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Model exploration of teacher efficacy, attitudinal beliefs, and caring behaviors towards Latino linguistically diverse students

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A MODEL EXPLORATION OF TEACHER EFFICACY, ATTITUDINAL
BELIEFS, AND CARING BEHAVIORS TOWARDS LATINO
LINGISTICALLY DIVERSE STUDENTS

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

Jennifer Keller Johnson

College of Education and Behavioral Sciences
School of School Psychology

May, 2013

This Dissertation by: Jennifer Keller Johnson

Entitled: *A Model Exploration of Teacher Efficacy, Attitudinal Beliefs, and Caring Behaviors Towards Latino Linguistically Diverse Students*

has been approved as meeting the requirement for the Degree of Doctor of Philosophy in College of Education and Behavioral Sciences in School of School Psychology

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ABSTRACT

Keller Johnson, Jennifer. *A Model Exploration of Teacher Efficacy, Attitudinal Beliefs, and Caring Behaviors Towards Latino Linguistically Diverse Students*. Published Doctor of Philosophy dissertation, University of Northern Colorado, 2013.

The present study investigated the relationship between teaching experience, teacher preparation, and targeted professional development to teacher efficacy, attitudinal beliefs, and caring behaviors towards Latino linguistically diverse students. The sample included 145 teachers employed in the Western Region of the United States. Teachers responded to a demographic questionnaire which asked them to indicate their gender, race/ethnicity, age, highest degree earned, completed additional licenses, years of teaching experience, and fluency in Spanish or another language. Teachers also completed a survey packet of three Likert-type self-report surveys to measure attitudinal beliefs, teacher efficacy, and caring behaviors in the hypothesized model. Path analytic procedures showed teacher preparation, targeted professional development, and attitudinal beliefs had significant effects on teacher efficacy, whereas the effects of teaching experience were not statistically significant. Furthermore, teacher efficacy and attitudinal beliefs had significant effects on caring behaviors. Examination of these results within the context of the literature provided practical implications for teachers, teacher preparation programs and educators, and school and district level

administrators in ways to potentially increase teacher efficacy in regards to Latino

language minority students.

ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

The Condition of Education (Aud et al., 2010b) noted that public school enrollment will reach 52.3 million by 2019-2020 and estimated that minority students will comprise 43% of public school enrollment. Among this student group, the number of Latino students alone has doubled since 1998, an increase of greater than 10 million students (Aud et. al, 2010b). Latino students now comprise 22% of the school population. Additionally, language minority students comprised 21% of public school enrollment in the year 2008, an enormous growth from 9% in 1979 (Aud et. al, 2010b). Latino students are twice as likely to be identified as limited English proficient (LEP) than other non-native speaker groups (Camarota, 2002; Kindler, 2002; Morse, 2005). For example, although Latinos comprise 56% of immigrant students, 75% of these students are identified as LEP. Conversely, Asian students comprise 22% of immigrant students, while only 12% of the LEP population (Camarota, 2002; Kindler, 2002; Morse, 2005). Approximately 75%-77% of students who speak another language at home speak Spanish as their first language (Aud et. al, 2010b; Zehler et al., 2003). With the growing number of Latino students in our public education system, it is imperative that school personnel are prepared to provide effective and culturally and linguistically responsive educational programming and instruction that will allow all students to be successful.

Latino Linguistically Diverse Students School Failure

**Achievement Gap and
Dropout Rates**

The Latino student population is the most rapidly growing subgroup in the U.S. and one that is continuing to fail academically. The achievement gap between Latino students and their White peers remains consistently large (Abedi, 2006; Artiles & Ortiz, 2002; Brayboy, Castagno, & Maughan, 2007; Padron, Waxman, & Rivera, 2002). The U.S. Department of Education (USDE) (2000) noted that Latino students' low academic performance was a national concern, and school reform was needed to address this issue. Since the USDE (2000) report, Latino students continue to lag behind their White peers in educational attainment (Padron et al., 2002), high school completion and college enrollment (Artiles & Ortiz, 2002; Aud et al., 2010b), and meeting state proficiency goals (Artiles & Ortiz, 2002). Institutional educational inequities such as insufficiently funded schools and substandard learning opportunities (Blanchett, 2006; Blanchett, Klingner, & Harry, 2009; Guiberson, 2009; Harry & Klingner, 2007) are variables that have been correlated to Latino linguistically diverse students' low academic achievement. Furthermore, teacher variables have been related to minority and linguistically diverse student achievement, including low expectations (Cline & Necochea, 2006; Harry & Klingner, 2006; National Research Council, 2002; Tenenbaum & Ruck, 2007), inadequate teacher preparation, and teaching experience (i.e., student population, teaching years). All these factors have been cited as influential factors regarding Latino linguistically diverse students' academic achievement; undoubtedly, these factors also contribute to Latino students as well as other marginalized student groups dropping out of school (Behnke, Gonzalez, & Cox, 2010; Fashola & Salvin, 1998).

Even with the attention given to Latino dropout rates and efforts to address this issue, unfortunately we are continuing to witness high rates of Latino students dropping out of school (Aud, Fox, & KewalRamani, 2010a; Padron et al., 2002). According to the USDE (2000) data, 1.4 million Latino students between the ages 16 and 24 years old, or 28%, had dropped out of the U.S.'s educational system (Waxman, Padron, & García, 2007). More recent data from the 2002 Census Bureau reports that 43% of Latino students did not earn a high school diploma. Furthermore, these national data reveal that 26% of Latino students dropped out prior to ninth grade. Within the Latino population, immigrant students have a 44% dropout rate which is higher than other first generation student populations (USDE, 2000 as cited by Waxman et al., 2007). Latino disproportionate dropout rates have been associated with language proficiency and gender of the student as well as family socioeconomic status (SES) (National Center for Educational Statistics [NCES], 1990). Several school factors, notably inequitable resource allocation and educational opportunities, are thought to be related to Latino linguistically diverse students' poor academic outcomes (Blanchett, Mumford, & Beachum, 2005; Brayboy et al., 2007). Researchers have also examined educational factors such as educational policies (i.e., suspending students who are truant), home-school connection and communication, and teacher characteristics (Aviles, Guerrero, & Howarth, 1999; Ferguson, 1991; Fry, 2003; Villegas & Lucas, 2002) as possible contributors to the high dropout rate. However, most dropout prevention efforts still concentrate on student characteristics (Montecel, Cortez, & Cortez, 2004).

Latino student dropout is far greater than both their Black and White peers. Furthermore, these numbers may not accurately portray the true dropout rate among

Latinos; some researchers have estimated Latino dropout rates as high as 43% (Montecel et al., 2004). Despite *No Child Left Behind* (NCLB) mandating states to count dropout rates using specified formulas, states have creative ways to decrease dropout numbers. For example, Texas created 30 leaver codes allowing the state to not count students who intend to transfer to a new school, are enrolled in a GED program, or are incarcerated. These leaver codes function as a mechanism with which keep dropout rates misleadingly low, resulting in undercounting and, thus, under-reporting of students who do not receive a high school diploma (Montecel et al., 2004). Unfortunately, the use of leaver codes in Texas is not an isolated case of inadequate ways of calculating dropout rates. Our nations' inability to accurately calculate Latino students' dropout rates may provide even more cause for immediacy in addressing this issue, especially in light of the exponentially increasing Latino population.

Remedial and Special Education
Programming

The documented academic struggles of Latino linguistically diverse students may be a contributing factor, not only to this population's dropout rates, but to their over- and under-identification in remedial and special education programming and underrepresentation within gifted and talented and advanced placement programming, respectively (Artiles & Ortiz, 2002; Artiles & Bal, 2008; Artiles, Rueda, & Salazar, 2005; Harry & Klingner, 2007; Ndura, Robinson, & Ochs, 2003; Skiba, et al., 2008). Although the percentage of students identified for special education services has grown for all groups, increases have been greater for minority student populations (National Research Council, 2002). The number of minority students between the ages of 6 and 21 served in special education under IDEA has increased for students from minority background. For

example, the rate of for American Indians/Alaska Natives (14% from 5.7%, or 2.46 times) and African Americans/Blacks (12 % from 4.9%, or 2.45 times) has increased since 1998. The rate of Latino students in special education has grown at a rate from 3% to 8.5% in 2008, representing a 2.5 times increase (Aud et al., 2010b). Certainly, the increasing rates of Latino students being placed in special education may be reflective of several factors including overall increase in population, school enrollment, and misaligned instructional and assessment practices (Artiles & Ortiz, 2002; Artiles et al., 2005; Aud et al., 2010a; Aud et al., 2010b; Darling-Hammond, 2006; Darling-Hammond & Youngs, 2002;). Unfortunately, the literature base regarding Latino linguistically diverse students is in its infancy, such that there lacks consensus regarding best practices in instruction and assessment which may lead to inappropriate placement in special education (Guiberson, 2009; Lesaux, 2006).

The high dropout rate and poor academic achievement among Latino students is concerning. Further, culturally and linguistically diverse students' disproportionate representation in remedial and special education has been a documented problem in the United States' educational system for decades (Artiles & Ortiz, 2002; Aud et al., 2010b; Heller, Holtzman, & Messick, 1982; National Research Council, 2002; Skiba et al., 2008). Minority students' disproportionality within special education literature has predominately concentrated on African American/Black and Native American students because their rate of disproportionate placement appears to be the most extreme (e.g., Ferri & Connor, 2005a, 2005b; Hibel, Faircloth, & Farkas, 2008). Less attention has been directed toward Latino students because, in general, their representation in the overall population (22%) is consistently above the percentage of Latino students served

in special education (i.e., 8.5%). Within the population of Latino students identified for special education we know little about the proportion of students who are also linguistically diverse.

According to national statistics, 11% of elementary school students and 5.4% of secondary school students are identified as limited English proficient (LEP) (Aud et. al, 2010a). One study results suggested that LEP students were overrepresented in special education (approximately 16%) in districts with fewer than 100 LEP students with disabilities and underrepresented in special education (approximately 9) in districts with greater than 100 of these students enrolled (Zehler et al., 2003). With the move to Response to Intervention (RtI), we know very little about LEP students in general education who have been referred to problem-solving teams or special education (Klingner & Harry, 2006). Greater information is needed on this process, specifically pertaining to Latino linguistically diverse students. In their qualitative research study of one school district, Klingner and Harry (2006) attributed the rise of English language learner (ELL) students' referral rate, in this particular district, to a misunderstanding of the language acquisition process among education personnel. Language acquisition is one of multiple factors that affect the learning outcomes of linguistically diverse youth. These factors are multidimensional and include teachers' attitudinal beliefs, values, and knowledge regarding linguistically diverse students (Flores & Smith, 2008).

Teachers' Role

Teachers play important roles within general and special education. These roles include, but are not limited to, delivering effective instruction, choosing sound teaching strategies, managing behaviors within the classroom, and fostering a safe classroom

climate and positive student-teacher relationships with all learners (e.g., Darling-Hammond, 2006; Darling-Hammond & Youngs, 2002). Caring student-teacher relationships appear to be a protective factor against Latino students' school failure and dropping out of school (Aspiazu, Bauer, Spillett, 1998; Behnke et al., 2010; De Jesús & Antrop-González, 2006; Díaz-Loving & Draguns, 1999; Triandis, Marin, Lisansky, & Betanacourt, 1984; Valenzuela, 1999).

Specific to special education, teachers significantly contribute to the team process of eligibility determination, providing and monitoring services (e.g., accommodations, modifications, assistive technology), and determining placement within the scope of the Least Restrictive Environment (LRE) through membership and participation within multidisciplinary teams (Billingsley, 2007). Prior to the special education process, general education teachers are involved in problem-solving process teams by referring students to the team, delivering interventions, and monitoring progress (Gregory, 2010).

The problem-solving process is an important strategy for addressing the needs of students who are experiencing difficulties at school. When linguistically diverse students are referred to this problem-solving team, general education teachers and other school personnel need to be aware of the unique needs of these students in order to provide effective interventions or proceed to evaluation for special education serves. Of particular concern is the difficulty in distinguishing between characteristics of second language acquisition and those that reflect a specific learning disability (Artiles, 2002; Artiles et. al., 2005; August & Hakuta, 1997). Therefore, it is imperative that all school personnel develop multicultural competencies, skills, and knowledge as well as an

awareness of issues and biases in regards to serving linguistically diverse students (Rogers & Lopez, 2002; Rogers et al., 1999).

Linguistically diverse students with learning disabilities face increased challenges of learning English while navigating learning obstacles created by their disability (Tam, Heward, & Heng, 2006). Together, these two aspects of student functioning (i.e., learning disability and linguistically diverse) may make it difficult for classroom teachers to address their learning needs. Depending on the origin of the students' difficulty, limited English proficiency, learning disability, or both, classroom teachers may choose different instructional and teaching strategies. Exposure to vocabulary and opportunities to engage in rich meaningful discussions are elements needed to successfully learn a second language (National Research Council, 2002) which may be very different from some special education strategies (e.g., drill and practice) utilized for students with learning disabilities.

The focus of this study on Latino linguistically diverse student population is due in large part to their increasing numbers in the U.S. public education system and their overall poorer academic outcomes (National Center for Education Statistics, 2002). Many U.S. teachers have had or will have at least one Latino linguistically diverse student in their classroom. Meeting Latino linguistically diverse students' educational needs requires teachers to have an understanding of how language and cultural variables impact learning. Culture is a dynamic system of rules that are reflected in attitudes, values, beliefs, and internalized norms that outwardly manifest into behavior (Adams & Markus, 2004). It is important to conduct cultural-specific research to better understand appropriate and effective educational practices for Latino linguistically diverse students

(McNeil & Valenzuela, 2000; Valencía & Johnson, 2006). Presently, there are gaps within the literature addressing how teacher characteristics such as teacher preparation, completion of targeted professional development, years of teaching experience, attitudinal beliefs, teacher efficacy, and caring behaviors interact in regards to meeting the educational needs of Latino linguistically diverse student population.

Statement of Problem

As the number of Latino students who are linguistically diverse has grown, so has the need for more attention to be directed toward the increasing achievement gap in our nation's schools. Specifically, Latino students perform, in general, well below the national average in reading, writing, and to a lesser extent, math and science (Abedi, 2006). Additionally, they are less likely to graduate from high school, have greater rates of school failure, and are significantly less likely to meet state proficiency goals (Artiles & Ortiz, 2002; Hoover, 2008). Given these negative educational outcomes, it appears that the current national education system is failing to meet the needs of Latino students.

Previously, it was believed that disproportionate special education representation occurred because of inappropriate identification (Fletcher & Navarrete, 2011) and higher rates of teacher referral (August & Hakuta, 1997; National Research Council, 2002). The current process to assist at-risk and struggling learners as well as special education identification is a process called Response to Intervention (RtI). RtI is a three-tiered intervention model utilized school-wide to identify students in need of more specialized interventions. For special education, the RtI model stipulates that students' who are unable to narrow the gap between their performance and benchmarks (typically specified by the state) with the assistance of evidence-based interventions (EBI) may be

identified as students with learning disabilities (LD). Teachers continue to play a critical role in RtI, specifically in making sure individualized interventions are implemented with fidelity (Jimerson, Burns, & VanDerHeyden, 2007). Furthermore, teachers are responsible for referring students to specialized teams. Some researchers have endorsed the idea that this process will result in more timely assistance for struggling learners and fewer special education placements for diverse learners because referral will be based on data, rather than teacher judgment (Cartledge & Kourea, 2008; Orosco & Klingner, 2010; Schon, Shaftel, & Markham, 2008). The RtI model shows considerable promise for Latino linguistically diverse students; however, research is still needed to evaluate this growing practice (Jimerson et al., 2007).

Teacher referral to problem solving teams and special education is one of the best predictors of special education placement (Artiles et al., 2005; Barrera, 2006; Goodman & Webb, 2006; Samson & Lesaux, 2009). If teachers are not adequately prepared to address the needs of Latino linguistically diverse students, it is possible that the RtI model will not be a successful model for these learners. Unless teachers are educated in the different learning needs of linguistically diverse learners through effective instructional techniques for this population and positive attitudinal beliefs regarding Latino linguistically diverse students, it is likely that these students will continue to experience low academic achievement levels and high dropout rates. Additionally, teachers may continue to refer them to problem-solving teams at higher rates than their White peers (Artiles et al., 2005).

Latino students often attend schools that enroll a majority of ethnic minority students (Ladson-Billings, 1992, 2006). Brayboy, Castagno, and Maughan (2007)

examined achievement data across the U.S. in school settings where the majority of ethnic minority students were enrolled. In these school settings, there was often an inequality of resources, fewer educational opportunities, and lower academic outcomes. These students' schools often utilize poorer quality or limited curriculum and instruction and employ teachers with limited experience and qualifications (Darling-Hammond, 2004; Darling-Hammond, Chung, & Frelow, 2002; Darling-Hammond & Young, 2002; Nieto, 1996, 2002). Furthermore, these schools employ teachers' who have less training and commonly have higher turnover rates than their middle and upper class counter parts (Aud et al., 2010b). The most current *Condition of Education* (2010) also reported similar findings; Latino students comprised 46 % of high poverty school composition compared with their White peers at 14%. Schools identified as high poverty had to have at least 75% of their student body qualify for free or reduced lunch.

These disparities underscore the pervasive systemic inequities in educational opportunities and access and may indicate teachers have inadequate knowledge about linguistically diverse students (Kozleski & Smith, 2009). Illustrating this point, Carter and Goodwin (1995) found that minority students are often placed in low- or non-academic educational tracks that are characterized by low-level learning objectives. Along similar lines, teachers have lowered expectations and more negative attitudes towards Latino linguistically diverse students (Cline & Necochea, 2006; Flores & Smith, 2008; Harry & Klingner, 2006; National Research Council, 2002; Putney & Wink, 1998; Tenenbaum & Ruck, 2007). For example, Flores and Smith (2008) identified teachers' pessimistic attitudinal beliefs toward a predominately Latino linguistically diverse group of students as a contributing factor to students' low academic achievement.

Teachers' lack of knowledge may negatively impact their skills to effectively address linguistically diverse students' needs. There is evidence that less than half of general education teacher preparation programs require any courses specific to pedagogy, linguistics, and cultural diversity or field experiences working with linguistically diverse students (Menken & Atunez, 2001). Teachers need greater skills incorporating linguistic and cultural knowledge into their teaching and instructional practices (Baca & Escamilla, 2002; Grant & Wong, 2003; Pardon et al., 2002; Phuntsog, 2001; Téllez & Waxman, 2005). Pardon et al. (2002) cited that Hispanic students need culturally and linguistically appropriate as well as meaningful and responsive teaching as a mechanism to reach these students and address their poor academic achievement. Teacher knowledge including English language rules and structure as well as a broader understanding of languages and language development is essential for teaching Latino linguistically diverse students (Téllez & Waxman, 2005; Wong-Fillmore & Snow, 2000). For example, in English a pronoun is necessary for a declarative statement, but this rule does not apply to Spanish (i.e., "habla"). Exemplifying the use of cultural knowledge in responsive teaching is Au and Jordan's (1981) seminal paper (as cited by Téllez & Waxman, 2005). These authors discovered that teachers were able to use Hawaiian children's home culture (i.e., storytelling as a cue for children to attend) to develop more culturally relevant instruction (i.e., beginning lessons with a story).

Too often, teachers and other school professionals may have lowered expectations for students identified as linguistically diverse (Flores & Smith, 2008; Tenenbaum & Ruck, 2007). For example, Flores and Smith (2008) studied teachers' attitudinal beliefs regarding linguistically diverse students. The findings indicated that, regardless of

teacher ethnicity, attitudes towards linguistically diverse students varied; some teachers held positive attitudes, and others negative. Teachers' attitudes were influenced by multiple factors including teaching experience and teacher preparation, specifically regarding linguistically diverse students. However, teachers who pursued experiences working with linguistically diverse students held more positive attitudes toward these students than those who did not. Teachers' negative attitudes and expectations may lead to inadequate instruction and a less effective learning environment (Bai & Ertmer, 2008; Collier, 2005). Teachers with limited experience and qualifications may lack knowledge and have poorer attitudinal beliefs in regards to linguistically diverse students (Flores & Smith, 2008).

Another variable that may affect teachers' instructional practices and attitudes is their sense of teacher efficacy. Teachers' levels of efficacy impacts their attitudes and, subsequently, their behavior (Bandura, 1997). Teachers' classroom behaviors (e.g., flexibility in instruction, teacher strategies, how and when rules are enforced) as well as student behaviors and academic outcomes (e.g., students' self efficacy beliefs, motivation, academic achievement) are affected by their teaching efficacy (Anderson, Greene, & Loewen, 1988; Ross, 1992; Troia & Maddox, 2004). In addition, there is supporting evidence for the relationship between teacher efficacy and exerted effort in teaching, development of instructional goals, and persistence through difficult times in the classroom (Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). Lastly, teacher efficacy may impact the student-teacher relationship (Collier, 2005) as manifested in teachers' caring behaviors. Positive student-teacher relationships promote teacher and student efficacy and is crucial in the development of a caring classroom environment

(Collier, 2005) and may be especially important for Latino students who are from a collectivist culture (Triandis et al., 1984).

Purpose of Study

The U.S. Department of Education (USDOE) (2003) reported that 34% of teachers had at least one minority student with limited English proficiency in their classroom (as cited by McCardle, Mele-McCarthy, & Leos, 2005). With the increasing number of Latino students whose primary language is not English being educated within our nation's schools, it is important to address prevention, intervention, and evaluation processes, procedures, and practices for these students. An essential aspect of addressing these issues is to understand the variables that impact teacher decision-making since they are the key members of multidisciplinary and problem-solving teams within the schools.

On a daily basis, teachers are responsible for implementing instruction, classroom management, and making choices that influence classroom climate for all of their students. Teachers' attitudinal beliefs have been directly linked to student performance because teachers with more positive attitudes use more effective instruction and have higher educational expectations (Bradshaw & Mundia, 2006; Love & Kruger, 2005; Walker, Shafer, & Liams, 2004). Furthermore, teacher efficacy has been attributed to quality of student-teacher relationships such that low teacher efficacy negatively impacts positive interpersonal interactions between teachers and students (Durgunoglu & Hughes, 2010). Thus, it is reasonable to infer that if teachers have negative attitudinal beliefs toward Latino linguistically diverse students, this could lead to poorer instruction and lower expectations. Teacher knowledge about effective teaching and instructional practices for minority and linguistically diverse students is critical for their academic

outcomes and for teachers' sense of efficacy (De Jong & Harper, 2005; Dellinger, Bobbett, Olivier, & Ellett, 2008; Jerald, 2007; Téllez & Waxman, 2005; Richard-Amato & Snow, 2005). It is likely that teachers who have higher levels of efficacy within the context of teaching Latino linguistically diverse students would also exhibit more caring behaviors towards these students.

The number of years of teacher preparation, professional development, and experiences working with Latino students may influence teachers' knowledge and altitudinal beliefs and, subsequently, their teacher efficacy relevant to Latino linguistically diverse students (Abbate-Vaughn, 2008; Blanchett, 2006; Rogers & Lopez, 2002; Walker, Shafer, & Fortune, 2005). Teachers' misinterpretations of minority and linguistically diverse students' behaviors (Cartledge, 2005; Ferri & Connor, 2005a, Jiménez, Siegel, & Lopez, 2003) and lack of knowledge and poor attitudinal beliefs regarding language acquisition (Adger, Snow, & Christian, 2003; García & Tyler, 2010; Klingner, Artiles, & Barletta, 2006) and acculturation (Jiang, Green, Henley, & Masten, 2009; Salend & Taylor, 1993) may increase teachers' referral of linguistically diverse students to problem-solving teams and for special education. Furthermore, the vague and varied criteria for specific learning disability eligibility (Klingner et al., 2006; Klingner & Harry, 2006) may promote the inappropriate identification of linguistically diverse students within specific learning disability. If teachers do not experience success working with Latino linguistically diverse students, they may develop low teacher efficacy and negative attitudinal beliefs regarding this population. Identifying and becoming aware of teacher variables and how these interact to facilitate teachers' behavior regarding Latino linguistically diverse students may provide strategies for

addressing aspects of teacher preparation. Further, this information may guide targeted professional development that can help teachers become more effective with linguistically diverse Latino students.

The purpose of this study was to examine teacher variables that affect knowledge and attitudes toward linguistically diverse Latino students that, in turn, impact teacher efficacy. Specifically, the factors studied were teaching experience, targeted professional development, and teacher preparation relationship to teacher efficacy and attitudinal beliefs. The amount of teacher preparation plus the amount of teacher preparation and targeted professional development specifically addressing second language acquisition, culture, and characteristics of learning disabilities were used as a proxy for teachers' knowledge relevant to teaching Latino linguistically diverse students. Additionally, the relationship between teachers' teaching efficacy in regards to linguistically diverse Latino students and their caring behaviors towards these students was explored.

Theoretical Framework

If our nation's education system is to effectively serve Latino linguistically diverse students, it is imperative to understand the variables that influence the individuals who are primarily responsible for their education, teachers. Bandura's (1994) socio-cognitive theory can provide a framework that will aid in conceptualizing these variables. Socio-cognitive theory has been utilized in education research for decades, specifically regarding teacher efficacy (Goddard & Goddard, 2001; Goddard, Hoy, & Woolfolk-Hoy, 2004; Goddard, Hoy, & Hoy, 2000; Raudenbush, Rowen, & Cheong, 1992; Ross, Cousins, & Gadella, 1996; Tschannen-Moran et al., 1998). Teachers' knowledge and attitudinal beliefs influence their decisions regarding many aspects of teaching including

instructions, expectations, and use of teaching strategies. Further, teacher efficacy has been associated with student motivation (Midgley, Feldlauger, & Eccles, 1989), student's self- efficacy (Anderson et al., 1988), and teacher openness to new ideas and flexibility meeting students' needs (Cousins & Walker, 2000). There is evidence that teacher efficacy takes shape early in preservice and teaching experiences and remains relatively stable over time (Woolfolk & Burke-Spero, 2005). Therefore, it is likely that teacher self-efficacy plays an important role when it comes to educating Latino linguistically diverse students.

In regards to teaching, Bandura's socio-cognitive theory's explanation of self-efficacy, the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 2), can be specifically applied to the teacher as an agent of student achievement. Simply, teachers' efficacy is the belief that they will be able to influence and facilitate student learning, and, thus, achievement (Ross & Bruce, 2007). Teachers who believe that they can successfully teach linguistically diverse Latino students will likely set higher self and student goals, strive to a greater extent to achieve set goals, and persevere to a greater degree when faced with obstacles than teachers uncertain of their capability to successfully address these students' needs. Self-efficacy, or more specifically, teacher efficacy, is situational and does not generalize (Anderson et al., 1988; Bandura, 1997; Ross, 1992; Troia & Maddox, 2004). For example, a teacher can have high teacher efficacy in regards to teaching students who speak English proficiently, but have low teacher efficacy regarding students who are linguistically diverse. Due to the situational nature of teacher efficacy, it is

imperative that we study teacher efficacy and the variables influencing it regarding a specific population such as the Latino linguistically diverse student population.

Effectively serving Latino linguistically diverse students requires consideration of a variety of factors. Thus, the purpose of this study was to test path models of variables contributing to teachers' reported self-efficacy related to teaching students identified as Latino linguistically diverse students. These path models were developed based on the literature and the theoretical framework of Bandura's social cognitive theory (1997). Teacher effectiveness can be impacted by their beliefs about their abilities to meet the needs of students (Usher & Pajares, 2008). There is evidence that teachers are significantly less confident about teaching minority and linguistically diverse students than their White English speaking peers, and many teachers are not prepared to meet these students' unique and complex needs (Karabenick & Noda, 2004; Lenski, Fabiola, Mayra, & Sun-Irminger, 2006).

Research Design

Path analysis was used because it is a statistically powerful technique used to test theoretical and directional relationships between variables (Kline, 2005). Additionally, path analysis can help researchers determine whether relationships are positive or negative and whether relationships are statistically significant. As noted, these path models were developed based on the socio-cognitive theory of teacher efficacy and other factors related to student outcomes. This construct is impacted by multiple factors including teaching experience, attitudinal beliefs, teacher preparation, and targeted professional development.

Bandura (1997) stated that teacher efficacy is a good predictor of teachers'

behavior. Attitudinal beliefs may be a mediating variable between targeted professional

development, and teacher preparations impact on caring behaviors. These hypothesized

models were developed to explain the relationship of the aforementioned variables.

Specifically, which of these factors significantly influence teachers' self-efficacy in

regards to working with Latino linguistically diverse students? Additionally, do teacher

efficacy and attitudinal beliefs directly impact teachers' caring behaviors towards Latino

linguistically diverse students? Within the context of Bandura's theory, caring skills are

behaviors that result from a teacher's efficacy.

Evidence suggests that teacher efficacy and attitudinal beliefs directly influence

teachers' exhibition of caring behaviors. Path analysis was used to examine the overall

fit of the three models to the data as well as the hypothesized directional relationships

between the variables (Figures 1-3).

The Hypothesized Path Model, Figure 1, has the strongest theoretical support by

the current literature. Based on the literature, teaching experience, targeted professional

development, teacher preparation, and attitudinal beliefs impact teacher efficacy. There

is evidence that teaching experience, targeted professional development, teacher

preparation, and attitudinal beliefs have direct effects on teacher efficacy (Bai & Ertmer,

2008; Brownell & Pajares,1999; Byrnes, Kiger, & Manning, 1997; Carlson, Brauen,

Klein, Schroll, & Willig, 2002; Fives & Buehl, 2009; Karabenick & Noda, 2004; Lee &

Oxelson, 2006; Lenski et al., 2006; Paneque & Barbetta, 2006; Tasan, 2001; Taylor &

Tashakkori, 1995; Wolters & Daugherty, 2007; Youngs & Youngs, 2001). Furthermore,

targeted professional development and teacher preparation may directly impact attitudinal

beliefs and, subsequently, attitudinal beliefs affect teacher efficacy. Thus, attitudinal

beliefs may mediate effects of targeted professional development and teacher preparation

on teacher efficacy. There is some theoretical support for the addition of caring

behaviors to the model (Bandura, 1997). It is hypothesized that teacher efficacy and

attitudinal beliefs directly influence caring behaviors and that attitudinal beliefs may be a

mediating variable between targeted professional development and teacher preparation

effect on caring behaviors.

Figure 1. Hypothesized path model.

Alternative Path Model 1, Figure 2, is the same as the hypothesized model, except the directional effect of targeted professional development and attitudinal beliefs have been reversed. Targeted professional development is an avenue in which teachers have opportunities to gain knowledge. Knowledge and attitudinal beliefs may have reciprocal relationships in that targeted professional development impacts attitudinal beliefs, and attitudinal beliefs may impact an individual's choice of professional development opportunities (Torff, Sessions, & Byrnes, 2005; Torff & Sessions, 2008).
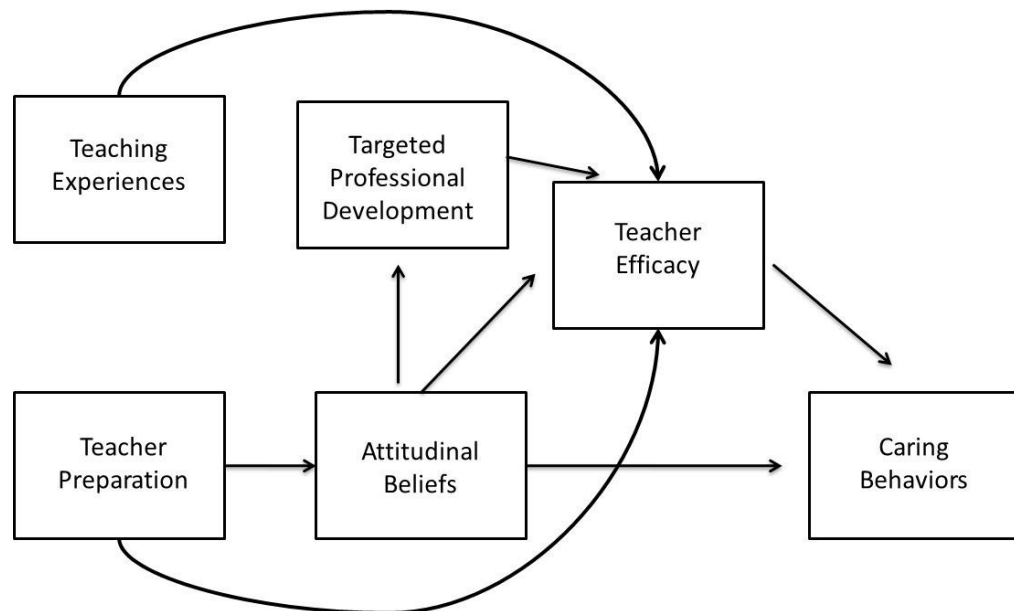
Figure 2. Alternative path model 1.

Alternative Path Model 2, Figure 3, is a simplified model that is also supported by the literature. In this model, teaching experience has been omitted for the sake of parsimony (Kline, 2005). The rule of parsimony is considered crucial in assessing model fit (Hu & Bentler, 1995) and serves as an important criterion in determining alternative models (Schermelleh-Engel, Moosbrugger, & Muller, 2003). Additionally, the literature is mixed regarding the effect of teaching experience on teacher efficacy, with some evidence that teaching experience does not significantly effect teacher efficacy (Campbell, 1996; Soodak & Podell, 1996; Wolters & Daugherty, 2007) or negatively correlates with teacher efficacy (Hoy & Woolfolk, 1993; Taylor & Tashakkori, 1995).

Figure 3. Alternative path model 2.

The hypothesized and alternate path models describe the hypothesized direct and mediating effects of endogenous variables (e.g., teaching experience, targeted professional development, teacher preparation, attitudinal beliefs) on exogenous variables (e.g., teacher efficacy, caring behaviors). The hypothesized path model and alternative path models 1 and 2 also describe the relationships among variables and predicts that teaching experience, targeted professional development, teacher preparation, and attitudinal beliefs will have direct effects on teacher efficacy. Furthermore, all path models predict that attitudinal beliefs and teacher efficacy will have a direct effect on teachers' caring skills. Using path analysis, the researcher tested the hypothesized and alternate path models to answer the following research questions.

Research Questions

Q1   To what degree do the hypothesized relationships among teaching experience, targeted professional development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring skills in the Hypothesized Path Model fit the data?

   Q1a   What is the direct effect of teaching experience, targeted professional development, teacher preparation, and attitudinal beliefs on teacher efficacy?

   Q1b   Does teaching experiences have a significant direct effect on teacher efficacy?

   Q1c   What is the direct effect of teacher preparation and targeted professional development on attitudinal beliefs and the mediating impact of attitudinal beliefs on teacher efficacy?

   Q1d   What is the direct effect of attitudinal beliefs and teacher efficacy on caring skills?

   Q1e   What is the direct effect of teacher preparation and targeted professional developments on attitudinal beliefs and mediating impact of attitudinal beliefs on caring behaviors?

Q2   To what degree do the hypothesized relationships among teaching experience, targeted professional development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring skills in Alternative Path Model 1 fit the data?

   Q2a   What is the direct effect of attitudinal beliefs on targeted professional development and subsequently targeted professional development mediating effects on teacher efficacy?

Q3   To what degree do the hypothesized relationships among targeted professional development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring skills in Alternative Path Model 2 fit the data?

   Q3a   To what degree does taking out teaching experience impact the model?

Definition of Terms

Acculturation. Acculturation is the process in which persons from cultures different than the mainstream exchange or adopt cultural features through experiences that may alter either or both group's original cultural patterns (Kottak, 2007).

Caring Behaviors/Empathic Skills. Caring behaviors are defined as teacher initiated positive social interactions with students. Numerous researchers have noted the importance of simpatía within the Latino "cultural script" in relationship to these students' school success and reduction of academic risk (Behnke et al., 2010; Díaz-Loving & Draguns, 1999; Dotson-Blake, Foster, & Gressard, 2009; Triandis et al., 1984).

Culturally and Linguistically Diverse. Students who are culturally and linguistically diverse do not speak English as their primary language and have cultural differences from the majority culture (Klinger, McCray Sorrells, & Barrera, 2007).

Culture. Culture is a shared, learned, symbolic system of values, beliefs, and attitudes that shapes and influences perception and behavior (Dahl, 2007).

Disproportionality. Disproportionality is defined as significant under- or overrepresentation of a particular subgroup of students' placement in special education compared to their representation in the general student population. Disproportionality is calculated by comparing the students' composition in the overall school or district population by their composition in special education. This comparison will illustrate whether or not a given racial or ethnic group is over- or underrepresented in the specific population of interest (National Research Council, 2002).

Overrepresentation. Overrepresentation is representation of a group's membership in a program that is larger than the percentage of that group in the

educational system or within a given disability category (Council for Exceptional

Children, 2002a).

    Underrepresentation. Underrepresentation is representation of a group's

membership in a program that is smaller than the percentage of that group in the

educational system or within a given disability category (Council for Exceptional

Children, 2002b).

    Inappropriate Identification. Inappropriate identification refers to identifying a

student for special education that does not have a disability.

    Knowledge. For the purposes of this study, teachers' knowledge refers to their

knowledge of learners and their characteristics, specifically those relative to Latino

linguistically diverse students.

    Language Acquisition Theory. Students acquire language by taking in and

understanding language that is slightly beyond their current level of language

competency (Krashen, 1981). Cummins (1981, 1989) has explored and addressed the

concept of second language acquisition through his language transfer proposition. His

linguistic theory identifies two types of language: (a) Basic Interpersonal Communication

Skills (BICS); and (b) Cognitive Academic Language Proficiency (CALP). There are

many distinguishing characteristics between these two types of language including utility

and the time required to develop fluency. BICS are the linguistic skills needed for daily

socialization such as greetings and commonly used questions and statements. These

skills typically develop fully within two to six years and are contextually derived.

Contextually derived language is described by Cummins (1981, 1989) as meaningful,

cognitively easy, not specialized, and most often supported by contextual cues. In stark

contrast, students in general need five to seven years to holistically develop CALP. CALP is the academic language required to be successful in school and is described as abstract, specialized, and contextually limited (Cummins, 1981; 1989).

Latino. Latinos, as a group, are extremely diverse, and differences exist across geography, race, class, traditions, and acculturation. Additionally, Latinos speak many variations of Spanish, are from various places of origin, and have different reasons for migrating to the United States. Places of origin include Puerto Rico, Cuba, Central and South America, Latin America (i.e., Dominica) and Mexico. Although the diversity of these ethnicities and cultures is recognized, the broad term Latino will be used to refer to individuals who are of Spanish ancestry. Although the term Hispanic is often used in the literature, many Latinos view the word "Hispanic" as a bureaucratic government census term (Novas, 1997).

Learning Disability. The term specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Disorders included within this definition are perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage are not considered learning disabilities (U.S. Department of Education, 2006).

Limited English Proficiency. The federal definition of a LEP students is found within the *No Child Left Behind Act of 2001,* S. 9101, 25, of Title IX. A LEP student is

one who is 3 to 21 years old and enrolled or preparing to enroll in any elementary or secondary school. Furthermore, "the student must have sufficient difficulty speaking, reading, writing, and/or understanding the English language to deny the student the ability to meet the State's proficient level of achievement on state assessments" (Section 1111 (b)(3)). Additionally, the student demonstrates an inability to successfully achieve in classrooms where the language of instruction is English or an impaired opportunity to participate fully in society due to one or more of the following reasons: (a) the individual was not born in the United States or whose native language is a language other than English and comes from an environment where a language other than English is dominant; (b) the individual is a Native American, Alaska Native, or who is a native resident of the Outlying areas and comes from an environment where a language other than English has had a significant impact on such student's level of English language proficiency; or (c) the individual is migratory and whose native language is other than English and comes from an environment where a language other than English is dominant.

Linguistically Diverse Students. Students who speak a native language other than the language spoken by the majority of the population; in the U.S. the majority language is English (McCardle et al., 2005).

Teacher Efficacy. Bandura's (1994) social cognitive theory refers to teacher efficacy as teachers' beliefs about their capabilities to impact students' academic achievement.

CHAPTER II

LITERATURE REVIEW

In this chapter, literature regarding Latino and language minority students' academic achievement, dropout rates, and disproportionality of these students in special education is synthesized and examined. Latino students' school failure is a multifaceted phenomenon. Teachers play an important role in delivering evidence-based curriculum through effective instruction and creating a supportive and caring environment. When students are not making academic gains, teachers help to identify them for special education. Furthermore, they are responsible for delivering culturally and linguistically responsive instruction and creating environments that address the needs of diverse learners. For these reasons, teacher characteristics will be examined in relation to teacher efficacy, specifically regarding Latino students. The influence of various factors (e.g., teacher experience, knowledge, attitudinal beliefs) on teacher efficacy will be described as well as the impact of teacher efficacy on teacher caring behaviors.

Latinos

Latino individuals represent the fastest growing minority population within the United States and, thus, the nations' public education system (U.S. Census Bureau, 2001, 2007). Latinos, as a group, are extremely diverse and differences exist across geography, race, class, traditions, and acculturation. Additionally, Latinos speak many variations of Spanish, are from various places of origin, and have different reasons for migrating to the

United States. Although the diversity of these ethnicities and cultures is recognized, the broad term Latino will be used to refer to individuals who are of Spanish ancestry. The term "Hispanic" is often used in the literature, but many Latinos view this word as a bureaucratic government census term (Novas, 1997). As of 2004, Latinos represent 14.2% of the U.S. population and have exceeded the number of African Americans to become the largest minority group. High fertility rates, low median age, and increases in immigration account for this exponential population growth (U.S. Census Bureau, 2001).

The largest populations of Latinos reside in California (30%) and Texas (19%); however, significant populations are reported in Florida (8%), New York (7%), Illinois (4.3%), Arizona (3.9%), New Jersey (3.2%), Colorado (2.1%), and New Mexico (2.0%) (U.S. Census Bureau, 2007). During 2004, the median age for the non-Latino population in the United States was 40.1 years, and the Latino population median age was 26.9 years. Additionally, the largest five-year age group among Latinos was children under 5 years and among non-Latinos, 40 to 44 years old. Providing further evidence of the continued exponential growth of the Latino population, the U.S. Census Bureau (2007) reported that one out of five births in the United States were Latinas, at a fertility rate 47% higher than the overall average. Lastly, our nation's public education system serves CLD students, and a large proportion of those students, 75%-77%, speak Spanish as their first language (Aud et al., 2010b; Zehler et al., 2003). Given the increasing population of Latinos as United States residents due to low median age, high fertility rates, and immigration, there has been parallel growth of Latino linguistically diverse students within all levels of our nation's educational system.

Latino and linguistically diverse students. In the U.S., 1.2 million residents over the age of 5 speak a language other than English. Of the students who are English Language Learners (ELL), approximately 77% have Spanish as this first language (Aud et al., 2010a; Zehler et. al., 2003). The number of ELL students within the K-12 public education system in the U.S. has increased by 72% from 1992-2002 (Wiley, Castro, & de Kierk, 2005). Linguistically diverse students have varying degrees of English language proficiency, with some speaking only their native language and others possessing adequate conversational skills. These students are referred to by different terms, including English Language Learners (ELL), English as a Second Language (ESL), and Second Language Learners (SLL). Federally, students in this category are considered to have Limited English Proficiency (LEP). Although, linguistically diverse is the preferred term, these other terms will be used when describing earlier research, as used by original authors. Linguistically diverse Latino students are the focus of this study.

LEP is a federally recognized term that describes students who have difficulties with the English language and refers to linguistically diverse students. As defined in *No Child Left Behind (NCLB) Act of 2001,* S. 9101, 25, of Title IX, a LEP student is one who is 3 to 21 years old and enrolled or preparing to enroll in any elementary or secondary school. Furthermore, "the student must have sufficient difficulty speaking, reading, writing, and/or understanding the English language to deny the student the ability to meet the State's proficient level of achievement on state assessments" (Section 1111 (b)(3)). Additionally, the student demonstrates an inability to successfully achieve in classrooms where the language of instruction is English or an impaired opportunity to participate fully in society due to one or more of the following reasons: (a) the individual

was not born in the United States or whose native language is a language other than English and comes from an environment where a language other than English is dominant; (b) the individual is a Native American, Alaska Native, or who is a native resident of the Outlying areas and comes from an environment where a language other than English has had a significant impact on such student's level of English language proficiency; or (c) the individual is migratory and whose native language is other than English and comes from an environment where a language other than English is dominant.

Latino populations are exponentially increasing throughout the United States, especially in the southwest regions (De Valenzuela, Copeland, Qi, & Park, 2006). They represent the fastest growing subgroup in the nation (Genesee, Lindholm-Leary, Saunders, & Christian, 2005). There is significant evidence within the literature that Latino students' educational needs are not being met by current educational practices. Latino students are at greater risk for failing to complete a K-12 education, neither pursuing nor completing a post-secondary education, and receiving lower grades in elementary, middle, and high school (Duran, 2008). Furthermore, Latino students drop out of school at a greater rate than any other group of students (Aud et al., 2010a; Padron et al., 2002).

Baca and Cervantes (2004) suggested that Latino students who have a disability and whose families are of low socioeconomic status have a greater probability for unsuccessful academic outcomes. These three factors (i.e., LEP, low SES, and disability) are universally seen as risk factors for increased school failure (Hoover, 2008). Furthermore, LEP and low SES also result in an increased likelihood of placement in

special education (Tam, Heward, & Heng, 2006). High rates of school failure and inaccurate special education identification procedures for linguistically diverse student populations raise questions about educational equity and access in general and special education.

There are many hypothesized reasons for the lower educational success rates among Latino youth. For example, some researchers have suggested that teacher characteristics (i.e. amount of education, teaching experience) negatively impact teacher efficacy and teacher behaviors (i.e., instructional choices, flexibility, empathic behaviors), leading to lower expectations, inadequate instruction, and poorer student-teacher relationships with Latino students (Anderson, Greene, & Loewen, 1988; Artiles & Ortiz, 2002; Bandura, 1997; Byrnes et al., 1997; Lenski et al., 2006; Rhodes, Ochoa, & Ortiz, 2005; Ross, 1992; Samson & Lesaux, 2008; Troia & Maddox, 2004). Furthermore, because Latino students are more likely to attend lower quality schools and be placed in lower academic educational tracks, they often encounter these teacher and institutional barriers that are thought to contribute towards Latinos' low academic achievement and high dropout rates (Aud et al., 2010b). In relation to linguistically diverse youth, research is more limited. No national data has been collected that simultaneously examines English language proficiency and ethnicity (Artiles, 2002; Artiles et al., 2005; Rhodes et al., 2005). The following section will summarize the literature surrounding Latino students' school failure, including poor academic achievement and dropout rates.

School Failure

As the population of linguistically and culturally diverse students increases, so does the urgency for teachers and other school personnel to be capable of facilitating the academic success of these diverse learners (McNeal, 2005). Despite guidelines specified by *No Child Left Behind* (NCLB) and the *Individuals with Disabilities Education Improvement Act of 2004* (IDEA) to protect the rights of culturally and linguistically diverse students, research consistently illustrates that minority children fail to academically achieve at the level of their White peers (Trent, Kea, & Oh, 2008), and to drop out at higher rates (Aud et al., 2010a; Padron et al., 2002). Additionally, these students are inappropriately identified and disproportionately represented in special education (Daniels, 1998; Salend, Garrick Duhaney, & Montgomery, 2002). All of the aforementioned (i.e. achievement gap, dropout rates, and disproportional representation in special education) contribute to Latino linguistically diverse students' school failure and will be discussed in the following sections.

Achievement gap. There is substantial evidence within the education literature that Latino linguistically diverse students are lagging behind their White peers in academic achievement (Abedi, 2006; Artiles & Ortiz, 2002; Brayboy et al., 2007; Padron, et al., 2002). Latino students, as compared to all other groups of students, have the lowest level of educational attainment (Padron et al., 2002). According to the U.S. Department of Education (USDE) (2000), the educational achievement gap between Latino and White students is a pressing concern and priority of educational reform. The most recent achievement data (Aud et al., 2010a) indicated that the achievement gap between Latino and White students was 24 points for reading and 26 points for

mathematics in 2009, which was not different than the corresponding gaps in 1992 or 2007. Even with national recognition by the USDE (2000), that the Latino and White achievement gap is a national priority, the gap has remained consistent, without measurable improvement (Aud et al., 2010a).

The National Assessment of Educational Progress, a longitudinal study that examines U.S. students' reading and math data for fourth and eighth grades, has also consistently indicated that minority students, including Latino students, perform below their White peers (Brayboy et al., 2007). In general, Latino students perform well below the national average in reading and writing (Abedi, 2006). In contrast to the USDE (2000), Abedi (2006) asserted that achievement gaps for math and science were less than those for reading and writing; however, gaps remain in all academic areas. These students have greater rates of school failure and are significantly less likely to meet state proficiency goals (Artiles & Ortiz, 2002).

Brayboy et al (2007) examined achievement data within a variety of school settings and found inequities of resources, educational opportunities, and academic outcomes for culturally and linguistically diverse students. These inequities may perpetuate linguistically diverse Latino students' disadvantages in our nation's education system. As noted, there is evidence to suggest linguistically diverse Latino students commonly attend insufficiently funded schools where they receive substandard learning opportunities compared to their White peers (Blanchett, 2006; Blanchett et al., 2009; Guiberson, 2009; Harry & Klingner, 2007). Two comprehensive reports provide evidence that teachers and other school professionals may have lowered expectations for culturally and linguistically diverse students (Harry & Klingner, 2006; National Research

Council, 2002). Furthermore, Cline and Necochea (2006), in a qualitative study, explored the unique experiences of U.S. and Mexican teachers who participated in a boarder pedagogy training institute. They found that teacher dispositions and societal expectations were identified as having profound effects on students learning. In fact, negative teacher expectations may lead to differences in student performance and play a role in inequitable classroom climates and limited educational opportunities for Latino and Black students (Tenenbaum & Ruck, 2007).

Additionally, school characteristics may contribute to Latino students' achievement gap. Schools in which Latino and other culturally and linguistically diverse students attend often utilize poorer quality or limited curriculum and instruction (Harry & Klingner, 2006). More often than not, instruction and curriculum reflects the dominant culture perspectives and disregards students' cultural and linguistic diversity (Mora, 2002; Trueba, 2002). A distinct gap has been identified between the preparation and experience of teachers who teach in schools that are majority Black or Latino and those who teach in predominately White and affluent schools (Nieto, 1996, 2002; White-Clarke, 2005). Many teachers who serve minority students have limited, if any, knowledge and skills for teaching immigrant and minority students (Clair & Adger, 1999; Lewis et al., 1999). Lewis et al. (1999) reported on teacher preparation and qualifications using a nationally representative questionnaire completed by teachers with full-time employment in public schools. The majority of teachers who taught ELL and other culturally diverse students reported that they felt unprepared to meet these students' needs.

Latino students are often placed in low or non-academic educational tracks that are characterized by low-level learning objectives, which are likely to negatively impact their learning outcomes (Mickelson, 2001; Orfield & Lee, 2004; Reyna & Weiner, 2001). Linguistically diverse students do not receive the services and supports necessary for them to obtain school success (Artiles & Ortiz, 2002). These findings are consistent with Thomas and Collier's (2002) longitudinal study results that examined 700,000 English language learners (ELL) who were receiving various types of programming in school districts across the nation. They estimated that only 10% of the programming studied was highly effective in addressing academic achievement goals for linguistically diverse students aimed at closing the achievement gap.

School Dropout. In nearly every year since 1985, Latino students were significantly less likely to complete high school and immediately enroll in college after high school completion than their White peers (Artiles & Ortiz, 2002; Aud et al., 2010b). Consistently, Latino students have the highest dropout rate of any group of students (Aud et al., 2010a; Padron et al., 2002). In 2000, 1.4 million, or 28%, of Latino students between the ages of 16 and 24 years dropped out. This percentage was greater than double the dropout rate for African American and more than triple the rate of their White peers (Waxman, et al., 2007). As noted by Montecel et al. (2004), Latino educational attrition rates are likely to be underreported and fail to represent the problem accurately. Montecel et al. (2004) utilized the U.S. Census Bureau (2000) data to investigate Latino dropout rates and found that 43% of the Latino population did not receive a diploma, and 26% dropped out prior to their ninth grade year. The staggering dropout rates for Latino students is a pressing concern; students who drop out of school are more likely to earn

lower incomes or be unemployed, to require social services, and be overrepresented in adult correctional facilities (Rumberger & Larson, 1994; Secada et al., 1998).

The causes of school dropout are complex and varied. In another study conducted by the USDE (2000), Latino youth enrolled in 8th through 12th grades were surveyed to explore their perceptions regarding the causes of their Latino peers dropping out of school. Latino males were more likely to drop out than females, and Latino students dropped out primarily due to financial reasons such as supporting their families. The authors found that nearly 10% of Latino youths were not residing with their parents at the time of the study, which was twice the rate of their White peers. Furthermore, only 51% of Latino youth's mothers had completed high school, significantly less than their White peers, and were twice as likely to live in high-poverty areas and attend under-performing schools (USDE, 2000).

Over the past decade, factors contributing to Latino school dropout have been extensively studied. Factors that have been consistently identified are language proficiency, gender, and family socioeconomic status (SES). The NCES (1999) found that greater than half of foreign-born Latino limited English proficiency (LEP) students who did not complete high school had never enrolled in a U.S. school. For those students who did enroll, incomplete work due to absences and lack of connections and communication between home and school were the primary reasons for Latino students' credit deficits (Aviles et al., 1999; Fry, 2003).

Further exacerbating these problems are district policies and procedures, which are often times confusing and intimidating for Latino students and their families (Aviles et al.,1999; Fry, 2003). Most often, dropout prevention programming and efforts focus

on student characteristics (i.e., family dynamics, financial issues, unplanned pregnancy, and mobility), instead of school processes and teacher characteristics (Montecel et al., 2004). Programming that focuses on student characteristics alone are typically unsuccessful, suggesting the need to develop effective systemic school reform programs to address Latino students at risk for dropping out of school (Montecel et al., 2004). With funding from the United States Department of Education, the Intercultural Development Research Association (IDRA) (2001) examined 10 bilingual education programs across the nation whose students consistently achieved high levels of academic success. According to their findings, the most significant factor that contributed to student dropout was schools' failure to effectively address the unique academic needs of specific groups of students.

Disproportional representation in special education. When students are not successful in school, they are often referred to special education. When appropriate, special education can be a great source of support for students. However, when certain students are over-referred and placed, it may be reflective of a greater problem in the general education setting. Culturally and linguistically diverse students, as a group, tend to be disproportionately represented in special education (Hosp & Reschly, 2004; Klingner et al., 2005; National Education Association, 2007). Disproportionality in reference to special education is defined as the representation of a specific subpopulation of students in a disability category that significantly exceeds or under-exceeds expectations for the population of students (Skiba et al., 2008). In other words, disproportionality is the overrepresentation and under-representation of a particular population or demographic group in special education programs in relation to their

overall group size within the student population (National Association for Bilingual Education, 2009).

Disproportionality has been identified as one of the most complex and multifaceted issues in special education (Skiba et al., 2003). It is unlikely that there are any simple answers to disproportionality. However, some contend that overrepresentation of certain subpopulations in remedial programs (i.e., targeted interventions such as small group instruction, lower level curriculum, targeted skill interventions) is a precursor to being inappropriately placed in special education (see National Research Council, 2002, for an overview of disproportionality issues). Students' race (i.e., Native American) and ethnicity (i.e., Latino) as well as English proficiency are significant variables in relation to the probability that students will be inappropriately identified as disabled (Keller-Allen, 2006; Losen & Orfield, 2002; National Research Council, 2002). Over the past two decades, Latino students have been consistently underrepresented in gifted and talented (GT) and advanced placement programming (Artiles & Bal, 2008; Baldwin, 2004; Ndura et al., 2003). National data collected by the National Academy of Sciences revealed that Latino students comprised only 3.57% of our nation's students identified as GT (as cited by National Education Association, 2007), yet represented 19.8% of students enrolled in schools (Fry, 2007).

As previously mentioned, Latino students are commonly placed in low academic educational tracks in which remedial programming is prescribed (Mickelson, 2001; Orfield & Lee, 2004; Reyna & Weiner, 2001). There is limited data available regarding students' placement in special education over time; however, the National Research Council (2002) reported an increase of culturally and linguistically diverse students being

placed in special education from 3.3% in 1987 to 14.2% in 2001. Additionally, the

National Longitudinal Transition Study 2 (NLTS-2), as cited by Wagner, Newman,

Cameto, Levine, & Marder (2003), reported a similar increase from 3% in 1987 to 14%

in 2001. The NLTS-2 study represented mostly Spanish speaking linguistically diverse

students' trend for being placed in special education. Based on this data, it appears that

Spanish speaking students are being placed in special education at a higher rate than

previous years, but a rate that is consistent with other diverse populations. According to

the Office of Special Education Programs (28th Annual Report to Congress on the

Implementation of Individuals with Disabilities Education Act, 2009), Latino students

were 1.1 times more likely to be identified as and receive special education for learning

disabilities than all other racial and ethnic groups combined.

Highlighting this trend, Samson and Lesaux (2009) and Limbos and Geva (2001)

have specifically examined linguistically diverse students' placement in special education

for LD. Samson and Lesaux (2009) used data from the national Early Childhood

Longitudinal Study-Kindergarten Cohort (ECLS-K) to investigate the proportions of

linguistically diverse students' in special education, specifically identification rates for

students enrolled in kindergarten through third grade. Latino students comprised the

largest percentage of minority students at 18%, compared to 15% Blacks, 3% Asian, and

4% all other races or ethnicities. Study results indicated that linguistically diverse

students were underrepresented in kindergarten and first grade and overrepresented in

third grade. Thus, linguistically diverse students were more likely than their White peers

to be placed in special education later, perhaps delaying beneficial services and support

and withholding early intervention services. This trend may also reflect a mistaken belief

that after two years of English language instruction, students should have acquired academic language skills in their second language.

Teachers' ratings were found to be the strongest predictor for student placement in special education for all three grade levels (Samson & Lesaux, 2009). These data serve to highlight the role teachers play in identifying students who may be at risk for learning difficulties. Providing support for these findings, Barrera (2006) studied general and special education teachers' ability to assess (i.e., teacher ratings of early literacy skills) students identified as limited English proficiency (LEP), with and without documented learning disabilities compared to their English proficient peers. Teachers' ratings on global teacher assessments were not statistically significant, thus did not differentiate LEP students with and without a learning disability. The findings did support the importance of the classroom teacher in the identification process and the inadequacies of teacher referrals for linguistically diverse students. These findings are in agreement with Artiles et al.'s (2005) study results that teacher ratings are predictive of students' placement in special education and provide further evidence that teacher ratings are a significant variable in identifying linguistically diverse students for special education services; whether or not students were accurately identified is the concern.

Kozleski and Smith (2009) identified disparities in educational placement as underscoring pervasive systemic inequities in educational opportunities and access. Without equal educational opportunities and access, Latino linguistically diverse students will continue to achieve depressed educational outcomes and be at increased risk of inappropriate placement in special education. Holistically addressing these disparities would require considering the influences of system (i.e., resources, curriculum, and

policy) as well as characteristics of individual teachers (i.e., knowledge, attitudes, and beliefs).

Role of Teachers

Teachers play a momentous role in educating our nation's youth including the ever growing number of Latino linguistically diverse students. They are charged with delivering curriculum through differentiated instruction and cultural and linguistically sensitive pedagogy, fostering positive classroom climates and student-teacher relations, and, ultimately, teachers are on the front lines of educating students. Townsend (2002) noted the importance of examining alterable teacher variables in relation to academic achievement, such as expectations and perceptions, because she believes that minority students' failure has much less to do with child and family attributes and more to do with school and teacher characteristics.

With respect to Latino linguistically diverse students, it is important to address teacher characteristics that may impact students' achievement and other outcomes. Therefore, it is imperative that teachers develop multicultural competencies, skills, and knowledge regarding Latino linguistically diverse students' unique learning needs (August & Hakuta, 1997; National Research Council, 2002; Rogers & Lopez, 2002; Rogers et al., 1999). Teachers bring their knowledge and skills gained through teacher preparation programs, professional development opportunities, and teaching experience, along with their attitudinal beliefs into all situations, from the classroom to multidisciplinary team meetings. These teacher characteristics may impact how they frame Latino linguistically diverse students' learning difficulties (Rhodes et. al., 2005)

and impact their perceived levels of efficacy when teaching these students (Artiles & Ortiz, 2002; Byrnes et al., 1997; Lenski et al., 2006; Samson & Lesaux, 2009).

Teacher efficacy significantly influences teacher behaviors including instruction, use of teaching strategies, and student-teacher interactions (Anderson et al., 1988; Bandura, 1997; Ross, 1992; Troia & Maddox, 2004). High levels of teacher efficacy are associated with higher levels of cognitive and emotional resources (Woolfolk-Hoy & Davis, 2005). Cognitive resources are useful when persevering through instructional and teaching obstacles encountered on a daily basis. Furthermore, emotional resources are necessary in developing positive student-teacher relationships (Gay, 2005). Positive relationships, evidenced by caring acts, are consistently reported by Latino students as one of the factors that significantly contributed to their academic success (De Jesús & Antrop-González, 2006; Dotson-Blake et al., 2009; Valenzuela, 2005). Teacher efficacy can be conceptualized using Bandura's Social Cognitive Theory (Bandura, 1997).

Social Cognitive Theory

Social Cognitive Theory (SCT) has developed over several decades and was derived from Social Learning Theory which began to emerge in the 1800s. SCT provides a framework for understanding the dynamic and reciprocal interactions of personal factors, behavior, and the environment on human behavior (Bandura, 1977, 1986, 1989). Human behavior is regulated by cognitive processes and consequences, whether positive or negative, which shape an individual's expectations of behavioral outcomes. With these developed expectancies individuals are able to predict outcomes of future behaviors. SCT emphasizes an individual's cognitive capacity to be an active force that creates personal reality by selecting information to attend to and encode. Behaviors are

driven by personal values and expectations, and actions are conceptualized within this personal structure (Bandura, 1997; Goddard et al., 2000; Jones, 1989).

Individual reality is formed by interactions with the environment and, reciprocally, creation of cognitive constructs within a feedback loop. As humans develop, their cognitive capabilities advance through experience and maturation, resulting in enhanced memory, attention span, and reasoning ability (Bandura, 1997). Human behavior can be understood, predicted, and, ultimately, changed by understanding the intricate process of an individual's construction of personal reality (Adams & Forsyth, 2006; Bandura, 1997; Jones, 1989). It is this aspect of SCT that is of interest in the present study. With a better understanding of how teachers develop their attitudes and practices related to teaching linguistically diverse Latino students, we can effectively address their educational needs.

Bandura (1989) asserted that self-regulatory processes allow individuals control over their thoughts, emotions, motivations, and behaviors. Self-regulation encompasses an individual's personal motivation, social, and moral standards. Specifically, motivational standards provide guidance of goal setting (discrepancy production) and effort expended to attain goals (Bandura, 1977; 1986; 1989; 1997). Bandura (1986, 1989) posited that three factors affected level of motivation: self-efficacy, feedback, and anticipated time to attain goal. Self-efficacy is central for motivation to perform a behavior. Individuals who perceive themselves as capable of attaining a goal will persevere to a greater extent than persons with low self-efficacy. Feedback assists in modifying behaviors and goals to make them more realistic, resulting in more proximal goals. Lastly, self-reflective capabilities allow individuals to appraise their experiences,

thoughts, and modify thoughts and behaviors accordingly. Self-efficacy is one of the most important types of self-reflection.

Bandura's self-efficacy theory provides a theoretical framework for studying the complex relationships between teacher efficacy and variables that impact teachers' perceived efficacy. Knowledge, attitudinal beliefs, and teaching experiences have been found to influence teacher efficacy (Artiles & Ortiz, 2002; Byrnes et al., 1997; Durgunoglu and Hughes, 2010; Lenski et al., 2006; Samson & Lesaux, 2008). In turn, teacher efficacy influences teachers' behaviors and students' outcomes. Teacher efficacy is context specific. That is, teachers may have high levels of efficacy working with English speaking, White middle class students and low levels of efficacy working with Latino, linguistically diverse students in an urban setting. Bandura's SCT specific to teacher self-efficacy will be discussed within later sections. Using SCT as a theoretical framework for conceptualizing teacher efficacy allows for an in-depth consideration of the factors that contribute to this construct.

Teacher Knowledge

Within the current state of the U.S. education system, teachers are encountering significant demographic changes in the student population. Teachers may feel unprepared to teach students who are culturally and linguistically different than themselves. In order to maintain their identity as competent teachers, they may engage in behaviors aimed at preserving their identity (Bandura, 1997). For example, teachers might lower their expectations or consider students to be learning disabled. By attributing the problem to the student, the teacher is relieved of his or her responsibility for the student's lack of success. Low teacher expectations in regards to teaching

culturally and linguistically diverse students negatively influence classroom practices and promote differential treatment of students (Fueyo & Bechtol, 1999).

To serve these students effectively, Flores and Smith (2008) identified the need to examine teachers' knowledge and attitudinal beliefs, specifically regarding linguistically diverse students. Knowledge about language acquisition and Latino culture are specifically relevant to Latino linguistically diverse students. Furthermore, knowledge about learning disabilities (LD) and how to differentiate learning disabilities from language acquisition and cultural differences is important for teachers who work with linguistically diverse Latino students (Artiles & Ortiz, 2002; Artiles et al., 2005; August & Hakuta, 1997; National Research Council, 2002).

Knowledge

Knowledge is essential to the development of teachers at all stages, from preservice to master teachers. Teacher knowledge encompasses content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of learners and their characteristics, and knowledge of educational contexts (Shulman, 1986). It is not possible to study all aspects of knowledge in one study. Schwab (1964) encouraged researchers to isolate one area of teacher knowledge on which to focus when conducting a study. For the purposes of this study, teachers' perceived knowledge of learners and their characteristics, specifically those relative to Latino linguistically diverse students, was the focus.

There are three critical areas of knowledge for teachers of linguistically diverse Latino students: (a) pedagogy; (b) linguistics (i.e., language acquisition); and (c) cultural diversity (Menken & Atunez, 2001). Menken and Atunez (2001), in a survey of higher

education institutions, found that less than 16.67% of teaching programs required preparation regarding English language learners (ELL), specifically culture, linguistics, and effective pedagogy. Although most teacher preparation programs address multicultural issues broadly, consistent with National Council for Accreditation of Teacher Education (NCATE) standards, there is less emphasis specific to linguistic diversity.

Knowledge specific to teaching Latino linguistically diverse students. As noted above, knowledge of language and linguistics, language development, second language acquisition, cultural diversity, and sociolinguistics is needed by today's teachers (Reagan, 1997; Wong-Fillmore & Snow, 2000). These areas of knowledge can help inform teachers to make sound instructional and pedagogical choices (Baca & Escamilla, 2002; Grant & Wong, 2003; Phuntsog, 2001; Téllez & Waxman, 2004, 2005). For example, Carlo, August, McLaughlin, and Snow (2004) summarized previous work regarding Latino students' poor reading comprehension skills (see Nagy, 1997; Verhoeven, 1990); low vocabulary was identified as a primary determinate to their skill deficits. Challenging curriculum aimed at teaching academic words, awareness of polysemy, teaching word inference strategies, and analyzing morphological and cross-linguistic aspects of word meaning improved ELL fifth graders' performance (Jiménez, García, & Pearson, 1996; Nation, 2001). The importance of vocabulary development for struggling ELL readers is undisputed; however, García (2000) noted that few evidence-based programs have been developed to improve students' second-language reading vocabulary.

In addition to understanding the academic needs of students, effective teachers address the whole child by considering and actively teaching in a manner that fosters inclusive classroom climates and positive student-teacher relationships with their linguistically diverse students (Watkins-Goffman, 2001). Making choices that promote ELL students' positive school experiences, specifically regarding social relations, identity, and self-esteem, teachers help provide the foundation for students' English language acquisition (Peregoy & Boyle, 2000). Students from all cultural and linguistic backgrounds work better when they feel emotionally secure and comfortable in their school environment (Mantero & McVicker, 2006). Schlosser (1992) studied 31 culturally diverse students identified as at-risk to drop out by their school over a two-year period. Teachers who were most effective learn to understand the cultures of their students; subsequently, their students come to trust them (Schlosser, 1992).

Durgunoglu and Hughes (2010) explored the connection between knowledge, perceived preparedness, and teacher efficacy regarding English language learners (ELL) in the U.S. Study participants were 62 preservice teachers completing their student teaching. Results indicated that preservice teachers lacked knowledge about effective teaching strategies for ELL students, with most answering only 25% of the questions correctly. In addition to earning low scores on the knowledge test, preservice teachers reported insufficient preparation to address ELL students' needs. Preservice teachers who earned higher scores on the knowledge test reported higher levels of perceived preparedness to meet ELL students' learning needs. Perceived level of teacher preparation and actual knowledge regarding teaching ELL students correlated with preservice teachers' efficacy.

Borg (1998, 1999) studied second language teaching with a focus on instructional decision-making. He found that teachers' instructional decision-making was influenced by knowledge of context (i.e., knowledge of learner characteristics) along with teacher preparation and teaching experience (Borg, 1998, 1999). Knowledge appeared to be a significant factor that influenced instructional choices as well as perceived capability to make instructional choices. In a qualitative study, teachers' knowledge about language acquisition aided them to provide effective instruction and accurately assess linguistically diverse students' academic performance (Johnston & Goetsch, 2000). Thus, teacher preparation and teaching experience appear to be related to teachers' development of content or declarative knowledge about linguistically diverse students' learning.

Linguistically diverse students benefit from instruction in their primary language, quality instruction, and instructional accommodations (i.e., strategic use of the primary language for clarification and explanation, clear and concise instructions and expectations, predictable and consistent classroom management routines, additional opportunities for practice etc.) (see August & Shanahan, 2006 for a review of the literature). It appears that without the appropriate knowledge base (i.e., knowledge about language acquisition and culture), teachers may be unprepared to meet the educational needs of ELL students. If teachers are unprepared to teach ELL students and lack the necessary knowledge, it is unlikely they will encounter mastery experiences when working with these students. Knowledge specifically relevant to Latino linguistically students are language acquisition and cultural knowledge. Furthermore, knowledge about learning disabilities and how to differentiate LD from language acquisition and cultural differences are believed to be important for teachers to form perceived competence

working with Latino linguistically diverse students (Artiles & Ortiz, 2002; Artiles et al., 2005; August & Hakuta, 1997; National Research Council, 2002).

Thus, increasing preservice and practicing teachers' knowledge regarding culturally and linguistically diverse students' unique characteristics may help to address this need (Barry & Lechner, 1995; Guillaume, Zuniga-Hill, & Yee, 1995; Hilliard, 1998; Siwatu, 2007). Teacher knowledge specifically regarding second language acquisition, Latino culture, and specific learning disability criteria discussions will follow.

Second language acquisition knowledge. Teacher knowledge about second language acquisition and linguistically diverse education include: (a) knowledge of the structure of language acquisition (i.e., transfer skills between native language and second language); (b) knowledge of factors that influence the successful development of a second language; and (c) societal factors that influence literacy development in a second language (Gándara & Rumberger, 2009; Rumberger & Gándara, 2004). Knowledge of second language acquisition is essential for teachers to fulfill their roles as communicator, educator, evaluator, and agent of socialization (Adger et al., 2003). Understanding that discourse patterns are culturally derived, knowing common errors made during second language acquisition, and having appropriate expectations for linguistically diverse students will assist teachers in serving these students (Adger et al., 2003).

In order to provide Latino linguistically diverse students with appropriate instruction and select effective educational material and activities, teachers must understand language development (Adger et al., 2003; National Research Council, 2002). Within the role of evaluator, teachers must understand that most, if not all, assessments

are language based (Adger et al., 2003, Artiles, 2002; Rhodes et al., 2005). Since most assessments are language based, teachers need to know and understand language use variations to accurately assess linguistically diverse students (Adger et al., 2003). Lastly, teachers are agents of socialization; ideally, they understand how to assist culturally and linguistically diverse students' transition from home to school.

Lack of knowledge regarding cultural and linguistic differences has been identified as a possible cause for the inappropriate identification of linguistically diverse students for special education services (Artiles & Ortiz, 2002; Artiles et al., 2005; National Research Council, 2002; Rhodes et al., 2005). Abedi (2006) noted that teachers are concerned with and do not feel competent in distinguishing between ELL students with and without disabilities. This is not surprising, especially in light of the executive summary from the National Literacy Panel on developing language literacy in second-language learners (August & Shanahan, 2006) that called attention to the problems associated with the assessment of ELL students. This panel, comprised of 13 experts in second-language development, cognitive development, curriculum and instruction, assessment and methodology, reviewed both quantitative and qualitative studies on language-minority students' literacy development. They reported that most assessments fail to distinguish ELL students' individual strengths and weaknesses. Currently available literacy assessments do not have good predictive validity for second language learners.

August and Shanahan (2006) indicate that research on early literacy has not addressed student performance controlling for students' oral English proficiency or assess their first language proficiency. Teachers need support and training through teacher

preparation programs and targeted professional development as well as national guidance

to enhance their knowledge and skills regarding the assessment of ELL students'

academic performance. Currently, there are concerns by practitioners and researchers

alike that pre-referral and evaluation practices do not adequately distinguish

manifestations of learning disabilities from issues related to language acquisition (Klinger

et al., 2007; Ortiz, 1997).

 In their synthesis of the literature regarding language acquisition, Genesee et al.

(2005) found that greater duration of language instruction leads to higher levels of

linguistically diverse students' academic achievement. Evidence-based instructional

strategies for linguistically diverse students include (but are not limited to) nonlinguistic

representations, cues, questions, advance organizers, cooperative learning, reinforcing

effort and providing recognition, teaching through thematic units, academic vocabulary

instruction, authentic reading and writing tasks, and identifying similarities and

differences (Hill & Flynn, 2006; Freeman & Freeman, 2007). However useful and

effective these strategies are, it is imperative that teachers understand the stages of second

language acquisition to serve linguistically diverse students (Freeman & Freeman, 2001).

 Despite a growing body of research regarding language acquisition, teachers

continue to hold on to misinformation. For example, many teachers still believe that

linguistically diverse students' second language acquisition will be impeded by speaking

their first language at school or home (Karabenick & Noda, 2004). In fact, students' first

language does not impede, but in some instances, enhances their development in a second

language (Buriel & Cardoza, 1988; Fernandez & Nielsen, 1986; Royer & Carlo, 1991).

Kennedy and Park (1994) found no correlation between language spoken at home and the

Mexican American linguistically diverse students' grades. These findings further dispel the myth that speaking one's first language at home or school will hinder students' acquisition of a second language.

Research suggests that teachers may not be either consuming or applying the available research or evidence-based programming in relation to teaching their linguistically diverse students (August & Shanahan, 2006; Menken & Atunez, 2001; Téllez & Waxman, 2004, 2005). Studies focusing on the declarative or content knowledge of teachers who are effective in teaching linguistically diverse students are limited, and further investigations should be conducted (Borg, 2003).

The similarities between the manifestation of difficulties acquiring a new language and those that are used to identify a learning disability (Lock & Layton, 2002) make it difficult for teachers to serve these students. Limited English proficiency may make it difficult for students to fully benefit from teacher's instructions and classroom activities as well as understand and respond to assessment questions (Abedi & Gándara, 2006; Hakuta, Goto Butler, & Witt, 2000). Addressing linguistically diverse students' learning and assessment conditions is considered necessary in decreasing the performance gap (Abedi, 2006; Abedi & Gándara, 2006; Hakuta et al., 2000). Cultural and language acquisition knowledge is crucial for helping teachers distinguish between the two.

Cultural knowledge. Because the majority of teachers are White and their classroom populations are becoming more diverse, it is important to prepare teachers for cross-cultural teaching (Zeichner, 1993). Cultural knowledge is an important element of culturally responsive pedagogy (Milner, 2011; Zeichner, 1993) which uses students'

culture to help them create meaning and, ultimately, understand their world (Ladson-

Billings, 1992). Cultural knowledge refers to the cultural norms, histories, language, and

other characteristics of a culture (Zeichner, 1993). This knowledge in which teachers

recognize and honor students' cultural beliefs and practices while helping students

acquire access to the broader culture is essential for cultural competency (Ladson-

Billings, 1992, 2006).

Gay and Howard (2000) proposed a two-stage multicultural teacher education

model in which the first stage was aimed at developing teachers' knowledge of students'

ethnic and cultural diversity. Similarly, De Jong and Harper (2005) placed an emphasis

on cultural sensitivity, linguistic diversity, and teaching strategies. Teachers who are

aware of and possess knowledge about cultural and linguistic differences are more likely

to adapt teaching and instruction to meet the needs of linguistically diverse students

(Sheng, Sheng, & Anderson, 2011). Furthermore, teachers who adopt culturally and

linguistically relevant pedagogical practices typically value linguistically diverse

students' backgrounds and are more likely to facilitate positive learning environments

(Cummins, et al., 2005).

Lucas, Henze, and Donato (1990) studied high schools that were highly

successful at meeting Latino students' academic needs. Teachers' cultural knowledge

and ability to identify students' individual strengths and personal circumstances, rather

than characterizing them by stereotypes, were found to be factors that significantly

contributed to effective and successful education of Latino youth. Students who are not

from the mainstream culture experience an acculturation process in which they exchange

or adopt cultural features through experiences that may alter either or both groups'

original cultural patterns (Kottak, 2007). Teachers who had knowledge about and sought to understand their students' culture were able to demonstrate greater respect towards the Latino culture and recognize each student's individual strengths, needs, and personal circumstances (Kottak, 2007).

Acculturation is a process that commonly occurs simultaneously with language acquisition (Kottak, 2007). Results of a study investigating 151 Mexican-American high school students provided substantial evidence that students' level of acculturation is correlated with academic achievement (Manaster, Chan, & Safady, 1992). Artiles et al. (2005) asserted that the degree to which a student is acculturated is of the utmost importance when conceptualizing students' behavior and academic progress. Degree of acculturation is also important to inform learning and assessment conditions. Furthermore, they noted the importance of students' level of acculturation on instructional and evaluation decisions. Because acculturation is important to student learning outcomes, it is likely that instructional strategies that reflect the unique needs of these students will be more effective (Cole, 2008). Culturally responsive pedagogy may help to address the needs of students at varying levels of acculturation and enhance the meaning of classroom instructions and activities (García & Ortiz, 1988). García and Ortiz (2008) contend that classroom instruction must be both culturally and linguistically relevant to be most beneficial to ELL students.

Effective teachers incorporate both students' culture and language into their classrooms, communicate respect for diversity, support and reinforce students' cultural identity, and, lastly, effectively teach language, academic, and social skills needed to be successful in school and beyond (García & Ortiz, 1988). Without appropriate knowledge

of cultural and language acquisition, it is unlikely that teachers will be successful in establishing these conditions. If students are not successful, they may be referred to a problem-solving team or for a special education evaluation to help determine if the students' learning difficulties are due to linguistically diverse or possibly a learning disability. Because of the difficulties in distinguishing between student learning difficulties that are a result of linguistic diversity and those that are a result of learning disabilities, teachers need to be knowledgeable about the characteristics of LD.

Knowledge about learning disabilities. When linguistically diverse students struggle academically, the majority of teachers are uncertain as to whether these difficulties are due to LEP, a potential learning disability, or both (García & Tyler, 2010; Klingner & Harry, 2006). Differentiating LEP and LD, or identifying students who are both LEP and LD, is complicated because difficulties experienced by linguistically diverse students can mirror characteristics of LD (Salend, 2008). Knowledge regarding how learning disabilities differ from LEP is important to serving Latino linguistically diverse students (Artiles et al., 2005; Ruffin, 2009).

These findings built on an earlier study by Limbos and Geva (2001) that suggested the accuracy of teacher assessments for screening ELL students for LD had low sensitivity in the area of reading disabilities. Pertinent to this study, there is evidence that teachers are unprepared to appropriately evaluate culturally and linguistically diverse students' learning needs (Artiles, 2002; Lenski et al., 2006; Samson & Lesaux, 2009). Limbos and Geva (2001) examined teacher accuracy of assessing ESL students at-risk for reading difficulties. Results indicated that teachers were less likely to identify ESL students at-risk for reading difficulties; however, when they did identify students, their

nominations had low sensitivity in identifying these students. In light of current research that indicated teacher referrals were the strongest predictor of culturally and linguistically diverse students' placement in special education (Samson & Lesaux, 2009), such inaccuracy of teacher ratings and referrals to special education are troublesome. Furthermore, Samson and Lesaux (2009) found that teachers rated ESL students with disabilities similar to their English-speaking peers in special education during kindergarten and first grade; ESL students were underrepresented in special education during these early years and overrepresented in third grade. Thus, the authors found disparities between the number of teacher special education referrals of ESL and English speaking students who struggle with reading. Other researchers have found this phenomenon as well (Artiles, 2002; Artiles et al., 2005).

Furthermore, performance measures of oral language proficiency were found to be associated with inappropriately identifying (i.e., true negatives and false positives) ELL students as LD. Because we do not have sensitive measures that facilitate differential identification, it is essential for teachers to understand the limitations of standardized measures and to become familiar with assessing ELL students using best practices (Ruffin, 2009). Distinguishing between linguistically diverse students with and without learning disabilities is a complicated process that research has yet to resolve. Many factors contribute to the difficulties assessing Latino linguistically diverse students such as level of language acquisition and cultural differences (August & Hakuta, 1997; National Research Council, 2002). Educators are challenged to gain the necessary knowledge to effectively address the needs of Latino linguistically diverse students, with and without LD.

Preparing Teachers for Diversity

Many posit that teachers are the key resource for educating our nation's youth, including Latino linguistically diverse students (Darling-Hammond, 2004, 2006; Faltis & Coulter, 2007). However, teachers may not be prepared to effectively respond to linguistically diverse students' needs (Wong-Fillmore & Snow, 2002). Gándara, Maxwell-Jolly, and Rumberger (2008) suggested seven dimensions of inadequate schooling that affect linguistically diverse students. Two dimensions of particular interest are: (a) inequitable access to appropriately trained teachers; and (b) inadequate professional development opportunities to help teachers address linguistically diverse students' instructional needs. Too often, linguistically diverse learners have inadequate access to appropriately trained teachers and teachers who do have adequate professional development opportunities focusing on linguistically diverse students' needs.

Teacher preparation as specific to ELL. One factor that contributes significantly to teachers' knowledge required to address linguistically diverse students' unique needs is teacher preparation programs. Subsequent to graduating from teacher preparation programs, teachers may not have sufficient opportunities to address this lack of knowledge through targeted professional development opportunities. Furthermore, Gándara et al. (2008) concluded that linguistically diverse students were the least likely student subgroup to have a teacher prepared to meet their instructional needs. With the growing number of Latino linguistically diverse students enrolling in the nation's public school system, these findings are alarming.

Advancing the literature regarding teacher preparation working with students from diverse backgrounds, Barnes (2006) followed a group of preservice teachers who

were simultaneously enrolled in a course focused on culturally diverse students and a field experience working with students from diverse backgrounds. Prior to their qualitative study, the preservice teachers had completed two multicultural courses, one general course and another focused on multicultural literacy. Preservice teachers became more knowledgeable about socio-political and diversity issues through interactively reading narrative books, listening to lectures regarding culturally sensitive practices, observing culturally sensitive lesson plans, and participating in structured field experiences. This knowledge, in turn, enhanced their ability to prepare and execute culturally sensitive lesson plans.

General education teachers' perceived preparedness to address the needs of students with learning difficulties was studied by Brownell and Pajares (1996, 1999). Teachers who thought they were well prepared to work with students with LD reported higher levels of teacher efficacy. Similarly, special educators who reported having field experiences with targeted student populations during their teacher preparation programs perceived themselves as more competent in meeting students' needs (Carlson et al., 2002; Paneque & Barbetta, 2006). Teachers from programs that transferred specific knowledge relative to students with learning difficulties perceived themselves as more capable and reported greater success in teaching these students. Thus, specific training and experience appears to contribute to greater knowledge and perceived success. Bandura also found that knowledge played an important role between mastery experiences and teacher efficacy (Bandura, 1997).

Similarly, Carlson et al. (2002) collected national survey data on school personnel working with students with special needs. Special education teachers reported that their

preparation was adequate and enabled them to address most students' needs. In general, special educators reported high levels of teacher efficacy. However, when it came to working with linguistically diverse students with disabilities, reports of teacher efficacy were substantially lower, and teachers' perceived themselves as less effective when teaching these students. Furthermore, 51% of special education teachers reported that their preparation program did not address the needs of linguistically diverse students. Neither general nor special education teachers felt prepared to meet the unique needs of linguistically diverse students. Both groups indicated that their teacher education programs did not adequately prepare them to meet the needs of this group. Professional development focusing on the unique needs of Latino linguistically diverse knowledge has the potential to address teachers' perceived unpreparedness to educate these students.

Professional development. A limited number of researchers have explored the relationship of professional development and teacher efficacy. Authors of studies have demonstrated that teacher efficacy increases among teachers who consistently implement and adhere to the practices recommended and taught by professional development programming (Rimm-Kaufman & Sawyer, 2004; Ross, 1994). Most authors of studies that have investigated the relationship of professional development and teacher efficacy sought to strengthen participating teachers' instructional skills (Edwards, Green, Lyons, Rogers, & Swords, 1998; Fritz, Miller-Heyl, Kreutzer, & MacPhee, 1995; Ross, 1994) which has the potential to increase the effectiveness of their teaching. When teachers' instruction and teaching practices become more efficacious, it is more likely that they will experience mastery. According to Bandura (1997), this is the strongest predictor of teacher efficacy. Thus, teachers with more targeted professional development hours

specific to Latino linguistically diverse students are more likely to have high levels of teacher efficacy and be effective in meeting these students' needs.

Ross and Bruce (2007) created a professional development program aimed to increase the efficacy of teachers who taught mathematics. Using an experimental design that divided 106 teachers into two groups, they found that teachers who received professional development earned higher teacher efficacy scores than the control group (i.e., teachers who did not receive professional development) on all three measures used to assess teacher efficacy; however, the results were only statistically significant for teachers' efficacy of classroom management. Within their discussion section, the authors acknowledged that an emphasis was placed on redefining teachers' conceptions of a successful classroom within the professional development program.

Focusing on inservice teachers in North Carolina, Eun and Heining-Boynton (2007) administered questionnaires to 90 elementary and secondary teachers participating in English-as-a-second-language (ESL) training. They found that teachers' efficacy increased and, subsequently, teachers with higher teacher efficacy more consistently implemented skills, strategies, and practices taught in their professional development. The results support Bandura's claim that teacher efficacy is the single most important predictor of future behaviors (Bandura, 1986, 1997). These authors emphasized the importance of professional development in addressing the challenges posed by the increasing linguistic and cultural diversity of the U.S. student population.

Along similar lines, Karimi (2011) used an experimental design to study 60 (two groups of 30) inservice English as a Foreign Language (EFL) middle school teachers' levels of teacher efficacy prior to and after professional development. Results of pretests

indicated no significant difference between the two groups. After the experimental group

received three 16-session courses (Principles of Language Teaching, Practicum, and

Evaluation of Junior High School ELT Materials), the two groups completed a posttest,

immediately after professional development was completed and, again, two months later.

Data from the posttest indicated a significant difference in teacher efficacy between the

two groups of teachers, such that those who received the professional development had

significantly higher levels. Subsequently, the teachers who received the professional

development were tested after a three-month delay, and results indicated that the positive

effects of professional development on teacher efficacy were not transient, but lasting.

At the Annual Meeting of the American Educational Research Association, Tasan

(2001) presented results of a survey study of elementary school teachers' efficacy,

concluding that those who reported participating in professional development that

focused on diversity reported higher levels of teacher efficacy; professional development

was found to be a significant variable when accounting for differences in teachers' levels

of teacher efficacy. Teachers' responses also indicated a relationship between teacher

efficacy and students' language backgrounds. Higher levels of teacher efficacy were

reported in regards to working with students who were proficient in speaking English.

Results from this study indicate that teacher professional development that focused on

cultural and linguistic diversity, similar to teacher preparation as discussed above,

enhances knowledge and impacts teacher efficacy. Teacher knowledge (as measured by

qualitative elements, years of teacher preparation and hours of targeted professional

development) and teacher efficacy are important to the current study because a

directional relationship is hypothesized.

In their study of special education teachers of linguistically diverse learners, Paneque and Barbetta (2006) did not find a significant relationship between teacher efficacy and students' language background. However, it should be noted that 66% of teachers (predominately located in the southwest) reported proficiency in their students' first language. Teachers' qualitative responses indicated that teacher-related issues were viewed as the most significant barriers to working with linguistically diverse students. As a group, these teachers recommended that teacher preparation programs do a better job addressing the knowledge base required to effectively serve linguistically diverse students, and districts provide greater professional development opportunities specifically addressing these students' needs. These recommendations are consistent with those of Roache, Shore, Gouleta, and Ester de Butkevich's (2003), such that there is need for greater professional development aimed at teaching specific strategies related to educating linguistically diverse students with disabilities. Teacher responses demonstrated that education and professional development are valuable means to gain the knowledge required to effectively teach linguistically diverse students.

Teachers who do not possess certifications in either bilingual or English as a Second Language (ESL) education may not be prepared to meet linguistically diverse students' needs (Karabenick & Noda, 2004; Menken & Atunez, 2001; Reeves, 2006; Zehler et al., 2003). Not only does it appear that teacher education programs may not be adequately preparing perservice teachers in regards to teaching linguistically diverse students, but there is also evidence that we are not addressing this same educational need for our nation's practicing teachers. Continuing education opportunities and in-services

specifically regarding culturally and linguistically diverse students' needs were reported to be the least likely topic addressed (National Center for Education Statistics, 2001).

There is a large body of research that indicates teacher knowledge gained through quality education results in higher scores on teacher certification tests and full teacher certification and a Master's degree attainment, which ultimately impacts student achievement (Darling-Hammond, Berry, & Thoreson, 2001; Darling-Hammond et al., 2002; Darling-Hammond & Youngs, 2002; Ferguson, 1991; Ferguson & Womack, 1993). Preservice teacher education and professional development are important avenues for teachers to acquire the knowledge necessary to address students' needs.

There is evidence that general and special education teachers feel unprepared to effectively teach linguistically diverse students with and without disabilities (Brownell & Pajares, 1996, 1999; Karabenick & Noda, 2004; Menken & Atunez, 2001; Paneque & Barbetta, 2006; Reeves, 2006; Zehler et al., 2003). Degrees of teacher preparation and participation in targeted professional development opportunities appear to directly impact teacher efficacy, such that more preparation and targeted professional development is positively correlated with teacher efficacy. Teaching experience has also been related to teacher efficacy (Bandura, 1997; Hoy, 2000; Tschannen-Moran, Hoy, & Hoy, 1998) and student achievement (Darling-Hammond et al., 2001; Darling-Hammond et al., 2002). According to Bandura (1977), performance accomplishments (i.e., experience) contribute to a teacher's sense of teaching efficacy. Experiences can validate beliefs of an individual's capability or inability, thus enhance or reduce a teacher's sense of efficacy. When teachers perceive their instruction has been successful, their teacher efficacy and expectations for future performance increases (i.e., mastery experiences) (Bandura,

1997). Further, investigation of what impacts teachers' efficacy in regards to Latino linguistically diverse students is warranted and needed to prepare teachers to address these students' needs.

Teaching experiences. Teacher efficacy relationship with teaching experience varies within the literature. For example, preservice teachers held higher levels of teacher efficacy, but these efficacy levels tended to decrease as teachers gained more experience (Brousseau, Book, and Byers, 1988). Similar findings were reported by Gorrell and Dharmadasa (1994) who found higher levels of teacher efficacy among preservice teachers in the implementation of unfamiliar methods of instruction as compared to experienced teachers. However, within the areas of classroom management, instructional organization, and impact students' achievement, experienced teachers reported higher levels of efficacy than preservice teachers.

Teachers who have experience teaching linguistically diverse students may not necessarily see themselves as more efficacious. Teacher efficacy development is based on whether or not teachers' experience is positive (i.e., successful lesson evidenced by students' ability to demonstrate knowledge) or negative (i.e., unsuccessful lesson evidenced by students' failure to demonstrate knowledge). Experiences can validate beliefs of an individual's capability or inability, thus enhance or reduce a teacher's sense of efficacy (Bandura, 1977, 1997). When teachers perceive their instruction has been successful, their teacher efficacy and expectations for future performance increases (i.e., mastery experiences) (Bandura, 1997). Likewise, the opposite is true: if teachers perceive they failed to perform, then they will believe that failure will be the most likely outcome for future performances. Mastery experience was identified by Bandura (1986,

1997) as the most significant contributing factor to teacher efficacy development. Further, these mastery experiences may be especially influential during student teaching and early career years (Hoy, 2000). Teachers' experiences during these initial years are critical for the development of teacher efficacy and have the potential to prevail throughout a teachers' entire teaching career (Ross, 1994). Because teachers might vary in their teaching success, experience has been associated with both higher and lower levels of teacher efficacy.

Campbell (1996) explored the differences in preservice and practicing teachers' levels of teacher efficacy in the U.S. and Scotland and found practicing teachers reported significantly higher levels of teacher efficacy compared to perservice teachers in both countries. There are mixed findings as to whether experience is positively (Campbell, 1996; Soodak & Podell, 1996; Wolters & Daugherty, 2007) or negatively correlated with teacher efficacy (Hoy & Woolfolk, 1993; Taylor & Tashakkori, 1995). For example, Wolter and Daugherty (2007) found that teacher experience positively impacted teacher efficacy for a sample of 1, 024 teachers who taught kindergarten through 12th grade in a large urban Texan district. On the other hand, Taylor and Tashakkori (1995) used teacher responses to questionnaires collected by the National Center for Educational Statistics in the 1990 follow-up of the National Educational Longitudinal Study (NELS) to investigate 9, 987 teachers' efficacy. Years of teaching experience was one variable explored in relation to its impact on teacher efficacy, and results indicated that teachers with greater years of experiences felt less efficacious than other teachers when all other variables (i.e., gender, school climate, communication) were controlled. Furthermore, some researchers

have found no relationship between levels of teacher efficacy and teaching experience (Ghaith & Shaaban, 1999; Guskey 1988).

Recently, Fives and Buehl (2009) explored the relationship between preservice and practicing teachers' self-efficacy using the *Teachers' Sense of Efficacy Scale* (TSES; Tschannen-Moran & Woolfolk-Hoy, 2001). They found that practicing teachers with 10 or more years of experience reported significantly higher levels of teacher efficacy than preservice teachers. However, there was a difference in teacher efficacy within the context of student engagement. Practicing teachers consistently reported lower levels of efficacy in relation to student engagement than preservice teachers.

To date, there are mixed research findings about the relationship between teaching experience and teacher efficacy. The inconsistency of these findings regarding the direct effects of teaching experience and teacher efficacy were examined in this study. In particular, teacher efficacy in regards to teaching Latino linguistically diverse students was investigated because of the contextual nature of teacher efficacy and the growing number of these students being served in our nation's public schools. Understanding the impact of teacher preparation and targeted professional development might be even more important in light of the mixed research findings regarding the relationship of years of teaching experience and teacher efficacy. Attitudinal beliefs is another teacher variable, like teaching experience, that researchers have found evidence of directly impacting teacher efficacy. The following sections will present this research as well as research providing support for direct affects between attitudinal beliefs and teacher efficacy's impacts on teach caring behaviors.

Attitudinal Beliefs

Teachers play a foundational and fundamental role in equitable education. Gay (2005) stressed the importance of school personnel's awareness of their cultural beliefs because these beliefs affect their expectations for students from backgrounds that are linguistically and culturally different than their own. These attitudes and beliefs manifest themselves into teacher behaviors (Bai & Ertmer, 2008), which impact student outcomes (Good & Brophy, 1994). Attitudinal beliefs are multifaceted. Research suggests these attitudinal beliefs are impacted by numerous factors including the nature of teacher training and personal experiences (Flores, 2001; Lee & Oxelson, 2006).

The belief that persons of minority backgrounds are intellectually inferior is termed the deficit view (García & Guerra, 2004; Harry & Klingner, 2007). The deficit view has plagued our nation for centuries and reflects our continued struggle against racism and the institutionalization of these unsubstantiated beliefs within our education system (August & Hakuta, 1997; Blanchett et al., 2009; National Research Council, 2002; Salend, Garrick Duhaney, & Montgomery, 2002; Steele, Perry, & Hilliard, 2004). Educators' expectations of students are impacted by how they view cultural and linguistic differences (Rhodes et al., 2005). If a teacher adopts the deficit view of Latino students, then poor performance is attributed to inherent characteristics of that student (e.g., intellectual capacity) and not external alterable variables such as instruction. This example illustrates how adopting the deficit view of Latino students may influence how a teacher ultimately conceptualizes a Latino student's failure (Rhodes et al., 2005). General education teachers typically have the most interaction with students, and conceptualizing Latino students' failures within this deficit view can result in

inappropriate referrals to problem solving teams (Gregory, 2010). When teachers and other school personnel focus on within-child deficits and neglect to address environmental factors, culturally and linguistically diverse students are placed at greater risk of being identified for special education (National Research Council, 2002).

General education teachers' attitudes towards linguistically diverse students were studied by Byrnes et al. (1997). The authors sampled 191 general education teachers from three different states (Arizona, Utah, and Virginia). They found significant differences in teachers' attitudes based on the region in which the teachers lived, their experience working with linguistically diverse students, graduate degree completion, and targeted formal training regarding linguistic diversity. Teachers who expressed the most positive attitudes were also the most knowledgeable (i.e., formal training and degree completion) about language diversity and reported greater available resources to assist linguistically diverse students. The community in which the teachers lived significantly influenced their attitudes toward linguistically diverse students as well. Teachers who lived in communities, in which cultural and linguistic diversity was common, such as Arizona, reported more positive attitudinal beliefs towards linguistic diversity than teachers who lived in less-diverse communities.

General education teachers' attitudinal beliefs regarding ESL students were studied by Youngs and Youngs (2001). They surveyed 143 middle and high school general education teachers employed in the Great Plains region. Results indicated that significant predictive factors of teachers' attitudinal beliefs were: (a) completion of courses in foreign language or multicultural issues and teaching; (b) English as a Second Language (ESL) Training; (c) experiences traveling or working in another country; and

(d) experiences working with linguistically diverse students. Teacher attitudes were significantly affected by education, professional development, and experiences. Thus, knowledge specific to linguistically diverse students and positive experiences working with these students promoted positive teacher attitudes towards them. Furthermore, teacher preparation and professional development experiences have direct effects on attitudinal beliefs and teacher efficacy.

Similar to the research surrounding teacher knowledge, higher levels of education attainment (Byrnes et al., 1997) and professional development experiences (Cho & DeCastro-Ambrosetti, 2006; DeCastro-Ambrosetti & Cho, 2005; Joshi, Eberly, & Konzal, 2005; Jung, 2007) have positive effects on teacher attitudinal beliefs regarding these students. Byrnes et al. (1997) studied practicing teachers' attitudinal beliefs regarding linguistically diverse students.

Many researchers have identified the difficulty in completely distinguishing knowledge from attitudinal beliefs (e.g., Nespor, 1987; Pajares, 2002). Attitudinal beliefs have been differentiated from knowledge by some theorists as being more affective in nature and having a greater personal commitment component than knowledge (Nespor, 1987). Others have asserted that attitudinal beliefs have greater undertones of evaluation or judgment, while knowledge is less biased (Nisbett & Ross, 1980). Pajares (2002) argued that knowledge is not free of affect or judgment.

This study tested directional affects of targeted professional development on attitudinal beliefs to explore how these variables affect one another. As noted previously, there is evidence that teachers' educational attainment, completed targeted professional development, and attitudinal beliefs regarding linguistically diverse students ultimately

impacts teacher efficacy in relation to working with these students (Durgunoglu & Hughes, 2010). These relationships were also tested. Furthermore, the directionality of years of teaching experience impact on teacher efficacy was explored.

Teacher Efficacy

One of the greatest challenges for educators is meeting the individual needs of all students within their general education classroom (Bradley, 1997; Hamre & Oyler, 2004; Van Laarhoven et al., 2006). Bandura's self-efficacy theory has been applied to education inciting a plethora of research regarding teachers' self efficacy, or teacher efficacy, and how teacher efficacy relates to teaching behaviors, choices, and, subsequently, teacher and student outcomes (Tschannen-Moran et al., 1998). Over the past three decades, there has been mounting evidence that there is a relationship between teachers' beliefs about their capabilities to impact student's motivation and achievement and important educational processes and students' academic outcomes.

Definition. The definition of self-efficacy was first conceptualized by Bandura (1986) as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391). Three years later, the definition was added to by Wood and Bandura (1989) expanding self-efficacy to "one's perceived capabilities to mobilize motivation, cognitive resources, and action to meet situational demands" (p. 408). Years later, Bandura (1997) defined self-efficacy as people's beliefs about their capabilities to influence situations that affect their lives by producing certain levels and variations of performance. The definition of self-efficacy has evolved throughout the years; however, the focus on individuals' agentive capabilities has not changed.

Bandura's (1994) social cognitive theory termed teachers' beliefs about their abilities to impact students' teacher efficacy. Teachers' sense of efficacy aids them in the evaluation of their performance. Additionally, self-efficacy provides information to the teachers about their capabilities to successfully complete a goal or task. Self-efficacy is an individual's appraisal of his or her capabilities which are contextually derived. Accordingly, self-efficacy is conditional. A persons' sense of self-efficacy is concerned with what they believe their capabilities to achieve outcomes are regarding a variety of circumstances, not with the amount or variety of skills they possess (Bandura, 1997).

Development. According to Bandura's social cognitive theory, teachers' expectations of failure with certain groups of students and within specific teaching situations may influence time spent and effort given to instructional preparation and delivery (Goddard et al., 2000; Labone, 2004; Wheatley, 2005). Furthermore, these teachers are more easily deterred by difficulties, even if they possess the skills and strategies necessary to aid the students or positively change the situation (Bandura, 1997). When teachers assess their teaching capabilities, they evaluate and make judgments about the requirements of a specific teaching task and, reciprocally, their competencies considering the task requirements (Tschannen-Moran et al., 1998). If teachers lack confidence and question their teaching abilities regarding a particular student or student population, such as Latino linguistically diverse students, then their effort and motivation to assist these students may be reduced.

Teachers' beliefs about what effective teachers do and criterion to which they hold themselves accountable influences how they evaluate themselves and, subsequently, their teacher efficacy (Bandura, 1977; Tschannen-Moran, et al., 1998). According to

Bandura (1997), there are benefits for teachers that slightly overestimate their capabilities and teaching skills such that they exhibit greater levels of perseverance when difficulties arise, motivation, and effort resulting in full use of their skills and abilities they have acquired and developed; all these stem from higher levels of teacher efficacy.

Furthermore, Woolfolk-Hoy and Davis (2006) found that teachers who perceive themselves as providing effective instruction, classroom management, and building positive relationships with their students may have greater cognitive and emotional resources. These cognitive and emotional resources provide teachers with the support necessary to encourage students towards developing deeper understanding and help students to persevere when completing difficult and complex tasks. Essentially, they found that teachers with higher levels of teacher efficacy are more apt to assume intellectual and interpersonal risks in their classroom which, in turn, positively affects classroom climate.

Teacher efficacy effects on classroom. Teachers' efficacy is predictive of teachers' behavior (Bai & Ertmer, 2008; Bandura, 1997). Teacher efficacy has been linked to teachers' classroom behaviors (i.e., classroom routines and enforcement of these routines) and student outcomes (i.e., students' self efficacy beliefs, motivation, and academic achievement) (Anderson et al., 1988; Ross, 1992; Troia & Maddox, 2004). Furthermore, there is a substantial body of evidence illustrating the relationship between teacher efficacy and teachers' efforts invested in teaching, instructional goals, and persistence through obstacles (Tschannen-Moran et al., 1998). Teacher efficacy is task-specific and context-specific (Bandura, 1997). Teachers may feel that they are capable of effectively assisting students with phonemic awareness within a homogenous middle-

class suburban elementary school, however, feel incapable and ineffective teaching the same content strategies with a diverse group of students within a poor, urban context. A specific context in which teachers frequently report being ill-prepared is that of addressing the needs of culturally and linguistically diverse students (Ballantyne, Sanderman, & Levy, 2008; Hollins & Guzman, 2005; Lewis et al., 1999). Furthermore, teachers report inadequate opportunities for professional development and preservice teacher preparation that specifically addresses teaching and working with culturally and linguistically diverse students (Ballantyne et al.,2008; Hollins & Guzman, 2005; Lewis et al., 1999). In fact, teachers report significant decreases in teacher efficacy in relation to teaching culturally linguistically diverse students (Artiles, 2002; Karabenick & Noda, 2004; Lenski et al., 2006; Samson & Lesaux, 20089). If teachers feel unprepared, it is likely they may anticipate failure working with Latino linguistically diverse students.

As previously mentioned, teachers have reported significantly less confidence in their capabilities in regards to working with culturally and linguistically diverse students (Karabenick & Noda, 2004; Lenski et al., 2006). Teachers' lower levels of teacher efficacy in working with culturally and linguistically diverse students may impact their behavior, such as instructional, management, and teaching strategies, and, ultimately, these students' outcomes (Dellinger et al., 2008; Jerald, 2007; Tschannen-Moran & Woolfolk-Hoy, 2001). Furthermore, teaching behaviors affect classroom climate and student-teacher relationships, both of which influence student achievement outcomes. It is important to gain insight as to malleable variables that affect teacher efficacy in relation to teaching Latino linguistically diverse students. Teachers who view themselves as capable and believe that they can positively impact Latino linguistically diverse

students' academic progress and outcomes will utilize all internal (i.e., cognitive and emotional) resources and persevere when faced with obstacles.

A reciprocal relationship is observed in the literature regarding teacher efficacy and students' academic achievement. Interchangeably, when students improve academically, their teachers' efficacy is enhanced, further promoting students' academic achievement outcomes, regardless of student characteristics (Bandura, 1997). Thus, if students do not demonstrate academic improvement, teacher efficacy is likely to be negatively impacted. Higher levels of teacher efficacy are associated with higher levels of student achievement (Goddard et al., 2000; Goddard et al., 2004). Possessing higher levels of teacher efficacy is associated with greater flexibility and likelihood of teachers experimenting with instructional strategies (Riggs & Enochs, 1990), authentic assessments (Vitali, 1993), and taking risks in the classroom (Alinder, 1994), all of which have been associated with positive student academic achievement (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010). Furthermore, teachers with higher levels of efficacy demonstrate greater confidence in their teaching and exhibit more positive behaviors while interacting with students such as caring behaviors (Dellinger et al., 2008; Jerald, 2007; Tschannen-Moran & Woolfolk-Hoy, 2001).

Higher levels of teacher efficacy are also related to job satisfaction. If teachers perceive themselves as capable and skilled, then they have high levels of teacher efficacy which, in turn, promotes positive teaching behaviors and increases in teacher motivation and perseverance. Teacher efficacy is specific to a context and significantly influenced by characteristics (i.e., race, ethnicity, English language proficiency, SES) of the student group in which they teach. An academic achievement gap exists for our nation's Latino

linguistically diverse students, and understanding teacher efficacy regarding these students may help the pursuit of narrowing the gap. Unlike unalterable variables, there is evidence that teacher efficacy is influenced by mediating variables including knowledge gained through teacher preparation and targeted professional development as well as attitudinal beliefs and teaching experience. Understanding the effects of these mediating variables may provide the insight needed to develop interventions aimed at increasing teacher efficacy in relation to Latino linguistically diverse students, which is likely to promote improved student achievement outcomes. Furthermore, greater teacher efficacy in regards to Latino linguistically diverse students has great potential to positively impact teacher-student relationships through teacher caring behaviors.

Caring and Teacher Efficacy

Teacher caring plays a central role in students' educational experiences. A study conducted by Valenzuela (1999) with Mexican immigrant students suggested that these students believed their teachers should care about them and cited the importance of the student-teacher relationship to them. Caring behaviors were seen as more important to these students than their teachers' teaching commitment or teaching strategies. Similarly, De Jesús and Antrop-González (2006) examined Latino students' perceptions about student-teacher relationships. Students' responses emphasized the importance of a strong caring relationship between themselves and their peers as well as their teacher. They noted that these relationships significantly contributed to their sense of belonging and value in school. Not only did students identify caring relationships as an important factor for academic success, the presence of caring adults, such as teachers, is especially needed to help academically at-risk students succeed (Aspiazu et al., 1998). Furthermore, caring

adults' support helps at-risk students develop motivation, pride in their work, and academic task efficacy (Aspiazu et al., 1998). Teachers' expectations contribute significantly to students' perceptions of teacher caring, such that teachers who have high academic expectations for all students are perceived by their students as more caring (Romo & Falbo, 1996; Katz, 1999).

Most recently, Behnke et al. (2010) explored Latino students' academic difficulties and subsequent dropout rate in North Carolina. They asked Latino students questions about why they believed their Latino peers dropped out of school. Eighty-three percent of the students reported they lived in homes where Spanish was the primary language spoken, and there were differences between their English language fluency and their parents. The second most frequent reason that they believed their peers dropped out of school was academic struggles (54%). Thirty-two percent of students said that their peers felt like they did not belong or were not wanted at their school. As for preventative measures that could have supported their peers in continuing their education, improved communication between teachers and students (16%) was cited. Interestingly, Latino students indicated family and personal problems were the most common obstacle to school success; however, they cited interpersonal and academic support as one of the most important ways to address Latino students' dropout rates.

Many researchers (Behnke et al., 2010; Díaz-Loving & Draguns, 1999; Triandis et al., 1984) have noted the importance of positive social interactions within the Latino "cultural script" and the frequency of such (i.e., simpatía) interactions as associated with school success and reducing the risk of academic failure among Latino students (Dotson-Blake et al., 2009). A case study conducted by Gillanders (2007) explored, through

observations, a preschool teacher who was nominated by her principal as an effective teacher for linguistically diverse students. This teacher emphasized the student-teacher relationship and inclusion of Spanish language in classroom instruction and activities. Standardized measures, including the Peabody Picture Vocabulary Test--3rd edition (PPVT-III) and the Test de Vocabulario en Imagenes Peabody (TVIP), were used to measure students' language acquisition progress, and two interviews were conducted with students' parents to determine how they felt their children were academically and socially progressing. The results indicated that all linguistically diverse students showed progress. The researcher attributed students' academic progress to the emphasis of the student-teacher relationship and the effective culturally and linguistically responsive teaching strategies the teacher employed.

Pianta (1999), a noted researcher in this area of teacher-student relationships, has advocated for further investigation into the development of positive teacher-student relationships and effective strategies for interacting with diverse student populations. If teachers are unprepared to work with Latino linguistically diverse students, then their teacher efficacy will be negatively affected. Low teacher efficacy has been attributed to poor positive interpersonal interactions between teachers and students (Durgunoglu & Hughes, 2010). Research illustrates Latino linguistically diverse students' need for positive student-teacher relationships. Positive student-teacher relationships are characterized by teachers' behavioral expressions of caring, which is likely to lead to Latino students' experiencing a sense of belonging as well as academic success. Higher levels of teacher efficacy may lead to positive student-teacher relationships and a greater frequency of caring behaviors.

Conclusion

In summary, Latino students are the fastest growing student population and comprise 75%-77% of linguistically diverse students (Aud et al, 2010b; Zehler et al., 2003). There is considerable evidence that the U.S. educational system is not meeting linguistically diverse Latino students' needs. General education teachers are responsible for meeting all students' educational needs. They are responsible for delivering effective instruction, creating safe classroom climates, and developing positive student-teacher relationships (e.g., Darling-Hammond, 2006; Darling-Hammond & Youngs, 2002).

Teachers' efficacy affects the aforementioned, which subsequently impacts student achievement outcomes (Good & Brophy, 1994). Teaching experience, teacher preparation, and targeted professional development have all been associated with teacher efficacy. Furthermore, there is evidence that teacher efficacy may impact caring behaviors that are protective factors against Latino students' dropping out of school and poor academic outcomes (Aspiazu et al., 1998; Behnke et al., 2010; De Jesús & Antrop-González, 2006; Díaz-Loving & Draguns, 1999; Triandis et al., 1984; Valenzuela, 1999). Relationships have been found between attitudinal beliefs towards linguistically diverse students and teacher efficacy, as well as attitudinal beliefs and caring behaviors (Byrnes et al., 1997; Collier, 2005; Flores & Smith, 2008).

CHAPTER III

METHODS

This chapter includes a description of the research design of the study. It details the participants, variables, instruments, procedures, and data analysis that were utilized while conducting the study. Three path models illustrating the relationships among teacher experience, knowledge, attitudinal beliefs, teacher efficacy, and empathic skills will be described.

Participants

Participants represent a sample of teachers working in districts in the West region as designated by the National Center for Education Statistics (NCES). The NCES is the main federal entity that collects and analyzes data related to education and is overseen by the U.S. Department of Education (USDE). USDE, along with the NCES, breaks the nation's educational system into four regions (Northeast, Midwest, South, and West). Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, and Washington comprise the West region (Aud et al., 2010b). The western region has the highest percent of Latino public school students enrolled in kindergarten through 12th grade, with 39.7%. Comparatively, the next highest percentage of Latinos are concentrated in the South (19.2%). It is most likely that teacher participants in the western region will have had experience teaching linguistically diverse Latino students.

General education teachers, male and female, who teach kindergarten through eighth grades, were asked to participate. Teachers who were eligible to participate in the study must have had at least one Latino linguistically diverse student in their classroom within the past two years.

A minimum of 140 general education teachers were needed to complete all instruments. Kline (1998, 2005) recommends an adequate sample size be determined by multiplying the number of free parameters by 10. The Hypothesized Path Model and Alternative Path Model 1 have the largest number of free parameters 14 and were used to determine adequate sample size. The calculations, 14 x 10, suggested a minimum sample of 140 participants for the study. Teachers who taught physical education, art, and music were excluded from the sample because those teachers have less contact with students.

Public schools, including publicly funded charter schools, serve the greatest percentage of Latino linguistically diverse students. According to NCES (Keigher, 2009), linguistically diverse students with limited English proficiency (LEP) comprised 7.9% of private school enrollment, and only 15.9% of private schools enrolled any LEP students. In stark contrast, public school enrollment of linguistically diverse students with LEP students was 11.3%, and 67.1% of our nation's public schools serve at least one linguistically diverse LEP student. Due to the low enrollment of linguistically diverse LEP students in private schools, the researcher surveyed teachers from public schools districts because they were more likely to work with and serve Latino linguistically diverse students.

Instruments

Participants were asked to provide demographic information including gender, age, ethnicity, years of teaching experience, and degrees, licensure, and certifications they had completed. They were asked to provide the number of professional development trainings they had participated in during the past 5 years specifically addressing culturally and linguistically diverse population as well as needs of students with learning disabilities. Additionally, participants were asked about personal experiences including whether or not they had taught or lived in another country, where they were born, and whether or not they were proficient in speaking Spanish.

Teachers' content knowledge was measured using certifications, degree or major in area (Rowan, Chiang, & Miller, 1997), courses or credits (Brown & Webb, 1968; Monk, 1994; King & Monk, 1994) completed in a subject area (Becker, 2007; Cochran, King, & DeRuiter, 1991). For this study, teachers' knowledge was measured by questions aimed to gather information regarding how many professional development hours they had completed in the past 5 years specifically regarding: (a) culturally responsive pedagogy; (b) language acquisition; and (c) addressing the needs of exceptional learners with learning disabilities. Data were collected on a numerically continuous scale (0 to 100), which represent the hours of completed professional development. Hours were added together for a total targeted professional development score. This score was used as the professional development global score.

Additionally, teacher preparation was used to inform teacher knowledge. To measure teacher preparation, teachers were asked to indicate their level of education (i.e., AA, BA/BS, MA/MS, EdS, of PhD) and endorsements or certifications. Teachers'

responses to the endorsement and certification questions were coded 0 for *No* and 10 for *Yes*. Teachers were asked to indicate the estimated number of hours that specifically addressed culturally responsive pedagogy, language acquisition, and the needs of exceptional learners within their teacher preparation courses. Similar to the targeted professional development domain, each quantity of courses specified for the three specific areas (i.e. culturally responsive pedagogy, language acquisition, and addressing the needs of exceptional learners with learning disabilities) were added together to obtain a global score. For example, if a preservice teacher completed a 5-credit course and another completed a 3-credit course in which culturally responsive pedagogy was addressed for 3 hours within each course, they would each earn 3 points towards their teacher preparation global score. This score was added to scores obtained from the teachers' responses to the questions regarding their completed degrees and endorsement.

Teachers' attitudinal beliefs, teacher efficacy, and caring skills were assessed using three surveys (Appendix C). The surveys included the *Language Attitude Scales Revised* (LATS-R) (Flores & Smith, 2008), the *Exceptional Children Who are English Learners* (EXCEL) *Teacher Inventory* (Paneque &Barbetta, 2006), and the *Toronto Empathy Questionnaire* (TEQ) (Spreng, McKinnon, Mar, & Levine, 2009).

Language Attitude Scales Revised. Teachers' attitudinal beliefs regarding language minority students was measured using the *Language Attitude Scales Revised* (LATS-R) developed by Flores and Smith (2008). The original LATS (Brynes et al., 1997) was designed to measure the constructs: (a) Rights and Privileges; (b) Aesthetic Caring; (c) Exclusion/Assimilation; and (d) Culpability/Responsibility. LATS is comprised of 13 items presented in a 5-point Likert scale format ranging from (1)

Strongly Disagree to (5) *Strongly Agree*. Three items are worded in the negative, thus those items are reverse scored.

Flores and Smith (2008) surveyed general education teachers in Texas, predominately Latino educators, using a revised version of the *Language Attitude Scales* (LATS) (Byrnes et al., 1997). Flores and Smith (2008) modified the original LATS developed by Byrnes et al. (1997) by adding four additional items derived from a literature review. These four questions were designed to elicit general education teachers' responses in relation to educating cultural and linguistically diverse students within their classrooms. Two of the four questions added are also reversely scored. Higher scores on this instrument indicate less-positive attitudes than low scores. All added questions were reviewed by the authors' colleagues to address content validity. Flores and Smith (2008) further modified the instrument by adding 17 demographic questions including ethnicity/race, place of birth, teaching experience, and diversity preparation. The Flores and Smith (2008) version of the LATS-R was used in this study.

Using the LATS-R, Flores and Smith (2008) sampled 564 teachers in an urban community in south Texas. Most of the teachers' reported their ethnicity to be Hispanic (41.3%) or White, Non-Hispanic (52.5%) and 20%-100% of their schools' student population were ethnic minorities. Results indicated a strong Cronbach's alpha reliability score ($\alpha = 0.81$, $p < 0.001$), which is comparable to the original LATS ($r = 0.81$) as reported by Byrnes et al. (1997). Furthermore, limited diversity preparation for both Hispanic and White teachers was correlated with less-positive attitudinal beliefs regarding language and cultural diversity. The validity of the instrument was addressed by the authors conducting an exploratory factor analysis as well as content validity which

was determined by examining the rotated factors and item fit within each factor (Flores & Smith, 2008). High item loadings (LATS-R factor loadings ranged from moderate to strong) are considered to have face validity (George & Mallery, 2005, as cited by Flores & Smith, 2008).

Velez-Salas, Flores, and Smith (2005) studied 518 preservice teachers' attitudes regarding language diversity using the LATS-R. These authors also found strong reliability with a Cronbach's alpha of .74. Using a pre-post test design, the researchers administered the LATS-R to teachers enrolled in a multicultural education course prior to and post-completion of this course. The results of this study indicated an interaction between birthplace and ethnicity with teachers' attitudes. Additionally, they found that birthplace, age, and bilingualism may have influenced preservice teachers' attitudes towards linguistically diverse populations. These findings parallel Flores and Smith's (2008) findings using practicing teachers as participants. The researcher used the Flores and Smith (2008) version of the LATS-R for this study.

When used with general education and pre-service teachers, the reliability was strong with reported alphas ranging from .81 (Flores & Smith, 2008) to .74 (Velez-Salas et al., 2005). For the current study, Items 1 through 17 (i.e., 13 original LATS items and the 4 additional items by Flores & Smith [2008]) were used to measure teachers' attitudes towards Latino linguistically diverse students. These items comprise domains of: (a) rights and privileges; (b) aesthetic caring (c) exclusion/assimilationist; and (d) responsibility/culpability. Each participant earned a score between 17 and 85. Similar to Smith and Flores (2008) and Byrnes et al. (1997), an average score was computed across all items, with low scores implying greater positive attitudinal orientation, and higher

scores indicative of negative attitudinal orientations toward linguistically diverse students.

Exceptional Children Who are English Learners Teacher Inventory. Teacher efficacy was measured using the *Exceptional Children Who are English Learners (EXCEL) Teacher Inventory* (Paneque & Barbetta, 2006). This inventory was designed using Bandura's (2001) *Guide for Constructing Self-Efficacy Scales* and was developed by Paneque and Barbetta's (2006) to study elementary special education teachers' efficacy. These authors modeled their instrument after other teacher efficacy instruments such as the *Efficacy Scale* by Gibson and Dembo (1984) and the *Ohio State Teacher Efficacy Scale* by Tschannen-Moran and Woolfolk-Hoy (2001). Paneque and Barbetta (2006) adapted frequently used questions to reference ELL students and those with disabilities. This measure was selected because of the established reliability with the teacher population (Cronbach's alpha = .94) as well as the content and face validity. Face validity was determined through a review by a panel of three experts in the area of bilingual special education, mainstream special education, and, lastly, a group of special education graduate students (Paneque & Barbetta, 2006). Furthermore, content validity was established by developing the instrument based on a thorough review of the literature. It was hypothesized that attitudinal beliefs and knowledge will have significant effects on teachers' self-efficacy regarding teaching Latino language minority students.

EXCEL is comprised of three sections; however, only Section I was used for this study because this section addresses teacher efficacy. Section 1 addresses teacher competencies (i.e., classroom management, collaboration and communication, language,

assessment and evaluation, knowledge and understanding of learner characteristics)

deemed necessary for working with culturally and linguistically diverse students

established by the Florida Department of Education in the Performance Standards for

Teachers of English for Speakers of Other Languages (TESOL) as cited by Paneque and

Barbetta (2006). Section I is comprised of 20 items on a 9-point Likert-type scale that

address teacher perceptions of their abilities to work with students with disabilities from

diverse cultural and linguistic backgrounds. A score of 1 suggests the teacher felt that he

or she was not able to do anything, and a 9 suggests the teacher felt he or she was able to

do lots to improve the situation. Participants earn global scores between 20 and 180. The

goal of the author was to gather information regarding all Latino linguistically diverse

students, thus 10 items were reworded to reflect culturally and linguistically diverse

students, not specifically those with disabilities. Section II is comprised of open-ended

questions which were not used for this study because it was difficult to quantify. Section

III is comprised of demographic and background information; a similar demographic

questionnaire was created by the researcher.

    Toronto Empathy Questionnaire. The *Toronto Empathy Questionnaire* (TEQ)

by Spreng, McKinnon, Mar, and Levine (2009) was administered to examine the

relationship between teachers' self efficacy and empathic skills. For this study, empathic

skills are referred to as caring behaviors because caring behaviors are thought to be the

observable actions of underlining empathic skills. The TEQ was chosen for the

established validity ($r = .74-.81$, $p < .001$), which was demonstrated through associations

with behavioral and self-report measures of interpersonal sensitivity. TEQ results

indicate high test-retest reliability, $r = .81$, $p < .001$. Reliability was established with

college students (Cronbach's alpha = .85-.87) in three studies conducted by Spreng et al., (2009). The TEQ is comprised of 16 questions that address a variety of attributes associated with identified theoretical facets of empathy, such as emotional contagion (Eisenberg & Miller, 1987), emotion comprehension (Haxby, Hoffman, & Gobbini, 2000) sympathic physiological arousal (Levenson & Ruef, 1992), and non-specific altruism (Rice, 1964). Items 1 and 4 specifically target the perception of an emotional state in another that stimulates the same emotion in oneself (Appendix C). Item 8 assesses emotion comprehension in others, and other items (2, 7, 10, 12, and 15) address the assessment of emotional states in others by indexing the frequency of behaviors demonstrating appropriate sensitivity. Additional items (3, 6, 9, and 11) tap into sympathetic physiological arousal and others (5, 14, and 16), altruism. Item 13 probes the frequency of behaviors that demonstrates the engagement of higher order empathic responding (i.e., prosocial helping behaviors). Eight items (2, 4, 7, 10, 11, 12, 14, and 15) are negatively scored. These items tap into the frequency of situational indifference toward another individual. The participants were asked to select one response for each item. Each response earns a score: for positively worded items (1, 3, 5, 6, 8, 9, 13, and 16), a response of *Never* = 0, *Rarely* = 1, *Sometimes* = 2, *Often* = 3, *Always* = 4; and the negatively worded items (2, 4, 7, 10, 11, 12, 14, and 15) were reverse scored. All items were added together to obtain a total score ranging from 0 to 64. Scores illustrate an individual's empathetic skill level such that the higher the score earned, the higher the level of empathetic skills. Statistical analysis was run to establish reliability (as measured by Cronbach's alpha) and validity (as measured by Pearson's r) when administered to inservice teachers. There is limited research in regards to the relationship between

teacher self-efficacy and empathetic skills; however, student and teacher relationships are built upon perceptions of caring (Burrell & Ovando, 2008). Empathic skills are illustrations that can be perceived by students as caring (Alder, 2002; Garza, 2007), such as empathic listening. Thus, higher levels of empathetic skills indicate higher levels of caring behaviors.

Procedure

After receiving permission from the Institutional Review Board (IRB) at the University of Northern Colorado to conduct the study, the researcher used a convenience sampling procedure which included invitations via social media sites (i.e., Facebook and LinkedIn), colleagues, and a Survey Monkey panel to select teachers who taught in the NCES West region. Teachers were sampled if their districts' Latino enrollment met or exceeded 22%, the national enrollment, to increase the likelihood that teachers would have had experiences with the targeted population (i.e., linguistically diverse Latino students). General education teachers were contacted through these means by an email which included a research summary and a survey link.

Teachers consented by completing the electronic survey (Appendix A). The informed consent form did not require a signature to help to ensure that teachers' identities were kept confidential. Participants were informed that they could voluntarily withdraw from the study at any time. Participants completed a survey packet included the: (a) researcher-developed demographics questionnaire; (b) the LATS-R; (c) the *Exceptional Children Who are English Learners Teacher Inventory* (EXCEL) with the 10 revised questions; and (d) the *Scale for Empathic Skills-Form B* (ESS-Form B). All

forms were administered in the same order and took approximately 20 to 30 minutes to complete.

Electronically competed survey data were downloaded from an electronic survey generator, Survey Monkey, into an Excel spreadsheet. For professional development and teacher preparation response, scores were added together within an Excel spreadsheet by the researcher. All measures were combined into a single spreadsheet. Questions that needed to be reversely scored were changed at that time.

Path analysis is a statistical procedure that is used to test a priori structures and relationships between variables and was used to analyze data. The researcher developed three hypothesized path models derived from the literature that were tested. These models are illustrated in Figures 1, 2, and 3.

Kline (1998, 2005) recommends an adequate sample size be determined by multiplying the number of free parameters by 10. When using path analysis, a medium sample size is between 100 to 200 participants; a large size is consider greater than 200 (Kline, 2005). Higher sampling error is associated with smaller sample sizes (Kline, 2005); thus, a sample size of at least 100 is recommended when using path analysis (Thompson, 2000). MacCallum and Austin (2000) noted that many researchers recommend using a medium to large sample size to accurately estimate parameters and standard errors. Hypothesized Path Model and Alternative Path Model 1, illustrated in Figures 1 and 2, have the largest number of free parameters (14) and were used to determine adequate sample size. The calculations, 14 x 10, suggested a minimum sample of 140 participants for the study.

Research Design

Using path analysis, this study provided information on the degree to which each of the variables of teacher experience (knowledge, attitudinal beliefs, and teacher efficacy) relate to empathy toward Latino linguistically diverse youth.

Path Analysis

In path analysis, the path model is used to describe hypothesized relationships between measured variables (Kline, 2005). Variables in the hypothesized models for this study included: (a) teacher experience; (b) targeted professional development; (c) teacher preparation; (d) attitudinal beliefs; (e) teacher efficacy; and (f) empathic or caring skills. The exogenous (independent) variables in the model were teaching experience, targeted professional development, teacher preparation, and attitudinal beliefs; the endogenous (dependent) variables were teacher efficacy and empathic skills. These models described the hypothesized relationships among the aforementioned variables (Figure 1-3).

The Hypothesized Path Model, Figure 1, has the strongest theoretical support based on current literature. There is evidence that teaching experience, targeted professional development, teacher preparation, and attitudinal beliefs have direct effects on teacher efficacy. Furthermore, targeted professional development and teacher preparation may directly impact attitudinal beliefs and, subsequently, attitudinal beliefs affect teacher efficacy. Thus, attitudinal beliefs may mediate effects of targeted professional development and teacher preparation on teacher efficacy.

There is some theoretical support for the addition of caring behaviors to the model (Bandura, 1997). It is hypothesized that teacher efficacy and attitudinal beliefs directly influence teachers' demonstration of caring behaviors and that attitudinal beliefs may be

a mediating variable between targeted professional development and teacher preparation effect on caring behaviors.

Alternative Path Model 1, Figure 2, is the same as the hypothesized model, except the directional effect of targeted professional development and attitudinal beliefs has been reversed. Targeted professional development is an avenue in which teachers have opportunities to gain knowledge. Knowledge and attitudinal beliefs may have reciprocal relationships in that attitudinal beliefs impact professional development. That is, based on their beliefs and attitudes, teachers might seek out professional development opportunities specific to linguistically diverse Latino students.

Alternative Path Model 2, Figure 3, is a simplified model that is also supported by the literature. The effect of teaching experience on teacher efficacy has not been consistent with some evidence, indicating that teaching experience does not affect teacher efficacy significantly. In this model, teaching experience has been omitted for the sake of parsimony (Kline, 2005). The rule of parsimony is considered crucial in assessing model fit (Hu & Bentler, 1995) and serves as an important criterion in dertermining alternative models (Schermelleh-Engel, Moosbrugger, & Muller, 2003).

The hypothesized and alternate path models describe the hypothesized direct and mediating effects of endogenous variables on exogenous variables. The hypothesized path model and alternative path models 1 and 2 describe the relationships among variables and predict that teaching experience, targeted professional development, teacher preparation, and attitudinal beliefs will have a direct effect on teacher efficacy. Furthermore, all path models predict that attitudinal beliefs and teacher efficacy will have

a direct effect on teachers' caring skills. Using path analysis, the researcher tested the

hypothesized and alternate path models to answer the following research questions.

Research Questions

Q1   To what degree do the hypothesized relationships among teaching experience, targeted professional development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring skills in the Hypothesized Path Model fit the data?

  Q1a What is the direct effect of teaching experience, targeted professional development, teacher preparation, and attitudinal beliefs on teacher efficacy?

  Q1b Does teaching experiences have a significant direct effect on teacher efficacy?

  Q1c What is the direct effect of teacher preparation and targeted professional development on attitudinal beliefs and the mediating impact of attitudinal beliefs on teacher efficacy?

  Q1d What is the direct effect of attitudinal beliefs and teacher efficacy on caring skills?

  Q1c What is the direct effect of teacher preparation and targeted professional developments on attitudinal beliefs and mediating impact of attitudinal beliefs on caring behaviors?

Q2   To what degree do the hypothesized relationships among teaching experience, targeted professional development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring skills in Alternative Path Model 1 fit the data?

  Q2a What is the direct effect of attitudinal beliefs on targeted professional development and subsequently targeted professional development mediating effects on teacher efficacy?

Q3   To what degree do the hypothesized relationships among targeted professional development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring skills in Alternative Path Model 2 fit the data?

  Q3a To what degree does taking out teaching experience impact the model?

Data Analysis

After collecting the data from participants, the surveys were scored according to the appropriate procedures indicated by the instruments' instructions. Data from the scored instruments and the researcher-developed demographics questionnaire were compiled into an Excel spreadsheet. Data from the instruments and the researcher-developed demographic and experience questionnaire were entered into the Statistical Package for Social Sciences 17.0 (SPSS) computer software for preliminary data analysis. In order to describe the sample, demographic data were numerically coded and entered into SPSS 17.0. The frequency distributions and percentages for gender and race/ethnicity were analyzed. Means, standard deviations, and ranges were calculated for degrees and certifications obtained through teacher preparation and completion of professional development. Lastly, reliability of all measures was examined using Cronbach's α (alpha); a coefficient of alpha.

To test the path analytic assumption of multivariate normality, graphical procedures in SPSS were implemented (Thompson, 2000). Univariate normality provides the foundation for multivariate normality; thus, the researcher examined graphical distributions of individual variables in the models to test for multivariate normality (Kline, 2005; Thompson, 2000; Weston & Gore, 2006). LISREL 9.1 (Jöreskog & Sörbom, 2012) was used to conduct the path analysis to determine the overall fit of the hypothesized path models to the data (Kline, 2005). Additionally, the directional relationships among teaching experience, knowledge, attitudinal beliefs, teacher preparation and professional development, teacher efficacy, and empathic skills were analyzed using LISREL 9.1 (Kline, 2005).

Path analytic procedures were utilized to examine the data and test research questions. This statistical technique is powerful and is used to assess the predictive ordering of measured variables in path models, which produces graphical descriptions of the predicted causal relationships among variables (Klem, 2000; Kline, 2005). Many researchers (Klem, 2000; Kline, 2005; MacCallum & Austin, 2000) use path analytic procedures to assess model fit and the strength of directional and mediating relationships between variables measured. Models must be developed based on apriori knowledge and theory for the results of path analytic procedures to be meaningful and not based on the data gathered (Klem, 2000; Kline, 2005; Weston & Gore, 2006). Similarly, Martens (2005) suggests that the predicted directional relationships be based on theory and previous research and determined a priori.

The three path models for the study were developed based on the current literature and Bandura's (1977; 1986; 1989; 1997) Social Cognitive Theory (SCT), specifically regarding self efficacy. According to SCT, the development of teacher efficacy is influenced by a combination of teachers' knowledge, attitudinal beliefs, and teaching experience factors. The three hypothesized collapsible models describe the theoretical relationships between teaching experience, teacher preparation, professional development, attitudinal beliefs, teacher efficacy, and empathic skills, specifically regarding Latino linguistically diverse students.

For this study, weighted least squares estimation method was used to estimate path coefficients in the path models using LISREL 9.1. The weighted least squares estimation method calculates approximately all parameters of a model simultaneously (Kline, 2005). Thus, each model was analyzed separately using this procedure.

Weighted least squares method is recommended over other estimation methods when variables are measured using ordinal data (i.e., Likert-type data) (Jöreskog, 2005; Kline, 2005). Thus, this method was utilized for this study. For ease of interpretation, solutions for each models analysis were standardized.

Initially, all three hypothesized models were assessed as to how well they fit the data, prior to interpretation of path coefficients (Kline, 2005; Martens, 2005; Thompson, 2000). While using path analysis, it is necessary to assess model fit with multiple fit indices because each measures a different aspect of the model fit (Kline, 2005; Martens, 2005). Several fit indices were used in this study including the chi square model (X^2), Bentler comparative fit index (CFI), incremental fit index (IFI), Steiger-Lind root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) to determine how well each model fits the data (Kline, 2005; Martens, 2005).

The model chi square (X^2) was used to test the null hypothesis that the model fits the data well. X^2 was used to test for model misspecification (Weston & Gore, 2006) at a .05 alpha level. A statistically significant X^2 would indicate that the model does not fit the data well and would result in the null hypotheses being rejected (Kline, 2005; Thompson, 2000; Weston & Gore, 2006). Although this statistical method is the most commonly reported fit statistic, Kline (2005) and Martens (2005) noted that it can be unreliable in predicting model fit, due largely to sample size affects, and is not recommended with analysis with ordinal data.

The CFI and IFI were used to test the goodness of fit of each model. The CFI's ability to account for sample size affects is a strength of this method and one of the reasons why it is recommended for all structural equation modeling procedures (Hu &

Bentler, 1999; Kline, 2005; Thompson, 2000). Values for the CFI range from 0 to 1.0, with values nearer to 1.0 indicating the model fits the data well (Hu & Bentler, 1999; Kline, 2005; Weston & Gore, 2006). Hu and Bentler (1999) and Martens (2005) recommended the use of IFI to compensate for sample size and model complexity. IFI is a non-normed fit index, and scores range from 0 to greater than 1.0 with values nearer to 1.0 indicating the model fits the data well (Hu & Bentler, 1999). Since the sample size of the study is less than 500 participants, the recommended cutoff score for both the CFI and IFI of ≥ .90 was used (Kline, 2005; Weston & Gore, 2006).

Furthermore, analyses of the RMSEA and SRMR were both utilized to evaluate the badness of fit of each model (Kline, 2005). Similar to the IFI, RMSEA is recommended to be used to compensate for complexities of models (Hu & Bentler, 1999; Kline, 2005; Weston & Gore, 2006). Additionally, SRMR was used because it is the most recommended analysis procedure to be used with other fit indices (Martens, 2005; Kline, 2005; Weston & Gore, 2006; Hu & Bentler, 1999). Values range from 0 to 1.0 for both RMSEA and SRMR, and scores nearer to 0 indicate better model fit (Kline, 2005; Thompson, 2000). For studies that have less than 500 participants, the common cutoff criteria for RMSEA and SRMR is ≤ .10 (Kline, 2005; Thompson, 2000; Weston & Gore, 2006); thus, this cutoff score was used for the study. All of the aforementioned fit indices (X^2, CFI, IFI, RMSEA, and SRMR) were collectively used to determine the degree to which each hypothetical model fit the data collected.

This study was conducted according to the research design described in this chapter. After receiving approval from the IRB at the University of Northern Colorado, the researcher followed the described procedures for sampling and data analysis. Using

path analysis, the researcher tested the hypothesized, alternative 1, and alternative 2

models describing the relationships among teaching experience, targeted professional

development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring

behaviors using the fit indices and cutoff scores.

CHAPTER IV

RESULTS

This chapter provides an overview of the study results. Preliminary data analyses are reported including demographic data describing the sample, descriptive data for each of the instruments, tests related to statistical assumptions, and correlations among variables in the path model. Then, results are reported for each of the research questions and corresponding hypotheses tested.

Preliminary Analyses

Demographic Data

The final sample was comprised of 145 teachers working in school districts in the Western region, specifically in Arizona ($n = 13$; 8.97%), California ($n = 57$; 39.31%), Colorado ($n = 28$; 19.31%), Idaho ($n = 2$; 1.38%), Montana ($n = 0$; 0.00%), New Mexico ($n = 7$; 4.83%), Nevada ($n = 3$; 2.07%), Oregon ($n = 8$; 5.52%), Utah ($n = 5$; 3.45%), Washington ($n = 21$; 14.48%), and Wyoming ($n = 1$; 0.69%). Each participant completed a researcher developed demographic questionnaire (Appendix A) indicating her or his gender, race/ethnicity, age, highest degree earned, completed additional licenses, years of teaching experience, and fluency in Spanish or another language. Of the 145 participants, 106 reported being female (73.10%), and 39 reported being male (26.90%). The proportion of males in the current study is greater than that in a national sample (Feistritzer, 2011). The majority of participants were Caucasian ($n = 101$; 69.66%),

while others reported being Hispanic (n = 17; 11.72%), Middle Eastern Indian (n = 1;

0.69%), African American (n = 5; 3.45%), Asian American (n = 5; 3.45%), and

Multiethnic/Multiracial (n = 14; 9.66%) (Table 1). The majority of 14

Multiethnic/Multiracial participants reported being Hispanic and Caucasian (n = 9;

64.29%); others reported being Caucasian and unspecified (n = 2; 14.29%), American

Indian and Native American (n = 1; 7.14%), White and Asian American (n = 1; 7.14%),

and Native American and Hispanic (n = 1; 7.14%). Two participants (1.38%) indicated

other for their racial/ethnic identity and specified that they declined to answer.

Compared to a national sample, the current study has a larger proportion of ethnic

minorities (Feistritzer, 2011). Participants ranged in age from 23 to 74 years (M = 43.74;

SD = 12.52) and their teaching experience ranged from 1 to 40 years (M = 14.74; SD =

9.84) (Table 2). According to a national data set (Feistritzer, 2011), 22% of teachers

were under the age of 30, and 31% of teachers were 50 years old or older. Nationally,

26% of teachers have 1 to 5 years of teaching experience, 16% have 15-24 years, and

17% have 25 or more years.

Table 1

Demographic Data: Highest Earned Degree and Ethnicity/Race (N = 145)

Variable	f(x)	Percentage	National Statistic (2011) Percentage
Highest degree earned			
Associates	1	0.7	
Bachelor's	31	24.1	
Post-Baccalaureate	35	24.1	
Master's	35		
Master's plus coursework	40	27.6	
Education Specialist	1	.7	
Doctoral	2	1.4	
Ethnicity/Race			
Caucasian	101	69.66	84
Hispanic	17	11.72	6
Middle Eastern/Indian	1	.69	NA
African American	5	3.45	7
Asian American	5	3.45	NA

Note. The current study has a larger proportion of males and ethnic minorities when compared to national sample (Feistritzer, 2011).
*National Center for Education Information, Feistritzer, 2011)

Table 2

Demographic Data: Teaching Experience and Age (N = 145)

Variable	Mean	SD	Min.	Max.
Years of teaching experience	14.74	9.84	1	40
Age	43.74	12.52	23	74

Note. Comparable national statistics: years of teacher experience (1-5 years = 26%; 6-9 years and 10-14 years = 16%; 15-24 years = 23%; 25+ years = 17%); age (under age 30 = 22%, 50 years or older = 31%) (Feistritzer, 2011).

Of the 145 participants, 31 teachers indicated they had earned a bachelor's degree (21.37%), 35 earned a post-baccalaureate degree (24.1%), 35 earned a master's degree (24.1%), and 40 earned a master's degree plus additional coursework (27.6%). Additionally, two (1.4%) participants indicated they had earned a doctoral degree, one (0.7%) an educational specialist degree, and one earned an associate's degree (0.7%) in their respective fields (Table 1).

With respect to cultural and linguistic experiences, 31 (21.4%) of the participants indicated that they had experience teaching or living in another country. Furthermore, 24 (16.6%) participants speak fluent Spanish and, 18 (12.4%) fluently speak another language.

Measures for Teaching Experience, Preparation, and Professional Development

Teaching experience, teacher preparation, and targeted professional development were exogenous (independent) variables used in the hypothesized model and posited to directly impact teacher efficacy, attitudinal beliefs, and empathic skills. Participants were asked to provide information that was used to measure variables within the hypothesized

model including: (a) teaching experience; (b) teacher preparation; and (c) teacher professional development.

Teaching experience. Participants' years of teaching experience ranged from 1 to 40 years (Table 1). Teaching experience was reported within the demographic information; however, teaching experience was also used as a continuous exogenous variable within the hypothesized model.

Teaching preparation. To measure teacher preparation, teachers were asked to indicate their highest earned degree, licensures or certificates completed, and teacher preparation hours specifically addressing culturally responsive pedagogy, language acquisition, and the needs of exceptional learners within their teacher preparation courses. It should be noted that teacher preparation courses do not include workshops or ongoing professional development.

A global score was attained to represent teacher preparation. A eacher's highest degree was converted into a weighted score and added to the weighted scores for additional licensures/certificates and teacher preparation hours, specifically regarding culturally responsive pedagogy, language acquisition, and addressing the needs of exceptional learners with learning disabilities. Each teacher's highest degree earned was weighted with a numeric value of 100 for each academic year. For example, B.A./B.S. was scored 400, M.A./M.S. was scored 600, M.A./M.S. plus additional coursework was scored 700, Ed.S. was scored 800, Ed.S. plus additional coursework was scored 900, and Ph.D. was scored 1000. Eighty (55.2%) participants reported having an additional licensure or certificate program in the area of English Language Learners (ELL) or English as a Second Language, and 28 (19.3%) in the area of Exceptional Students or

Special Education. Teachers' responses to the endorsement and certification questions were coded 0 for *No* and 10 for *Yes.*

Lastly, teachers were asked to indicate the estimated number of hours that specifically addressed culturally responsive pedagogy, language acquisition, and the needs of exceptional learners within their teacher preparation courses, which were added together to obtain a total preparation hour score (Table 3).

Table 3

Teacher Degree, Preparation Hours, and Teacher Preparation Global Score (N = 145)

Variable	Mean	SD	Min.	Max.
Teacher preparation global score*	681.64	220.68	103	1525
Degree**	560	139.14	200	800
Preparation hours				
Culturally Responsive Psychology	43.74	12.52	23	74
Language Acquisition	33.49	57.93	0	495
Exceptional Learners	32.40	76.97	0	540

*Teacher preparation global score includes degrees, licensure/certificates, and total teacher preparation hours.
**Scores earned for degrees: B.A/B.S. = 400; Post-Bac = 500; M.A./M.S. = 600; M.A./M.S.+ = 700; Ed.S. = 800; Ed.S.+ = 900; Ph.D. = 1000.

Teachers reported the number of estimated hours completed during their formal teacher preparation such that if a teacher completed a 5-credit course and another completed a 3-credit course in which culturally responsive pedagogy was addressed for 3 hours within each course, they would each earn 3 points towards their teacher preparation global score. Overall, teachers reported more hours of culturally responsive pedagogy (*M*

= 43.74; *SD* = 12.52) than language acquisition (*M* = 33.49; *SD* = 57.93) and exceptional

services (*M* = 32.40; *SD* = 76.97). Weighted and converted scores obtained from

teachers' responses to the questions regarding completed degrees, licensure or

certificates, and teacher preparation hours were added together to get a total score

(*Teacher Preparation Global Score*). This score is used to measure *Teacher Preparation*

variable in the hypothesized model.

    Professional development. Participants' total professional development score

was obtained by combining reported hours of professional development specifically

addressing culturally responsive pedagogy, language acquisition, and students with

learning disabilities in the past 5 years (Table 4). This score was used to measure the

teachers' professional development variable within the hypothesized model. Overall,

teacher responses indicated they received greater professional development addressing

culturally responsive pedagogy (*M* = 24.18; *SD* = 45.23) and language acquisition (*M* =

28.67; *SD* = 68.56) than exceptional learners with specific learning disabilities (*M* =

13.02; *SD* = 25.08).

Table 4

Teacher Professional Development Hours (N = 145)

Variable	Mean	SD	Min.	Max.
Total professional development hours	65.86	102.60	0	550
Culturally Responsive Pedagogy	24.18	45.23	0	400
Language Acquisition	28.67	68.56	0	400
Exceptional Learners with Specific Learning Disabilities	13.02	25.08	0	198

Instruments

In addition to the demographics questionnaire, participants completed a survey packet of three Likert-type self-report surveys to measure attitudinal beliefs, teacher efficacy, and caring behaviors in the hypothesized model. The survey packet included instruments to measure attitudes and beliefs (*Language Attitude Scales-Revised*, Flores & Smith, 2008), teacher efficacy (*Exceptional Children Who are English Learners Teacher Inventory*, Paneque & Barbetta, 2006), and caring behaviors (the *Toronto Empathy Questionnaire,* Spreng, McKinnon, Mar, & Levine, 2009). Descriptive statistics representing raw scores obtained for each of the variables included in the hypothesized path model are described in Table 5. Participant responses for teacher efficacy and caring behaviors were negatively skewed, while attitudes and beliefs, teaching experience, teacher professional development, and teacher preparation were positively skewed. Although variables in the model were skewed, the skewness of the variables was not considered severe (i.e., less than the absolute value of 3.0) which provides evidence of sample normality (Kline, 2005; Weston & Gore, 2006). Additionally, the directions of skewness for attitudes and beliefs, professional development, and teacher preparation were consistent with more socially desirable responses (i.e., more positive attitudes and beliefs and greater amounts of professional development and teacher preparation), which is common when using self-reporting instruments (Steenkamp, De Jong, & Baumgartner, 2010).

Table 5

Descriptive Statistics for Variables Included in the Hypothesized Model (N = 145)

Variable/Scale	Mean	SD	Min.	Max.	Range	Skewness	Kurtosis	Likert Scale
Attitudes & Beliefs (LATS-R)	2.53	.598	1	4	3	.07	-.20	1-5
Teacher Efficacy (EXCEL)	149.63	20.03	92	180	88	-.49	-.34	1-9
Caring Behaviors (TEQ)	48.30	6.24	22	64	42	-.53	1.57	1-5
Teaching Experience	14.74	9.84	1	40	39	.61	-.71	NA
Teacher Professional Development*	65.86	102.61	0	550	550	2.82	8.32	NA
Teacher Preparation*	681.64	220.68	103	1525	1422	.93	2.90	NA

Note. The standard error for skewness was .20 for all scales; the standard error for kurtosis was .40 for all scales.
* Global Scores

Instrument Scores Interpretations

The test authors for the *Language Attitude Scales Revised* (LATS-R; Flores & Smith, 2008), *Exceptional Children Who are English Learners Teacher Inventory* (EXCEL; Paneque & Barbetta, 2006), and the *Toronto Empathy Questionnaire* (TEQ; Spreng, McKinnon, Mar, & Levine, 2009) provide information regarding score interpretation of results. Lower scores on the LATS-R indicate more positive attitudes and beliefs, whereas higher scores on the EXCEL indicate greater levels of teacher

efficacy and on the TEQ indicate greater caring behaviors. Additionally, higher scores representing teaching experience, teacher professional development, and teacher preparation variables indicate greater teaching experience, teacher professional development, and teacher preparation.

Testing of Assumptions

Path analysis is a statistical method that has several assumptions including score reliability of measurements, multivariate normality (i.e., normal distribution of data), and multicollinearity. These assumptions are described in the following sections.

Score reliability. Score reliability refers to "the degree to which scores are free from random measurement error" (Kline, 2005, p. 58). When using path analytic strategies to analyze data, it is important to have reliable scores (Kline; Weston & Gore, 2006). Often, score reliability is measured using Cronbach's coefficient alpha, which measures the internal consistency of scores on items on an instrument (Kline, 2005). The Cronbach's coefficient alpha scores for this study are reported in Table 6. For the present study, the coefficient alphas ranged from 0.86 to 0.94. These scores are considered very good (≥ 0.80) to excellent (≥ 0.90) according to most standards and are sufficient for path analytic data analysis strategies (Kline, 2005).

Table 6

Reliability Information (N = 145 for all scales)

Instrument	Number of Items	Cronbach's Alpha
Language Attitude Scales Revised (LATS-R) (Flores & Smith, 2008)	17	.86
Exceptional Children Who are English Learners Teacher Inventory (EXCEL) (Paneque & Barbetta, 2006)	20	.94
Toronto Empathic Questionnaire (TEQ) (Spring, McKinnon, Mar, & Levine, 2009)	22	.86

Multivariate and univariate normality. After examining the reliability of

instruments used in the study, the researcher used graphical procedures (i.e., frequency

distributions and scatterplots) in SPSS to test the path analytic assumption of multivariate

normality. All graphical procedures presented relatively normal data. Although

univariate normality differs from multivariate normality, it is difficult to "assess all

aspects of multivariate normality" (Kline, 2005, p. 49). Therefore, scholars recommend

assessing univariate normality as a foundation for determining multivariate normality

because most violations can be detected through a thorough examination of univariate

distributions (Kline, 2005; Martens, 2005; Thompson, 2000). Because univariate

normality provides the foundation for multivariate normality, the researcher examined the

graphical distributions, skewness, and kurtosis of the individual variables in the model to

assess multivariate normality (Martens, 2005; Thompson, 2000). The graphical

distributions for each of the variables in the model appeared to be normally distributed as

evidenced by graphs (i.e., histograms and box plots) that showed no extreme outliers and

responses that were normally distributed about the mean. However, the distributions for the measures for attitudes and beliefs, teacher efficacy, and caring behaviors as well as teaching experience, teacher professional development, and teacher preparation demonstrated minor skewness (i.e., $\leq |2.0|$) (Table). Because path analytic procedures are considered robust, the results are not significantly impacted by minor to moderate levels of skewness (i.e., $\leq |3.0|$); therefore, the skewness of these scales was not severe enough to impact the path analytic procedure (Kline, 2005; Weston & Gore, 2006).

Multicollinearity. Multicollinearity measures how close the variables are correlated with each other. Correlation matrix (Kline, 2005), a statistical analysis procedure, was run and tested for multicollinearity between the variables. Multicolinearity measures how closely the variables are correlated with each other. Low multicollinearity meets the path analytic assumption, whereas perfect multicollinearity indicates a linear relationship between variables. If the data are significantly multicollinear, path analytic procedures cannot be conducted because the variables are measuring the same or similar concepts; thus, the model would not be able to be tested.

Relationships between variables in the model were statistically significant and considered small (≥ 0.10) to medium (≥ 0.30) effect sizes in education and psychology research (Cohen, 1994); however, statistical significance may be a function of the large sample size required for path analytic procedures (Granello, 2007; Kline, 2005). Although variables in the model are correlated, the bivariate correlations among all variables are less than $r = |0.85|$ (Table 7); therefore, the correlations do not violate the path analytic assumption of multicollinearity (Kline, 2005; Weston & Gore, 2006).

Table 7

Bivariate Correlation Matrix for Variables in the Hypothesized Model (N = 145)

Variable	1	2	3	4	5	6
1. Attitude and beliefs	1.0					
2. Teacher efficacy	.00	1.0				
3. Caring behaviors	.00	.00	1.0			
4. Teaching experience	.02	.75	.83	1.0		
5. Teacher professional development	.65	.09	.16	.73	1.0	
6. Teacher preparation	.05	.35	.29	.35	.18	1.0

Correlations

A correlation matrix of the variables in the hypothesized path model was analyzed prior to conducting the path analysis, and the values were used to run the path analytical analysis in LISERL 9.1, a software package (LISERL, 2012). The scores for the Pearson product-moment correlations are presented in a correlation matrix in Table 8. Teachers' attitudes and beliefs were significantly positively correlated with teaching experience ($r = 0.19$, $p < 0.01$), indicating that teachers with greater teaching experience held less positive attitudes and beliefs regarding Latino language minority students.

Table 8

Correlation Matrix for Variables in the Hypothesized Model (N = 145)

Variable	1	2	3	4	5	6
1. Attitude and beliefs	1.0					
2. Teacher efficacy	-.37**	1.0				
3. Caring behaviors	-.31**	.43**	1.0			
4. Teaching experience	.19*	.03	.02	1.0		
5. Teacher professional development	-.04	.14	-.12	-.03	1.0	
6. Teacher preparation	-.16*	.08	.09	-.08	.11	1.0

*Indicates correlation is significant at $p \leq 0.05$ level.
**Indicates correlation is significant at $p \leq 0.01$ level.

Additionally, teachers' attitudes and beliefs were significantly negatively correlated with teacher efficacy ($r = -0.37, p < 0.05$), caring behaviors ($r = -0.31, p < 0.05$), and teacher preparation ($r = -0.16, p < 0.01$). Therefore, teachers who reported more positive attitudes and beliefs regarding Latino linguistically diverse students reported greater teacher efficacy working with this student population. Similarly, teachers who reported more positive attitudes and beliefs also reported greater caring behaviors. Lastly, teachers who completed higher levels of teacher preparation also reported more positive attitudes and beliefs regarding Latino linguistically diverse students. Other statistically significant correlations among variables in the model included a positive relationship between teacher efficacy and caring behaviors ($r = 0.43, p < 0.05$). Teachers with greater teacher efficacy working with Latino linguistically diverse students reported more caring behaviors.

Research Question Results

Research Question 1

    Q1   To what degree do the hypothesized relationships among teaching experience, targeted professional development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring behaviors in the hypothesized model fit the data?

        Q1a   What is the direct effect of teaching experience, targeted professional development, and teacher preparation, as well as, attitudinal beliefs mediating impact on teacher efficacy?

It was hypothesized that teaching experience, targeted professional development, and

teacher preparation would have a positive direct effect on teacher efficacy, whereas

attitudinal beliefs would have a negative mediating impact on teacher efficacy.

        Q1b   What is the direct effect of teacher preparation and targeted professional development on attitudinal beliefs?

It was hypothesized that teacher preparation and targeted professional development

would have negative direct effects on attitudinal beliefs.

        Q1c   What is the direct effect of attitudinal beliefs and the mediating impact of teacher efficacy on caring behaviors? It was hypothesized the attitudinal beliefs would have a significant negative and teacher efficacy would have a positive mediating impact on caring behaviors.

In order to examine whether the hypothesized relationships among teaching

experience, targeted professional development, teacher preparation, attitudinal beliefs,

teacher efficacy, and caring behaviors in the path model fit the data well, the researcher

estimated the path model using the weighted least squares estimation method in LISREL

9.1 (Jöreskog & Sörbom, 2012). In order to assess the overall fit of the path model,

multiple fit indices, including *badness and goodness of fit statistics*, were examined

(Table 9). *Badness and goodness of fit* indices descriptions and information for interpreting values are presented below.

Table 9

Fit Indices: Hypothesized Model (N = 145)

Fit Statistic	Score
Badness of fit statistics	
Model Chi Square (X^2)	248.15*
Standardized Root Mean Square Residual (SRMR)	0.58
Steiger-Lind Root Mean Square Error of Approximation (RMSEA)	0.88
Goodness of fit statistics	
Bentler Comparative Fit Index (CFI)	1.0*
Incremental Fit Index (IFI)	1.0*

*Indicates statistical significance.

**Overall Model Fit for
Hypothesized Model**

Badness of fit statistics. The *badness of fit statistics* (i.e., X^2, SRMR, RMSEA) are indices that test a specified model against one which would fit the data perfectly. The model chi square (X^2) was used to assess overall model fit and model misspecification or "the magnitude of discrepancy between the sample and fitted covariance matrices" (Hu & Bentler, 1999). It was hypothesized that X^2 would not be statistically significant at the 0.5 alpha level, which would suggest the model fit the data well. The standardized root mean square residual (SRMR) and the Steiger-Lind root mean square error of approximation (RMSEA) were examined in addition to the model chi square to assess the

badness of fit of the path model. The RMSEA is sensitive to the number of estimated

parameters in a model, thus favoring parsimonious models and allowing for the null

hypothesis to be tested more accurately. The SRMR does not have the same sensitivity to

sample size as the X^2 and is often reported in conjunction with the RMSEA. It was

hypothesized that both the RMSEA and SRMR values would be nearer to 0, indicating a

better model fit (Kline, 2005; Thompson, 2000).

The X^2 for the hypothesized model was statistically significant ($X^2 = 248.15$, *df* =

15, *p* <0.00). This indicates the model does fit the data well, as X^2 assesses *badness of fit*;

however, X^2 is largely influenced by sample size. Additionally, X^2 is not a good indicator

of fit when data are ordinal (Kline, 2005). Therefore, it must be examined in conjunction

with other fit statistics (Martens, 2005).

The SRMR for the model was 0.58 (greater than the recommended cutoff score of

≤.10 for samples of less than 500 participants), indicating poor model fit (Kline, 2005;

Weston & Gore, 2006). Similarly, the RMSEA (values range from 1 to 0, with values

closer to 0 indicating a better model fit) was 0.88, closer to 1 than 0, suggesting the

model does not fit the data well. All three *badness of fit statistics* (i.e., X^2, SRMR, and

RMSEA) indicated that the model did not fit the data well (Table 9). Although, X^2 is the

most commonly reported fit statistic, Kline (2005) and Martens (2005) make note that it

can be unreliable in predicting model fit, especially when using ordinal data. Model fit is

defined as how well the data represents the theoretical model presented; thus, the data

does not represent the hypothesized model well.

Goodness of fit statistics. The Bentler comparative fit index (CFI) and

incremental fit index (IFI) are considered *goodness of fit* statistics and were used in

conjunction with the *badness of fit statistics* to assess the overall fit of the model. It is best practice to present several *goodness of fit* and *badness of fit* indices, and Kline (2005) recommends X^2, SRMR, RMSEA, CFI, and IFI. It was hypothesized that the CFI and IFI would be greater than 0.90, which would indicate the data fit the model well.

The CFI, which assesses the model compared to a baseline or null model, was 1.0 for the tested model. This value is greater than the recommended cutoff score of greater than 0.90 for samples of less than 500, indicating the model is a good fit (Weston & Gore, 2006; Martens, 2005). Finally, the IFI assesses model fit while compensating for sample size; the IFI of 1.0 for this study indicates good model fit, as it is greater than the recommended cutoff score of 0.90 (Hu & Bentler, 1999). Both *goodness of fit* indices indicate the model fits the data well (Table 9).

Overall model fit for hypothesized model. The fit indices used to assess model fit for RQ1 are contradictory. All three *badness of fit* indices (i.e., X^2,SRMR, and RMSEA) indicated that the data did not fit the data well. Although all three *badness of fit* indices suggested the model did not fit the data well, the *goodness of fit* indices (i.e., CFI and IFI) suggested the model was a good fit. Thus, examining the fit indices simultaneously suggests that certain aspects of the model fit the data well, while other aspects did not (Klem, 2000). When the results of the fit indices are contradictory, it is critical to examine the path coefficients (Figure 4) in the model to determine which aspects of the model fit the data well and which did not (Weston & Gore, 2006).

Figure 1. Path analysis results for Hypothesized Path Model; a model exploration of teacher efficacy, attitudinal beliefs, and caring behaviors towards Latino linguistically diverse students ($N = 145$). Weighted least squares estimation method with standardized solutions; *indicates path coefficient is significant at the $p \leq 0.05$ level.

The solutions for the path coefficients were standardized by requesting all variables to have the mean of 0 and standard deviation of 1 for easier interpretation (Figure 4). The standardized path coefficients equal the standardized regression coefficients and explain the proportions of variance and the correlations among variables. The path coefficients as well as the direct effects of each variable in the model are examined in subsequent research questions.

It was hypothesized that teaching experience, targeted professional development, and teacher preparation would have a positive direct effect on teacher efficacy, whereas attitudinal beliefs would have a negative mediating impact on teacher efficacy. This hypothesis was partially supported. Teaching experience (0.03) and targeted professional development (-0.14) had insignificant direct effects on teacher efficacy. Teacher preparation (-0.67) had a significant negative direct effect on teacher efficacy; thus, teachers with greater amounts of formal teacher preparation reported lower teacher

efficacy. These findings did not support the hypothesis. On the other hand, the mediating impact for targeted professional development and teacher preparation of teachers' attitudinal beliefs (-0.20) on teacher efficacy supported the hypothesis. Therefore, teachers with more positive attitudes and beliefs were less likely to be negatively impacted by targeted professional development and teacher preparation and more likely to report greater teacher efficacy when working with Latino linguistically diverse students. Teachers' attitudinal beliefs had a negative mediating impact on teacher efficacy, which was statistically significant and supported the hypothesis.

Furthermore, it was hypothesized that teacher preparation and targeted professional development would have negative direct effects on attitudinal beliefs and there would be a negative mediating impact of attitudinal beliefs on caring behaviors. Results of the path analysis did not support this hypothesis. Targeted professional development (0.12) had an insignificant effect, and teacher preparation (0.58) had a significant positive direct effect on teachers' attitudinal beliefs towards Latino linguistically diverse students. This finding suggests that teachers with greater amounts of teacher preparation report more negative attitudinal beliefs towards these students, and targeted professional development does not directly impact teachers' attitudinal beliefs. Moreover, the mediating impact of attitudinal beliefs (0.59) on caring behaviors was positive, so teachers with more negative attitudinal beliefs towards Latino linguistically diverse students demonstrate more caring behaviors.

Lastly, it was hypothesized that teacher efficacy would have a positive mediating impact on caring behaviors. Results did not support this hypothesis. Teacher efficacy

(-0.05) had an insignificant negative mediating impact on caring behaviors; thus, teacher

efficacy did not provide a mediating impact for attitudinal beliefs on caring behaviors.

Overall results of the path analysis provided partial support for this hypothesis. Not all

relationships among the variables were statistically significant (Figure 4).

Research Question 2

Q1   To what degree do the hypothesized relationships among teaching
experience, targeted professional development, teacher preparation,
attitudinal beliefs, teacher efficacy, and caring skills in Alternate Path
Model 1 fit the data?

Q2a   What is the direct effect of teaching experience, targeted
professional development, and teacher preparation, as well as,
attitudinal beliefs mediating impact on teacher efficacy?

It was hypothesized that teaching experience, targeted professional development, and

teacher preparation would have a positive direct effect on teacher efficacy, whereas

attitudinal beliefs would have a negative mediating impact on teacher efficacy.

Q2b   What is the direct effect of attitudinal beliefs on targeted
professional development and subsequently targeted professional
development mediating impact on teacher efficacy?

It was hypothesized that attitudinal beliefs would have a negative direct effect on targeted

professional, and targeted professional development would have a positive mediating

impact on teacher efficacy.

Q2c   What is the direct effect of teacher preparation on attitudinal beliefs
and attitudinal beliefs mediating impact on teacher efficacy?

It was hypothesized that teacher preparation would have negative direct effects on

attitudinal beliefs and, subsequently, attitudinal beliefs would have a negative mediating

impact on teacher efficacy.

Q2d   What is the direct effect of attitudinal beliefs and the mediating
impact of teacher efficacy on caring behaviors?

It was hypothesized the attitudinal beliefs would have a significant negative impact, and teacher efficacy would have a positive mediating impact on caring behaviors.

In order to examine whether the hypothesized relationships among teaching experience, targeted professional development, teacher preparation, attitudinal beliefs, teacher efficacy, and caring behaviors in the path model fit the data well, the researcher estimated the path model using the weighted least squares estimation method in LISREL 9.1 (2012). In order to assess the overall fit of the path model (Alternative Path Model 1), the same fit indices used in RQ1 were examined (Table 10).

Table 10

Fit Indices: Alternative Path Model 1 (N = 145)

Fit Statistic	Score
Badness of fit statistics	
Model Chi Square (X^2)	2.24*
Standardized Root Mean Square Residual (SRMR)	0.0*
Steiger-Lind Root Mean Square Error of Approximation (RMSEA)	0.0*
Goodness of fit statistics	
Bentler Comparative Fit Index (CFI)	0.0
Incremental Fit Index (IFI)	1.0*

*Indicates statistical significance.

Similar to the analysis in RQI, the model chi square (X^2) was used to assess for model misspecification for Alternative Path Model 1 and was statistically significant (X^2 = 2.24, df = 15, p <0.00). This indicates that the model did not fit the data well, as X^2 assesses *badness of fit*; however, X^2 , as previously stated, is largely influenced by sample

size and is not a good indicator of fit when data are ordinal (Kline, 2005). Therefore, it

must be examined in conjunction with other fit statistics (Martens, 2005). The SRMR for

the model was 0.00 (less than the recommended cutoff score of $\leq$.10 for samples of less

than 500 participants), indicating good model fit (Kline 2005; Weston & Gore, 2006).

The RMSEA was 0.0, closer to 0 than 1, suggesting the model fit the data well. The fit

indices used to assess *badness of fit* (i.e., X^2, SRMR, and RMSEA) were contradictory

such that X^2 indicated that the model was not a good fit, and the SRMR and RMSEA

indicated that the model was a good fit for the data (Table 10).

The Bentler comparative fit index (CFI) and incremental fit index (IFI) are

considered *goodness of fit* statistics and were used in conjunction with the *badness of fit*

statistics to assess the overall fit of the Alternative Path Model 1. The CFI, which

assesses the model compared to a baseline or null model, was 0.0 for the tested model.

This value is less than the recommended cutoff score of greater than 0.90 for samples of

less than 500, indicating the model was a poor fit (Weston & Gore, 2006; Martens, 2005).

Finally, the IFI assesses model fit while compensating for sample size; the IFI of 1.0 for

this study indicates good model fit, as it is greater than the recommended cutoff score of

0.90 (Hu & Bentler, 1999). One *goodness of fit* index (i.e. IFI) and two *badness of fit*

indices (i.e., SRMR and RMSEA) indicate the model fit the data well (Table 10). One

badness of fit (i.e., X^2) as well as one *goodness of fit* index (i.e., CFI) suggested the

model did not fit the data well. Thus, examining all four fit indices simultaneously

suggests that certain aspects of the model fit the data well, while other aspects did not

(Klem, 2000). These contradictory findings indicate the need to examine the path

coefficients and direct effects to determine what aspects of the model fit.

Similar to analysis of the hypothesized model in RQ1, the solutions for the path coefficients were standardized for easier interpretation (Figure 5). The path coefficients as well as the direct effects of each variable in the model are examined in subsequent research questions.
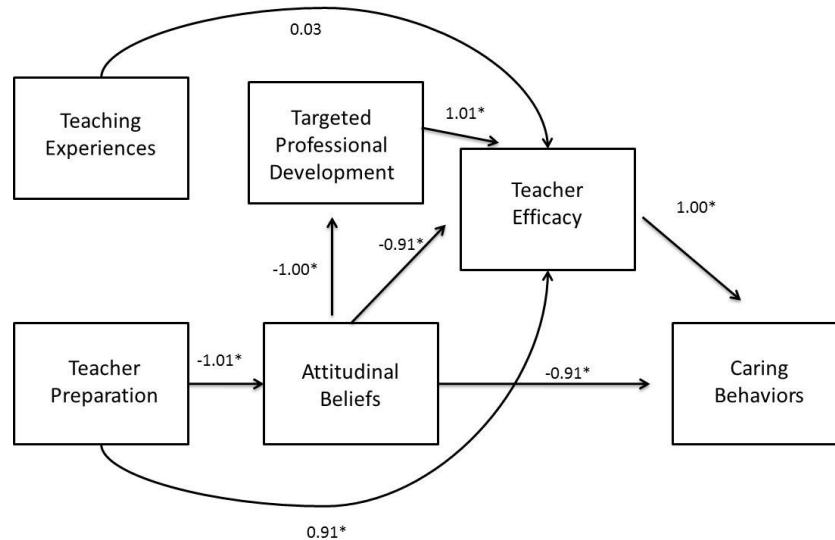

Figure 2. Path analysis results for Alternative Path Model 1; a model exploration of teacher efficacy, attitudinal beliefs, and caring behaviors towards Latino linguistically diverse students ($N = 145$). Weighted least squares estimation method with standardized solutionsl *indicates path coefficient is significant at the $p \leq 0.05$ level.

It was hypothesized that teaching experience, targeted professional development, and teacher preparation would have positive direct effects on teacher efficacy, whereas attitudinal beliefs would have a negative mediating impact on teacher efficacy. This hypothesis was partially supported. Teaching experience (0.03) had an insignificant direct effect on teacher efficacy and was the only path coefficient that did not support the hypothesis. This was not surprising due to the mixed literature regarding the impact of teaching experience on teacher efficacy. Targeted professional development (1.01) and teacher preparation (0.91) had a significant positive direct effect on teacher efficacy; thus, teachers with greater amounts of targeted professional development and formal teacher

preparation reported greater teacher efficacy working with Latino linguistically diverse students. Furthermore, the mediating impact, for teacher preparation, of teachers' attitudinal beliefs (-0.91) on teacher efficacy supported the hypothesis. Therefore, teachers with more positive attitudes and beliefs were less likely to be negatively impacted by less teacher preparation and more likely to report greater teacher efficacy when working with Latino linguistically diverse students. Teachers' attitudinal beliefs had a negative mediating impact on teacher efficacy, which was statistically significant and supported the hypothesis.

Similarly, it was hypothesized that attitudinal beliefs would have a negative direct effect on targeted professional development, and targeted professional development would have a positive mediating impact on teacher efficacy. The results of the path analysis supported this hypothesis. Teachers' attitudinal beliefs (-1.00) had a significant negative direct effect on targeted professional development; thus, teachers with more positive attitudes and beliefs towards Latino linguistically diverse students completed greater professional development hours specific to culturally responsive pedagogy, language acquisition, and exceptional learners. Additionally, targeted professional development (1.01) had a positive mediating impact on teacher efficacy. Participation in targeted professional development mediated teachers' attitudinal beliefs and resulted in greater teacher efficacy.

Likewise, it was hypothesized that teacher preparation would have negative direct effect on attitudinal beliefs and there would be a negative mediating impact of attitudinal beliefs on caring behaviors. Results of the path analysis supported this hypothesis. Teacher preparation (-1.01) had a significant negative direct effect on teachers' attitudinal

beliefs towards Latino linguistically diverse students; thus, teachers with greater teacher preparation have more positive attitudes and beliefs towards these students. Moreover, the mediating impact of attitudinal beliefs (-0.91) on caring behaviors was significantly negative, so teachers with more positive attitudinal beliefs towards Latino linguistically diverse students demonstrate more caring behaviors.

Lastly, it was hypothesized that teacher efficacy would have a positive mediating impact on caring behaviors, and the results supported this hypothesis. Teacher efficacy (1.00) had a significant positive mediating impact on caring behaviors; thus, teacher efficacy provided a mediating impact for attitudinal beliefs on caring behaviors. These results suggest that several aspects of the model fit the data well: (a) targeted professional development and teacher preparation had positive direct effects on teacher efficacy; (b) attitudinal beliefs had mediating impacts on teacher efficacy; (c) attitudinal beliefs had a negative direct effect on targeted professional development; (d) targeted professional development had a positive mediating impact on teacher efficacy; (e) teacher preparation had a negative direct effect on teachers' attitudinal beliefs; (f) attitudinal beliefs had a negative mediating impact on caring behaviors; and (g) attitudinal beliefs had a direct effect and teacher efficacy provided mediating impact on caring behaviors. The hypothesized direct influence of teaching experience on teacher efficacy is an aspect of the model that did not fit the data well.

It was hypothesized that the relationships among the variables in the path model would fit the data well. Results provided some support for this hypothesis. The fit indices used to assess model fit were contradictory. The two *badness of fit statistics* (i.e., X^2 and SRMR) and one *goodness of fit statistic* (i.e., CFI) indicated the model did not fit

the data well, whereas one *goodness of fit statistic* (i.e., IFI) and one *badness of fit*

statistic (i.e., RMSEA) indicated good model fit. Although the directions of the

relationships between variables were consistent with the hypothesis, not all relationships

among the variables were statistically significant (Figure 5).

Research Question 3

Q3   To what degree do the hypothesized relationships among targeted
professional development, teacher preparation, attitudinal beliefs, teacher
efficacy, and caring skills in Alternative Path Model 2 fit the data?

Q3a   What is the direct effect of targeted professional development,
teacher preparation and attitudinal beliefs mediating impact on
teacher efficacy?

It was hypothesized that targeted professional development and teacher preparation

would have a positive direct effect on teacher efficacy, whereas attitudinal beliefs would

have a negative mediating impact on teacher efficacy.

Q3b   What is the direct effect of teacher preparation on attitudinal beliefs
and attitudinal beliefs mediating impact on teacher efficacy?

It was hypothesized that teacher preparation would have negative direct effects on

attitudinal beliefs and, subsequently, attitudinal beliefs would have a negative mediating

impact on teacher efficacy.

Q3c What is the direct effect of attitudinal beliefs and the mediating impact
of teacher efficacy on caring behaviors?

It was hypothesized the attitudinal beliefs would have a significant negative and teacher

efficacy would have a positive mediating impact on caring behaviors.

It was hypothesized that targeted professional development and teacher

preparation would have a positive direct effect on teacher efficacy, whereas attitudinal

beliefs would have a negative mediating impact on teacher efficacy. Furthermore,

teacher preparation would have a negative direct effect on attitudinal beliefs and

attitudinal beliefs have a negative mediating effect on teacher efficacy. Lastly, attitudinal

beliefs would have a significant negative effect, and teacher efficacy would have a

positive mediating impact on caring behaviors. The results of the study partially support

this hypothesis. In order to assess the overall fit of Alternative Path Model 2, multiple fit

indices were examined (Table 11).

Table 11

Fit Indices: Alternative Path Model 2 (N = 145)

Fit Statistic	Score
Badness of fit statistics	
Model Chi Square (X^2)	70.79*
Standardized Root Mean Square Residual (SRMR)	0.97
Steiger-Lind Root Mean Square Error of Approximation (RMSEA)	11.17
Goodness of fit statistics	
Bentler Comparative Fit Index (CFI)	1.0*
Incremental Fit Index (IFI)	1.0*

*Indicates statistical significance.

Similar to analysis for the Hypothesized Path Model in RQ1, the model chi square

(X^2) was used to assess for model misspecification and was statistically significant ($X^2 =$

70.79, $df = 10$, $p < 0.00$). This indicates the model did not fit the data well, as X^2 assesses

badness of fit. vThe standardized root mean square residual (SRMR) and the Steiger-Lind

root mean square error of approximation (RMSEA) were examined in addition to the

model chi square to assess the *badness of fit* of the path model. vThe SRMR for the

model was 0.97 (greater than the recommended cutoff score of ≤.10 for samples of less

than 500 participants), indicating poor model fit (Kline 2005; Weston & Gore, 2006). Similarly, the RMSEA was 11.17, exceeding the range of 0 to 1, resulting in automatic rejection, suggesting the model did not fit the data well. All three of the fit indices used to assess *badness of fit* (i.e., X^2, SRMR, and RMSEA) indicated the model was not a good fit for the data (Table 11).

The Bentler comparative fit index (CFI) and incremental fit index (IFI) are considered *goodness of fit* statistics and were used in conjunction with the *badness of fit statistics* to assess the overall fit of Alternative Path Model 2. The CFI and IFI both were 1.0 for the tested model. These values are greater than the recommended cutoff scores and indicate the model was a good fit (Hu & Bentler, 1999; Martens, 2005; Weston & Gore, 2006). Both *goodness of fit* indices (i.e., CFI and IFI) indicate the model fit the data (see Table 11). Examining the fit indices simultaneously suggests that certain aspects of the model fit the data well, while other aspects did not (Klem, 2000); thus, like previous analyses for Hypothesized Path Model and Alternative Path Model 1, path coefficients and direct effects of variables were examined.

Similar to previous model analysis, the solutions for the path coefficients were standardized for easier interpretation (Figure 6). The path coefficients as well as the direct effects of each variable, including attitudinal beliefs mediating effects, in the model are examined in subsequent research questions.
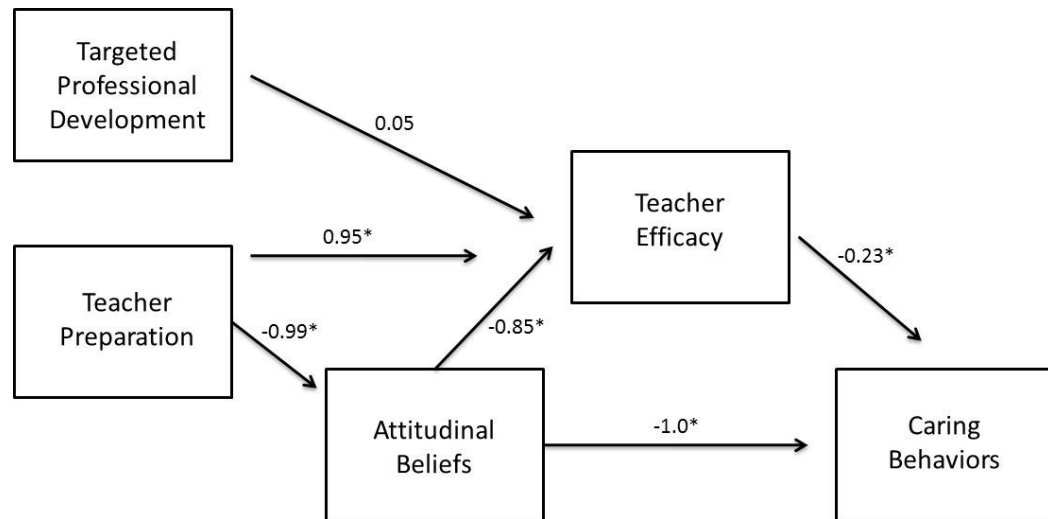
Figure 3. Path analysis results for Alternative Path Model 2a, a model exploration of teacher efficacy, attitudinal beliefs, and caring behaviors towards Latino linguistically diverse students ($N = 145$). Weighted least squares estimation method with standardized solutions *indicates path coefficient is significant at the $p \leq 0.05$ level.

It was hypothesized that targeted professional development and teacher preparation would have a positive direct effect on teacher efficacy, whereas attitudinal beliefs would have a negative mediating impact on teacher efficacy. This hypothesis was partially supported by the results. Targeted professional development (0.05) had an insignificant direct effect on teacher efficacy and was an aspect of the model that did not fit the data well. However, teacher preparation (0.95) had a significant positive direct effect, and attitudinal beliefs (-0.85) had a negative mediating impact on teacher efficacy. Greater amounts (i.e., years and hours of relevant coursework) of teacher preparation resulted in teachers' reporting more teacher efficacy when working with Latino linguistically diverse students. Furthermore, teachers' efficacy was less likely to be negatively impacted by inadequate or reduced amounts of teacher preparation when they

reported more positive attitudinal beliefs towards these students. Similarly, it was hypothesized that teacher preparation would have a negative direct effect on attitudinal beliefs. Results of the study supported this hypothesis. Teacher preparation (-0.99) had a statistically significant negative direct effect on teachers' attitudinal beliefs, such that teachers who completed greater amounts of teacher preparation reported more positive attitudinal beliefs.

Lastly, it was hypothesized that attitudinal beliefs would have a significant negative direct effect, and teacher efficacy would have a positive mediating impact on caring behaviors. Results indicate partial support for the hypothesis. Attitudinal beliefs (-0.85) had a statistically significant negative direct effect on teachers' caring behaviors; accordingly, teachers with more positive attitudes and beliefs reported greater caring behaviors. This was an aspect of the model that supported the hypothesis. However, teachers' efficacy (-0.23) provided a significant negative mediating impact on caring behaviors, which did not support the hypothesis. Teachers' efficacy did not appear to mediate their attitudes and beliefs, resulting in teachers' reports of less caring behaviors. The direction of the effects was consistent with the hypothesis; however, the direct effect of targeted professional development on teacher efficacy (0.05) was not statistically significant, and the mediating effect of teacher efficacy (-0.23) on caring behaviors was significantly negative. These results suggest targeted professional development and teacher efficacy's mediating impact on caring behaviors were aspects of the model that did not fit the data well (Kline, 2005; Weston & Gore, 2006).

Teacher experience was removed from the model for the sake of parsimony (Hu & Bentler, 1995) because the parsimony principle serves as an important criterion in

determining alternative models (Schermelleh-Engel, Moosbrugger, & Muller, 2003).

Additionally, the literature is mixed regarding the effect of teaching experience on

teacher efficacy, with some evidence that teaching experience does not significantly

affect teacher efficacy (Campbell, 1996; Soodak & Podell, 1996; Wolters & Daugherty,

2007) and other evidence that teaching experience is negatively correlated with teacher

efficacy (Hoy & Woolfolk, 1993; Taylor & Tashakkori, 1995). Removing teacher

experience from the hypothesized model did not strengthen the model. It was

hypothesized that the relationships among the variables in the path model would fit the

data well. Results provided partial support for this hypothesis (Figure 6).

Amount of Variance Explained by the Model

Examining the squared multiple correlation coefficient (ΔR^2_{SMC}) for the

endogenous variables indicates the proportion of total variance in each variable that is

explained by the model (Kline, 2005) and, thus, indicates how well the model accounts

for the variance in the specified variables. Results indicate the hypothesized path model

accounted for 36% of the variance in attitudinal beliefs, 51% of the variance in teacher

efficacy, and 37% of the variance in caring behaviors, which is considered a large effect

and practically significant in the field of social sciences (≤0.35) (Granello, 2007; Fan,

2001).

Even though the proportion of total variance in each variable explained by the

model is an important statistic to examine, it may not be the best statistic for

interpretation (Lleras, 2005). Interpretation using fit statistics has been cited as the best

statistic (Lleras, 2005). Fit indices for alternative models 1 and 2 indicate that the data fit

some aspects of the model well, with effects for attitudinal beliefs, teacher efficacy, and

caring behaviors all considered large effects (≤0.35) (Granello, 2007; Fan, 2001). Although all models had large effects, the total direct and indirect effects of alternative models 1 and 2 are greater than the hypothesized model. Therefore, alternative models 1 and 2 accounted for the most variance.

In this chapter, the results of the study were reported and included participant demographics, results of tests of statistical assumptions, and results pertaining to the research questions. The hypotheses associated with Research Questions 1, 2, and 3 were partially supported. Regarding the overall fit of the model, the results indicated that some aspects of the hypothesized model fit the data well, while other aspects did not. The mediating effect of attitudinal beliefs on teacher efficacy was statistically significant and fit the hypothesized model well. Additionally, teacher preparation had a statistically significant direct effect on attitudinal beliefs; however, the positive direction did not support the hypothesis. Furthermore, attitudinal beliefs had a significant direct effect on caring behaviors, though the effect was positive, not negative, as hypothesized. The aforementioned indicates aspects of the model that fit the data well. On the other hand, the direct effects of teaching experiences and targeted professional development on teacher efficacy, targeted professional development on attitudinal beliefs, and teacher efficacy's mediating impact on caring behaviors were not statistically significant, thus were aspects representing aspects of the model that did not fit the data well.

As for the overall fit of Alternative Path Model 1, the results indicated that most aspects of the model fit the data well, while one aspect did not. Several aspects of the model fit the data well including: (a) targeted professional development and teacher preparation had positive direct effects on teacher efficacy; (b) attitudinal beliefs had

mediating impacts on teacher efficacy; (c) attitudinal beliefs had a negative direct effect on targeted professional development; (d) targeted professional development had a positive mediating impact on teacher efficacy; (e) teacher preparation had a negative direct effect on teachers' attitudinal beliefs; (f) attitudinal beliefs had a negative mediating impact on caring behaviors; and (g) attitudinal beliefs had a direct effect, and teacher efficacy provided mediating impact on caring behaviors. The hypothesized direct influence of teaching experience on teacher efficacy is the aspect of the model that did not fit the data well.

An overview of the results are provided in Chapter V along with discussion of the practical significance of results, implications for practice, limitations of the study, and directions for future research.

CHAPTER V

DISCUSSION

This chapter includes a discussion of the results, implications for practice, limitations of the study, and recommended future research. The beginning of the chapter provides an overview of the results of the study. The statistical and practical significance of the findings are considered within the context of the current body of literature on teacher efficacy, attitudinal beliefs, and caring behaviors. Based on the results, implications for teachers, principals and district administration, teacher educators, and school districts are presented. Finally, limitations of the present study and suggestions for future research are outlined.

Research Context

The number of Latino linguistically diverse students enrolled in our nation's education system has grown exponentially over the past decade. Understandably, the need for greater insight into meeting the academic needs of these students has grown. The achievement gap between Latino students and their Caucasian peers continues to increase such that Latino students generally perform well below the national average in reading, writing, and, to a lesser extent, in math and science (Abedi, 2006). Furthermore, they are less likely to graduate from high school, have greater rates of school failure, and are less likely to meet state proficiency goals (Artiles & Ortiz, 2002; Hoover, 2008). Lastly, Latino language minority students are disproportionately represented within

special education due to inappropriate identification (Fletcher & Navarrete, 2011) and higher rates of teacher referral (August & Hakuta, 1997; National Research Council, 2002).

Teachers are primarily responsible for educating students and referring students to specialized teams; thus, it is essential to understand the variables that impact teacher decision-making. Effectively serving Latino linguistically diverse students requires consideration of a variety of factors. Thus, the purpose of this study was to test path models of variables contributing to teachers' reported self-efficacy related to teaching students identified as Latino linguistically diverse students. Specifically, the factors studied were teaching experience, teacher preparation, and targeted professional development's relationship to teacher efficacy, attitudinal beliefs, and caring behaviors. One hypothesized and two alternative path models were developed based on the current literature and the theoretical framework of Bandura's social cognitive theory (Bandura, 1997). Teacher effectiveness can be impacted by their beliefs about their abilities to meet the needs of students (Usher & Pajares, 2008). There is evidence that many teachers are significantly less confident about teaching minority and linguistically diverse students than teaching their Caucasian English speaking peers and are not prepared to meet these students' unique and complex needs (Karabenick & Noda, 2004; Lenski et al., 2006).

If teachers do not experience success working with Latino linguistically diverse students, they may develop low teacher efficacy and negative attitudinal beliefs regarding this population. Identifying and becoming aware of teacher variables and how these interact to facilitate teachers' behavior regarding Latino linguistically diverse students may provide strategies for addressing aspects of teacher preparation. Further, this

information may guide targeted professional development that can help teachers become more effective teaching linguistically diverse Latino students.

Model Fit Relevance of the Bandura's Social Cognitive
Theory in Explaining Teacher Efficacy in
Regards to Latino Language
Minority Students

Simultaneous evaluation of the path models fit indices indicates that Social Cognitive Theory (SCT) appears to have some relevance to explaining the development of teacher efficacy, contribution of attitudinal beliefs, and resulting empathic skills. However, SCT does not provide a comprehensive explanation. In other words, perhaps SCT is a valuable theoretical framework, but not sufficient in exploring teacher self-efficacy with respect to Latino linguistically diverse students. Specifically, the results indicated that some aspects of the hypothesized model fit the data well, while other aspects did not.

The mediating effect of attitudinal beliefs on teacher efficacy was statistically significant and fit the hypothesized model well. Additionally, teacher preparation had a statistically significant direct effect on attitudinal beliefs; however, the positive direction did not support the hypothesis. Furthermore, attitudinal beliefs had a significant direct effect on caring behaviors, though the effect was positive, not negative, as hypothesized. The aforementioned indicates aspects of the model that fit the data well. On the other hand, the direct effects of teaching experiences and targeted professional development on teacher efficacy, targeted professional development on attitudinal beliefs, and teacher efficacy's mediating impact on caring behaviors were not statistically significant, representing aspects of the model that did not fit the data well.

As for the overall fit of Alternative Path Model 1, the results indicated that most aspects of the model fit the data well, while one aspect did not. Aspects of the model that fit the data well were: (a) targeted professional development and teacher preparation had positive direct effects on teacher efficacy; (b) attitudinal beliefs had mediating impacts on teacher efficacy; (c) attitudinal beliefs had a negative direct effect on targeted professional development; (d) targeted professional development had a positive mediating impact on teacher efficacy; (e) teacher preparation had a negative direct effect on teachers' attitudinal beliefs; (f) attitudinal beliefs had a negative mediating impact on caring behaviors; and (g) attitudinal beliefs had a direct effect and teacher efficacy provided mediating impact on caring behaviors. The hypothesized direct influence of teaching experience on teacher efficacy is the aspect of the model that did not fit the data well.

Socio-cognitive theory has been utilized in educational research for decades, specifically regarding teacher efficacy (Goddard & Goddard, 2001; Goddard, Hoy, & Hoy, 2000; 2004; Raudenbush et al., 1992; Ross et al., 1996; Tschannen-Moran et al., 1998). Teachers' knowledge and attitudinal beliefs influence their decisions regarding many aspects of teaching including instructions, expectations, and use of teaching strategies. Therefore, it is likely that teacher self-efficacy plays an important role when it comes to educating Latino linguistically diverse students. Teachers who believe that they can successfully teach linguistically diverse Latino students will likely set higher self and student goals, strive to a greater extent to achieve set goals, and persevere when faced with obstacles than will teachers uncertain of their capability to successfully address these students' needs. Prior to this study, researchers had not tested a comprehensive

theoretical framework for teacher efficacy specifically in regards to Latino language minority students based on the Bandura's Social Cognitive Theory (SCT).

Although research supports the influence of teaching experience, teacher preparation, professional development, and attitudes and beliefs, these factors have not been examined concurrently in the literature. Furthermore, there is limited research to support the influence of attitudes and beliefs on teacher efficacy. The researcher used path analytic procedures to test a comprehensive theoretical model of teacher efficacy, attitudes and beliefs, and caring behaviors in regards to Latino language minority students.

The results were contradictory as the *badness of fit* indices suggested that the model did not fit the data well, model misspecification, or that some aspects of the model did not fit the data well; the *goodness of fit indices* indicated that the tested model was a better fitting model when compared to a null model. However, when examining the relevance of the SCT to teacher efficacy, one must consider the overall variance explained by the model, the theoretical and practical significance of each of the constructs in the model, and the ability of the measures to accurately assess theoretical constructs. In addition to examining the overall fit of the model, it is important to evaluate the model by the proportion of overall variance explained in the endogenous variables in the model in order to determine its practical significance (Weston & Gore, 2006). The following sections will provide further explanation as to what aspects of the model based on SCT fit and did not fit the data well.

Variance Explained by the
Bandura's Social
Cognitive
Theory

In addition to examining the overall fit of the model, it is important to examine the proportion of overall variance explained in the endogenous variables in the model in order to determine its practical significance (Weston & Gore, 2006). According to the results of the path analysis, the hypothesized model using SCT explained 51% of the variance in teacher efficacy, 36% of the variance in attitudinal beliefs, and 37% of the variance in caring behaviors. Fit indices for alternative models 1 and 2 indicate that the data fit some aspects of the models well, with effects for attitudinal beliefs, teacher efficacy, and caring behaviors all considered large effects (≤ 0.35) (Granello, 2007; Fan, 2001). Although all models had large effects, the total direct and indirect effects of alternative models 1 and 2 are greater than the hypothesized model. Therefore, alternative models 1 and 2 accounted for the most variance.

. The hypothesized model and alternative 1 model are identical, except the directional effect of targeted professional development and attitudinal beliefs are reversed, which significantly impacted the relationships among the other variables' relationships. Specifically, in the hypothesized model, attitudinal beliefs were hypothesized to mediate the effects of professional development on teacher efficacy, while in the alternative 1, model targeted professional development was hypothesized to mediate teachers' attitudinal beliefs effects on teacher efficacy. Results indicate that targeted professional development mediates teachers' attitudes and beliefs towards Latino linguistically diverse students, as seen in Alternative Path Model 1, to a greater extent

than attitudinal beliefs mediate effects of targeted professional development on teacher efficacy.

However, both attitudinal beliefs and targeted professional development had statistically significant mediating impacts on teacher efficacy. This provides further evidence that targeted professional development is not only an avenue for teachers to gain knowledge, but knowledge in the form of targeted professional development and attitudinal beliefs may have a noteworthy reciprocal relationship. This evidence suggests that greater amounts of targeted professional development positively impact attitudinal beliefs and, subsequently, teacher efficacy as well as teachers with more positive attitudinal beliefs making the choice to participate in more professional development opportunities specific to the Latino linguistically diverse student population (Torff et al., 2005; Torff & Sessions, 2008). This, in turn, increases their teacher efficacy working with these students.

Lastly, targeted professional developments direct effects on teacher efficacy are insignificant in the hypothesized model, whereas targeted professional developments' mediating impacts between attitudinal beliefs and teacher efficacy in Alternative Path Model 1 are statistically and practically significant. This finding provides evidence that teachers with more positive attitudes and beliefs towards Latino linguistically diverse students pursue greater amounts of professional development specific to this student population and are impacted by their participation leading to greater teacher efficacy when working with these students.

Also noteworthy, results for Alternative Path Model 1 of both statistical and practical significance include teacher preparations' direct impact on teachers' attitudinal

beliefs and teacher efficacy and attitudinal beliefs direct impact on teacher efficacy and caring behaviors. Teachers who reported greater amounts of teacher preparation (i.e., degrees, certificates, and hours of coursework specific to the Latino linguistically diverse student population) perceived themselves as having more positive attitudes and greater teacher efficacy when working with Latino linguistically diverse students. SCT proposes that teacher efficacy and attitudinal beliefs directly influence teachers' behaviors (Bandura, 1997); thus, higher levels of teacher efficacy and more positive attitudinal beliefs were predicted to positively impact caring behaviors. Along this line of theoretical reasoning, results indicated that teachers with more positive attitudes viewed themselves as more effective teaching this student population as well as possessing greater empathic skills which, in turn, leads to greater caring behaviors. This finding provides evidence to support the theoretical and intuitive relationship between teacher efficacy, attitudinal beliefs, and caring behaviors (Bandura, 1997). Additionally, it supports the hypothesis that teachers with greater efficacy and more positive attitudinal beliefs will demonstrate greater caring behaviors.

Alternative Path Model 2 hypothesized similar relationships between the variables (i.e., teacher preparation, targeted professional development, attitudinal beliefs, teacher efficacy, and caring behaviors), except that teacher experience was removed for the sake of parsimony (Kline, 2005) and the mixed liturature (Campbell, 1996; Hoy & Woolfolk, 1993; Soodak & Podell, 1996; Taylor & Tashakkori, 1995; Wolters & Daugherty, 2007). Similar to the results of the hypothesized model, targeted professional development had a insignificant direct effect on teacher efficacy; thus, targeted professional developments' mediating effects on teacher efficacy are greater even when examined in a more

parsimonious model. Teacher preparations' direct effects on teacher efficacy and attitudinal beliefs were significant, such that teachers who completed greater amounts of teacher preparation reported more positve attitudinal beliefs and greater teacher efficacy when working with Latino lingusitically diverse students.

Furthremore, teachers' attitudes and beliefs provided mediation between teacher preparation and caring behaviors. Teachers with more positive attitudes precieved themselves as more empathic, even if they had less teacher preparation than their peers. Laslty, teacher efficacy had a signficant negative mediating influnece on teachers' attitudinal beleifs impact on caring behaviors. This finding contridicts the proposed hypothesis that teacher efficacy would provide a positive mediating influence on caring behaviors. Specifically, teachers who held more negative attitudes and beliefs, but percieved themselves as effective when teaching Latino linguisically diverse students, would demonstrate more caring behaviors than teachers with less teacher efficacy. This hypothesis was not supported. Teacher efficacy has a more noteworthy mediating impact for targeted professional development influence on caring behaviors. According to the SCT, complex relationships exist between teacher efficacy and variables that impact teachers' perceived efficacy, which are context specific; thus, teachers' sense of efficacy varies with student populations. For example, teachers may feel effective working with Caucasian middle-class students and ineffective working with linguistically diverse students.

Socio-cognitive theory has been utilized in education research for decades, specifically regarding teacher efficacy (Goddard & Goddard, 2001; Goddard, Hoy, & Hoy, 2000; 2004; Raudenbush et al., 1992; Ross et al., 1996; Tschannen-Moran et al.,

1998). Using SCT as a theoretical framework for conceptualizing teacher efficacy allows for an in depth consideration of the factors that contribute to this construct. Based on the literature, the hypothesized model and Alternative Path Model 1 have the strongest theoretical support; however, alternative models 1 and 2 appear to fit the data better than the hypothesized model.

Even though the alternative path models 1 and 2 fit the data significantly well, each variable must be examined in conjunction with the current literature because effect size alone does not determine the practical significance of results (Granello, 2007; Thompson, 2006). Exploring the practical significance of teaching experience, teacher preparation, targeted professional development, attitudinal beliefs, teacher efficacy, and caring behaviors may provide insight into alterable variables that impact Latino linguistically diverse students' education. Alternative path models 1 and 2 fit the data the best; thus, the relationships among each of the variables will be examined further within the context of the literature.

Good Fitting or Supporting Results

Teacher Efficacy

The following sections will identify and explain the aspects of alternative models 1 and 2 that fit the data well. In addition, the models' significant contributions to teacher efficacy (i.e., teacher preparation and targeted professional development) in regards to working with Latino linguistically diverse students will be discussed.

Teacher preparation and targeted professional development. Targeted professional development (1.01) and teacher preparation (.91) had significant positive direct effects on teacher efficacy. Thus, teachers who completed greater amounts of

targeted professional development in the areas of culture, language acquisition, and exceptionalities and obtained higher levels of teacher preparation, including certificates and licensures, reported greater teacher efficacy in regards to working with Latino linguistically diverse students. These findings are consistent with previous research that indicates a statistically significant positive relationship between teacher preparation (Artiles, 2002; Karabenick & Noda, 2004; Lenski et al., 2006; Samson & Lesaux, 2009) and teacher professional development (Rimm-Kaufman & Sawyer, 2004; Ross, 1994). Teacher preparation, including degrees attained and coursework completed, and participation in targeted professional development opportunities appear to directly impact teacher efficacy, such that more preparation and targeted professional development is positively correlated with teacher efficacy. The results of targeted professional development and teacher preparation aligned with SCT and previous research, indicating teachers with greater amounts of professional development and teacher preparation reported significantly greater teacher efficacy.

Attitudinal beliefs. Analysis using alternative models 1 and 2 indicated a signficant negative direct effect (-0.91 and -0.85) of attitudinal beliefs on teacher efficacy, such that teachers with more positive beliefs (i.e., lower scores) reported significantly greater teacher efficacy (i.e., higher scores). This finding is consistent with SCT and the limited current literature, such that teachers who reported more positive attitudinal beliefs had greater teacher efficacy working with Latino linguistically diverse students. Although there are substantial theoretical implications (Bandura, 1997; Flores & Smith, 2008), there is limited evidence (Durgunoglu & Hughes, 2010) that attitudinal beliefs regarding linguistically diverse students directly impacts teacher efficacy.

Durgunoglu and Hughes (2010) noted that attitudes and behaviors are related (Bandura, 1997) and predicted negative attitudes are related to teacher efficacy (specifically, lower attitudes relate to lower teacher efficacy). The results of the current study provide additional evidence that positive attitudes and beleifs lead to greater teacher efficacy.

Theoretically, teachers' attitudinal beliefs are foundational to the development and maintenance of teacher efficacy (Bandura, 1977, 1997; Tschannen-Moran et al., 1998). Teachers' negative attitudes and expectations may lead to inadequate instruction and a less effective learning environment (Bai & Ertmer, 2008; Collier, 2005), thus poor student outcomes. Poor student outcomes will lead to an unsuccessful teaching experience for the teacher and, ultimately, lower teacher efficacy (Bandura, 1997). The strong theoretical significance of attitudinal beliefs and the findings of the current study robustly support that teachers' attitudes significantly contribute to teachers' efficacy.

Attitudinal Beliefs

The following sections will identify and explain the aspects of Alternative Model 1 that fit the data well. Its significant contributions to teachers' attitudinal beliefs (i.e., targeted professional development, teacher preparation) regarding Latino linguistically diverse students will also be discussed.

Targeted professional development. Results indicate that attitudinal beliefs have a negative direct affect (-1.0) on targeted professional development, such that teachers who report more positive attitudes towards Latino linguistically diverse students were more likely to engage in targeted professional development opportunities. This provides evidence that those teachers with more positive attitudes toward Latino linguistically diverse students pursued and completed targeted professional development

opportunities to a greater extent than teachers with less positive attitudes. Findings suggest that teachers with more negative attitudes are unaware of their attitudinal beliefs regarding Latino linguistically diverse students, resulting in a lack of engagement in pursuing greater knowledge about this ever-growing student population.

Notably, targeted professional development had a statistically significant mediating effect on attitudinal beliefs' impact on teacher efficacy (1.01), providing support for SCT. Targeted professional development mediated the impact of attitudinal beliefs on teacher efficacy. For example, teachers with negative attitudinal beliefs who participated in professional development reported greater teacher efficacy than those who did not participate in targeted professional development. Thus, the participation in professional development intervened between the impact of negative attitudes and beliefs on teachers' efficacy. These results are consistent with previous research findings regarding the impact of targeted professional development on attitudinal beliefs (Cho & DeCastro-Ambrosetti, 2005; Joshi et al., 2005; Jung, 2007).

Similar to teacher efficacy, professional development experiences (Cho & DeCastro-Ambrosetti, 2005; Joshi et al., 2005; Jung, 2007) have positive effects on teacher attitudinal beliefs regarding Latino language minority students. Byrnes et al. (1997) studied practicing teachers' attitudinal beliefs regarding linguistically diverse students and reported knowledge and attitudinal beliefs may have reciprocal relationships in that targeted professional development impacts attitudinal beliefs, and attitudinal beliefs may impact an individual's choice of participating in professional development opportunities (Torff et al., 2005; Torff & Sessions, 2008). Similarly, the current study found that teachers with more positive attitudes and beliefs not only participated in more

professional development opportunities, but also that those who participated in more professional development opportunities held more positive attitudes and beliefs towards Latino linguistically diverse students.

Findings support that targeted professional development in the areas of culture, language acquisition, and exceptionalities serve to change teachers' negative attitudes and beliefs towards Latino linguistically diverse students, with and without disabilities. As previously discussed, studies have provided evidence of targeted (i.e., specific to a particular student population) professional development's direct impact on attitudinal beliefs and teacher efficacy (Byrnes et al., 1997; Torff et al., 2005; Torff & Sessions, 2008).

Teacher preparation. Teacher preparation had a statistically significant direct negative effect (-1.01) on attitudinal beliefs, suggesting that attainment of greater educational levels as well as certificates and hours of formal training in culturally responsive pedagogy, language acquisition, and special education positively impacts teachers' attitudinal beliefs towards Latino linguistically diverse students. Researchers have provided evidence that greater teacher preparation leads to more positive attitudes towards a specific student population. Several studies have indicated that specific teacher preparation courses such as culture, language acquisition, and exceptionalities makes a significant difference (Flores & Smith, 2008) in teachers' attitudes regarding Latino linguistically diverse students. These findings have been replicated with other minority student populations such as culturally diverse student population (Garmon, 2005) and students with disabilities (Avramidis, Bayliss, & Burden, 2000; Shade & Stewart, 2001). Findings of the current study serve to support theoretical as well as empirical evidence

that teacher preparation has a positive impact on teachers' attitudinal beliefs with specific

student populations, in this case Latino linguistically diverse students.

Caring Behaviors

The following sections will identify and explain the aspects of alternative models

1 and 2 that fit the data well and significantly contributed to teachers' caring behaviors

(i.e., teacher efficacy and attitudinal beliefs) towards Latino linguistically diverse

students. Specifically, teachers' efficacy and attitudinal beliefs impacted teachers'

reports of caring behaviors.

Teacher efficacy. To date, no studies have examined the direct effects of teacher

efficacy and attitudinal beliefs on caring behaviors with the Latino language minority

student population. This study was the first to examine these relationships within a SCT

framework. Findings are consistent with the SCT in that teacher efficacy is a good

predictor of teachers' behaviors (Bai & Ertmer, 2008; Bandura, 1997). Teacher efficacy

had statistically significant mediating effects (1.00) on caring behaviors. Thus, teachers

with higher levels of teacher efficacy have greater caring behaviors towards Latino

linguistically diverse students despite their participation in relevant professional

development or more negative attitudes towards this student population.

Although previous research has not been conducted examining the relationship

between teacher efficacy and caring behaviors, the results of this study can be considered

both practically and statistically significant because the SCT provided the theoretical

basis for the hypothesized relationship in the model. Similar to theoretical and

supporting evidence within the literature, the current study found that teacher efficacy

provides mediation for other variables (i.e., targeted professional development and

attitudinal beliefs) and significantly influences teacher behaviors (Bandura, 1997), thus impacts teachers' caring behaviors. Teachers' caring behavior significantly contributes to the student-teacher relationship (Collier, 2005). Similarly, Durgunolglu and Hughes (2010) found that low teacher efficacy attributed to poor positive interpersonal interactions between teachers and students. Teacher efficacy appears to be an important variable in promoting teachers' demonstration of caring behaviors and, subsequently, to a positive student-teacher relationship, which is crucial in the development of a caring classroom environment. Positive social interactions, including student-teacher, have been associated with academic success and reducing the risk of academic failure among Latino students (Dotson-Blake et al., 2009).

Attitudinal beliefs. In this study, attitudinal beliefs had a statistically significant negative effect (-0.91 and -1.0) on caring behaviors. Teachers who held more positive attitudes towards Latino linguistically diverse students with and without disabilities reported greater caring behaviors. This finding strengthens current literature that teachers' attitudes and beliefs manifest themselves into teacher behaviors (Bai & Ertmer, 2008; Brown & Webb, 1968); however, research specific to the relationship between attitudinal beliefs and caring behaviors towards Latino linguistically diverse students could not be established.

Bai and Ertmer (2008) studied preservice teachers' attitudes and beliefs about technology and, subsequently, their behaviors towards using technology. These authors found that more positive attitudes and beliefs towards technology lead to greater use (i.e., behaviors) of both hardware and software. Furthermore, Brown & Webb (1968) conducted numerous studies that showed teachers' philosophic beliefs are more

consistently related to their classroom behaviors than their educational beliefs. Thus, specific teachers' beliefs impact classroom behaviors more than others. Similarly, Organization for Economic Co-operation and Development (OECD, 2009) *Teaching and Learning International Survey* (TALIS) found that concrete beliefs are more significant than abstract beliefs in contributing to teachers' behaviors. In the current study, the researcher investigated both abstract (i.e., it is important for teachers to reach out to involve the parents of all their students) and concrete (i.e., to be considered American, one should speak English) beliefs and found that together these attitudes and beliefs positively influenced teachers' caring behaviors.

There is a plethora of evidence that teachers' attitudinal beliefs have a positive impact on teacher behavior, and a review of the literature revealed that no studies to date have been conducted to examine the effect of attitudinal beliefs on teachers' caring behaviors towards Latino language minority students. Thus, this study is the first of its kind and suggests there is a positive relationship between attitudinal beliefs and caring behaviors, specific to Latino linguistically diverse students.

Poor Fitting Results

Teacher Efficacy

The following sections will identify and explain the aspect of Alternative Path Model 1 that did not fit the data well. Specifically, teaching experiences' impact on teacher efficacy will be discussed.

Teaching experience. Based on the results of Alternative Path Model 1, teaching experience (0.03) was an insignificant contributor to teacher efficacy and was measured by the number of years a teacher had taught. The literature is mixed regarding the effect of teaching experience on teacher efficacy, with some evidence that teaching experience does not effect teacher efficacy significantly (Campbell, 1996; Soodak & Podell, 1996; Wolters & Daugherty, 2007) or negatively correlated with teacher efficacy (Hoy & Woolfolk, 1993; Taylor & Tashakkori, 1995). These results are consistent with the findings of several studies (Campbell, 1996; Soodak & Podell, 1996; Wolters & Daugherty, 2007). For example, Wolters and Daugherty (2007) explored the relationship between teachers' goal structures and teacher efficacy and the differences on the basis of teaching experience and academic level. They found that teaching experience did not significantly impact teacher efficacy.

However, these results contradict findings from other studies that report teaching experience has a negative impact on teacher efficacy (Hoy & Woolfolk, 1993; Taylor & Tashakkori, 1995). Hoy and Woolfolk (1993) studied teachers in one New Jersey elementary school (kindergarten through 5th grade) and explored teaching experiences' impact on personal and general teacher efficacy. They found that years of teaching experience positively impacted personal and negatively impacted general teacher

efficacy, such that teachers reported to be more effective motivating difficult students (i.e., personal teacher efficacy), however felt incapable of overcoming negative constraints of students' home life (i.e., general teacher efficacy). Compared to the current study, the Hoy and Woolfolk (1993) study was both broader in the student population, not limited to Latino linguistically diverse students, and narrower in teachers' employment location, limited to New Jersey. On the other hand, Taylor and Tashakkori (1995) studied the relationship between teacher efficacy and teaching experience using a national database (9,987 teachers) collected in 1990 (National Educational Longitudinal Study) and found a negative correlation between years of teaching experience and teacher efficacy. Taylor and Tashakkori's study included a national sample of teachers who taught the continuum of grade levels (kindergarten through 12th grade). Thus, they surveyed a much broader scope of teachers' by location and student population than the current study, which focused on teachers employed in the western region who taught kindergarten through 8th grade. Furthermore, the current study focused on teacher efficacy specific to working with Latino linguistically diverse students. To date, there are no comparable quantitative studies exploring teacher efficacy specific to working with Latino linguistically diverse students. The variability among results of the previous and current studies may be due to differing teacher, student, and school characteristics such as where teachers were employed and the student populations they taught.

Another explanation for the mixed literature regarding teacher experiences' impact on teacher efficacy centers around the concept of mastery experience. Mastery experience was identified by Bandura (1986, 1997) as the most significant contributing factor to teacher efficacy development. However, mastery experience has less to do with

years of teaching experience and more to do with teachers' perception of successful

teaching experiences. States and school districts award "master teacher" designations in

a variety of ways. In some states, teachers must write a 10-12 page paper addressing how

they demonstrate consistent leadership, focused collaboration, distinguished teaching,

and continued professional growth (i.e., Ohio), while other states require masters degrees

(i.e., Maryland, New Mexico, Louisiana, and Wisconsin), portfolios plus a

recommendation letter by their superintendent and several teaching evaluations (i.e., New

Mexico), and the submission of a 45-minute video of the teacher instructing in their

content area (Alaska). Some of these evaluation procedures might be approximating

effective measurement of the master teacher concept of master teacher; however,

continued research and wide-distribution of results are needed to provide evidence for

effective measures of master teacher.

Even with the more effective measures of or criteria for master teacher

designation, teaching experience can validate or invalidate a teacher's belief in his or her

capabilities, thus enhancing or reducing a teacher's sense of efficacy (Bandura, 1977,

1997). When teachers perceive their instruction has been successful, then teacher

efficacy and expectations for future performance increases (i.e., mastery experiences)

(Bandura, 1997). In the current study, teachers' teaching experience ranged from 1 to 40

years, with an average of 14.75 years, which represented a wide range of teaching

experience. Number of years was used in the study due, in large part, to previous

authors' use of this measurement. The practical significance is that school districts often

use years of teaching experience as a significant indicator to identify "master" teachers.

Teaching experience is necessary in that it affords teachers opportunities to be successful

when teaching Latino linguistically diverse students; however, if these and findings of previous studies are any indication, years of teaching experience is not a sufficient or objective measure of "master" teacher. It is inevitable that teachers' success will vary; thus, the direct effect that years of teaching experience has on teacher efficacy will vary. Ultimately, teaching experience, as measured by years, does not have a predictable (i.e., negative or positive) direct effect on teacher efficacy.

SCT Model Fit Summary

Based on the results of this study, the SCT failed to provide a comprehensive explanation of teacher efficacy, specific to Latino language minority students, in public school general education teachers. According to these results, some aspects of the model fit the data well; specifically, greater amounts of targeted professional development and teacher preparation lead to greater teacher efficacy and more positive attitudes and beliefs. Subsequently, greater teacher efficacy and more positive attitudes and beliefs lead to greater caring behaviors. Furthermore, targeted professional development provided mediation between teachers' attitudinal beliefs and teacher efficacy. For example, teachers with more negative beliefs towards Latino linguistically diverse students who completed greater amounts of professional development hours in the areas of culture, language acquisition, and exceptionalities reported greater teacher efficacy. However, it should be noted that teachers who held more positive attitudes and beliefs towards these students completed greater amounts of targeted professional development, suggesting teachers with more negative attitudes and beliefs do not pursue professional development opportunities within the aforementioned areas. Additionally, teachers with more positive attitudinal beliefs reported higher teacher efficacy and more caring

behaviors when working with Latino linguistically diverse students. One aspect of the model that did not fit is teaching experience. It did not significantly contribute to teachers' efficacy. Considering the results of this study within the context of previous research indicated that certain aspects of the path model, developed based on the SCT, fit the data well, while one aspect did not. The results of this study provide practical implications for teachers, teacher preparation programs and educators, and building and district level administrators in increasing teacher efficacy in regards to teaching Latino language minority students.

Implications

The results of this study have practical implications for teachers, principals, and district administrators. Moreover, there are several implications for teacher preparation programs. These implications are discussed below with an emphasis placed on mediation efforts such as targeted professional development to increase teacher efficacy specific to teaching Latino linguistically diverse students.

Teachers

Results of this study indicate that teaching experience did not have a significant direct effect on the development of teacher efficacy. Bandura (1986, 1997) attributed mastery experience as the most significant contributing factor to teacher efficacy, and teachers vary in their teaching success, such that experience has been associated with both higher and lower levels of teacher efficacy. Greater years of teaching experience do not necessarily result in greater teacher efficacy, nor does it appear that teachers' within their first three years of teaching have significantly less or greater teacher efficacy (Campbell, 1996; Soodak & Podell, 1996; Wolters & Daugherty, 2007). These findings

have substantive implications for practitioners because it may be that the *type* of experience could have more impact than the *amount* of teaching experience. First, it is important for teachers to recognize that their years of teaching experience may not significantly contribute to developing teacher efficacy in regards to linguistically diverse Latino students. However, the quality of teaching experience, specifically having the opportunity to work with Latino linguistically diverse students, and subsequently, being successful teachers of this ever growing student population. Awareness of the lack of influence of teaching experience will allow teachers to put their efforts towards engaging in other variables (professional development, certificate completion, etc.) that have greater impact or mediate the development of teacher efficacy.

According to the present study, teachers who completed greater hours of professional development and higher levels of teacher preparation with more courses that addressed culture, language acquisition, and exceptionalities reported higher levels of teacher efficacy working with Latino linguistically diverse students. Additionally, the same teachers reported more positive attitudes and beliefs towards these students. Teachers who pursue educational opportunities through professional development and formal higher education will likely hold more positive attitudes and beliefs as well as view themselves to be more efficacious working with this particular group of students. Furthermore, it appears that teachers with more negative attitudes and beliefs towards Latino linguistically diverse students will benefit from completion of professional development in the areas of culture, language acquisition, and exceptionalities such that they will find themselves more effective teaching these students.

Lastly, teachers with more positive attitudes and beliefs and greater teacher efficacy working with Latino linguistically diverse students demonstrate more caring behaviors towards these students. Teachers who reported feeling disturbed by others' misfortunes, upset when others are mistreated, and being in tune with others' moods demonstrated greater caring behaviors (Spreng, McKinnon, Mar, &Levine, 2009). Positive relationships, evidenced by caring acts, are consistently reported by Latino students as one of the factors that significantly contributed to their academic success (De Jesús & Antrop-González, 2006; Dotson-Blacke et al., 2009; Valenzuela, 2005). Teachers who believe they are effective teaching Latino linguistically diverse students and have more positive beliefs towards them show greater caring behaviors, thus teachers' attitudes and beliefs as well as teacher efficacy are significant contributing factors to caring behaviors.

Teacher Preparation Programs
and Educators

Amount and quality of teacher preparation is a significant contributing factor in the development of teacher efficacy. Furthermore, it appears that teacher preparation that includes coursework specific to culture, language acquisition, and student exceptionalities has a greater impact on teacher efficacy than programs that do not address these unique student characteristics. According to the No Child Left Behind (NCLB) definition, to be "highly qualified," teachers must have a bachelor's degree, hold a full state certification or licensure, and prove that they know each subject they teach. This definition appears to take into account content and grade level preparation differences, but not the diversity of student populations. NCBL does address differences in student populations by mandating that states report data disaggregated by students'

linguistic and cultural diversity as well as special education. This stipulation keeps states accountable for monitoring teacher characteristics that impact the quality of education for Latino linguistically diverse students beyond teacher preparation; however, it does not account for teacher preparation characteristics, nor does it continue to monitor teachers' ongoing preparedness (i.e., continued education, professional development). Teacher preparation programs vary in coursework addressing cultural and linguistically diverse student populations as well as teaching children with exceptionalities. Most have a class or two that address culturally responsive pedagogy, linguistics, and exceptionalities within the course. It should be noted that most programs do not have an entire course that provides information regarding these areas. The exceptions are those teacher preparation programs with an emphasis in urban education and English as a Second Language or English Language Learners. Additionally, special education programs are typically separate from general education programs. Most teachers do not enter into programs with a solidified idea as to what or who they would like to teach.

Teacher preparation programs have a responsibility to equip preservice teachers with the knowledge and skills necessary to address the needs of the Latino linguistically diverse student population; especially due to the ever-increasing numbers of these students being served in our nation's education system. Teachers employed in the Western region serve a majority of these students; it is imperative that teacher preparation programs for teachers who plan to teach in this region include courses that address culture, language acquisition, and student exceptionalities

School and District Level
Administration

Teachers who complete targeted professional development (i.e., culturally

responsive pedagogy, language acquisition, and exceptionalities) have greater teacher

efficacy and, subsequently, demonstrate more caring behaviors towards Latino

linguistically diverse students. District and school administrators who provide leadership

to teachers who serve large proportions of Latino linguistically diverse students should be

empowered knowing that targeted professional development increases teacher efficacy

and has a mediating effect on attitudes and beliefs which, in turn, increases caring

behaviors. The National Staff Development Council (NSDC) (Wei, Darling-Hammond,

& Adamson, 2010) rates states' professional development efforts on 11 indicators, and

several states have made significant improvements in offering induction opportunities for

beginning teachers (e.g., only Colorado in the Western region) and professional learning

opportunities for practicing teachers (e.g., Colorado, Oregon, and Utah in the Western

region). Since Senate Bill 10-191, teacher effectiveness has been brought to the forefront

of teacher evaluation. Teacher evaluation criteria could potentially include targeted

professional development similar to induction programs and states' requirement for

continuing education.

Administrators have influence and ultimately make decisions regarding the types

of professional development offered in their buildings and district-wide. Teacher

efficacy and attitudes and beliefs are alterable variables in which school and district-level

administrators can help teachers develop by providing them with opportunities to

complete professional development in the areas of culturally responsive pedagogy,

language acquisition, and student exceptionalities in order to meet the unique learning

needs of Latino linguistically diverse students (August & Hakuta, 1997; National Research Council, 2002; Rogers & Lopez, 2002; Rogers, et al., 1999).

Limitations

Despite precautions taken to minimize threats to validity, the present study has several limitations that must be considered when interpreting results. Limitations that possibly impacted the internal and external validity of the study included instrumentation (i.e. the use of self-report Likert-type measures, length of survey) and sampling procedures (i.e. sample size and response rate of teachers across the Western Region).

Instrumentation

In the current study, limitations regarding instrumentation included the use of Likert scale self-report questionnaires to measure constructs in the path model. While precautions were taken to minimize instrumentation limitations, the aforementioned can be considered potential threats to internal validity.

In the proposed models, self-report instruments were used to measure constructs, which is a common practice in social science research (Moorman & Podsakoff, 1992). The most commonly noted concern when using self-report measures is the susceptibility to social desirability bias, especially when used to gather data regarding attitudes and beliefs (i.e., attitudinal beliefs and teacher efficacy) or objective measures of behavior (i.e. caring behaviors) (Gall, Gall, & Borg, 2007; Huang, Liao, & Chang, 1998; King & Bruner, 2000). Thus, researchers need to be cautious when using self-report measures and evaluate whether or not participants' responses were socially desirable. Specific to this study, teachers might report more positive attitudes and caring behaviors towards

Latino linguistically diverse students. Steps were taken to ensure confidentiality of responses in order to decrease this threat to internal validity.

Furthermore, all of the measures included in the study were Likert-type response formats. Likert-type response formats are considered a limitation in research because participants may have different interpretations of points on the scale (Gall et al., 2007). To decrease the threat to internal validity, descriptive anchors were included on all Likert-type scales used in the study. Additionally, all three of the scales used in the study were established surveys, which demonstrated adequate reliability and validity.

Sample Size

Sample size is a potential limitation of the present study. The sample of 145 participants met the 10:1 practice (i.e., 10 participants per free parameter in the model) used in current path analytic research (Kline, 2005) and was considered a medium sample; however, large sample sizes (i.e., greater than 200) are preferable when using path analytic procedures (Kline, 2005). Additionally, mixed or contradictory results among fit indices are more likely with smaller sample sizes, and increasing sample size may result in more distinctive results (Kline, 2005; Weston & Gore, 2006).

Response Rate

As in the present study, researchers have historically reported low response rates from teachers due to limited resources, time constraints, and high turnover in most public education systems (Hamilton, 2003). The response rate of teachers contacted to participate in the present study could not be determined because it was a convenient sample. Even though a convenient sample was used, sampling may be considered a

limitation of the present study as the responding teachers may differ from teachers who did not respond.

Finally, the length of the survey packet and time commitment required to complete all instruments and questions is considered a limitation of the current study that is related to response rate. When conducting research with employed teachers, researchers have recommended decreasing the time commitment for participation in order to increase response rates among teachers (Mertler, 2003). While decreasing the amount of time required to participate in the study is best for research in education, this may not be possible when using path analytic procedures, such that different measures are needed to assess each variable in a path model (Kline, 2005). The limitations of the present study (i.e., instrumentation and sampling) provide a foundation for developing future research studies to examine the development of teacher efficacy, attitudinal beliefs, and caring behaviors as well as mediating variables that influence them.

Directions for Future Research

Due to the limited research, especially model exploration, available that investigates teacher efficacy specific to the Latino linguistically diverse student population, there are multiple future research avenues highlighted by the results of the current study. Teaching experience did not have a significant impact on teacher efficacy, and the existing literature is mixed in that researchers report both positive and insignificant findings. Future researchers might explore the quality of teaching experience, such as successful or unsuccessful experiences teaching Latino linguistically diverse students, of teachers' experience instead of the quantity (i.e., years of teaching experience), instead of number of years teaching. Additionally, research is needed to

substantiate the finding that teacher efficacy and attitudinal beliefs have a direct positive effect on teachers' caring behaviors and explore other variables that may impact these behaviors. Furthermore, there is a need to investigate factors that provide mediation between teacher efficacy and caring behaviors.

Future research is needed to substantiate that professional development within the areas of culture, language acquisition, and student exceptionalities mediates the negative attitudes and beliefs teacher might have regarding Latino language minority students. More research is needed to examine the relationship between teachers' attitudes and beliefs, teacher efficacy, and caring behaviors specific to Latino linguistically diverse student population.

Conclusion

This study addressed the gap in the literature regarding the examination of a comprehensive theoretical model for the development of teacher efficacy, specific to teaching Latino language minority students, based on the SCT. While the SCT failed to provide a comprehensive framework for teacher efficacy, results of the fit indices for alternative models 1 and 2 indicate that the data fit some aspects of the model well, specifically attitudinal beliefs, teacher efficacy, and caring behaviors that all had large effect sizes (≤ 0.35; Granello, 2007; Fan, 2001), thus explaining a large portion of the variance among these variables in public general education teachers surveyed in the Western Region. Teacher preparation, targeted professional development, and attitudinal beliefs had significant effects on teacher efficacy, whereas the effects of teaching experience were not statistically significant. Furthermore, teacher efficacy and attitudinal beliefs had significant effects on caring behaviors. Examination of these results within

the context of the literature provided practical implications for teachers, teacher

preparation programs and educators, and school and district-level administrators related

to potential ways to increase teacher efficacy in regards to Latino language minority

students.

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APPENDIX A

INFORMED CONSENT

UNIVERSITY *of*
NORTHERN COLORADO

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH

UNIVERSITY OF NORTHERN COLORADO

Project Title: Model Exploration of Teacher Efficacy, Attitudinal Beliefs, and Empathic Skills towards Latino Linguistically Diverse Students

Researcher: Jennifer Keller Johnson M.S. Doctoral Candidates in School Psychology

Phone Number: (702) 287-2977   e-mail: kell3923@bears.unco.edu

Research Advisor: Dr. Kathrine Koehler-Hak, School of School Psychology

Phone Number: (970) 351-1687   e-mail: kathrine.hak@unco.edu

I am researching teachers self efficacy, attitudinal beliefs, and empathic skills towards Latino linguistically diverse students. If you choose to participate in this research, you will be asked to complete a questionnaire including demographic questions. A link to the questionnaire will be provided to you within this email sent to you via your supervisor. The questionnaire consists of 53 items presented in a variety of Likert scale format such as "Strongly Disagree" to "Strongly Agree". The questionnaire will require you to assess your beliefs, actions, and how much of an impact you can have in a particular situation specifically regarding Latino linguistically diverse students. Additionally, you will be asked about your experiences, the degrees, licensure, and certificates completed, and demographic questions about yourself and teacher preparation program. The questionnaire will take 25-35 minutes.

To complete the questionnaire, you will not be asked to provide your name. Therefore, your responses will be anonymous. Only the researcher will examine individual responses. Questionnaire responses will be recorded via an electronic survey format, which will be downloaded from the electronic survey interface into an Excel workbook.

Due to the distribution method (i.e., link posted within an email body), your responses will not be connected to an email address. Results of the study will be presented in group form only (e.g., path model fit, averages) and data downloaded from the electronic survey program will be kept in a password protected computer.

Risks to you are minimal. You may feel anxious while completing the questionnaire, but we are trying to minimize these feelings because the results will have no bearing on your program standing. Your choice to participate or decline participation will have no connection to you. The benefits to you include gaining self awareness and insight into your beliefs.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and exit the survey at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. If you have any questions, comments, or concerns regarding the research please contact any of the researchers. Having read the above, please complete the questionnaire if you would like to participate in this study. By completing the questionnaire, you will be giving permission for your participation. You may print this screen for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Sponsored Programs, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-2161.

APPENDIX B

INTERNAL REVIEW BOARD APPROVAL

UNIVERSITY of
NORTHERN COLORADO
Institutional Review Board (IRB)

August 31, 2011
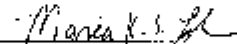
TO: Maria Lahman
           Applied Statistics and Research Methods

FROM: The Office of Sponsored Programs

RE: Exempt Review of *Model Exploration of Teacher Efficacy, Attitudinal
           Beliefs, and Empathic Skills towards Latino Linguistically Diverse
           Students*, submitted by Jennifer Keller Johnson (Research Advisor:
           Kathrine Koehler-Hak)

The above proposal is being submitted to you for exemption review. When approved,
return the proposal to Sherry May in the Office of Sponsored Programs.

I recommend approval.

           Maria K. J. ___   10/9/11
           Signature of Co-Chair   Date

The above referenced prospectus has been reviewed for compliance with HHS guidelines
for ethical principles in human subjects research. The decision of the Institutional
Review Board is that the project is exempt from further review.

IT IS THE ADVISOR'S RESPONSIBILITY TO NOTIFY THE STUDENT OF THIS
STATUS.

Comments:

APPENDIX C

SURVEY INSTRUMENTS

Language Attitude Scales Revised (LATS-R)
(Flores & Smith, 2008)

Below is a list of statements. Please read each statement *carefully*. Mark your answer on the response form. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

1. It is unreasonable to expect a regular classroom teacher to teach a child who does not speak English.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

2. To be considered American, one should speak English.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

3. It is important that people in the U.S. learn a language that is not English.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

4. Most non- and limited-English-proficient children are not motivated to learn English.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

5. At school, the learning of the English language by non- or limited-English-proficient takes precedence.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

6. Teachers should modify their instruction for their students' cultural and linguistic needs.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

7. English should be the official language of the U.S.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

8. Non- and limited-proficient-English students often use unjustified claims of discrimination.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

9. I would support the government spending additional money to provide better programs for linguistic-minority students in public schools.
   1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

10. Parents of ELLs should be counseled to speak English with their kids whenever possible.
    1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

11. The rapid learning of English should be a priority of non-English-proficient or limited-English-proficient students even if it means they lose their ability to speak their native language.
    1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

12. Regular classroom teachers should be required to receive preservice or in-service training to be prepared to meet the needs of linguistic minorities.
1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

13. Even when they do speak English, minority parents don't participate in school-related activities as other parents do.
1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

14. Local and state government should require that all government business (including voting) be conducted in English only.
1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

15. Having a non-English-proficient student in the classroom is detrimental to the learning of other students.
1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

16. Too much time and energy is now being placed on multiculturalism in schools and society.
1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

17. It is important for teachers to reach out to involve the parents of all their students.
1 = Strong Agree; 2 = Agree; 3 = Neither Agree or Disagree; 4 = Disagree; 5 = Strongly Disagree

Exceptional Children Who are English Learners (EXCEL) Teacher Inventory
(Paneque & Barbetta, 2006)

Exceptional Children Who are English Learners (EXCEL) Teacher Inventory
Section I
Teacher Competencies and Teacher Efficacy Items
Below is a list of questions. Please read each question *carefully*. Mark your answer on the response form. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

1. How much can you do to motivate students?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

2. How much can you do to communicate with parents and families?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

3. How much can you do to redirect students who are misbehaving and disruptive?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

4. How much can you do to teacher students who speak English as a second language?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

5. How much can you do to distinguish between language difference and disability?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

6. How much can you do to get through to even the most difficult students?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

7. How much can you do to incorporate appropriate content and materials?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

8. How much can you do to determine appropriate instruction?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

9. How much can you do to identify and utilize school/community resources?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

10. How much can you do to support the native language(s) of children?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

11. How much can you do to adapt and modify lessons for students?
    nothing =1   2   3   4   5   6   7   8   9= a great deal

12. How much can you do to use traditional and alternative assessment?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

13. How much can you do to help students develop social skills?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

14. How much can you do to communicate with students?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

15. How much can you do to improve the academic achievement of students?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

16. How much can you do to determine the needs of students?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

17. How much can you do to evaluate the academic performance of students?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

18. How much can you do to be sensitive to and aware of the needs of students?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

19. How much can you do to develop appropriate Individual Educational Plans for students?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

20. How much can you do to assess the academic progress of students?

           nothing =1   2   3   4   5   6   7   8   9= a great deal

Toronto Empathy Questionnaire (TEQ)
(Spreng, McKinnon, Mar, &Levine, 2009)

Toronto Empathy Questionnaire Instructions

Below is a list of statements. Please read each statement *carefully* and rate how frequently you feel or act in the manner escribed. Circle your answer on the response form. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

1. When someone else is feeling excited, I tend to get excited too
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

2. Other people's misfortunes do not disturb me a great deal
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

3. It upsets me to see someone being treated disrespectfully
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

4. I remain unaffected when someone close to me is happy
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

5. I enjoy making other people feel better
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

6. I have tender, concerned feelings for people less fortunate than me
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

7. When a friend starts to talk about his/her problems, I try to steer the conversation towards something else
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

8. I can tell when others are sad even when they do not say anything
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

9. I find that I am "in tune" with other people's moods
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

10. I do not feel sympathy for people who cause their own serious illnesses
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

11. I become irritated when someone cries
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

12. I am not really interested in how other people feel
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

13. I get a strong urge to help when I see someone who is upset
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

14. When I see someone being treated unfairly, I do not feel very much pity for them
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

15. I find it silly for people to cry out of happiness
> Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

16. When I see someone being taken advantage of, I feel kind of protective towards him/her
Never= 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4

Scoring Item responses are scored according to the following scale for positively worded Items 1, 3, 5, 6, 8, 9, 13, 16. Never = 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4. The following negatively worded items are reverse scored: 2, 4, 7, 10, 11, 12, 14, 15. Scores are summed to derive total for the Toronto Empathy Questionnaire.

APPENDIX D

DEMOGRAPHICS QUESTIONNAIRE

Demographic and Experience Questionnaire

1. Your gender

     [　] Male

     [　] Female

2. How old are you? _____years old

3. What ethnicity/race describes you? (Check all that apply)

[　] American Indian

[　] Hispanic/ Latino

[　] Native American

[　] Caucasian/White

[　] Multiracial/Biracial

[　] Black/African-American

[　] Middle Eastern/Indian

[　] Pacific Islander

[　] Asian American

[　] Other: _____ (please specify)

---

4. How many years of formal teacher preparation training have you completed?

_____years and

Associates Degree   Baccalaureate   Post Baccalaureate   Masters Masters+ Ed.S. Ed.S. + Ph.D

5. Have you completed a licensure or certificate program related to:

English Language Learners (ELL) or English as a Second Language Learners (ESL)

Yes_____ or No_____

Exceptional Learners or Special Education

Yes_____ or No_____

Other (Please Specify):_____

6. How many estimated number of hours of your teacher preparation programs addressed culturally responsive pedagogy?

_____hours

7. How many estimated number of hours of your teacher preparation programs addressed language acquisition?

_____hours

8. How many estimated number of hours of your teacher preparation programs addressed the needs of exceptional learners?

_____hours

9. How many years of teaching experience do you have (excluding student teaching)?

_____years

10. How many professional development hours have you completed during the past 5 years specifically addressing culturally responsive pedagogy?

_____hours

11. How many professional development hours have you completed during the past 5 years specifically addressing language acquisition?

_____hours

12. How many professional development hours have you completed during the past 5 years specifically addressing needs of students with learning disabilities?

 _____hours

13. Have you taught or lived in another country?

Yes_____   or   No_____

14. Where were you born?

City:_____   State:_____

15. Where was your teacher preparation program located?

City:_____   State:_____

16. Are you fluent in speaking Spanish?

Yes_____   or   No_____

      Are you fluent in speaking another language?

Yes_____   Language:_____   or   No_____