception in the 1980s (Darling-Hammond, 2010; Darling-Hammond, Chung, & Frelow, 2002). Gaining an understanding of whether there are differences in teacher quality among traditional and alternative certification programs can improve the way universities and other training programs prepare candidates for the actual classroom experience. Research is mixed as to whether a relationship exists among certification type and teachers' self-efficacy regarding instruction, classroom management, student engagement (Cochran-Smith et al., 2012; Flores et al., 2004; Qu & Becker, 2003). It has also been found that certification types may be moderated by location due to the lack of a standard definition; hence, the different certification policies by states (Qu & Becker, 2003).

Darling-Hammond et al. (2002) suggested that teachers who take the alternative type to certification are inadequately equipped to do the job of traditional-certified teachers and, therefore, have attained a decreased sense of teachers' self-efficacy, which could affect their classroom management abilities. In contrast, Robertson and Singleton (2010) suggested that alternative-certified teachers are just as successful as traditional teachers regarding having the ability to adjust to the stress of teaching successfully. Robertson and Singleton also posited that, because of the alternative teacher's prior professional experiences in careers outside of teaching, they are equipped to manage classrooms better.

Not only is the certification type of concern, but so is gender. Both the contingency and situational approaches fail to address the relationship that demographics such as gender could have on perceived leadership effectiveness and teacher self-efficacy (Ayman & Karobik, 2010; Mitchell, Biglan, Oncken, & Fiedler, 1970). Klassen and Chiu (2010) noted in their study that male teachers have higher classroom management self-efficacy than females. Conversely, a study by Murshidi, Konting, Elias, and Fooi (2006) examined whether demographic variables such as gender, race, and teacher preparation types, influenced teacher self-efficacy. The results of the study revealed that there was no significant relationship between gender and teacher self-efficacy.

Nevertheless, race and teacher certification programs were significant predictors of teacher self-efficacy. Another study revealed that female followers prefer to work for a male leader (Singh, Nadim, & Ezzedeen, 2012). Another study showed that MBA students identify more with role models of the same gender; however, female students tended to be more critical of their female role models (Kelan & Mah, 2014). Also, female principals are more likely to be evaluated more negatively than their male colleagues (Matheri, Cheloti, & Mulwa, 2015). Therefore, the impact of a principal's gender on perceptions of teacher self-efficacy was examined.

Although situational leadership has both its pros and cons, it is well-known in the market place and deemed useful; and considered prescriptive, practical, and flexible (Northouse, 2016; Thompson & Glasø, 2015). The situational leadership model's goal is to ensure that leaders acknowledge individual differences (Blanchard, 2008). However, too few research studies have been conducted to justify the situational leadership model's theoretical basis, and the followers' development levels are viewed as an ambiguous conceptualization (Northouse, 2016; Vecchio, Bullis, & Brazil, 2006).

Conceptual Framework

This study brings together Bandura's (1997) social cognitive theory of self-efficacy and Hersey and Blanchard's (1996) situational leadership model. The socio-cognitive theory of self-efficacy explains why individuals possess certain feelings about their competency to learn and complete specific goals in a particular context (Hamman et al., 2006). A person's perception of their self-efficacy influences the way they think, evoke emotion, and behave (Tschannen-Moran & Woolfolk Hoy, 2007). Some studies have found no significant difference in teacher's feelings of efficacy based on their teacher certification type (Goldhaber & Brewer, 1999; Hamman et al., 2006; Qu & Becker, 2003). However, others dispute these claims and conclude that teacher effectiveness is directly linked to the certification type (Darling-Hammond, 2010; Flores et al., 2004; Nougaret, Scruggs, & Mastropieri, 2004; Zientek, 2006). Darling-Hammond (2010) posits that traditionally-certified teachers feel better prepared and, therefore, more confident in the classroom than alternatively-certified teachers, hence higher self-efficacy. Self-efficacy can determine individuals' levels of motivation, and their success depends on whether they have a favorable view of if they can accomplish the goals (Zientek, 2006).

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Bandura (1997) categorized self-efficacy into two groups, efficacy and outcome expectations. Efficacy expectations occur when a person has a high sense of confidence in completing a task, whereas outcome expectations suggest that an individual's actions determine their possible result. Ultimately, individuals exhibiting both efficacy and positive outcome expectations are more likely to work harder at accomplishing their goals; self-efficacy determines the degree to which they succeed. Initially, Bandura began studying self-efficacy in students. He wanted to see if their levels of self-efficacy would determine their levels of success. Once he discovered that self-efficacy does affect student success levels, he then began examining teachers, hence the phrase teacher self-efficacy. It has been suggested that individuals who have increased teacher self-efficacy have increased effectiveness (Bandura, 1997; Fox & Peters, 2013). Effective principals understand the importance of improving teacher self-efficacy.

Principals' leadership styles have a significant relationship with teachers' self-efficacy (Nir & Kranot, 2006). School principals who are flexible, supportive, and who address the needs of their teachers create environments that encourage higher teacher self-efficacy (Hersey & Blanchard, 1996; Leithwood et al., 2008; Walker & Slear, 2011). When individuals have a higher self-efficacy, they approach difficulties with a greater sense of assurance (Bandura, 1977; Fox & Peters, 2013). More importantly, incorporating situational leadership to address the needs of followers could prove beneficial for teacher success in the classroom.

The situational leadership theory suggested that leadership styles are contingent upon situations and follower readiness for a specific task (Hersey & Blanchard, 1996; McCleskey, 2014; Vroom & Jago, 2007). Developed from the task- and people-oriented perspective of leadership, this theory brings attention to the follower's role and needs and the leader's ability to flexibly adjust his or her leadership style to help the follower become successful at work (Bedford & Gehlert, 2013; Graeff, 1997). To be effective at creating such successful followers, Blanchard et al. (1993) theorized that leaders should exhibit competency in being both task and people-oriented, not one or the other, highlighting the need for situational leadership.

Effective leaders are critical to the success of their teachers; however, many teachers report that they leave the teaching profession because they are dissatisfied with the lack of supportive leadership (Fox & Peters, 2013). Leaders who can adapt their leadership styles to address situations and follower needs could improve this dissatisfaction. There are advantages to adopting a situational leadership style. First, the leadership style is flexible—lending to the leader's ability to adjust to specific circumstances (Blanchard, 2001; Hersey & Blanchard, 1969). Next, it acknowledges the importance of follower readiness as another determining factor for the selected leadership style (McCleskey, 2014). Last, the situational leadership approach is practical in that it can be easily implemented in a variety of organizational settings (Schriesheim, Castro, & Cogliser, 1999).

Effective leadership is critical to the success of schools; therefore, more training is being implemented to develop effective principals (Hess, 2003; Matheri et al., 2015). For instance, school districts are developing ways, through professional development opportunities, to equip school leaders with better skills, namely persistence, flexibility, open-mindedness, and optimism, which are essential qualities of a leader, especially when facing tough decisions within their organization (Corbell, Booth, & Reiman., 2010; Hogan & Kaiser, 2005). Change is inevitable, and to address the constant transformations of society and schools, educational leaders, such as principals, should be flexible and willing to use a leadership style that benefits the follower's needs when change happens.

Leadership style is essential and should be determined depending on context; similarly, teacher self-efficacy changes based on a specific task or circumstance (Cox et al., 2014; Goleman, Boyatzis, & McKee, 2013; Tschannen-Moran & Woolfolk Hoy, 2007). For example, the confidence of a teacher regarding her ability to deliver curriculum and classroom management effectively should determine the type and level of support she receives. With that being said, classroom management is one of the most critical challenges of teachers (Marzano et al., 2003). Without classroom management, teachers cannot teach, and among both novice and veteran teachers, the inability to successfully manage classrooms is causing some teachers to leave the profession (Aloe, Amo, & Shanahan, 2014). It does not matter how smart a teacher may be; the lack of classroom management may supersede and create chaos within their

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classes, leading to teachers leaving teaching altogether. Increasing teachers' self-efficacy for classroom management early in their careers is essential in improving their effectiveness and increasing their chances of succeeding long-term (Celep, 2000). Leaders who are knowledgeable and skilled enough to adjust their behavior based on a teacher's readiness level and the situation will provide what is needed, consequently increasing the teacher's self-efficacy. However, a principal's gender may influence this relationship. More research should be conducted to examine how different demographic variables, such as gender, may affect the behavior of leaders and followers (Ayman & Karobik, 2010; Mitchell et al., 1970).

Eagly's gender-role theory posited that behavior that is considered appropriate for men and women is developed by individuals' own beliefs about their behavior and the behavior of others (Eagly, Makhijani, & Klonsky, 1992; Werth, Markel, & Förster, 2006). Also, a study conducted by Koening, Eagly, Mitchell, and Ristikari (2011) concluded that leadership is associated with being male, which makes it harder for women to break into leadership roles. As a result, biased perceptions regarding performance could be based on a person's expectations or social stereotypes for female and male leaders (Davis & Maldonado, 2015; Eagly & Carli, 2007).

For example, gender stereotypes in the workplace equate the leadership styles of women with weak performance compared to those of men, which are considered too strong (Crites, Dickson, & Lorenz, 2015). Also, Parveen and Tariq (2014) posited that female leaders are viewed as being supportive, much like a facilitator, while male leaders are perceived to have more directive and authoritative attributes. The influence of gender on leadership style varies based on organizational context (Becker, Ayman, & Korabik, 2002). For instance, women who lead in male-dominated fields are more inclined to negative perceptions by themselves and others than women leaders in feminine-labeled professions like education. Addressing the principal's gender in this study may help districts and schools understand the importance of gender-influence in the educational setting.

Methods

To examine the treatment effect, this quasi-experimental vignette study determined if principals' leadership styles and genders, and teachers' certification types affect teachers' classroom management self-efficacy while controlling for teacher's gender, age, ethnicity, teaching assignment, tenure, and years of experience. Participants included 281 (152 traditionally and 129 alternatively certified) teachers from 9 public schools (K-12) and one alternative program from a district in Northwestern, Louisiana. Descriptive data and statistical tools such as analysis of covariance (ANCOVA) were used to determine the significance of the main and interaction effects of groups.

In general, the data indicate no statistically significant main effects of certification type and principal's gender. However, the ANCOVA indicated a statistically significant difference based on leadership style: teacher's self-efficacy was higher when principal was described as supportive rather than directive.

Research Questions

The following five research questions guided this study:
Does teacher's classroom management self-efficacy differ based on the certification pathway, principal's gender, and leadership styles after holding the teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant?
Do principal's gender and leadership styles interact and have varied influences on teacher's classroom management self-efficacy after holding the teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant?
Do principal's gender and teacher's certification type interact and have varied influences on teacher's classroom management self-efficacy after holding the teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant?

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Do the principal's leadership style and teacher's certification type interact and have varied influences on teacher's classroom management self-efficacy after holding the teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant?
Do the principal's gender, leadership style, and teacher's certification type interact and have varied influences on teacher's classroom management self-efficacy after holding the teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant?

Instruments

A total of three survey measurements (included in one electronic survey) were used to assist with data collection. The survey included three instruments; namely, a researcher generated demographic survey, researcher-designed vignette (Directive/Supportive, Male/Female), and the *Teachers' Sense of Efficacy Scale* (TSES) short form. All three scales were distributed and data collected through a web-based survey distributor known as Qualtrics®. Once all data were collected, the analysis of the data began. A 3-way ANCOVA was used in Statistical Package for the Social Sciences (SPSS) to analyze data and answer the study's five research questions mentioned. Each measurement will be explained in greater detail at this time.

Teacher Demographics

Certification type (traditional and alternative) served as one of three independent variables in the study. It, along with other teacher demographics such as gender, age, ethnicity, tenure, and years of experience, was retrieved via Qualtrics®, which is a web-based survey site that was used to gather demographic information and responses from participants. The site is a well-known and reputable distributor. Using Qualtrics® will also ensure the data to be kept anonymous.

Researcher-Designed Manipulated Vignettes (Treatment)

One vignette template was used. However, the principal's gender and response to the situation was manipulated. A total of four manipulated vignettes were used to determine how teachers perceived the leadership style. The two styles of leadership examined were directive and supportive. For this study, two of the three independent variables, the principal's situational leadership style (directive and supportive) and gender (male and female) were manipulated to determine if there is a main effect of each or interaction effects on the teacher's sense of classroom management self-efficacy. Also, the manipulation helped to establish whether the effect of the principal's leadership style and gender changed depending on teacher certification type.

Participants read a randomly assigned vignette describing a principal's gender and observation of a teacher in which the teacher had the opportunity to use classroom management strategies. Although the principal's gender and leadership style were manipulated, the description of the scenario remained constant concerning his/her perceived competence of classroom management with difficult 9th graders. Afterward, the participants responded to three manipulation check survey questions and rated their own teachers' sense of efficacy (classroom management) in the hypothetical situation using the TSES. Table 2 presents the descriptive statistics for the eight manipulated groups. [Insert Table 2 near here]

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Table 2

Descriptive Statistics for Class Management Self-Efficacy Scores across Experimental Groups

	M	*SD*	Min	Max	Skew	Kurtosis	K-S Test	*N*	Norm Met
Alternative Certification-Supportive and Female Principal (ASF)	7.386	.781	5.75	9.00	.268	-.349	.079[a]	33	Y
Alternative Certification-Supportive and Male Principal (ASM)	7.297	1.078	5.00	9.00	-.371	.457	.066[a]	32	Y
Traditional Certification-Supportive and Female Principal (TSM)	7.684	1.057	5.25	9.00	-.565	-.358	.141[a]	38	Y
Traditional Certification-Supportive and Male Principal (TSM)	7.680	1.039	4.50	9.00	-.592	.590	.091[a]	39	Y
Alternative Certification-Directive and Female Principal (ADF)	7.063	1.398	4.50	9.00	-.248	-1.026	.200[a,b]	32	Y
Alternative Certification-Directive and Male Principal (ADM)	7.250	1.315	4.50	9.00	-.631	-.605	.054[a]	32	Y
Traditional Certification-Directive and Female Principal (TDF)	7.631	1.072	5.00	9.00	-.469	-.498	.085[a]	44	Y
Traditional Certification-Directive and Male Principal (TDM)	7.234	1.037	5.50	9.00	-.608	.283	.111[a]	31	Y

Note. Boldface represent normal distributions of CM (classroom management).
a. Lilliefors Significance Correction.
b. This is a lower bound of the true significance

Teacher Self-Efficacy

The teacher's perception of self-efficacy for classroom management, the dependent variable for this study, was measured with Tschannen-Moran and Hoy's (2001) *Teacher's Sense of Efficacy Scale*. This instrument is an altered version of Gibson and Dembo's *Teacher Efficacy Scale* (1984). The TSES has two variations; a long version that has a total of 24 items, and a shorter version that contains 12 items. For this study, the 12-item version of this instrument was used to increase the chances of teacher completion. Three sub-scales make up the structure of the survey, namely student engagement, instructional strategies, and classroom management being the focus area. Respondents will answer from a 9-point Likert-type scale that ranges from one to nine (nothing to a great deal, respectively).

According to Tschannen-Moran and Hoy (2001), TSES is a reliable and valid measure. The coefficient alpha scores are 0.91 for instruction, 0.90 for management, and 0.87 for engagement. There are also inter-correlations between the subscales of instruction, management, and engagement, which include 0.60, 0.70, and 0.58, respectively ($p < 0.001$). The means for the three subscales range from 6.71 to 7.27. The construct validity was demonstrated by correlations determined with the *Research and Development* (*RAND) Corporation Measure* ($r = 0.18$ and 0.53 $p < 0.01$) and *Gibson and Dembo's Teacher Efficacy Scale* (personal teacher efficacy; $r = 0.61$, $p < 0.01$).

Selection of Sample

In this study, random sampling and random assignment are used to demonstrate causal inference (Shadish, Cook, & Campbell, 2002). The population used for this study comes from one district in Northwestern, Louisiana. The schools' district contains 373 teachers from 9 public schools and one alternative school program. The sample is composed of 281 randomly selected teachers from grades K-12 in public schools from this district. Information regarding the population's location is limited to protect the privacy and confidentiality of those involved.

Participants

There was a total of 373 potential participants that were sent emails through the Qualtrics® distribution program. However, fifteen of those were undeliverable, leaving 358 potential participants. The electronic invitation was sent to their school emails inviting their participation, and $N = 281$ (152

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traditionally and 129 alternatively certified) participants voluntarily participated in the study (return rate of 78%).

Teachers' school emails were used to distribute the surveys to the entire teacher population from nine public schools and one alternative school program in a single parish located in Northwestern, Louisiana. Although there was a total population size of $N = 373$, there was a total of $N = 281$ traditional and alternative certified teachers that participated in the study.

Among the participants in this study, 29 males (19.1%) were traditional certified, and 36 males (27.9%) were alternatively certified. As for the female participants, 123 (80.9%) were traditional certified, and 93 (72.1%) alternative certified. Hence, 54% of all participants were traditionally certified (19.1% males and 80.9% females). Also, 46% of the participants were alternatively certified (27.9% males and 72.1% females). Data analysis also revealed that the majority of traditionally certified teachers (55%) and alternatively certified teachers (45%) preferred a supportive leadership style over a directive leadership style.

Collection of Data

Data collection was performed using Qualtrics®, an electronic interface for survey data compilation. Once the teachers were sampled for alternative and traditional certification categories, each participant was only allowed to take one randomly assigned survey (depending on certification type) that included all three instruments—demographics, one of four vignettes, and TSES. The surveys were used to assess a sample population of teachers and determine the effects of their perception of their principal's situational leadership style and gender, and their certification type on their self-efficacy for classroom management.

The survey instruments included a manipulated vignette in determining the teachers' perception of principals' situational leadership style and gender and the *Teachers' Sense of Efficacy Scale* (TSES), which determined teacher's perception of classroom management self-efficacy. The Qualtrics® website was used to collect demographic information of the participants, which included the teacher's gender, age, ethnicity, teaching assignment, tenure, years of experience, and teacher certification type. Each online instrument was coded with an identifying number for anonymity by Qualtrics®.

Two hundred and eighty-one participants were randomly selected and randomly assigned (Qualtrics® randomization survey flow) to one of eight experimental conditions. See Table 1 for random assignments of the eight manipulations. There was a near equal number of participants in each group, selected through the equal-randomization setting of the Qualtrics® program. The teacher's sense of self-efficacy of all 281 participants was recorded following the manipulation—through vignettes. After data had been collected, the information was coded for anonymity with no identifiers, and further analyzed to acquire a richer understanding of the research problem.

Table 1
Eight Experimental Conditions

Certification Type	Leadership Style			
	Supportive		Directive	
	Leader Gender		Leader Gender	
	Female	Male	Female	Male
Alternative	Alternative Supportive Female	Alternative Supportive Male	Alternative Directive Female	Alternative Directive Male
Traditional	Traditional Supportive Female	Traditional Supportive Male	Traditional Directive Female	Traditional Directive Male

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Treatment of Data

Once data from the electronic survey was collected, personal identifiers were removed to protect the privacy of the participants. The Statistical Package for the Social Sciences (SPSS) was used for the data analysis. The statistical tests included a 3-way analysis of covariance (ANCOVA). This analysis model integrates both factors (principal's leadership style, principal's gender, teacher certification) and covariates (teacher's gender, age, ethnicity, teaching assignment, tenure, and years of experience) that may influence the dependent variable that is classroom management self-efficacy. By controlling for the covariates, it allowed for a clear understanding of the effects of the independent variables on the dependent variables (Mertler & Vannatta, 2010). Both the linear relationship between the covariates and teacher self-efficacy, plus the group means of the covariates were accounted for in this analysis (Lomax, 2007). Lastly, ANCOVA allowed adjusted mean comparisons.

In this type of design, the three independent variables are manipulated by the researcher so that different participants receive different treatment/manipulation conditions (Rutherford, 2001). The 3-way ANCOVA was used to determine if there was an interaction between principal's leadership style and gender, and teacher certification (three independent variables), in terms of the teachers' classroom management self-efficacy (dependent variable) after controlling for the covariates - teacher's gender, age, ethnicity, teaching assignment, tenure at the current site, and total years of teaching experience (Salkind, 2012).

Limitations

Several limitations have been identified for this study. The first limitation is that the homogeneity of variance assumption was not met, implying that all comparison groups do not have the same variance. The second limitation was that only the teacher's perception of principals' leadership styles data was collected and analyzed instead of both principal and teacher's perception of leadership style, which could have increased the validity of responses. It could be argued that responses could be biased due to personal perception due to self-reporting by the teachers.

The third limitation was that participants were only selected from one school district in Louisiana, and data are restricted to the perceptions of teachers from this area. Therefore, the findings may not be generalized to other states. The fourth limitation included the lack of a standard definition for an alternative program. The State of Louisiana has three alternative programs. However, all three programs were placed into one overall alternative certification type for this study instead of being individually evaluated. Lastly, teacher demographics (gender, age, ethnicity, teaching assignment, tenure, and years of experience) were the only characteristics controlled in the study. Therefore, the list of teacher demographics may not be exhaustive.

Summary of Major Findings

In this portion, the results of the hypothesis testing will be summarized. Five research questions and seven hypotheses outlined the study and are listed below:

Table 3 presents a summary of the 3-way ANCOVA results. A 2 x 2 x 2 analysis of covariance was conducted and revealed that the general 3-way ANCOVA was not statistically significant, $F(1, 267) = 1.550$, $p = .214$, partial $\eta^2 = .006$. However, the main effect of the principal's leadership style revealed that after a significant adjustment by the covariate teacher's gender, classroom management self-efficacy varied significantly with leadership style, $F(1, 267) = 4.391$, $p = .037$, partial $\eta 2 = .016$.

The manipulation of principal's leadership style elicited a statistically significant difference in adjusted marginal mean classroom management self-efficacy for those teachers who perceived the principal's leadership style as supportive ($M = 7.545$, $S.E. = .093$) versus those who perceived the principal's leadership style as directive ($M = 7.267$, $S.E. = .094$). No statistically significant difference was found for teacher's certification nor the principal's gender.

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To answer the first research question, a 3-way ANCOVA was conducted to determine if teacher's classroom management self-efficacy differs based on the certification pathway, principal's gender, and leadership styles after holding teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant. The follow-up one-way ANCOVA revealed no statistically significant difference ($p > .05$) based on the certification pathway and principal's gender. Therefore, we fail to reject the null hypotheses regarding these variables. However, the one-way ANCOVA revealed a statistically significant difference ($p < .05$) based on leadership style. Further observation of the adjusted mean showed that teachers had higher classroom management self-efficacy when leadership style was perceived as supportive ($M = 7.545$, $S.E. = .093$) rather than directive ($M = 7.267$, $S.E. = .094$). Figure 1 displays the comparison between the adjusted group mean scores of classroom management self-efficacy for the intervention group, principal's leadership style.

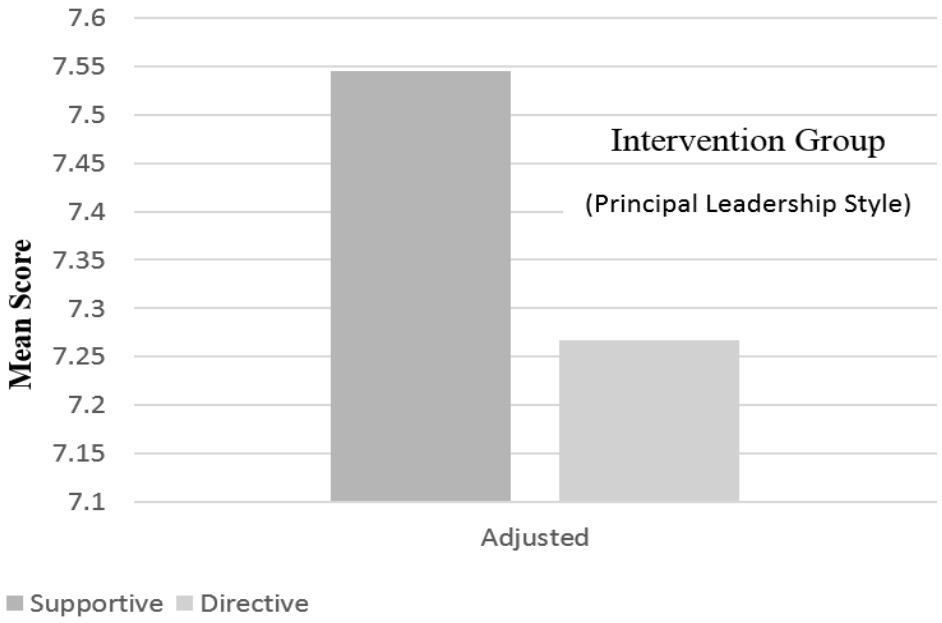

Figure 1. Adjusted group means for classroom management self-efficacy of principal leadership style.

Research questions 2-5 were also examined by 3-way ANCOVA findings. Research question 2 posed the following inquiry: Is the interaction effect of the principal's gender and leadership styles significant on teacher's classroom management self-efficacy after holding a teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant? The 3-way ANCOVA revealed no statistically significant interaction difference ($p > .05$). There was no significant 2-way interaction effect between the principal's gender and leadership styles based on the teacher's classroom management self-efficacy. Therefore, we fail to reject the null hypothesis regarding this 2-way interaction effect

The third question stated read: Is the interaction effect of the principal's gender and teacher's certification type significant on teacher's classroom management self-efficacy after holding the teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant? The 3-way ANCOVA determined that there was no statistically significant 2-way interaction effect of the principal's gender and teacher's certification type based on the teacher's classroom management self-efficacy. Therefore, we fail to reject the null hypothesis here as well.

To answer research question 4 and determine whether the principal's leadership style and teacher's certification type have an interaction effect, a 3-way ANCOVA was used. The analysis revealed that no significant 2-way interaction effect between leadership style and teacher's certification type based on the teacher's classroom self-efficacy was found ($p > .05$). Therefore, we fail to reject this null hypothesis too.

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Lastly, a 3-way ANCOVA was used to answer research question 5 regarding whether principal's gender, leadership style, and teacher's certification type have a significant 3-way interaction effect on teacher's classroom management self-efficacy after holding teacher's gender, age, ethnicity, assignment type, tenure, and total years of experience constant. A 3-way ANCOVA revealed that the combined adjusted group means were not statistically significantly different ($p > .05$). Thus, there was no statistically significant 3-way interaction effect between all three independent variables that led to the rejection of the null hypothesis.

Table 3

ANCOVA Summary Table

	SS	*df*	*MS*	*F*	*p*	η^2
Between treatments	32.024	13	2.463	2.084	0.015	0.092
Teacher gender	9.705	1	9.705	8.210	0.004	0.030
Teacher age	0.186	1	0.186	0.157	0.692	0.001
Teacher ethnicity	4.346	1	4.346	3.676	0.056	0.014
Teaching assignment	1.418	1	1.418	1.200	0.274	0.004
Tenure	0.500	1	0.500	0.423	0.516	0.002
Total yrs. teaching	0.832	1	0.832	0.704	0.402	0.003
Teacher certification	3.880	1	3.880	3.282	0.071	0.012
Principal leadership style	5.190	1	5.190	4.391	0.037*	0.016
Principal gender	0.191	1	0.191	0.162	0.688	0.001
Certification x Leadership style	0.078	1	0.078	0.066	0.798	0.000
Leadership style x Principal gender	0.001	1	0.001	.001	0.980	0.001
Certification x Leadership style x Principal gender	1.832	1	1.832	1.550	0.214	0.006
Error	315.631	267	1.182			
Total	15844.188	281				

Note. *Significance at $p = .05$

Discussion

Nearly half of the nation's teachers leave the classroom before they gain tenure, reporting their lack of classroom management skills and insufficient principal support as two of the main reasons for their parting (Ingersoll et al., 2018; Pace et al., 2013; U.S. Department of Education, 2018). The teacher shortage in this nation is critical, and unless factors such as the lack of classroom management skills and leadership support are addressed, the problem will continue to worsen. Teachers are expected to perform effectively, regardless of their self-efficacy of pedagogy and classroom management, which some researchers argue can be linked to teacher certification type. Based on Bandura's (1977) social learning theory, self-efficacy influences how people perceive their abilities to perform specific tasks. Teacher efficacy is an essential factor that determines a teacher's effectiveness. Nevertheless, the debate as to whether a teacher's certification type affects teacher effectiveness and efficacy is ongoing (Darling-Hammond, 2010; Fox & Peters, 2013). Principal leadership support matters in developing influential teachers, and if teachers do not receive the support needed, they eventually become overwhelmed and quit (Brock & Grady, 2001; Ingersoll & Kralik, 2004), continuing this current crisis.

According to Blanchard (2008), no one leadership style has been determined to be the gold standard for all contexts— its situational. Principals who are aware of their teachers' individual and group needs may understand the importance of adapting their style of leadership to improve teacher efficacy and effectiveness despite professional and personal differences. A principal's knowledge of their teachers could benefit everyone regardless of their certification type and self-efficacy levels. Effective principals are crucial to the success of their schools, and their style of leadership has been linked to teacher efficacy (Walker & Slear, 2011). However, leaders must be aware of the needs of their followers in order to help them develop and be successful at a task (Hersey & Blanchard, 1996). For instance, some veteran teachers may feel a low self-efficacy in certain situations like the introduction of new technology. The veteran teacher, in this instance, may prefer a supportive principal that will help them become more

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efficacious about a specific task. On the other hand, a novice teacher may prefer a principal who is more directive, providing clear and concise goals and instructions to accomplish a particular task.

Implications of Findings

An ANCOVA was conducted to determine if the main effect of the certification pathway was significant concerning the classroom management self-efficacy dependent variable while controlling for the covariates. The analysis revealed that after a significant adjustment of the teacher's gender, there was no statistically significant difference in teacher's classroom management self-efficacy when comparing the certification pathway. However, there was a small effect size ($\eta_2 = 0.01$), which indicates that the variance and importance of the independent variable certification pathway on the dependent variable were very low at 1%. Further observation of the adjusted means revealed that traditionally certified teachers have a higher classroom management self-efficacy mean score ($M = 7.54$) than alternatively certified teachers ($M = 7.27$). Although there were no significant differences, these findings indicate that teacher certification type does have a minimal effect when it comes to the degree of teacher's classroom management self-efficacy. Figure 2 displays the comparison between the adjusted group mean scores of classroom management self-efficacy for the intervention group, teacher's certification pathway. Alternative certified teachers report having lower confidence in their effectiveness and lower self-efficacy than their traditionally certified counterparts because of how they were prepared. This lower self-efficacy could be primarily due to the variations of alternative programs, their lower required credit hours, and their reduction in content and coursework. Hence, if alternative teachers have these feelings of low self-efficacy, then they are frequently concerned with feelings of inadequacy. Therefore, their stress level increases, effectiveness decreases, and student learning may fail to exist.

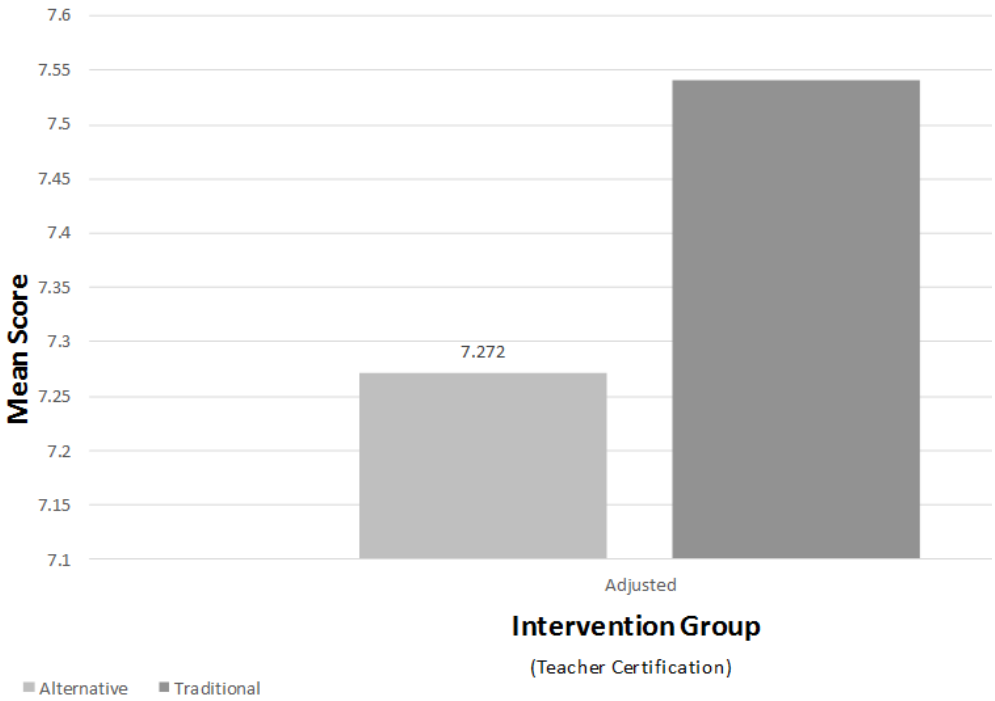

Figure 2. Adjusted group means for classroom management self-efficacy of teacher certification.

This finding is consistent with research by Hamman et al. (2006). They conducted a study to identify differences in all three types of teacher efficacy (student engagement, instructional strategies, and classroom management) and interaction based on the certification level of the student-teacher. Their analysis revealed no significant effect of the certification category on any teacher efficacy type. This finding also supported Constantine et al. (2009) and Tournaki, Lyublinskaya, and Carolan's (2009) studies that found no significant relationship between teacher's self-efficacy and certification type.

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However, the adjusted mean is consistent with Darling-Hammond (2010), who argues that traditionally certified teachers have a higher self-efficacy score than alternatively certified teachers.

This finding should be of interest because, in order to address certification concerns, higher education teacher preparation programs, school districts, and principals must be trained more about what is needed to develop programs and professional development that are conducive to improving teacher efficacy regardless of certification pathway. More school districts should partner with local higher education institutions to develop ways for teachers with undergraduate degrees to acquire higher degrees without costs. Providing programs that not only focus on pedagogy and theory, but practical knowledge could be beneficial to all teachers, whether traditionally or alternatively certified. The alternative route is an essential remedy to the teacher shortage in this nation, eventually becoming a globally recognized and valued entry into education. Until then, the goal of all stakeholders should be to develop competent teacher candidates that are prepared to effectively and successfully navigate their role in teaching; to ensure student learning and achievement.

The results of the analyses also indicated that the main effect of the principal's leadership style was significant on the classroom management self-efficacy while controlling for the covariates. Classroom management was a measure of how much teachers believed they could complete a specific task (i.e., create a structured and orderly environment). Further observation of the adjusted means showed that when teachers perceived the principal's leadership style as supportive (M = 7.55), they had higher classroom management self-efficacy than those that perceived leadership as directive (M = 7.267). Although statistical significance was revealed, the small effect size ($\eta_2 = 0.02$) indicates that the variance and importance of leadership style on the dependent variable were low at 2%. The results obtained in this study indicated that the principal's leadership style is a critical factor in increasing teacher's self-efficacy levels. The increase in classroom management self-efficacy due to supportive leadership may be a result of a supportive leader's ability to help teachers overcome their obstacles and succeed, namely by coaching, listening and allowing teacher input, and guiding their teachers to perform successfully.

This significant finding corroborates Nir and Kranot's (2006) research that there is a relationship between the principal's leadership style and teacher self-efficacy. Additionally, the finding is consistent with research by Sirisookslip, Ariratana, and Ngang (2015). The researchers investigated the relationship between leadership styles of school principals and teacher effectiveness. During their examination of four different leadership types, namely, supportive, participatory, achievement-oriented, and directive leadership styles, it was revealed that supportive leadership significantly affects teacher effectiveness. However, directive leadership had the weakest relationship.

This finding is relevant to the educational community. Colleges and universities, policymakers, and local school districts must develop policies, principal certification programs, and professional development that will provide principals with knowledge and practical application as to how teachers perceive leadership styles in certain circumstances and how those perceptions affect not only their classroom management self-efficacy but their teacher self-efficacy as a whole. Additionally, since principals are critical to their organizations, they must improve and adapt their leadership styles depending on situations and teacher needs. Subsequently improving their teacher's self-efficacy and effectiveness levels, and reducing attrition; overall, improving student learning.

The analysis also revealed that the covariate teacher's gender significantly affected (p = .004) the dependent variable classroom management self-efficacy with an effect size of $\eta_2 = 0.03$. Although the variance and importance of teacher's gender on the dependent variable on classroom management self-efficacy was low at 3%, it had the largest effect of all the variables in the current study (see Table 3). The male teachers had higher total TSES scores (M = 7.39, SE = .105) and classroom management scores (M = 7.72, SE = .117) than the female teachers' total TSES (M = 7.34, SE = .062) and classroom management self-efficacy scores (M = 7.34, SE = .078).

This finding supports Moalosi and Forcheh's (2015) study that suggested that male teachers had a higher overall teacher self-efficacy classroom management than female teachers. However, the finding contradicts earlier research, such as that by Ross, Cousins, and Gadalla (1996), who posited that female teachers exhibited higher self-efficacy than did male teachers. This result was possibly attributed to the

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fact that historically, the teaching profession has been perceived as a woman's profession and predominantly occupied by females. However, in recent years, more males are entering the classroom as educators (Moalosi & Forcheh, 2015). Possibly the shift in the female teacher's self-efficacy could stem from the idea that women tend to be everything to everyone (mom, coach, educator, mentor, counselor, community member, wife, and friend) — the roles having multiplied, at the expense of their self-efficacy.

This finding can assist policymakers, superintendents, and principals to address the self-efficacy gaps based on gender. Professional development may help provide principals with the knowledge and skills they need to improve their competence in improving teacher self-efficacy overall. Principal preparation programs should devote finances to training principals in varying styles of leadership, developing better relationships with teachers, providing appropriate professional development and training, and creating school environments that have both positive cultures and climates. It is pertinent for principals to reflect and become aware of their own leadership styles' weaknesses and strengths and make adjustments as needed. Policymakers and school superintendents may become compelled to revise old or develop new ways of vetting principals for positions. Employing principals with a flexible style of leadership may increase the overall effectiveness of their schools and districts. Addressing the gender gap in teacher self-efficacy is critical to the success of schools because unless principals are viewed as proactive, inclusive, and supportive, teachers may contemplate leaving not only the school but the profession.

Suggestions for Future Research

Suggestions for future research that could offer more insight into principals' leadership styles and gender, and teachers' certification types and their influence on teachers' classroom management self-efficacy are listed below:

- Researchers should involve both self- and other perceptions of school principal leadership styles, instead of only one perspective. Including the principal's perception of their leadership style, in addition to the teacher's perception, allow for a more valid result by reducing the chance of self-reported inflated scores.
- Because the study was conducted in only one parish in Louisiana, it would be valuable to investigate other districts, regions, states, and countries in order to be more generalizable. Expanding the research area would also be extended to the increase in sample size, which would lead to more generalizable findings.
- Alternative programs should be examined individually. This variation will allow for a more diverse evaluation of program requirements and teacher self-efficacy levels from different areas.
- Qualitative studies can provide a more comprehensive and in-depth look into teachers' perceptions as to why principals' leadership styles have different effects on classroom management self-efficacy. Also, the implementation of longitudinal studies could allow for the analysis of trends in self-efficacy levels throughout a teacher's career.
- Although the covariate teacher ethnicity did not produce a significant finding, it did produce a small effect size. This effect size is an indication that ethnicity has some influence on a teacher's classroom management self-efficacy. However, it cannot be assumed that the difference in classroom management self-efficacy is due to ethnicity. It is further recommended that more research is conducted to examine the differing effects that race and ethnicity may have on teacher self-efficacy.

Conclusion

Principals are critical to the advancement of their organizations; however, without efficacious teachers, advancement and student learning may not be possible. It is the leadership style they possess that affects the teachers within the schools. The principal also can use varying styles of leadership to increase the likelihood of their teachers succeeding at a given task that improves teacher self-efficacy and effectiveness.

In researching literature for this study, it was found that no studies included teacher's certification, principal's leadership style, and gender regarding classroom management self-efficacy as a part of this

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experimental model were identified. The variables have been used in part or a combination but never to this degree of complexity. Besides, the research design was a novel approach using a quasi-experimental vignette to determine the effects and interactions of numerous manipulated independent variables and covariates on one continuous dependent variable. The design was used to determine if simulated vignettes, which included manipulated independent variables, would produce similar teacher self-efficacy results found in previous research studies.

The current study contributed to literature in several ways. First, the current study added to the literature concerning differences of teacher certification types and their influence on teacher self-efficacy. The findings support the literature that argues that there is no significant difference between alternatively and traditionally certified teachers based on their teacher efficacy (Robertson & Singleton, 2010; Tournaki et al., 2009). The certification programs generally produce the same type of candidate. Conversely, the adjusted means revealed a difference in classroom management self-efficacy scores between the two certification types; traditional teachers are scoring higher than alternative teachers. This result corroborates the opposing view that traditional teachers are better prepared than alternative teachers (Darling-Hammond, 2010).

Next, this current study addressed the issue that situational approaches fail to examine the relationship that demographics such as gender could have on perceived leadership effectiveness and teacher self-efficacy (Northouse, 2016). Few studies have addressed the relationship between gender and leadership styles (Eagly & Karau, 2002). Examining whether the gender of the principal influences how teachers see the leader's style of leadership could increase society's awareness of social role inequities, improve principal-teacher relationships, increase both the leader and teacher self-efficacy. Consequently, increasing higher levels of student self-efficacy and achievement. The findings reveal that there was no significant difference in the teacher's classroom management self-efficacy concerning the principal's gender. This result does not support Davis and Maldonado (2015), and Eagly and Karau's (2002) arguments that biased perceptions regarding performance could be based on a person's expectations or stereotypical beliefs about female and male leaders. However, the covariate, teacher's gender did reveal a significant difference, with male teachers having a significantly higher self-efficacy score that females are supporting the results of Moalosi and Forcheh's (2015) study.

The findings also revealed that the effect of the principal's leadership style was significant regarding the teacher's classroom management self-efficacy. Teachers (both alternative and female) who perceived the principal's leadership style as supportive had significantly higher classroom management self-efficacy mean score than teachers that perceived the principal's leadership style as directive. This significant finding is supported by research conducted by Nir and Kranot (2006), and Sirisookslip et al. (2015). These results suggest that the principal's leadership style is an essential factor in increasing teacher's classroom management self-efficacy levels. It is apparent that the majority of teachers prefer leaders who include them in decisions, coach them through situations, and support them so that they may overcome their obstacles and succeed.

Lastly, because there is little research examining teachers' classroom management self-efficacy, this study added to the literature (Aloe et al., 2014). Classroom management self-efficacy needed to be examined because it has been determined as the most critical challenge of both new and experienced teachers for decades (Demirdag, 2015; Gee, 2001), and one of the most significant contributors to the nation's teacher shortage (Fox & Peters, 2013). This study's findings concerning whether teacher's classroom management self-efficacy differ based on influences from leadership style, certification, and principal's gender should prove extremely beneficial to the educational arena. Moreover, principals who are knowledgeable and skilled enough to adjust their leadership style and exhibit predominantly supportive behaviors—while being mindful of the teachers' gender—will increase the overall teachers' self-efficacy and, more importantly, improve student learning.

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