Principal Leadership and Teacher Commitment to the Profession: The Mediating Role of Collective Efficacy and Teacher Efficacy

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DEDICATION

This dissertation is dedicated to my family; my father, Bülent; my mother, Sadiye; and my brother, Ilker who have given me endless love and support.

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ABSTRACT

PRINCIPAL LEADERSHIP AND TEACHER COMMITMENT TO THE PROFESSION: THE MEDIATING ROLE OF COLLECTIVE EFFICACY AND TEACHER EFFICACY

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The purpose of this study was to investigate relationship among principal leadership, collective efficacy, teacher efficacy and teacher commitment to the profession. For this investigation, three mediation models were hypothesized and tested. The design of this study utilized a six page survey to in-service teachers who enrolled in a Master's program. Teachers ($N = 260$) responded to the survey consisted of four scales on the variables of principal leadership, collective efficacy, teacher efficacy, and teacher commitment to the profession. Quantitative analysis involved examining preliminary analyses, descriptive statistics and four hypotheses testing. Data were analyzed using Baron and Kenny's (1986) meditational testing. The first hypothesis was partially supported for most of the study variables had positive significant associations. The data partially supported the first mediation model when collective efficacy was hypothesized to be the mediator of principal leadership and teacher commitment to the profession. The

third and fourth hypotheses were not supported when general teacher efficacy and personal teacher efficacy hypothesized to be the mediator of principal leadership and teacher commitment to the profession.

By hypothesizing collective efficacy and teacher efficacy to teacher commitment to the profession, this study has added to a growing awareness of the important influence of principal leadership to teacher commitment to the profession. Also, the lack of association between self efficacy and principal leadership in relation to teachers' commitment to the profession was a substantial addition to teacher efficacy, principal leadership and teacher commitment literature. Additional research is needed to (a) assess causal relations between other personal and organizational factor measures, (b) describe the differences in teacher commitment among teachers who have a Master's degree, are earning a Master's degree, and those who have not earned a Master's degree.

1. Introduction

America's public schools are constantly faced with multiple issues, such as challenges of how to improve student achievement and how to keep teachers in the profession. This study focuses on this latter challenge of teacher retention. Teacher turnover has become a national emergency in the nation (Colgan, 2004; Loeb, Darling-Hammond & Luczak, 2004; NCES, 2005). The teacher turnover crisis is due in part to the inability to recruit, retain, and fairly distribute the number of teachers that students and schools need (Colgan, 2004). Student achievement, teachers, and school leaders are critical components in our educational system, and they are interdependent.

> What keeps some people in teaching while others give up? What can we do to increase the holding power of the teaching profession and to create a stable, expert teaching force in all kinds of districts? Some of the answers to these questions are predictable; others are surprising … Keeping good teachers should be the most important agenda items for any school leader (Darling-Hammond, 2003, p.7).

Statement of the Problem

As Darling-Hammond (2003) notes "keeping good teachers" is the most essential item in the field of education when considering capable teachers can be the most effective influence on student learning (Darling-Hammond, 2000; Wilson et al., 2001). Why do practicing teachers leave the profession after having spent years preparing for it? There is a substantial body of literature that has focused on the issue of teacher attrition from the characteristics of teachers, such as age, gender, and years of experience, etc. (Boe et al.,

1997; Grissmer & Kirby, 1992, 1997; Heyns, 1988; Ingersoll, 1999; Murnane, 1981, 1987; Murnane, Singer & Willett, 1988), and in general the most common characteristics of the teachers who are most likely to leave are male, single, and novice teachers. While increasing attention has been given to the quality of the nation's teachers because of the provisions of the No Child Left Behind Act of 2001 (NCLB) requiring schools to employ "highly qualified teachers," the main challenge to the teaching profession is *not only* to produce more highly qualified teachers, but to keep them in the profession (i.e. Darling-Hammond, 2003). The question of why teachers stay in the profession or what influences are significant in their decision to remain in the profession, has not been investigated adequately in the education literature.

Despite the high turnover rate coupled with meeting the challenge of national standards and low test scores, many teachers *do* remain in the classroom. It is very important to better understand the teachers who remain in the profession. To this end, there is increased interest in studying teacher attrition patterns and teachers' beliefs both on the individual and organizational level in their job satisfaction (Ebmeier, 2003; Ross & Gray, 2006; Ware & Kitsantas, 2007). However, more investigation is necessary to understand some of the influences determining teachers' desire to stay in the teaching profession. We need to learn more about the committed teachers, the "stayers," and the factors that are affecting their commitment to the profession, particularly in the light of a nation in need of a strong and dedicated teaching force charged with meeting the needs of diverse learners.

Teacher attrition is not a recent problem in the field of education: research on it started in the early 1970s. According to research from that decade, twenty five percent of the teachers who had teaching certificates never began teaching, or left teaching within a few years (Charters, 1970; Mark & Anderson, 1978; Murnane, 1981). Currently, about twenty five percent of the teaching force leaves after one year and fifty percent leaves within five years of service (Colgan, 2004; Darling-Hammond, 2000; Ingersoll, 2001; White, 2005). In the examination of the most recent national data, Teacher Attrition and Mobility: Results from the Teacher Follow-up Survey, 2004–05, a high rate of job dissatisfaction occurs which causes attrition, i.e. 25% of the teachers who left the teaching profession after the base year (2003-2004) reported to leave the organization and pursue a position other than that of a K-12 teacher (Marvel, Lyter, Peltola, Strizek, & Morton, 2006). Despite the apparent dissatisfaction within the teaching profession, e.g. low teacher salary compared to other professions such as accountants, dental hygienists, and computer programmers with about equal education and training (NCTAF, 2003), some veiled satisfaction must exist within the profession to influence about 2.6 million teachers who are serving the nation's children today, of whom those "stayers" 77.1% have more than 5 years of teaching experience (NCES, 2007).

While researchers have tracked closely the trend in teacher retention and attrition data, not nearly as much attention has been focused on the reasons teachers stay in the profession. Losing such numbers of teachers calls for the need to investigate why so many teachers choose to leave during these beginning and significant years of teaching. School systems need to create an environment to keep and support good teachers. Hoy

and Woolfolk (1993) asserted that in schools "the managerial level, i.e. the principal, control the internal administrative function of the organization" (Hoy & Woolfolk, 1993, p.358). Teachers' feelings about the lack of administrative support, i.e. principal support, have found to be strongly related to their plans to stay in teaching or leave the profession (Darling-Hammond, 2000; Ingersoll 2001, 2002).

Beck and Murphy (1993) discussed the evolution of principal leadership from the 1920s into the 1990s. During the 1920s, the role of the principal was considerable to be a manager (Hallinger, 1992). The decade of the forties marked a shift in the principal's role from being an inspector to cooperatively working with teachers with the goals of improving teaching (Parker, 1986). In the 1970s, the principal was expected to be a community leader and also facilitate positive interactions within the school (Day, 2000). In the 1980s the principal was asked to be a problem-solver, provide resources and facilitate the learning process for teachers and students. The principal was expected to be visionary, leading the school to become an ideal school. As the years moved into the 1990s, the principal role shifted back to a community builder. In this decade, schools had to address increasing numbers of children affected by societal issues such as poverty, crime, and drug addiction. Thus, these issues required more services from societal organizations, especially schools (Beck & Murphy, 1993). Later, schools remained accountable for student achievement with more attention given to state and national standards for testing.

With the passage of NCLB, the first decade of 2000 has complicated the nature of principal leadership in the field of education. Today, principals are being evaluated by

student achievement on standardized achievement tests (Kavanaugh, 2005). Despite the fact that principals do not teach, the demands relating to NCLB have added pressure on principals to advance student achievement school wide. Further, in considering culturally, cognitively, and linguistically diverse classrooms, the student population is now more heterogeneous than ever before (Riehl, 2000). To meet the challenge of tomorrow's schools, the millennium approach demands that "the principal, faculty, staff, parents, and community work together sharing a vision of how to help all students achieve" (Lunenburg & Irby, 2006, p.5). Principals as being the central point of school-level administration are increasingly being held accountable for the consequences of failure of any kind (Elmore, 2000). There was a call from leaders to move beyond instructional leadership (Leithwood, 1992).

Transformational leadership which affects the commitment and motivation of group members gained widespread attention over the past decade. This form of leadership anchors the mutual stimulation by leaders and followers to bring about positive changes in an organization (Leithwood & Jantzi, 2005). Leithwood and his colleagues were the first to conceptualize transformational leadership in the school context (Jantzi & Leithwood (1996). In their definition the principal who chooses to follow this type of leadership shares leadership with teachers. Leithwood (1996) defined the dimensions of this leadership as identifying and articulating vision, providing an appropriate model, fostering the acceptance of group goals, providing individualized support, providing intellectual stimulation, and establishing high performance expectations. When transformational leadership applied to the school context, it is

understood that principal leadership is grounded not on controlling or coordinating others, but instead on creating a supportive environment.

In an attempt to investigate the principal's influence on teachers' commitment, Barnett, McCormick, and Conners (2001) noted that transformational leadership has the potential for building a high level of teacher commitment. Transformational leaders interact with their followers in such a way as to inspire their performance, and help their followers perform beyond their expectations (Bass & Avalio, 1994). Current school leadership literature provides the influence of this form of supportive leadership not only on teacher commitment but also on teacher beliefs, more specifically on teacher efficacy (Ebmeier, 2003) and teacher collective efficacy (Dale, 2005; Goddard, 2001, 2006; Knobloch & Whittington, 2002; Ross & Gray, 2006). However, the influence of principal leadership on teacher commitment has not been investigated through the mediating factors of both collective efficacy and teacher efficacy. While collective efficacy is the individuals' judgment of group competency, self efficacy refers to the individual competency (Bandura, 1997, 2000).

Both teacher efficacy and collective efficacy have their roots in Albert Bandura's (1986) social cognitive theory, which posits that humans have control over their lives through agentive actions (Bandura, 1977, 1997). Bandura speculates that humans act "within an interdependent causal structure involving triadic reciprocal causation" (Bandura, 1997, p.6). In his interactional model of causation, environmental events, personal factors, and behavior affect each other (Figure 1).

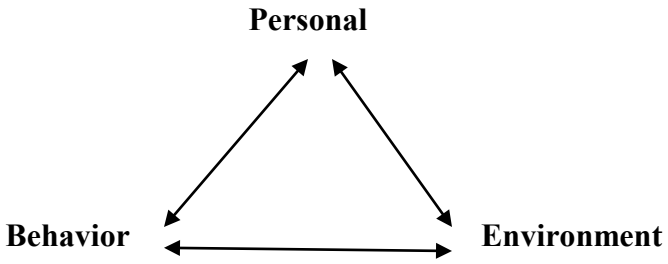


Figure 1. Bandura's model of causation, (Bandura, 1997, p.7)

As individuals, classroom teachers proactively lead their lives and base their actions in relation to these three dimensions of social cognitive theory. This study explores the relationship among teacher efficacy and collective efficacy representing teachers' personal factors, principal leadership as an environmental factor, and teacher commitment to the profession as behavior.

As more investigation is necessary to understand influences determining teachers' desire to stay in the profession and the influence of teachers' individual and collective beliefs in this process, it is the goal of this study to examine the relationships among the factors that influence teachers' commitment to the profession. Both teacher and collective efficacy have been associated with job satisfaction (Hongyun, Lei, & Oingmao, 2005; Tucker, 2003;Ware & Kitsantas, 2007) but little research has been done to determine the relationship between these two forms of efficacy and how they might affect teacher's desire to stay in the profession as mediating factors. Therefore, the goal of this study is to examine some of the factors affecting those teachers choosing to make a commitment to and remain in the teaching profession.

Rationale

In education studies since 1980s, beginning teachers have been the main focus of investigation with regard to the rate of attrition (Bobbitt et al., 1991; Darling-Hammond, 1990; Grissmer & Kirby, 1987; Murnane et al., 1988, 1991; Shen 1997). A growing body of evidence indicates the main reasons for beginning teachers' departures include low teaching salaries, difficult working conditions, lack of support from administrators, lack of teachers' involvement in decisions, poor motivation (Ingersoll & Smith, 2003) and different teaching assignments and inadequate instructional resources (Hebert & Worthy, 2001; Podsen & Denmark, 2000). The vast body of literature available on "leavers", teachers who left the profession, has focused on the relationship between teacher attrition and the conditions of teaching, but it is also vital to investigate some of the factors that influence them to stay.

Although the quantity of studies related to teacher retention is not as rich as teacher attrition, the existing empirical studies suggest that teachers who remained in the teaching profession were found to be intrinsically motivated, feel empowered and have more influence over school and teaching policies (Bacharach et al., 1990; Bobbitt et al., 1991; Meek, 1998), and believe their professional and educational experiences were utilized in their employment (Chapman & Green, 1986). Support within the organization i.e. school, has been reported by practicing teachers as one reason for staying in the profession. Parker (1994) suggested that future research should examine teachers' individual behaviors, attitudes, and beliefs, specifically teachers' self-efficacy and also their collective efficacy, that might serve as mediators between efficacy and their

perceptions of commitment and teaching. However, the retention literature greatly lacks in examining teachers' sense of beliefs, their individual competency as well as group's level of competency in helping students to achieve, and principal support as significant factors in their decisions of remaining in the profession. This study, therefore, explores teachers' self-efficacy and collective efficacy beliefs in relation to principal leadership and their commitment to the profession of teaching.

Significance

To better understand teacher retention, this study seeks to explore the relationships among teacher commitment, principal leadership, and the teacher and the collective efficacy of practicing teachers. In this study, the focus is on in-service teachers, and specifically, those teachers who are in the process of obtaining a Master's degree while they are teaching. Based on my searches in teacher literature and social cognitive theory, no research has been published concerning the influence of practicing teachers', those who enrolled in a Master's degree program, efficacy beliefs in their relation to principal leadership and commitment to the profession. The findings of this study provide research to help the field better understand some of the factors that influence teachers' intent to stay in the profession. In addition, this study investigates the principal leadership as an environmental factor to teachers' self-efficacy and collective efficacy beliefs and their commitment to teaching. To explain more clearly the significance of this study, I present it in three areas: theoretical significance, practical significance, and personal significance.

Theoretical Significance

The theoretical significance of this study serves to clarify the predictors of teachers' commitment to the profession. Research on teacher commitment has been lacking in terms of utilizing both teacher efficacy and collective efficacy in examining teacher behavior. Bandura's social cognitive theory (1997) provides the theoretical framework underlying both teacher and collective efficacy. However, although a great deal of research has linked both teacher and collective efficacy to student achievement, very limited attention has been given the association between these two efficacy beliefs in the school context within the consideration of the principal leadership. Further, an understanding of teacher commitment, as it pertains to teacher efficacy and collective efficacy, adds to the overall understanding of the conceptual basis of commitment of teachers to the profession, as well as adding the recently conducted empirical studies to the literature of teacher efficacy, commitment and principal leadership.

Practical Significance

With regard to the practical significance of this study, through understanding more deeply factors that contribute to teachers' commitment to the profession, school principals and other administrators could use this knowledge to organize, analyze, assess, and guide their decisions so that teachers' commitment is increased. Principals can assess the health of the interpersonal dynamics of their school, take steps to create more supportive environments, and reinforce motivation, loyalty, and commitment (Hoy & Woolfolk, 1993). The measures in this study can also be used to guide professional development and measure how successful attempts are to increase teacher commitment.

Knowledge of the principal leadership behavior that contributes to teacher commitment can also provide a framework through which principals can reflect on their leadership practices and discover how they are perceived by school staff.

Personal Significance

My personal connection to this study is professional. Having fifteen years of experience in teaching, I have built a special interest in social cognitive theory, and more specifically, in teachers' self-efficacy and collective efficacy beliefs (Bandura, 1997). My graduate work has helped me explore the predictors of these beliefs and examine the consequences of obtaining high or low levels of individual and group level of efficacy beliefs. However, the lack of available information in understanding the reasons why teachers become and remain committed to their profession has intrigued me as a researcher. The predictors of teacher commitment may be numerous. This study led me to better analyze at least three of them and speculate on the possibility of other factors for future investigations.

Purpose

The overall purpose of the study is to examine the relationship among principal leadership, teacher efficacy, collective efficacy and practicing teachers' commitment. More specifically, this study has been designed to test the mediating role of teacher efficacy and collective efficacy on commitment to the profession in three models (Figure 2). The variables in these hypothesized models are linked as such due to the existing empirical work in the literature. Previous research provides support for collective teacher efficacy as a mediator of principal leadership and teacher commitment (Ross & Gray,

2006), and teacher efficacy as a mediator of principal leadership and teacher commitment (Ebmeier, 2003). Also in the literature, the associations between principal leadership to teacher commitment, collective efficacy to commitment, and teacher efficacy to commitment are widely analyzed (Ebmeier, 2003; Ross & Gray, 2006; Ware & Kitsantas, 2007). However, the direct effect of principal leadership on teacher commitment, and the indirect effect of both collective and teacher efficacy in a model have not been investigated in prior studies.

In this study, it is important to note that teacher efficacy was examined a under two-factor structure, general teacher efficacy and personal teacher efficacy. These two dimensions of efficacy can operate independently; while general teacher efficacy considers factors external to the classroom such as social and environmental, personal teacher efficacy maintains a degree of focus on individual's perception at the level of individualistic characteristics (Ashton & Webb, 1982, 1986; Gibson & Dembo, 1984; Hoy& Woolfolk, 1993).

The hypothesized models in this study were as follows:

In the first model, collective efficacy would mediate the principal leadership and commitment to the profession. Principal leadership and collective efficacy would both be positively related to commitment to the profession, and collective efficacy, in turn, would partially mediate the relationship between principal leadership and commitment to the profession (Figure 2).

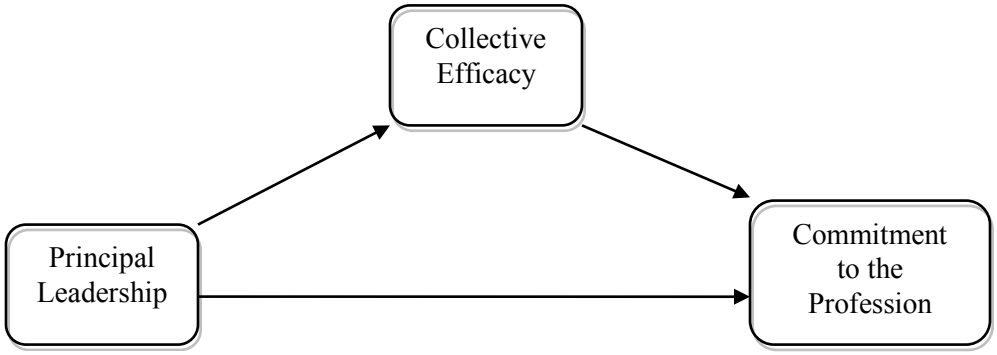


Figure 2. The first hypothesized mediation model for teachers' commitment to the profession

In the second model, general teacher efficacy would mediate the principal leadership and commitment to the profession. Principal leadership and general teacher efficacy would both be positively related to commitment to the profession, and general teacher efficacy, in turn, would partially mediate the relationship between principal leadership and commitment to the profession (Figure 3).

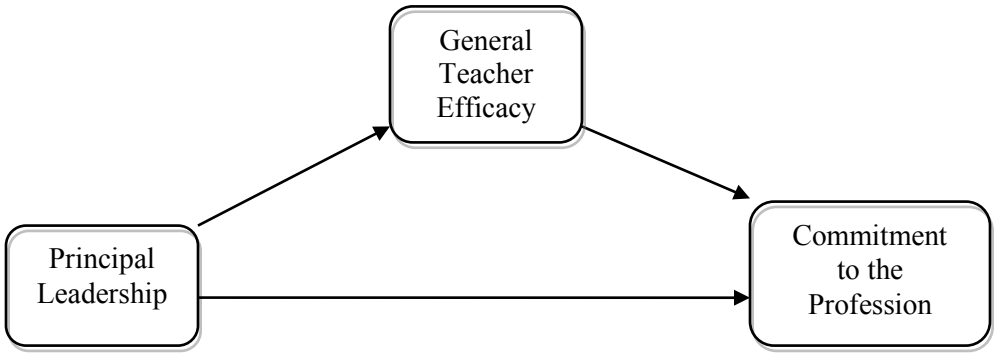


Figure 3. The second hypothesized mediation model for teachers' commitment to the profession

In the third model, it is proposed that personal teacher efficacy would mediate the principal leadership and commitment to the profession. Principal leadership and personal teacher efficacy would both be positively related to commitment to the profession, and personal teacher efficacy, in turn, would partially mediate the relationship between principal leadership and commitment to the profession (Figure 4).

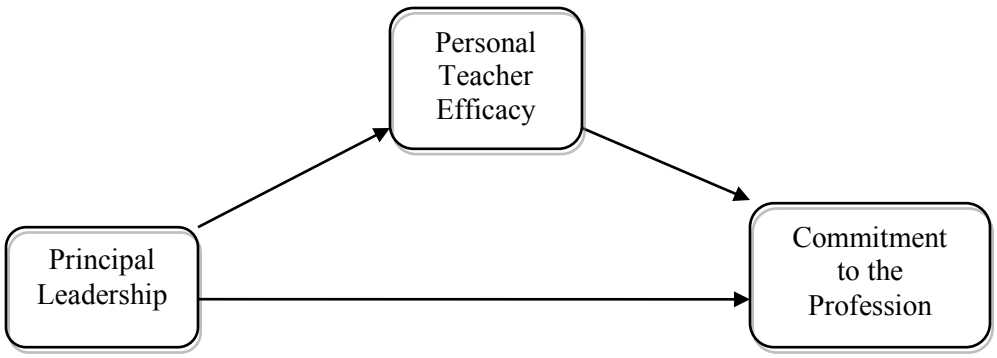


Figure 4. The third hypothesized mediation model for teachers' commitment to the profession

The rationale for these models stems from social cognitive theory (Bandura, 1997). Bandura posits that humans act "within an interdependent causal structure involving triadic causation" (Bandura, 1997, p.6). Thus, this study explored the relationship among teacher efficacy and collective efficacy representing teachers' personal factors, principal leadership as an environmental factor, and teacher commitment as a behavior factor (Figure 5). Teacher collective efficacy was measured by teachers' perceptions of school collective efficacy rather than the "schools' sense of

collective efficacy as an aggregate of teachers' group-referent efficacy perceptions" (Goddard, Hoy, & Hoy, 2004, p.7). Therefore, in the figure below collective efficacy was placed as a personal factor.

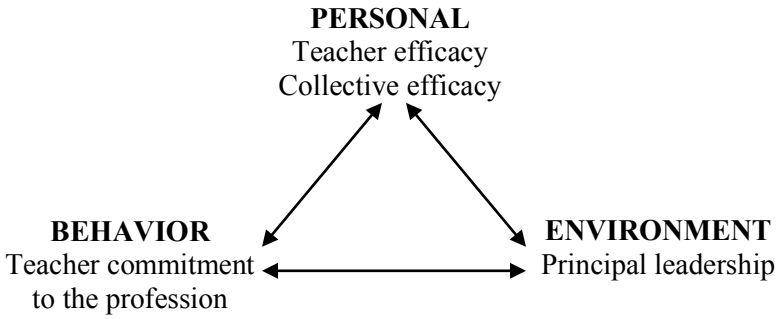


Figure 5. The application of the study in Bandura's model of causation

This study was guided by the following hypotheses.

Hypotheses

Hypothesis 1: It was expected that significant relationships will emerge among principal leadership, general teacher efficacy, personal teacher efficacy, collective efficacy and teacher commitment to the profession.

Hypothesis 2: It was expected that collective efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 3: It was expected that general teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 4: It was expected that personal teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Definition of Terms

For the purpose of this study, the following conceptual definitions are used:

Attrition: Attrition refers to teachers who voluntarily and/or prematurely leave full-time employment (Hammer & Rohr, 1992).

Collective efficacy: Collective efficacy refers to the perceived "performance capability of a social system as a whole" (Bandura, 1997, p.469).

Collective teacher efficacy: Teachers' belief about the collective capability of a group of teachers to influence student achievement (Goddard, LoGerfo & Hoy, 2004).

Good teachers: Good teachers are the one who prioritize good teaching for every child in every community (Darling-Hammond, 2003).

Retention: Retention refers to teachers who remain in the teaching profession (Hammer & Rohr, 1992; Smith & Ingersoll, 2004).

Commitment to teaching: The degree to which one has a positive, affective attachment to one's work (Coladarci, 1992); Ebmeier (2003) defines commitment to teaching as "the teacher's commitment to the profession of teaching" (p.126).

Leavers: Those who leave the teaching profession (Boe et al., 1997).

Social cognitive theory: A framework for understanding, predicting, and changing human behavior. The theory identifies human behavior as an interaction of personal factors, behavior, and the environment (Bandura, 1977, 1986).

Self efficacy beliefs: Self-efficacy beliefs are "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391).

Stayers: Those teachers who remain in the same school from one year to the next (Boe et al., 1997).

Teacher efficacy: Teacher's beliefs of their capabilities to reach ideal outcomes of student learning and engagement, even the difficult and unmotivated (Tschannen-Moran & Hoy 1998, 2001).

Principal Leadership: Leithwood (1996) defined the dimensions of leadership as identifying and articulating vision, providing an appropriate model, fostering the acceptance of group goals, providing individualized support, providing intellectual stimulation, and establishing high performance expectations. In short, this principal leadership was grounded not on controlling or coordinating others, but instead on creating a supportive environment.

Principal leadership traits, behaviors, and qualities: Used interchangeably to identify those leadership characteristics.

2. Literature Review

This chapter explains of the relationship among the study variables and provides the existing literature as a foundation for the hypotheses of the study. The literature review is presented in three broad sections. The first section presents the literature in relation to teacher attrition, retention, and commitment. The second includes the research background in principal leadership. The last section provides the conceptual framework of the study. The chapter concludes with the summary.

Teacher Literature

Teacher Attrition

A high rate of current teacher attrition has been noted in the education literature. According to the Teacher Follow-up Survey, 2004–05, a high rate of job dissatisfaction occurs, i.e. 25% of the teachers who left the teaching profession after the base year (2003-2004) reported to leave the organization and pursue a position other than that of a K-12 teacher (Marvel, Lyter, Peltola, Strizek, & Morton, 2006). On a closer look at the national data, dissatisfied teachers who exited the teaching profession and who currently work outside of the field of education stated various aspects of their new profession in comparison to teaching. They rated professional prestige as 47 percent in the current profession, while that was 28 percent in teaching; autonomy or control own over work as 64 percent in the current profession, while that was 15 percent in teaching; influence over

workplace policies and practices as 52 percent in the current profession, while that was 11 percent in teaching; support from administrators as 53 percent in the current profession, while that was 15 percent in teaching; opportunities for professional advancement as 58 percent in the current profession while that was 20 percent in teaching (Marvel et al., 2006).

Teaching happens behind closed doors as it is often stated among teachers. In comparison to many other jobs, teaching is unusual in that those who decide to take it up have had ample opportunity to observe members of the occupation at work. As a result, those who enter teaching feel they know what kinds of tasks they need to perform. However, as Lortie (1975) pointed out, students' expectations do not fit the reality of the teacher's job, and many teachers discovered that the tasks they were expected to perform were more difficult and more taxing than anticipated. Teachers may leave the profession for a wide variety of reasons. Attrition, in this study, refers to teachers who voluntarily and/or prematurely leave full-time employment (Hammer & Rohr, 1992).

Increasing attention has been given to the nation's teachers as the provisions of the No Child Left Behind Act of 2001 requiring schools to employ "highly qualified teachers." While the nation's schools need more "highly qualified teachers," it has been highly difficult to retain teachers in the teaching profession. There exists substantial research on the factors that have influenced teachers leaving the profession, and most are related to lack of support from administration (Fajen, 2001; Daugherty, Kelley, & Thornton, 2005; Ingersoll & Smith, 2003; Norton, 2003), colleague support (Bart, 2006; Hoy & Woolfolk, 1993), and lack of teacher influence in decision making (Duke &

Gansneder, 1990; Fajen, 2001; Moore & Esselman, 1994), and, in turn, on student achievement. Student achievement was not included in the estimated model of this study as a variable (factor), and thus was out of the scope of the literature presented in this chapter.

In education research studies, the teacher attrition rate varied from 20-50% (Charters, 1970; Darling-Hammond, 1984; Darling-Hammond & Sclan, 1996; Grissmer & Kirby, 1987; Hammer & Rohr, 1992; Ingersoll, 2001; Macdonald, 1999). According to the early years of teaching figures, nationally, one in five new teaches leave the profession by their third year of teaching (Johnson & Birkeland, 2002). About one out of every four teachers eventually changed to another career (Charters, 1970; Henke et al., 2000; Mark & Anderson, 1978; Murnane et al., 1991). The Rand Corporation reported that while at least 80% of new teachers stayed for a second year, there was a steady attrition in successive years with less than 30% of males and 50% of females still teaching six years after they had begun (Darling-Hammond, 1984). However, according to Grissmer and Kirby (1987), concern over the large number of experienced teachers leaving the classroom were unsupported by research, as this group was the least likely to resign from teaching.

Attrition rates appeared to follow a U-shaped pattern with the low in the middle stage of a teaching career and high in the early and later stages (Bobbitt et al., 1991; Darling-Hammond, 1990; Grissmer & Kirby, 1987; Murnane et al., 1988, 1991; Shen 1997). The rates were highest in the early stage of the teacher career life when many were moving from survival to stabilization and in the early stage of a teacher's personal life

when many were moving from single to married to child rearing (Huberman, 1993). This U-shaped pattern supported the research findings for a positive relationship between gender, age, and attrition.

Lortie (1975) found that males were more likely to leave than females, and single persons were more likely to leave than married persons. Pregnancy/child rearing was cited as the main reason for higher attrition rates for women (Murnane et al., 1988). Bobbitt et al. (1991) found that the attrition rate for public school teachers in the less than 30 age category was 9%; in the 30 to 39 age category was 5%; in the 40 to 49 age category was 2.3%; and the rate for the 50 or more age category was 9.8%. High early attrition rates were explained in part by the opportunity to leave the classroom for a period of time to start a family and to return at a late date without a great loss of status or professional cost (Murnane, 1987). Late attrition rates were explained by retirement with 22.3% of former teachers leaving for this reason (Bobbitt et. al., 1991). However, research shows that more teachers are leaving teaching for reasons other than retirement or family reasons, and the impact of this attrition on schools is costly in time, money, and upholding of the school culture (Bobbitt, 1994; Boe et al., 1997; Ingersoll, 1999; Marso & Pigge, 1996). This research was based on the relationship existing between teacher attrition and the conditions of teaching. Neave (1992) categorized the factors influenced attrition as "the conditions of service" (material and school-based factors, e.g. salary, subject specialty, first-year teacher role load, professional working conditions, student-related factors) and "the conditions that affect service" (social, economic, or political factors e.g. decline in teacher status, stress, school location, race, class).

When former teachers were asked if they would return to teaching, 83% stated that they were not likely to return (Louis Harris & Associates, 1985). In 1986 this figure had dropped to roughly 30% (Darling-Hammond, 1990); and in 1990 it was up to 38% (Boyer, 1990). According to the Teacher Follow-up Survey report, 14.5 % of teachers reported themselves dissatisfied with teaching as a career (NCES, 2007). While the dissatisfaction in the teaching profession seemed to drop dramatically since 1985, it is highly important to note that in education research a vast body of literature was available on "why teachers leave the profession," but not why they continue to be committed to the profession. More significantly the education researchers have not yet investigated the specific population of teachers who have chosen to continue their professional development and are seeking a Master's degree.

Teacher Retention

As stated earlier, a majority of literature examined reasons for teachers leaving the teaching profession rather than the reasons for them staying in the profession. Retention refers to teachers who remain in the teaching profession (Hammer & Rohr, 1992). As early as in 1961, in a national survey, current teachers were asked about their willingness to teach again, and of those responding, 77% said they certainly or probably would (Snyder & Hoffman, 2001). However, in 1981 only 45% of teachers who were asked the same question said they certainly or probably would teach again (Snyder & Hoffman, 2001). The percentage appeared to be on the rise as the 1986 figure increased to 49%, the 1991 increased to 59%, and the 1996 figure increased to 62% (Snyder & Hoffman, 2001). The retention figure held at 60% in the 2000-2001 national survey

conducted by the National Education Association (O Neil, 2003). According to the most recent Schools and Staffing Survey, the total percentage of stayers in the teaching profession for the 2004-2005 base year was 83.5% (NCES, 2007). Given that, in the long run, after the base year of teaching, statistics show a dramatic drop in the retention rate, Darling- Hammond and Sykes (2003) assert that one third of teachers leave within 3 years, and almost one half leave within 5 years.

The categories NCES data reports show is somewhat limited (NCES, 2007). This national data broke down teacher characteristics only by teaching experience, age, base salary, sex, race, teaching assignment and teaching status, but not by teachers' level of education, i.e. teachers who pursue Master's degree or have Master's degree. The most recent information on the teachers who have advanced degree found in National Education Association (NEA) database. According to the "Status of Teachers 2000-2001" report, the level of teachers since 1960s has improved, and by 2001, 57% of teachers held an advanced degree, (NEA, 2003). This advanced degree can be at the Master's, advanced, or doctoral level; lamentably these data do not show how many of these teachers moved or stayed in the profession.

When teacher characteristics were examined in the literature, it was found that teachers who were most likely to remain in teaching were married females with children, as well as teachers of lower socioeconomic background, lower tested ability, and those who teach in the elementary schools (Heyns, 1988). In 1978, Mark and Anderson found the difference in classroom survival rates between males and females to range from one to five percentage points higher for males. However, Gritz and Theobald (1996) found

that the difference between males and females remaining in their initial teaching position ranged from 13 to 19 percentage points higher for males; but females who began their teaching career after age 30 had higher survival rates.

Teachers who appreciated the intrinsic merits of the teaching profession tended to remain in teaching (Shen, 1997). This included not only teacher commitment, but also the perceived effectiveness of the teacher's efforts and the teacher's feelings toward children (Cockburn, 2000; Cohn, 1992; Connolly; 2000; Huberman, 1993; Lortie, 1973; McLaughlin et al., 1986; O'Neil, 2003). Connolly (2000) and McLaughlin et al. (1986) found that what kept teachers enthusiastic, satisfied, effective, and committed were their personal efficacy, awe over what they were able to do with students, feelings of self-esteem, professional pride, personal fulfillment, and a sense of accomplishment.

Teachers who were empowered and had more influence over school and teaching policies, also, remained in teaching (Shen, 1997). Teacher retention was found to be positively correlated with more involvement in decision making (Bacharach et al., 1990; Connolly, 2000; Darling-Hammond et. al., 1983), and with having more support from administration (Bobbitt et al., 1991; Chapman & Green, 1986; Chapman & Hutcheson, 1982; Meek, 1998). Teachers who remained in teaching reported a more positive first employment experience, believed their educational experiences were utilized in their employment, held a high initial commitment to teaching, assigned high importance to financial rewards (Chapman & Green, 1986), and anticipate it would be hard to find another job with comparable income and benefits (Chapman, 1984; Chapman & Green, 1986). Clearly, researchers reported the influence of certain factors such as support from

administration, intrinsic merits of the teaching profession, or more involvement in decision making can affect teachers' desire to remain in the profession. However, it is necessary to note that the existing literature does not provide information how these factors influence teachers who pursue advanced professional development degrees.

Teacher Commitment

Researchers have indicated that commitment is a multidimensional concept (Firestone & Pennell, 1993; Firestone & Rosenblum, 1988; Louis, 1991, Meyer, Allen, & Smith, 1993). An understanding of teachers' level of commitment is important because it reflects their personal interpretation of how absorbing and meaningful their work experiences are. Most importantly, committed teachers may have the potential to stay in the profession and continue influence student achievement. As in any profession, teachers would want a fulfilling job. Once they feel highly satisfied with their jobs and meet the needs of all children in their classrooms, they may not want to leave the profession. Those committed teachers who continuously are supported by the colleagues and administrators may experience the fulfillment of their professional work in result of reaching every student. To study teacher commitment there has to be clarity on what is actually meant by the term.

Commitment in general refers to the level of one's involvement in the organization. Commitment describes an outcome in which one agrees with a decision or request and makes a great effort to carry out that decision or request effectively (Yukl, 2006). In the educational field, where teachers are committed, there is a positive effect on student achievement (Riehl & Sipple, 1996).

The definitions of teacher commitment differ depending on the context. Commitment involves a psychological state that identifies the objects an individual closely associates with or desires to be involved with (Leithwood, Menzies, & Jantzi, 1994). Teacher commitment has been emphasized in three broad categories (Dannetta, 2002). The first is commitment to the organization. Organizational commitment definitions include the belief in and acceptance of organizational goals and values; willingness to exert effort on the organization's behalf; and a desire to remain in the organization (Mowday, Steers, & Porter, 1982). The second is commitment to the teaching profession. Commitment to the profession is generally the degree to which one has a positive, affective attachment to one's work (Coladarci, 1992); Firestone & Rosenblum, 1988). The third type is commitment to student learning (Kushman, 1992). Commitment to student learning focuses on the degree to which teachers are dedicated to student learning, regardless of the other issues that may be involved (e.g., academic difficulties, social background). This study focuses on one specific type of commitment that is commitment to the profession.

Teacher commitment to the profession. Teacher commitment is crucial for retaining teachers in the teaching profession (Fresko, Kfir, & Naser, 1997; Singh & Billinsgley, 1998). Firestone and Rosenblum (1988) described this dimension of commitment as emphasizing fulfillment from exercising craft skill. They also suggested that higher levels of commitment are experienced when there is a sense of relevance or purpose in one's work. Teachers with no sense of relevance to their teaching are not as others, possibly due to the frustration of their work. Not only do teaches leave the

profession because of frustration, but also because they become attracted to alternative activities (Fresko, Kfir, & Nasser, 1997).

Commitment and the degree to which teachers are satisfied and enjoy what they are doing take place throughout a teacher's career (Fresko, Kfir, & Nasser, 1997). Firestone and Pennell (1993) noted that the committed teacher is one who is intrinsically motivated because of a sense of meaning in the job responsibilities. The level of commitment is further enhanced when there is a connection to the larger purpose as opposed to a routine task. To maximize intrinsic motivation and commitment, tasks should be neither too complex nor too simplistic, but optimally challenging (Deci & Ryan, 1985). It is thus incumbent upon administrators to discern the difference and provide the appropriate support as needed in various situations.

Administrative support for teachers has been proven to enhance teacher commitment to teaching (Firestone & Rosenblum, 1988). Support from administrators contributes to teachers' performance and willingness to stay in the teaching field (Dworkin, 1987). A primary area of support is student discipline. Teachers expect the principal to control the public spaces in the school and to be sympathetic when teachers have problems with uncontrollable students (Firestone & Rosenblum, 1988). Teachers also expect administrators to reduce paperwork, support them in parental disputes, and minimize outside interruptions to their classroom (Rosenholtz, 1985).

In sum, further studies are required, which examine the impact that principal leadership has on the commitment of practicing teachers to their profession. Some of the significant gaps in the retention literature are the influence of principal leadership on

teacher commitment through the link of collective efficacy and teacher efficacy. Additionally, no previous studies have investigated full-time practicing teachers who are also in the process of completing an advanced Master's degree in their field. This group is important to study in order to understand some of the factors that influence their intentions to remain in teaching and continue their professional development.

Principal Leadership

Given that there is a strong relationship between the influence of principal leadership and teacher commitment (Ebmeier, 2003; Ross & Gray, 2006; Ware & Kitsantas, 2007), there is a need for understanding the historical background of leadership, principal leadership, the role of principal in the field of education.

Research on leadership, essentially, began in the 20th century with the focus on leadership effectiveness (Yukl, 1994). Cunnigham (2000) contended that leadership theories came from fields outside of education such as business, science or psychology. However Bass (1990) declared that school leader's behaviors and acts were influenced by the leadership theories, and contemporary education researchers have applied these theories to the field of education that directly influenced principal's and teachers' interactions.

One of the ways to understand what leadership requires is to understand what it is not. Rosenbach and Taylor (1998) believed that leadership was not hierarchical; it was not top-down or based on positional power and authority. Shenabaum (2000) defined leadership utilizing four elements: 1) the relationship was based on multidirectional influence, 2) multiple actors were active in the relationship, there typically more than one

leader, and the influence was inherently unequal, 3) leaders and their followers intend, but do not necessarily produce real changes in the future, 4) leaders and their followers have mutual or common purposes that reflect their intended changes (Shenabaum, 2000, p.21). The author also noted that "leadership was one of the most observed and least understood phenomena on earth" (Shenabaum, 2000, p.20). Leadership, therefore, was not management. One must understand the essential communication style, the process of followers and leaders engaging in reciprocal influence to achieve common goals, thus supporting the perspective of this study.

In order to achieve common goals, the leader often chooses a specific leadership model. When the body of leadership is examined, at least half a dozen leadership models appear; some are instructional leadership, transactional leadership, collegial leadership etc. (Leithwood & Duke, 1999). Out of many, transformational leadership was chosen to be stated in this study due its emphasis on mutual stimulation by leaders and followers to bring about the positive for the organization. Additionally, the instrument used in this study in order to measure teachers' perception of their principal leadership is based on the transformational leadership model.

Leithwood (1992) defined transformational leadership as "a form of consensual or facilitative power that is manifested through other people instead of over people" (p.10). He also indicated the two most significant elements of this leadership are as one being a collaborative, shared-decision making approach, and the other as an emphasis on teacher professionalism and empowerment. Originally, in 1978, MacGregor Burns first investigated what the ideal situation between leaders and followers should be. He claimed

that transformational leadership represented the transcendence of self-interest by both leader and led (Burns, 1978). Bass (1985) extended Burns' concept and added intellectual stimulation, and vision qualities to this leadership model. Leaders with these qualities can "reach the souls of others in the fashion that raises human consciousness, builds meaning, and inspires human intent" (p.3).

Newman et al. (1989) indicated two aspects of principal leadership, as follows: Principal leadership is "goal setting and action to solve school problems", and second, "support for and recognition of staff" (p.225). This study focuses on the second aspect of the principal leadership. In an effort to explore principal leadership, Tarter, Sabo, and Hoy (1995) stressed the principal's role as the manager of interpersonal relations. They present the main task of the principal as providing a "supportive environment." This type of environment supports open, professional, and collegial relations among staff, promotes trust, and allows teachers to work through mistakes without feeling as if they are at risk. As suggested by Glasser (1986), in order to create this type of environment, the principal must be enthusiastic, construct interesting tasks, model proper behavior, reinforce confidence, and when mistakes are made, not fix or blame but, instead focus on solutions to the problem. Researchers suggest that schools in which the greatest learning occurs are those that do not isolate teachers, but instead encourage professional dialogue and collaboration (Deal, 1985).

In the school settings, it is the principal who decides the quality of information teacher receives (Bacharach, Bamberger, & Mitchell, 1990). The quality of communication and shared information between the principals and teachers directly

impacts how teachers perceive the leadership of the principal and school climate. Given that administrative lack of support can impede teachers' confidence in self (Lortie, 1975), it can be argued that principal leaders must provide necessary information, support, encouragement for teachers to possess high perception of self-efficacy. Those with a high perception of self-efficacy tend to try harder in the presence of difficulties, exhibit greater enthusiasm for teaching (Allinder, 1994, Guskey, 1984), and tend to stay in teaching (Burley, Hall, Villeme, & Brockmeier, 1991; Ware & Kitsantas, 2007). Hoy and Miskel (1996) indicated that most research addressing school climate was based on the teacher's perception on the principal leadership behavior. They also noted that the relationship between principals and teachers and the quality of leadership correlate highly with how teachers perceive the climate of school; that is, the better the relationship, the more positive teachers perceive the school climate. Thus, it is mainly the principal who typically provides the formal leadership and whose behavior determines the extent to which teachers see the school as a desirable place to work.

Effective schools are necessary for academic achievement. In order to create and maintain effective schools, Darling-Hammond and Wise (1992) have stressed the importance of principal's influence on teachers, collaboration, and professional development. The authors posited that joint principal teacher participation in decision making is essential to decrease teacher isolation and increase teacher experience with relevant opportunities for professional growth. In essence, they indicated that schools guided by principals using transformational strategies will likely be open to individual and organizational change and create positive work settings. Principals then must

envision the needs of their teachers, empower them, and enable them to develop an effective school climate that creates a desire for teachers to remain in the school and profession.

Barth (1981) points out that the most effective schools are the ones where the principal has begun to explore ways of transforming adversarial relationships into cooperative and collegial conditions. The principal can influence school ecology and teachers' day-to-day working conditions, including such variables as time, schedules, resources, space, and supportive personnel. The author also suggests that instead of directly controlling all activities, leaders need to learn how to set general directions and create the climate that enables people to discover their own skills and talents. Barth (1981) also concludes that the professional growth of teachers appears to be closely related to relationships within the schools, between teacher and principal, and between teacher and teacher.

Given that a principal's leadership may vary according to contextual factors, e.g. school setting or community, it is necessary to explore how teachers' perceptions of efficacy beliefs and commitment are influenced by administration. Saphier and King (1985) found significant differences between teachers, administrators, and specialists on professional treatment when exploring school socioeconomic status (SES). Teachers with the most positive attitudes were from the high or low SES schools, while teachers with the least positive attitude were from middle SES schools. Significant correlations were found between subscales, teacher collaboration and administrator professional treatment of teachers, teacher professionalism and teacher collaboration, teacher efficacy,

empowerment, and conceptual level. All three subscales were significantly correlated with personal teacher efficacy.

Once recruited, the job of recruiting and retaining highly qualified teachers is the most critical and challenging tasks for principals especially in the time of alarming teacher shortage that currently exist (Payne & Wolfson, 2000). Teachers' perception of administrative support has been found to be significant work environment condition affecting teacher job satisfaction (Ingersoll, 1999; Billingsley & Cross, 1992; Johnson Birkeland, 2003; Luekens, Lyter, & Fox, 2004; Tye & O'Brien, 2002). In Johnson and Birkeland's 2003 study, teachers stated that their work environment an essential motivation factor for job satisfaction and success. The teachers who asked for second placements wanted to "feel like professionals… sharing ideas and resources with colleagues and receiving respect and guidance from the principal" (p.21). From their previous experiences, working with dictatorship style administrators, they felt disrespected and controlled. Tye and O'Brien (2002) found similar reflections in their study, including the lack of administrative support when teachers encounter problems. The administration provided excessive support to angry parents rather than the teachers.

Researchers also found administrative support is crucial in teachers' deciding whether to stay or leave their position and their organizational commitment. In a 1992 study of 589 general teachers and 558 special educators in Virginia, Billingsley and Cross (1992) surveyed a random sample to determine teachers' willingness to stay in teaching. They had a very high response rate, 83%, for both samples. The results showed that there were five work-related constructs contributed significantly to teacher's intent to remain in

teaching, leadership support and job involvement. For both general and special educators regression analysis showed that both job satisfaction and organizational commitment are positively associated with greater leadership support. School commitment was significantly correlated with leadership support; however, leadership support was not a significant predictor of professional commitment. Teachers might leave the school due to lack of administrative support or might look for a different teaching position but they do not necessarily leave the profession.

In summary, principal leadership which is based on collaborative principal-teacher relationship, i.e. transformational leadership can create a safe work environment that is involves feelings of satisfaction, trust, open communication, and collegiality. Further, Rosenholtz (1989) emphasized the need for principal leadership associated with transformational leadership that challenge teachers to experiment with new solutions to problems and encourages staff to work jointly toward achieving the common goal in education that is increasing student achievement levels.

Social Cognitive Theory

Social cognitive theory is the theory that essentially resides at the core of this study. As the theory posits, humans have control over their lives through agentive actions (Bandura, 1997). Bandura (1997) speculates that humans act "within an interdependent causal structure involving triadic reciprocal causation" (Bandura, 1997, p.6). In this interactional model of causation, environmental events, personal factors, and behavior affect each other (Figure 2). As individuals, classroom teachers proactively lead their

lives and base their actions in relation to these three dimensions of the social cognitive theory.

Since the 1976 beginning of the RAND study, the teacher self-efficacy as a construct has been studied as a powerful variable in teacher behavior. Renowned social cognitivist Albert Bandura's description of the self-efficacy construct was initially appeared in 1977 with his publication of *Self-efficacy: Toward a unifying theory of behavioral change*. He viewed self-efficacy beliefs as a key element to his social cognitive theory (Bandura 1997, 2000, 2001). What makes people to control the events happening in their lives? Seen from the sociocognitive perspective, beliefs of self-efficacy form the basis for human behavior choices. He described the individuals as having perceptions of their capabilities that impact and determine their persistence in reaching a goal. In his seminal book, *Social Foundations of thought and action: A social cognitive theory*, Bandura (1986) combined all the necessary factors and explained psychosocial functioning in terms of reciprocal causation (Bandura, 1986). In this transactional view, there is a dynamic interplay of personal, behavioral and environmental influences (Figure 6).

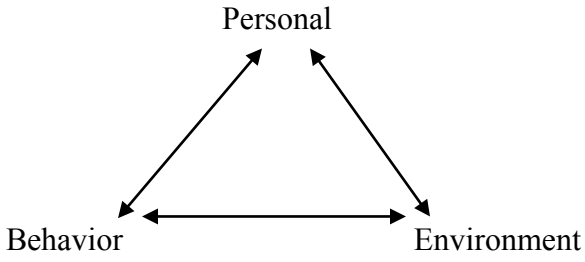


Figure 6. Bandura's model of causation

Social cognitive theory was founded in an agentic perspective (Bandura, 1986). Bandura, therefore, relabeled his theory from "social learning theory" (Bandura & Walters, 1963) to "social cognitive" in order to emphasize people's beliefs about their capability to self-regulate, encode information and perform behavior (Pajares, 1996). It is these beliefs or self-perceptions that actually drive people to their accomplishments rather than their actual ability (Bandura, 1986, 1997; Pajares 2002). In an educational setting, teachers who believe that they can make difference in students' performance feel responsible for their failure or success (Gibson & Dembo, 1984).

People are not just governed by environmental events to inner processes but they operate a self system; they self regulate, self-organize, and self-reflect. Self-beliefs enable humans to exercise a measure of control over their motivation, affects and actions that "what people think, believe and feel affects how they behave" (Bandura, 1986, p.25). Teachers' beliefs about their capabilities in teaching usually reflect the nature of their instruction. Bandura contends that self-reflection is a "distinctly human" capability through which people generate ideas, explore their self-beliefs, act upon them, judge from the results and alter their thinking and behavior if necessary (Bandura, 1986, p.21). It is not entirely surprising that some people may not act optimally although they completely know how to do. When teachers develop a self-belief system they may be influenced by external factors in their work settings, such as administrators, colleagues etc. The consensus over this self-referent thought studies was that "people's sense of personal efficacy to exercise some control over events that affect their lives" (Bandura, 1986, p.391).

Self-efficacy Theory

The tenets of self-efficacy have become a growing area of inquiry not just in psychology but in diverse fields; such as, leadership, communication, sports, health, technology, neuroscience, management etc. (Bandura, 2008). In the last two decades, self-efficacy beliefs have received full attention especially in academic settings, mainly in the area of academic motivation (Pintrich & Schunk, 2002), teachers' intention to remain in teaching (Billingsley, 2004; Stevens & Parkes, 2001), and professional commitment (Joffres & Haughey, 2001; Ware & Kitsantas, 2007). According to Pajares (1996), there exists a mismeasurement of self-efficacy when efficacy beliefs are not tailored to critical tasks. The judgment of self-efficacy is task and domain specific; therefore, globally defined self-efficacy assessments weaken the effects of self-efficacy (Bandura, 1997). Bandura pointed out the necessity of specific assessment for self-efficacy construct and its correspondence with the designated task in order to increase the prediction of academic outcomes. Studies by Newman et al. (1989) and Ashton et al. (1983) suggested that school organization (principal influence, colleague support, resource support, academic emphasis) help teacher accomplish their goals and may also help improve teacher efficacy. Because self efficacy beliefs influences the selections of activities and environments, teachers are not supported by the school organization may feel low self-efficacious and leave their profession.

Since teachers' beliefs in their efficacy affect their perceptions of educational process and their specific instruction, obtaining high sense of efficacy will positively influence teachers' behavior. This, in turn, should encourage teachers to remain in the

profession. Teachers who believe strongly in their efficacy tend to be open new ideas, more willing to try new methods, more committed to teaching, more resilient to difficulties in work conditions, and tend to be less critical of students who make errors (Ashton & Webb, 1986; Coladarci, 1992; Gibson & Dembo, 1994; Tschannen-Moran & Woolfolk Hoy, 2001).

It is significant, here, to point the conceptual nuances among some self-referent costructs. Self-efficacy beliefs are usually referred to as "confidence" and self-concept beliefs as "self-esteem." Both self concept and self-esteem are related to "global self-images" (Bandura, 1977, p.11). Self-esteem is accompanied by self-worth, that is the judgment of one's perceptions of self-worth (Pajares & Schunk, 2001), as reflected in the question of "How do I feel about myself?" Self-efficacy, on the other hand, is the confidence that one has in one's specific ability, just as the question "Can I do that task?" or "Can I write well?" An individual can feel inefficacious in performing a specific task, but does not necessarily have to have low self-esteem. Therefore, the judgment of a teacher who perceives himself or herself inefficacious in teaching does not involve his or her loss of self-esteem. Bandura notes that both self-efficacy and self-concept beliefs "contribute in their own way to the quality of human life" (Bandura, 1986, p.410).

Teacher Efficacy

There exists strong evidence in the literature that teacher efficacy, which is defined as "teacher's judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (Tschannen-Moran & Woolfolk Hoy, 2001, p.783), is related to

commitment to teaching (Coladarci, 1992; Evans & Tribble, 1986; Weiss, 1999), teachers' persistence in the teaching field (Burley, Hall, Vileme & Brockmeier, 1991; Glickman & Tamashiro, 1982; Trenthem, Silvern, & Bogdan, 1985; Milner & Hoy, 2003), and teacher burnout (Brouwers & Tomic, 2000).

Teacher efficacy research, historically, began with the RAND Corporation studies in 1976. Rand researchers examined teacher characteristics, the change process, teacher growth and student learning (Armor et al., 1976). They developed two, five point Likert scale items: "When it comes right down to it, a teacher can't really do much because most students' motivation and performance depends on his or home environment" (Armor et al., 1976, p.159), and "If I try really hard, I can get through the most difficult or unmotivated students (Armor et al., 1976, p.160). These two items were based on Rotter's (1966) locus of control theory, that is generalized expectancies for internal versus external control of reinforcement; i.e. how much teachers believed they could control student motivation and performance. Teachers who strongly believed in the first item exhibited a belief in external factors overpowering their ability to impact students. Teachers who strongly agreed on the second item highly believed in their capacity to exercise control over students' learning. On these two RAND study items, a sequence of teacher efficacy studies grew (Ashton & Webb, 1986; Gibson & Dembo, 1984).

It bears emphasizing that there is a long-term disagreement in the conceptualization of teacher self-efficacy and lack of clarity in measuring this construct. Although the literature of the inconsistent measurement issue of self-efficacy concept is beyond the scope of this study here, it is still beneficial to partly review the development

of teacher efficacy instruments in order to conceptualize teacher efficacy construct along with the studies. This study used the most recent definition of teacher efficacy defined by Tschannen-Moran and Woolfolk Hoy (1998, 2001), which is teacher efficacy as a teacher's beliefs of their capabilities to reach ideal outcomes of student learning and engagement, even the difficult and unmotivated.

Shortly after the first RAND study, Bandura (1977) searched for the question of what meditates between knowledge and action, and defined the theoretical nature of the self-efficacy construct. In his later work, Bandura (1997) clarified the differences between his social cognitive theory and Rotter's (1966) locus of control theory. He emphasized that beliefs about whether actions affect outcomes or locus of control are not the same as perceived self-efficacy or belief about one's ability to produce certain actions. He also noted that efficacy is a much better predictor then locus of control (Bandura, 1997).

Bandura's (1977, 1978) self-efficacy theory proposes that the central determinants of behavior are both outcome expectations and efficacy expectations. Outcome expectations are the judgments that individual regarding consequences of their specific actions in a particular context. Efficacy expectations are the individuals' convictions of their capabilities to achieve a certain level performance in a specific situation (Bandura, 1986). Ashton and Webb (1982, 1986) inspired by these determinants, suggested two independent dimensions of teacher efficacy. They claimed that teacher's outcome expectations about the consequences of their teaching in general is called *teaching efficacy*. Additionally, they named *personal efficacy* as teacher's personal ability to

execute specific actions to achieve desired results. They believed that these two dimensions operate independently. Some teachers may think that teaching is a powerful factor in students' learning but they may not have the personal ability to affect their students or teachers who may not believe in the minor influence in students' learning may actually have high personal efficacy.

Gibson and Dembo (1984) also researched teacher efficacy as a construct to be validated and measured. Based on the RAND study items (Armor et al., 1976), the authors developed a 30 item instrument, the Teacher Efficacy Scale (TES), and yielded two factors, two distinct dimensions of teacher efficacy: personal teaching efficacy (PTE), and general teaching efficacy (GTE). Factor 1 of the factor analysis, PTE refers to the teacher's own beliefs that he or she has the necessary skills and capability to improve student learning. This was represented on the by "If I try really hard, I can get through to even the most difficult or unmotivated students" (p.573). Factor 2, GTE refers to beliefs that external factors beyond the teacher's control, such as socioeconomic status, home environment and parental involvement, limit teacher's ability to bring about change or stimulate improvement. This general statement was represented by "When it comes right down to it, a teacher can't really do much because most students' motivation and performance depends on his or home environment" (p.572). The researchers identified Factor 2 as a clear correspondence to Bandura's outcome expectancy concepts (Gibson & Dembo (1984). After administering TES to elementary teachers, their research indicated differences between high and low efficacy teachers. Teachers who rated high in perceived ability to teach children tended to spend less time in small group instruction

and more time in whole class instruction. Rather than criticizing students for incorrect answers to questions, high efficacious teachers persisted in leading students to formulating correct answers.

In considering analyzing teacher retention, teacher efficacy has been greatly associated with teacher commitment to the profession, and their willingness to stay in teaching (Burley, Hall, Villerme, & Brockmeir, 1991; Coladarci, 1992; Evans & Tribble, 1986; Glickman & Tamashiro, 1982; Trentham, Silvern, & Brogdan, 1985; Ware & Kitsantas, 2007). Hoy & Woolfolk (1993) stressed the value of teacher efficacy and investigated the issue of how to develop or support teacher efficacy. Their study was based on Fuller et al. (1982)'s framework for relating teacher efficacy to school structure, that is teachers' performance can be enhanced through collaboration with colleagues, principal support, teachers' and administrators' commitment to common goals, and evaluation on teachers' outcomes. Teacher efficacy depends on clear communication with administrators and colleagues. The researchers also argued that principals are the prime officers who are in control of providing resources and coordinating the work. Thus, they are to create ways to develop teacher loyalty, trust and commitment. Thus, the authors examined relationships between school climate and teacher efficacy by relating the individual teachers' perceptions of health of their schools to their sense of efficacy. They expected that both teachers'personal and general teaching efficacy would be most closely related to aspects of organizational health that support the accomplishment of teaching goals and thus the meeting of instrumental needs (institutional integrity, principal influence, consideration, resource support, morale and academic emphasis).The

participants in this study were 179 randomly selected teachers from 37 elementary schools in New Jersey. The variables of general and personal teaching efficacy were measured using a version of the TES (Gibson & Dembo, 1984) adapted by Woolfolk & Hoy (1988, 1990). Correlation and regression analyses were used to analyze the data. The researchers found out that principal influence and strong academic emphasis were conducive to development of teachers' personal efficacy. Principals who were perceived as superiors were likely to effect a situation where teachers felt efficacious. Environments that are warm and supportive interpersonally may make teachers more satisfied with their jobs or less stressed. General teacher efficacy was predicted by institutional integrity and teacher morale. Gender was not related to any of the independent or dependent variables. Hoy and Woolfolk (1993) reported that GTE and PTE are separate sets of beliefs. This study could have been extended by including group efficacy, teacher collective efficacy and the leadership of principals.

Education researchers have analyzed beginning teachers' self-efficacy and workplace conditions that appear to play a key role in keeping teachers in the field. Chester and Beaudin (1996) presented concern about the higher attrition rates in the urban school districts. They noted the migration issue from low SES schools to more middle-class schools as teachers gain more experience in teaching. In their study, they explored the factors contribute to changes in newly hired teachers' efficacy beliefs in the urban setting. The research questions were: 1) Do changes in self-efficacy beliefs for new teachers in urban schools vary by teacher characteristics? 2) Controlling for teacher characteristics, do changes in new teachers' self-efficacy beliefs differ for teachers who

are assigned to elementary and higher level classrooms? Do changes differ for teachers assigned to nonspecial education and special education classrooms? 3) Controlling for teacher characteristics are there specific school practices that systematically contribute to changes in new teachers' self-efficacy beliefs? The sample of the data was 173 teachers. Research questions examined whether teacher characteristics (age, race, and years of teaching experience), teacher assignment, and school experience affect changes in teachers' beliefs. The authors had two waves of longitudinal data, a pair of surveys first administered in September 1989, and a follow-up administered in February 1990 to explore the change in self-efficacy for beginning teachers in their induction year. Regression analyses results showed that teachers' beliefs were influenced by teachers' age, prior experience, and by school practices, more specifically teacher collaboration, supervisor feedback, and the availability of instructional resources. The study also confirmed the previous research states that the beginning teachers' self-efficacy decline over the course of the school year.

While the method of teacher preparation, whether a traditional teacher education program or a kind of alternative teacher preparation, does not seem to impact teacher efficacy (Groves, 1988; Guyton, Fox, & Sisk, 1991), age and years of teaching experience may affect teachers belief of efficacy. Novice teachers' perception of teacher efficacy tends to decline during the first year of teaching with increasing concerns about student discipline (Hoy, 2000; Hoy & Spero, 2005; Onafowora, 2004). Research has shown that age may impact teacher's efficacy during the induction year; older adults who begin teaching later in life experience displayed high self-efficacy during their first year

as teachers (Chester & Beaudin, 1996). Life skill teacher training programs (Schechtman, Levy, & Leichtentritt, 2005) and serving as mentor teachers (Yost, 2002) have also revealed an increase in teacher efficacy.

In addition to the kind of teacher education program, age, years of experience as correlates of teacher efficacy, Guskey (1987) explored the effect of other context variables on perceptions of efficacy in a study of experienced teachers. When student performance outcomes were positive, teachers reported greater efficacy. However, when student performance was negative, teachers reported lower perceptions of efficacy and less responsibility for the outcome. Additionally, those educators perceived themselves to be more highly efficacious in terms of group results than for individual student outcomes. When educational outcomes for groups indicated failure, teachers felt responsible. However, they felt less responsible for negative outcomes for individual students, emphasizing the environment and other factors as the cause. Tschannen-Moran and Hoy (2002) also reported that experienced teachers believed to have more resources provided by the school than novice teachers. Perception of teacher efficacy appeared to be positively impacted by resources available to teachers (Tschannen-Moran & Hoy, 2002).

Tucker (2003) examined the relationship among, teacher job satisfaction, teacher morale, work environment, and teacher efficacy in 260 elementary, middle and high school teachers who were involved in school reform in an urban school district. The results showed strong relationship between teacher morale and job satisfaction; morale and robustness, morale and personal teacher efficacy; morale and general teaching; satisfaction and general teaching; total efficacy and morale; and total efficacy and

satisfaction. The study also investigated the status of teacher morale, job satisfaction, overall range of work environment perception and level of personal and teaching efficacy of teachers who work in urban classrooms. The findings indicated that teachers, who had above average morale, were partially satisfied with working conditions, described their workplace environment as being moderately high in robustness, and had a high level of personal efficacy than general teaching efficacy. Environmental robustness had the highest level of relationship with morale, satisfaction, and teacher efficacy. Tucker (2003) reported that as teachers increased their perception of robustness in the workplace environment, morale and efficacy also increased. High school teachers, of the three levels of teachers, had higher levels of morale, perceived environment robustness and self-efficacy than did middle or elementary teachers.

The studies presented in the following section examine how teacher efficacy, both personal and general, is influenced by the working conditions. Moore and Esselman (1994) examined 1500 teachers and they hypothesized that personal and general efficacy can be explained, in part, by a historical pattern of workplace context and student achievement performance. The findings indicated that school context (school climate, staff collegiality, opportunities in decision making) was an important influence on teacher efficacy. The researchers suggested necessary growth in the climate of schools and much greater opportunity for teachers to participate and be influential in decision-making processes in instructional and curricular decisions.

As school context was found to be an influential factor to affect teacher efficacy, collective efficacy as well as teacher efficacy became an emergent characteristic of

schools, which may highly be effective in determining teachers' job satisfaction, in turn, teachers' decisions to remain in teaching. Likewise, Hongyun et al. (2005) studied collective efficacy as the moderating effect on teacher efficacy in relation to teachers' tendency to stay in the profession. Bandura (1997) emphasized collective efficacy beliefs along with self-efficacy beliefs, directed not the self, but the group capability. Collective efficacy "is concerned with the performance capability of a social system as a whole" (Bandura, 1997, p. 469). Hongyun et al. (2005) surveyed 1299 teachers and used Hierarchical Linear Model (HLM) in order to examine the important effects of collective efficacy as a school context. Collective efficacy was both the predictor to explain the teachers' mean difference among schools and as a moderator and moderating the relations between self efficacy and teachers' characteristics, such as teachers' job satisfaction, work devotion, internal motivation and the satisfaction of colleague relationship. Their results revealed that teacher efficacy significantly predicted teachers' job satisfaction, internal motivation, work devotion, the satisfaction of colleague relationship, and teacher turnover tendency, with some school level discrepancy among them. Another important result of this study was that the higher the school's collective efficacy, the school means of teacher job satisfaction, work devotion, internal motivation, and the satisfaction of colleague relationship were, the lower teacher turnover tendency was. Additionally, teacher efficacy was more positively related to teacher job satisfaction, work devotion, internal motivation, and the satisfaction of colleague relationship than did those in lower collective efficacy schools, but more negatively related to teacher turnover tendency (Hongyun et al., 2005).

In addition to associations with personal and environmental factors, teacher efficacy has been also strongly linked to teachers' commitment to teaching (Coladarci, 1992; Short, 1994). Coladarci (1992) found that PTE and GTE "were the two strongest predictors of commitment to teaching" (p.334). The subjects for this study were a random sample of 364 elementary level teachers in Maine. The findings suggested that teachers who were more confident in their abilities to affect student achievement through teaching and teachers who assumed personal responsibility for influencing student achievement tended to have a higher commitment to teaching (Coladarci, 1992).

In one of the most recent and significant study on teacher efficacy and commitment was recently published by Ebmeier (2003). The author studied teacher supervision, formative teacher evaluation, and tested a model to describe how supervision works to influence teacher efficacy and commitment. Ebmeier (2003) based his hypothesized model on Tschannen-Moran, Hoy and Hoy's (1998) model of teacher efficacy with some modifications in order to include variables associated with supervision on organizational agency. Tschannen et. al (1998) hypothesized that after teachers' examine their strengths to overcome difficulties of the task and their skills, they make an estimation of their own efficacy in a particular situation. According to Ebmeier (2003) there is no instrument to measure teachers' estimation, therefore he skipped this intermediate step and he redesigned the model by joining personal efficacy (teaching competence) and external influences (teaching task). In addition, because Ebmeier (2003) observed that all four efficacy factors, mastery experiences, vicarious experiences, social

persuasion, and emotional states has linked to principal, he included to the model two principal variables: principal support of teaching and active principal supervision.

Ebmeier (2003) suggested that principal support of teaching can provide feedback encouragement, emotional support, reinforcement, and modeling as the sources of efficacy. Due to constant interactions with principal, if supervision is to influence teacher efficacy, then the principal must have an active role. Another extension to the model was the organizational agency variables (confidence in the principal, commitment to the building, satisfaction with working conditions, and confidence in peers.) Tschannen et. al (1998) stated the influence of organizational agency on teacher efficacy through reciprocal relationship between the school context and teacher efficacy beliefs. In Hoy and Woolfolk's (1993) earlier work, the authors used school level variables such as climate, school support system and community with staff.

To make the hypothesized model robust in terms of how supervisor affects teachers, Ebmeier (2003) also added commitment to teaching as an outcome variable, in place of a consequence of teacher efficacy in Tschannen et. al's (1998) model. Participants in this study were 4500 in service teachers in a large Midwestern metropolitan area. Instruments for this study were derived from the Diagnostic Assessment of School and Principal Effectiveness Instrument by Ebmeier (1990). Cronbach realiability estimates of these nine variables for this sample ranged from 0.93 to 0.71. Structural equation modeling was used to test the causal relationship among nine latent variables. Results of the confirmatory factor analysis revealed that overall measurement model fit exceptionally well (CFI=0.935, RCFI=0.953). Model-fitting

procedures showed that the hypothesized model yielded a good fit to the data (CFI=0.911, Robust CFI=0.921). The Wald Test was applied and four nonsignificant causal paths were found. Final model was also tested for its replication across a second independent sample. The results indicated that the hypothesized model and final models of causal relations with dimensions of organizational factors, principal supervision behavior and efficacy belief were exceptionally similar.

The findings of Ebmeier's (2003) study reinforce the influence of principal on teachers' affective reactions such as confidence, commitment, and satisfaction in the work environment. Peer support as well as principal support showed when teachers are supported by their peers, they are likely to improve their instruction, remain in the teaching profession, and show more interest in the organization. Results from this study confirmed to the significant role of administrators in school settings; in addition; teacher personal efficacy played a mediating role between principal's influence and teacher commitment to teaching. However, the study could have been improved by analyzing not only teacher efficacy but also teacher collective efficacy on teacher commitment.

Differently than Ebmeier (2003) study, Caprara et al. (2006) included student achievement in their model. The researchers examined teacher self-efficacy beliefs as determinants of their job satisfaction and students' academic achievement. Teachers in 75 Italian middle schools were administered self-report questionnaires to assess self-efficacy beliefs and their job satisfaction. Students' average final grades at the end of middle school were collected in two subsequent academic years. Caprara et al. (2002) employed a structural equation modeling analyses that corroborated a conceptual model in which

teachers' personal efficacy beliefs affected their job satisfaction and students' academic achievement, controlling for previous levels of achievement Caprara et al. (2006). They reported that strength refers to the continual teacher belief in capabilities to prevail over difficulties and obstacles that confront efficacy in instruction.

Collective Efficacy

In the efficacy literature, some researchers have suggested examining teacher efficacy as it relates to organizational context, and as it relates to organizational conceptualization of school (Friedman & Kass, 2002). Some explored teacher efficacy beliefs as determinants of attitudes toward the school as an organization, especially in terms of commitment to school and job satisfaction (Caprara, Barbaranelli, Borgogni & Petitta, 2003). Some suggested investigating possible relationships between teacher efficacy and collective efficacy (Henson, 2002; Pajares, 1997; Tschannen-Moran et al., 1998). Research has shown that teachers' self-efficacy beliefs influence the achievement of those teachers' students; and at the school level, the collective perception of teacher effiacy in the building also influence how well all students in that particular school perform (Bandura, 1993, 1997).

Collective efficacy is an extension of Bandura's (1977) self-efficacy concept to groups (Bandura, 1982, 1986). Self-efficacy refers to individuals' judgment of their individual competency. Collective efficacy concerns individual's judgment in the group capabilities (Bandura, 1997). It refers to the perceived "performance capability of a social system as a whole" (Bandura, 1997, p.469). According to Bandura's (1997, 2000, 2002) social cognitive theory, there are three forms of human agency: personal, proxy, and

collective. Although personal efficacy is a foundation of human agency, individuals do not always control the environments that shape their lives and behaviors. An individual's influence on self and environment can be sometimes limited. Proxy agency refers to the process of seeking assistance from others or from social institutions. People some time need to rely on a social organization for expertise, resources, and assistance. The third type of agency results from individuals organizing themselves to achieve a goal interdependently. People's shared beliefs in their group abilities are essential for collective agency.

Once high level of collective efficacy is achieved, groups like military, athletic team, urban neighborhood, and educational institutions can exhibit stronger motivation in tasks and show resilience to difficulties. Clearly, those groups perform collectively for greater accomplishments than groups with lower levels of collective efficacy (Bandura, 2000). Based on social cognitive theory, Bandura (1986, 1995, 1997) expanded the construct of self-efficacy to the larger, social construct of collective efficacy within group settings. Schools are large group settings and teaching cannot occur in isolation. Teachers work together to accomplish an established goal in educating children. Pajares (1996, 1997) also drew from social cognitive theory and agreed upon the collective process of education. Researchers indicated the need of looking beyond self-efficacy to the impact of collective efficacy and possible interrelationships between these two concepts (Henson, 2002; Pajares, 1997; Tschannen-Moran et al., 1998).

The study of collective efficacy in schools has gradually emerged during the past fifteen years as an extension of teacher efficacy research. Bandura (1995) himself

demonstrated a positive effect of collective efficacy and student achievement regardless of socioeconomic status, race, or ethnicity of students. Series of research followed examining the relationship between collective efficacy and student achievement (Barr, 2002; Goddard, 1998, 2001, 2002; Goddard & Skrla, 2006; Goddard, Hoy, & Hoy, 2000; Hoy, Smith & Sweetland, 2002). When the collective efficacy of teachers is high, they tend to perform mastery experiences for students and create instructional environments conducive to learning, which leads them to be more attached to their profession.

Over the last 30 years, highly satisfied teachers in the profession are found to have "collegial, collaborative" relationship with colleagues (Ascher, 1991; Green & Manke, 2001; NCES, 2007; Reyes et al., 1999). Scott, Stone and Dinham (2001) recommended strong relationship among colleagues as a fundamental requirement for teacher commitment. They also suggested encouragement and expanded support among colleagues as a key strategy to create high satisfaction in the work setting. In addition to colleagues, another key member in the school organization is "the principal" who is also critical to many teachers. Strong administrative leadership through administrators can provide supportive work environments and encouragement to collaborate with colleagues (Ascher, 1991; NCES, 1997, 2007). Research on collective efficacy has supported relationship between perceived collective efficacy to organizational effectiveness (Olivier, 2001), to teacher influence in decision making process (Goddard, 2002; Goddard, Hoy, & Hoy, 2004), and to academic press (Hoy, Smith, & Sweetland, 2002),

Joffres and Haughney (2001) explored the factors influencing teachers' feelings of collective efficacy. They interviewed 14 teachers in their study. When the teachers in

the study reported they could not influence children's learning, they also reported a feeling of being profoundly unsuccessful to the point of *uselessness* (emphasis added). When teachers were asked, in semi-structured interviews, to relate what they felt attributed their failure to influence students' learning, teachers reported a combination of factors: inadequate training and/or experience, role conflict, and role overload, disorderly classroom environments, normlessness regarding school behavioral policies or little support from school staff (particularly the principal) to enforce existing discipline policies, principal's failure to develop cultural norms facilitating teachers' learning (e.g. collaboration, mentorship, professional development).

Teacher collaboration has a causal effect on trust and collective efficacy (Dale, 2005). The purpose of this study was to examine the causal relationships between collaboration, trust, collective teacher efficacy. Participants of this study were 545 teachers selected from 79 schools throughout the northeastern quadrant of Oklahoma. School level data was 545 teachers and 79 administrators. A theoretical casual model was developed consisting of eight variables, teacher trust of teach, teacher trust of principal, teacher-teacher collaboration, teacher principal collaboration, prior academic skill, socioeconomic status, school level, and collective teacher efficacy to test the direct and indirect relationships among the variables. Teacher-teacher collaboration was found to be a significant predictor of both teacher-teacher trust and collective teacher efficacy. Prior academic skill and teacher-teacher trust were found to be significant factors of collective teacher efficacy. Teacher-principal collaboration was not found to be a significant predictor of either teacher-principal trust or collective teacher efficacy. Teacher-principal

trust was also not a significant predictor of collective efficacy. Findings from this research highlight the importance of collaboration in building trusting relationships in raising the level of collective efficacy within a school.

Regarding the possible relationship of a school principal's influence on the perceived collective efficacy of teachers within the school and teacher commitment, some of the recent studies showed that teachers' collective efficacy is related to supportive principal behavior (Knobloch & Whittington, 2002; Ross & Gray, 2006). Ross and Gray (2006) explored the transformational leadership and teacher collective efficacy. The researchers provided evidence on the consistent empirical link from transformational leadership to teacher outcomes (specifically commitment to the organization), from principal transformational leadership to teacher collective efficacy , and from efficacy to teacher commitment (commitment to school mission, commitment to professional community, commitment to community partnership).This study examined the mediating effects of teacher efficacy by comparing two models derived from Bandura's social cognitive theory. In Model A, the researchers hypothesized that transformational leadership would contribute to teacher commitment to organizational values exclusively through collective teacher efficacy. Model B hypothesized that leadership would have direct effects on teacher commitment and indirect effects through teacher collective efficacy. Data for the study came from 218 elementary schools, total of 3, 074 teachers located in Ontario, Canada. The cross-validation sample design provided greater support for Model B than Model A. Transformational leadership had an impact on the collective teacher efficacy of the school; teacher efficacy alone predicted teacher commitment to

community partnership; and transformational leadership had direct and indirect effects on the teacher commitment to school mission and commitment to professional learning community. In short, collective efficacy is a powerful mediator of commitment to school-community partnership and a partial mediator of commitment to school mission and to the school as professional community. Ross and Gray (2006) concluded that principal leadership has a critical role to improve teacher collective efficacy beliefs. However, this study could have been extended to whether teacher self-efficacy beliefs play a role in teacher commitment to the organizational values.

Collective and Teacher Efficacy Links

Education scholars have recommended investigating the links between teachers' perception of collective efficacy and teacher efficacy within a school (Goddard, Hoy, & Hoy, 2004; Henson, 2001, 2002; Pajares, 1997, Tschannen-Moran et al., 1998). As Goddard, Hoy, and Hoy (2004, p.3) posit: "Social cognitive theory is employed to explain that the choices teachers make, the ways in which they exercise personal agency, are strongly influenced by collective efficacy beliefs." Thus, this section explores "an important but overlooked question (which) concerns the nested association between these two influential types of beliefs" (Goddard, 2003, p.189) in the field of education.

As early as the 1990s, Parker (1994) explored elementary school teachers' collective efficacy and self-efficacy. The author identified the academic domain as well suited to the study of collective efficacy because the organizational units (schools) all perform the same function (education). It was hypothesized that teachers' perceived self-efficacy and collective efficacy would be related but independent constructs. The author

also examined the relationships between efficacy and grade level currently teaching, participation in team teaching, participation in team planning, level of participation in district in-services, number of years in teaching, gender, and education level. As characteristics of school variables a few composition of student body variables, e .g. socioeconomic status, and academic achievement were also examined. Questionnaires were sent to 25 elementary schools in a major metropolitan school district in California. The final sample included 19 schools a total of 239 teachers. The design of both teacher self-efficacy and collective efficacy scales for this study was based on Bandura's microanalytic methodology for assessing efficacy (Bandura, 1982, 1986). The author analyzed the data utilizing path model and a series of regression analyses.

The findings of Parker's (1994) study supported the hypothesis that, in at least some domains, self-efficacy and collective efficacy are related, but as independent constructs. While it was also found that the socioeconomic composition of a school's student body was a strong predictor of teachers' collective efficacy, many of the teacher efficacy ratings were unrelated to the socioeconomic variables. When teachers heavily relied on socioeconomic information in rating the school as a whole, they did not do the same when they were rating their individual efficacy, their own classroom; they relied more on their assessments of their own capability to educate children. Although teachers' collective efficacy was associated with school level achievement, this relationship was no longer significant when prior achievement levels were controlled. According to the correlations between teachers' year of experience in teaching, years of experience in the current school, gender, and collective efficacy, the correlation between collective efficacy

and gender was small but statistically significant ($r = .12$, $p < .001$), suggesting that females perceived higher levels of collective efficacy than males. The correlations between perceived collective efficacy and teaching experience, however, was negligible ($r = .05$, $p < .01$), suggesting that individuals who remain in the profession longer are no more likely than novice teachers to perceive their colleagues as effective. Additionally, teachers who remained in the same school for a long time were no more likely than new teachers to perceive their colleagues (in that school) as effective ($r = .03$, $p < .01$). Teacher's perceptions of collective efficacy and their perceptions of professional learning community readiness are moderately related. This suggests that teachers who perceive their school to be characterized by shared leadership, focused vision, collaborative work, shared observation, and supportive conditions also perceive their colleague to be effective in bringing about student learning. The author concluded that there is a possibility that the effects of collective efficacy might be mediated by other attitudes and behaviors such as teachers' job satisfaction, organizational commitment, participation in decision making and teaching style. As Parker suggested in this study, future research should examine the individual behavior, attitude, and belief as mediators between efficacy and performance.

With regard to predicting teacher commitment, Ware & Kitsantas (2007) explored the relationship among teacher efficacy, collective efficacy, teacher efficacy, and teachers' commitment to the profession using the public data set of 1999-2000 Schools and Staffing Survey (SASS) Teacher Questionnaire. The purpose of this study was to investigate two efficacy beliefs, teacher and collective efficacy, simultaneously, in a large national database. The authors focused on the affective and normative aspects of

commitment that is individual's emotional and moral attachment to the teaching profession. Their research question was "Do teacher efficacy beliefs in such schools predict teacher professional commitment?" More specifically,

(1) Can factors associated with teacher efficacy, consistent with the theory and findings of others, be found in a large national survey of teachers and principals?

(2) If those measures of collective efficacy can be found, how are they related to teacher commitment?

(3) If relationships exist between efficacy and teacher commitment, what implications might those relationships have for the operation of schools or for the training of principals?

To answer these questions, the authors studied 26,257 teachers whose intentions to stay or leave teaching when asked how long they intended to remain in teaching. In addition, 6, 711 principals filled out the "Principal Questionnaire" part of the SASS 1999-2000. The authors selected from the full sample of principals those who had answered "Yes" to the question, "Is your school required to meet district or state performance goals?, then they merged this file with the teacher file to be able to get the data file of teacher responses for schools in which these goals were required. Data analysis was operationalized by using exploratory factor analysis to form three independent variables for multiple linear regression. The authors identified 30 items in the SASS questionnaire that are related to teachers' beliefs, and their perceived expectations, control, and support in their schools. 17 items corresponded three factors through exploratory factor analysis: (a) Teacher Efficacy to Enlist Administrative

Direction, (b) Collective Efficacy-Teachers' Influence on Decision Making, (c) Teacher Efficacy for Classroom Management as the independent variables. The three factors accounted for 54.97% of the variance in the items. For the dependent variable, the authors created a scale to measure Commitment to Teaching with four items. All factor loadings formed the basis for measures about teachers' efficacy beliefs within their schools. The results showed that all three efficacy scales were significant predictors ($p < .001$) of teacher commitment to teaching. The researchers found support for all of their research questions. Administrative support, social support, and positive feedback of were important for enhancing teacher efficacy. Responsibility of leaders and team-leadership attributes were suggested to be reviewed in regard to aspire group member's capabilities. Teachers' beliefs about the decision making can influence their group's judgments, which is a significant factor of teacher retention. Teacher commitment can be enhanced when teachers believe that they have efficacy to enlist the support of their principals, influence policies in their schools, and control their instruction. For that reason, principals need to set goals and engage in strategies that facilitate their communication with teachers.

Hongyun, Lei, and Oingmao (2005) explored the effects of collective efficacy as a school context characteristic variable, including both as a predictor to explain the teachers' mean difference among schools and as a moderator moderating the relations of self-efficacy and teachers' characteristic variables such as teachers job satisfaction, work devotion, internal motivation and the satisfaction of colleague relationship. Based on survey data collected from 1299 teachers representing 28 elementary schools, Hierarchical Linear Model (HLM) results revealed that (1) teachers' self-efficacy

significantly predicted teachers' job satisfaction, work devotion, internal motivation and satisfaction of colleague relationship and demission tendency, but there were school level variations among these effects, (2) the higher the school's collective efficacy, the school means of teachers' job satisfaction, work devotion, internal motivation and the satisfaction of colleague relationship were higher, and demission tendency was lower, (3) school level collective efficacy moderated the relationships between self-efficacy and other teacher characteristics; teachers in higher collective efficacy schools reported that their self-efficacy was more positively related to teachers' job satisfaction, work devotion, internal motivation and the satisfaction of colleague relationship than did those in lower collective efficacy schools, but more negatively related to demission tendency (Hongyun, Lei, & Oingmao, 2005).

The interrelationship between teacher efficacy and collective efficacy beliefs and their influence on teachers' professional life have also been investigated by some international education scholars. Skaalvik and Skaalvik (2007) had three main purposes for their study. One purpose of this study was to develop and factor analyze a scale of teacher self-efficacy on the basis of role expectations in Norwegian schools. A second purpose was to test whether teacher self-efficacy could be conceptually distinguished from collective teacher efficacy and external control (teachers' general beliefs about limitations to what can be achieved through education). A third purpose was to examine relations among teachers' perception of strain factors in school (student with behavior problems, conflicts among teachers, conflicts with parents, and classroom instruction), external control (students' abilities or home environment), perceived collective efficacy,

teacher self-efficacy and level of teacher burnout. The authors hypothesized that perceived collective teacher efficacy is predictive of individual teacher self-efficacy, and a negative relation between teacher self-efficacy and teacher burnout. They also expected a positive relation between perceived strain factors and teacher burnout, partly mediated through teacher self-efficacy.

Data were gathered using randomly selected 246 teachers from 12 elementary schools (1-10th grade) in two small cities and a large rural area in Norway. With two missing data the final participants were 244, % 63 were women, and the mean age was 45 years old. In 10 of the schools teachers responded six questionnaires as a particular time set aside during the instruction time. In two schools, the principals did not allow teachers to participate the study during working hours, so those teachers responded the set of questionnaire at home. Researchers developed Norwegian Teacher Self-Efficacy Scale (NTSES) consisted of six subscales: Instruction, Adapting Education to Individual Students' Needs, Motivating Students, Keeping Discipline, Cooperating with Colleagues and Parents, and Coping with Changes and Challenges. In addition of developing NTSES, the authors also developed perceived collective efficacy, external control, and strain factors scales, excluding teacher burnout. Teacher burnout was measured by widely used Maslach Burnout Inventory-Educators Survey (Maslach et al., 1996).

The NTSES was analyzed by mans of Cronbach alpha. To establish indices the authors used CFI, IFI, TLI and RMSEA. All the indices reflected good fit to the data. Later a confirmatory factor analysis was conducted by using AMOS program to test eight factor model, the six dimensions of self-efficacy scale, collective teacher efficacy and

external control. A series of regression analysis were run to predict external control, collective teacher efficacy, teacher self-efficacy and teacher burnout. Last, authors tested a path model four these four latent variables. Analyses of relations among variables were first explored by a series of regression analyses. Two separate analyses were calculated with size of school, organization of instruction, gender, number of years in the teaching profession, and the four strain factors as predictors of external control and perceived collective efficacy. All predictor were entered simultaneously. Gender was not significantly related to collective efficacy, but collective efficacy was negatively related to years of experience (β = - .23). When NTSES subscales were regressed all these factors, male teachers had significantly higher self efficacy for maintaining discipline (β = .27). and for cooperating with colleagues and parents. Years of teaching experience was negatively related to three of the NTSES scales; Motivating Students, Coping with Changes and Challenges, and Cooperating with Colleagues and Parents. External control was not systematically related to the NTSES subscales, and perceived collective efficacy was moderately related to all NTSES subscales (β values between .27 and 39). As for the Maslach Burnout Inventory, teacher burnout was most strongly related to teacher self efficacy (β values between -.32 and -.40). The last analysis was testing the four latent variable theoretical model. The model was designed to test teacher efficacy predict teacher burnout, in addition to test collective efficacy predict teacher efficacy, and the external control in the model was specified as an exogenous variable. The model had acceptable fit to the data, χ^2 (183, N = 244 = 307.83; TLI = .91, CFI = .92, IFI = .92, RMSEA = .053). Teacher burnout was strongly related to teacher efficacy (-.76), teacher

self-efficacy was strongly related to collective efficacy (.64). Perceived collective efficacy was not directly related to burnout; however there was a moderate indirect relation between collective efficacy and teacher burnout that was mediated through teacher self-efficacy (-.49).

This study revealed clear supports on the following issues: the conceptualization of teacher self-efficacy as a multidimensional construct; strong correlation between self-efficacy and teacher burnout supporting the validity of the NTSES; and teacher efficacy being distinguished from external control (often called teaching or general efficacy) (Ashton & Webb, 1983; Gibson & Dembo, 1984; Hoy & Woolfolk, 1993). Additionally, this study confirmed the results from Goddard and Goddard (2001) treating collective efficacy and teacher efficacy separate constructs but positively and strongly related. Skaalvik and Skaalvik (2007) suggested that one should attempt raise teachers competencies collectively through school development; therefore the present study examined the relationship between teacher efficacy and collective efficacy as well as the principal leadership style and how that supports teachers' competencies and their commitment.

Goddard and Goddard (2001) examined whether a school's collective efficacy is related to differences in teacher efficacy among schools, and they offered a theoretical analysis of the relationship of teacher and collective efficacy. The authors hypothesized that collective efficacy would be a significant positive predictor of differences among schools in teacher efficacy. The participants in this study were 438 teachers in 47 elementary schools in a large urban school district located in the Midwestern United

States. Teacher efficacy was measured using TES (Gibson & Dembo, 1984), and collective efficacy was measured by 21-item collective efficacy scale developed by Goddard, Hoy, and Hoy (2000). School level control level variables were proportion of low SES and minority student population, prior mathematics achievement, and school size. The authors employed hierarchical linear modeling to avoid aggregation bias. The results indicated significant variation among schools in teacher efficacy, so teacher efficacy varies systematically with school characteristics. In the multilevel examination of the analysis, the findings confirmed the hypothesis of the study; collective efficacy was a significant predictor of differences between schools in teacher efficacy. Thus organizations play an important role in teachers' perception of self-efficacy beliefs. This study could have been extended to the influence of principal role in organizations, and whether this role affects teachers' beliefs and behaviors in the education field.

In sum, the education research has extensively examined the factors affecting teachers' decision to leave the profession but not what determines their commitment to the profession. This chapter has explored some factors that may influence teachers' commitment to the profession. While the research supports connections among teachers' efficacy beliefs (teacher efficacy and collective efficacy), principal leadership, and commitment to the profession, we don't know much about the role of these factors in practitioners who pursue professional advanced degrees.

From the review of social cognitive theory and other related literature, three mediation models (figures 2, 3, and 4) are hypothesized to better understand teacher retention by examining practicing teachers' perceptions of self and collective efficacy,

principal leadership and teacher commitment to the profession. Specifically, the hypotheses for this study are as follows:

Hypothesis 1: It was expected that significant relationships will emerge among principal leadership, general teacher efficacy, personal teacher efficacy, collective efficacy and teacher commitment to the profession.

Hypothesis 2: It was expected that collective efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 3: It was expected that general teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 4: It was expected that personal teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

3. Method

The goal of this study was to examine several factors influencing teachers' commitment to the profession. This chapter describes the research design used in this study including participants, setting, survey instruments, data analysis, and analytical procedures in order to investigate data on relationship between principal leadership, collective efficacy, teacher efficacy and teachers' commitment to the profession.

Participants and Setting

A sample of 260 teachers from two Master's degree programs (described below) in a large public university in the Washington DC area was recruited for this study. Of the 260 respondents 173 (67%) were female, 87 (34%) were male. The percentage of female respondents is consistent with similar studies involving teachers within K-12 teaching environments (Hoy & Woolfolk, 1993). Out of 260 respondents, 207 (80%) were White, 27 (10%) were African American, 10 (4%) were Hispanic, 5 (2%) were Asian or Pacific Islander, 2 (8%) were American Indian, and 9 (4%) individuals selected a unique label (e.g. Other Ethnicity) for their ethnicity. The percentage of White respondents is representative of teacher population in the 2004-2005 national survey (NCES, 2007).

The participants of this study, also, were grouped on the basis of chronological age across five categories: 20-29 (38%), 30-39 (34%), 40-49 (21%), 50-59 (6%), 60 or

greater 4 (2%). Respondents were relatively evenly spread among three of five age categories within the highest participant rate among the 20-29 age category. The smallest participant category was the 60 or greater age category with only 2% of the study total. Additionally, participants entered categorical years of teaching experience across five categories: 77 (30%) with 5 or less years of experience, 93 (36%) with 6-10 years of experience, 51 (20%) with 11-15 years of experience, 23 (9%) with 16-20 years of experience, 16 (6%) with 21 or more years of experience. Participants' years of teaching experience was relatively evenly spread among three of five categories with the highest rate among the 6-10 years of experience, and lowest rate among 16-20 years of experience.

Participation was voluntary and no remuneration was provided. All students were practicing teachers and enrolled in a Master's program. While most efficacy research has been conducted in public or private schools, no researchers yet have investigated these two constructs with professional practicing teachers, who are voluntarily seeking a Masters' degree while working full-time. This non-random population was chosen for the study due to two significant reasons: 1) No other study in the existing educational inquiry has specifically examined the influence of Master's degree program teachers' efficacy and collective efficacy in their relation to principal leadership and commitment to the profession, 2) Teachers seeking a Master's degree while working are assumed to be committed to their profession.

The participants for this study were teachers enrolled in two Master's degree programs in the 2008-2009 academic year. These teachers, currently, were in the process

of completing their coursework while retaining their full-time teaching position. Program A is an advanced Master's degree program in that it is for practicing teachers who have been teaching for a minimum of one year. This program places an emphasis on enhancing teachers' self-beliefs and draws on teachers' knowledge and experience as well as on theoretical and empirical research to construct professional learning communities of educators who explore innovative ways of thinking about teaching and learning to improve their practice and to enhance student learning. The courses, aligned with the National Board for Professional Teaching Standards (NBPTS), help teachers think and practice like board-certified teachers. The program includes a 12-credit Education Core that is aligned with the propositions of the NBPTS and an 18- to 21-credit Concentration in any one of 17 areas, alternative education, early childhood education, gifted child education, foreign languages, history, literacy/reading specialist, mathematics, science, special education.

The goal of Program B is to improve the quality of pre-K-12 education through teaching, research, and service and prepares candidates for leadership and management positions in school settings. The program typically admits students who have been teaching for a minimum of three years. The emphasis of this program is to understand the complexities of change in schools, communities, and organizations, as well as to provide teachers in gaining the necessary knowledge, skills, and dispositions for the challenging diverse learning environments. This program also provides on-the-job training, case studies, lectures, scenarios, simulations, problem-based activities, internship experiences

along with the coursework. While retaining their full-time teaching positions at schools, the participants in both of these Master's programs attend the Master's classes.

Measures

This study was conducted utilizing four survey instruments, and a demographic survey of teacher characteristics.

Teacher background questionnaire. The researcher constructed questionnaire was administered in this study (see Appendix A). The questions includes participants' gender, age, race, years of experience, years of experience in the current school; and school setting, school grade level.

Teacher efficacy scale. The variable of general teaching efficacy (GTE) and personal teaching efficacy (PTE) was measured using the Teacher Efficacy Scale by Woolfolk and Hoy (1990), which was adapted from Gibson and Dembo (1984). The dimensions of efficacy was assessed using a short form of scale consisted of five personal and five general teaching efficacy. Each item was identified by a six-point Likert scale from "strongly agree" to "strongly disagree"; the higher the score, the more efficacious. A sample statement is "If I try really hard, I can get through to even the most difficult or unmotivated students." The coefficient alpha reliabilities are .77 for PTE and .72 for GTE. For this sample, Cronbach's alpha was .74 for PTE, and .75 for GTE. Validity was determined when Gibson and Dembo (1984) performed a "multitrait-multimethod analysis that supported both convergent and discriminant validity of the scale" (Hoy & Woolfolk, 1990, p.289).

Collective efficacy scale. Teachers' perceived collective efficacy was measured by using the 12-item short form of the Collective Efficacy Scale (CES) developed by Goddard (2002). The CES is based on Gibson and Dembo (1984) widely used Teacher Efficacy Belief Scale. Participants responded to each item on a 6-point Likert type scale anchored at 1(strongly disagree) and 6 (strongly agree). A sample item from the scale is "Teachers in this school are able to get through to different students." Alpha coefficients of reliability are typically in the .90. The 12-item scale provided high internal consistency (alpha = .94), and all items loaded strongly on a single factor and explained 57.89 percent of the item variation (Goddard 2002). The reliability coefficient for the study population was .84.

Principal leadership questionnaire. The principal leadership questionnaire (PLQ) was used to measure teachers' perceptions of their principal leadership behaviors. The PLQ was developed from a study by Jantzi and Leithwood (1996), in which the theoretical account of transformational leadership concept was formed and empirically tested. The questionnaire includes 24 item utilizing a four point Likert scale from "strongly agree" to "strongly disagree." The six dimensions of this form of leadership and their reliability coefficients reported by Jantzi and Leithwood (1996) include:

1. Provides Vision (PV): Behavior on the part of the leader aimed at identifying new opportunities for his or her school and developing, articulating, and inspiring others with his or her vision of the future. This scale included five items (1-5) with a reliability coefficient (Cronbach's alpha) of .88. For this sample Cronbach's alpha

was .91. A sample item is “The principal makes faculty members feel and act like leaders.”

2. Models Behavior (MB): Behavior on the part of the leader that sets an example for staff members to follow consistent with the values the leader espouses. This scale included three items (6-8) with a reliability coefficient (Cronbach’s alpha) of .86. For this sample Cronbach’s alpha was .90. A sample item is “The principal leads by doing rather than simply telling.”

3. Fosters Commitment (FC): Behavior on the part of the leader aimed at promoting cooperation among staff members and assisting them to work together toward common goals. This scale included five items (9-13) with a reliability coefficient (Cronbach’s alpha) of .80. For this sample Cronbach’s alpha was .90. A sample item is “The principal provides for our participation in the process of developing school goals.”

4. Provides Individual Support (IS): Behavior on the part of the leader that indicates respect for staff members and concern about their personal feelings and needs. This scale included five items (14-18) with a reliability coefficient (Cronbach’s alpha) of .82. For this sample Cronbach’s alpha was .90. A sample item is “The principal treats me as an individual with unique needs and expertise.”

5. Provides Intellectual Stimulation (NS): Behavior on the part of the leader that challenges staff members to reexamine some of the assumptions about their work and rethink how it can be performed. This scale included three items (19-21) with a reliability coefficient (Cronbach’s alpha) of .77. For this sample Cronbach’s alpha was .87. A

sample item is “The principal stimulates me to think about what I am doing for the school’s students.”

6. Holds High Performance Expectations (HE): Behavior that demonstrates the leader’s expectations for excellence, quality, and high performance on the part of the staff. This scale included three items (22-24) with a reliability coefficient (Cronbach’s alpha) of .73. For this sample Cronbach’s alpha was .92. A sample item is “The principal will not settle for the second best in the performance of our work as a faculty.”

For this study the total score was used and reliability for the total score was .97.

Teacher commitment scale. The measure for teacher commitment in this study was Ebmeier’s (2003) Commitment to Teaching Scale by which was derived from the Diagnostic Assessment of School and Principal Effectiveness instrument (Ebmeier, 1990). Respondents were asked to indicate their commitment to the profession of teaching. The 8 item Likert scale is ranged from ranged from “completely disagree” to “completely agree.” Sample items are “I am proud to be a teacher.”, “If offered a better salary, I would move to another profession” (score reversed). Cronbach’s alpha coefficient for this scale was .85, and it was .86 for the study sample.

Procedure and Data Collection

The survey instruments were group administered in individual classes. Participants were asked to sign an informed consent form and complete the principal leadership, collective efficacy, teacher efficacy, teacher commitment measures, and the

teacher background questionnaire. All instruments were administered during one class period. The total time to complete the surveys ranged from 20 to 25 minutes.

Research Design

The design employed in this study was a descriptive survey research design, in which teacher commitment and factors impacting teacher commitment were investigated through survey instruments. Specific hypotheses addressed in this study were:

Hypothesis 1: It was expected that significant relationships will emerge among principal leadership, general teacher efficacy, personal teacher efficacy, collective efficacy and teacher commitment to the profession.

Hypothesis 2: It was expected that collective efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 3: It was expected that general teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 4: It was expected that personal teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Data Analysis

In order for the first hypothesis to be analyzed, bivariate correlations were utilized among the study variables. For the rest of the hypotheses, regression analyses techniques were used to examine the direct and indirect effects among variables based on Baron and Kenny's (1986) "mediation with regression analysis approach." Cook and Campbell (1979) suggested that these techniques are especially appropriate when "theoretical, empirical, and commonsense knowledge of a problem" (p.307) provides a defensible

mapping of variables and their probable casual links. Regression based path analysis was, therefore, especially appropriate in an investigation in which the tenets of social cognitive theory are provided. In addition, previous findings are such that hypothesized relationships in this study have strong theoretical and empirical support.

For the analysis of the hypothesized mediation models, Baron and Kenny's (1996) three step approach was utilized. Several regression analyses were conducted and significance of the coefficients was examined at each step. It is significant to note that only when all steps are met, then the data support the hypothesis (Kenny, 2008).

Below are the illustrations and the necessary procedure followed for each model:

First model

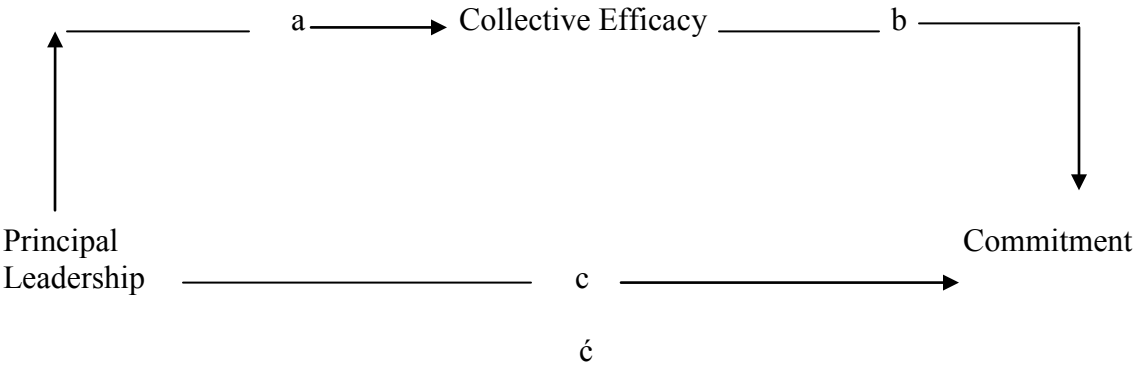


Figure 7. First model

Step 1. Show that predictor/initial variable (Principal Leadership, path c) is correlated with the outcome (Commitment to the Profession).

Step 2. Show that predictor/initial variable (Principal Leadership, path a) is correlated with the mediator (Collective Efficacy).

Step 3. Show that the mediator (Collective Efficacy, path b and c') affects the outcome variable (Commitment to the Profession).

Second model

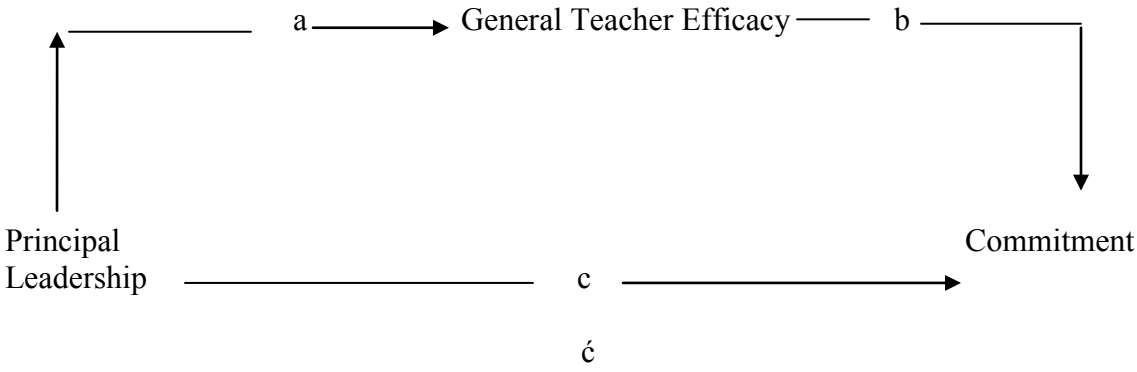


Figure 8. Second model

Step 1. Show that predictor/initial variable (Principal Leadership, path c) is correlated with the outcome (Commitment to the Profession).

Step 2. Show that predictor/initial variable (Principal Leadership, path a) is correlated with the mediator (General Teacher Efficacy).

Step 3. Show that the mediator (General Teacher, path b and c') affects the outcome variable (Commitment to the Profession).

Third model

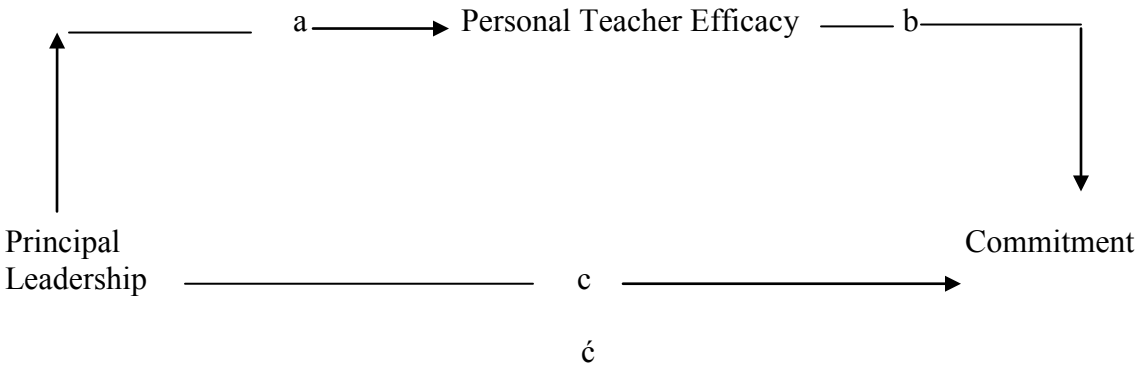


Figure 9. Third model

Step 1. Show that predictor/initial variable (Principal Leadership, path c) is correlated with the outcome (Commitment to the Profession).

Step 2. Show that predictor/initial variable (Principal Leadership, path a) is correlated with the mediator (Personal Teacher Efficacy).

Step 3. Show that the mediator (Personal Teacher Efficacy, path b and c') affects the outcome variable (Commitment to the Profession).

Analytical Procedures

The analyses were performed using Statistical Package for Social Sciences (SPSS) 16.0. Prior to conducting any analyses, two steps were taken to ensure the data were clean and useable. In step one the data were examined for errors in coding. For example, all cells with missing data were cross-checked with individual surveys to be sure the data were actually missing. If the data were actually contained in the survey, empty cells were filled in with correct data. In step two, frequencies were run for each

item in the data set and outliers were crosschecked with the surveys. Where possible, data which were entered incorrectly were re-entered. For example, since the possible responses on the self-efficacy scale ranged from 1-6, any numbers coded outside of that range were double checked and changed to accurately reflect the survey response. These two steps helped ensure that the results of the statistical procedures were not influenced by data that were entered incorrectly.

Next, correlations were used to analyze the relationships among the study variables. Then, a series of multiple regression analyses were used to analyze the study's hypothesized mediation models. Specifically, ordinary least squares (OLS) regression was used when the dependent variable was continuous. More specifically, Baron and Kenny's (1986) mediation model was employed. Since this study's theoretical framework suggested that the impact of principal leadership on teachers' commitment to the profession would be both direct and indirect, it made sense to employ a meditational strategy. Baron and Kenny's particular model was used as the basis for the regression analysis in this research study because it is one of the most commonly used methods for testing mediation in psychological research (MacKinnon, Lockwood, Hoffman, West & Sheets, 2002).

Baron and Kenny (1986) explained that a mediating variable accounts for the relationship between the independent and dependent variables. Their model, with paths a, b, c, and ć depicts the two causal paths that feed the independent variable (see Figure 5). Path c depicts the direct relationship between the independent variable and dependent variable, and paths a and b depicts the relationship between the independent variable and

mediator, and the mediator and the dependent variable, respectively. Path ć depicts the relationship between the independent variable and dependent variable when the influence of the mediator is simultaneously taken into account. Overall, their approach is to test all the "links" in the causal "chain" in order to test for mediation.

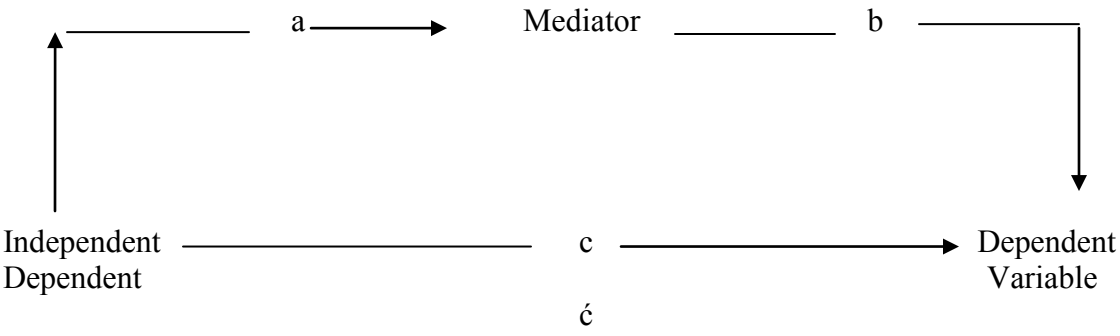


Figure 10. Baron and Kenny's (1986) mediation model

Baron and Kenny explained that the first step is to determine the relationship between the independent and dependent variable (path c). The second step is to show that the independent variable is related to the mediator (path a). The third step is to show that the mediator is related to the dependent variable (path b). Path b estimates the effect of the mediator on the dependent variable, controlling for the effects of independent variable. According to Baron and Kenny, mediation exists when paths a and b are statistically significant. Specifically, full mediation is indicated by a path ć which is no longer significant in the presence of the mediating variable (paths a and b), and partial

mediation is indicated by a path ć which has less explanatory value in the presence of the mediating variable (paths a and b) than without it.

Analytic procedure to test hypothesis 1: Pearson's *r* correlations were utilized to examine the strength and direction of relationships among principal leadership, general teacher efficacy, personal teacher efficacy, collective efficacy and teacher commitment to the profession.

Analytic procedure to test hypothesis 2: Three regression analyses were conducted to determine whether collective efficacy mediated the relationship between principal leadership and teacher commitment to the profession. First, teacher commitment to the profession regressed onto principal leadership to test path c; second, collective efficacy regressed onto principal leadership to test path a; and third, teacher commitment to the profession regressed onto collective efficacy to test path b and onto principal leadership to test path ć (see Figure 1 in Appendix A).

Analytic procedure to test hypothesis 3: Three regression analyses were conducted to determine whether general teacher efficacy mediated the relationship between principal leadership and teacher commitment to the profession. First, teacher commitment to the profession regressed onto principal leadership to test path c; second, general teacher efficacy regressed onto principal leadership to test path a; and third, teacher commitment to the profession regressed onto general teacher efficacy to test path b and onto principal leadership to test path ć (see Figure 2 in Appendix A).

Analytic procedure to test hypothesis 4: Three regression analyses were conducted to determine whether personal teacher efficacy mediated the relationship

between principal leadership and teacher commitment to the profession. First, teacher commitment to the profession regressed onto principal leadership to test path c; second, personal teacher efficacy regressed onto principal leadership to test path a; and third, teacher commitment to the profession regressed onto personal teacher efficacy to test path b and onto principal leadership to test path ć (see Figure 3 in Appendix A).

4. Results

To understand teacher retention more fully, this study explored the relationships among four variables, principal leadership, teacher commitment, collective efficacy, and teacher efficacy. More specifically, the purpose of this study was to test the mediating roles of teacher efficacy and collective efficacy on teachers' commitment to the profession. The study sample is comprised of practicing teachers' who enrolled in a Master's degree programs in a large Eastern public university. Quantitative responses were analyzed to address four hypotheses of the study.

The hypotheses in this study were:

Hypothesis 1: It was expected that significant relationships will emerge among principal leadership, general teacher efficacy, personal teacher efficacy, collective efficacy and teacher commitment to the profession.

Hypothesis 2: It was expected that collective efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 3: It was expected that general teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 4: It was expected that personal teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

The statistical analysis is presented by referring to each hypothesis. The dependent variable was teacher commitment to the profession, and the independent variable is principal leadership, the two mediators were collective efficacy and teacher efficacy. Baron and Kenny's (1986) three-step regression procedures were utilized to test the hypothesized models. In order to test for mediated relationships Baron and Kenny's (1986) suggested three-step regression analysis is as in the following:

Step 1: Regress the dependent variable on the independent variable (test for path c)

Step 2: Regress the mediator on the independent variable (test for path a)

Step 3: Regress the dependent on both the independent variable and the mediator.

The following explanations concerning terminology and abbreviations used in the chapter are included here to provide additional clarity to the presentation of the results. First, the phrase "variable X was a statistically significant predictor of variable Y" was used to mean "the coefficient on independent variable X was statistically significant at the .05 level or better in a regression in which Y was the dependent variable." In most cases, the variable names were abbreviated; PL was used for principal leadership, CE was used for collective efficacy, PTE was used for personal teaching efficacy, GTE was used for general teaching efficacy, because teacher efficacy includes two separate factors, and CTP was used for teacher commitment to the profession.

The hypothesized mediation models were tested with two hundred sixty teachers, who enrolled in two different Master's programs. This chapter is presented in three sections. The first section presents the preliminary analyses; the second section presents

the descriptive statistics, and the last section describes the results of the hypothesis testing. The discussion and implications of these results are presented in Chapter 5.

Preliminary Analyses

Prior to conducting descriptive and regression analyses, series of independent *t* tests were conducted to identify whether differences exist between two Master's programs, Program A and Program B.

In order to examine whether there is a difference between two groups, an independent *t* test was calculated for each variable in the hypothesized mediation models, commitment to the profession, principal leadership, collective efficacy, teacher efficacy (general teacher efficacy and personal teacher efficacy). Although years of teaching experience was not in the proposed model, a *t* test was performed due to its frequent reference to the variables in the model.

A total of six *t* tests were conducted. Results from the *t* test for group differences showed that there is no statistically significant difference between Program A and Program B in teachers' commitment to the profession, $t(258) = -1.80$, $p = .30$. Results from the *t* test for group differences showed that there is no statistically significant difference between Program A and Program B in collective efficacy, $t(258) = -.95$, $p = .66$. Results from the *t* test for group differences showed that there is statistically significant difference between Program A and Program B in principal leadership, $t(123) = 2.30$, $p = .82$. The mean of Program B is larger than Program A. This result is reported as one of the limitations of the study. Results from the *t* test for group differences showed that there is no statistically significant difference between Program A and Program B in

general teacher efficacy, $t(151) = -1.39$, p = .17. Results from the *t* test for group differences showed that there is no statistically significant difference between Program A and Program B in personal teacher efficacy, $t(258) = 52$, $p = .81$. Results from the *t* test for group differences showed that there is no statistically significant difference between Program A and Program B in years of teaching experience, $t(258) = 2.05$, $p = .94$. Of the six *t* tests, one was statistically significant at the .05 level. This is reported in the limitations of the study. Table 1 presents all the *t* test results.

Table 1

Means and Standard Deviations for Program A and Program B in All Variables

Variables	*n*	*M*	*SD*	*t*	*p*
Teacher's Commitment to the Profession					
Program A	73	4.14	.69	-1.80	.30
Program B	187	4.31	.65		
Collective Efficacy					
Program A	73	4.42	.80	-.945	.66
Program B	187	4.32	.75		
Principal Leadership					
Program A	73	2.77	.70	2.30	.02*
Program B	187	2.98	.65		
General Teacher Efficacy					
Program A	73	3.80	.86	-1.39	.17
Program B	187	3.98	.99		
Personal Teacher Efficacy					
Program A	73	4.94	.70	.520	.61
Program B	187	4.99	.69		
Teaching Experience					
Program A	73	2.03	1.26	1.94	.06
Program B	187	2.35	1.10		

*$p < .05$

In addition to *t* test analyses, missing data analyses were used to examine the missing data from all variables. No participants had a significant amount of data missing; thus, there was no need to delete any participants from further analyses.

Descriptive Analyses

Descriptive statistics were generated for each study variable. Means and standard deviations were calculated for all variables. (See Table 2).

Table 2

Means, Standard Deviations, and Reliabilities for Study Variables (N = 260)

Variables	Range	*M*	*SD*	Reliability (Cronbach's alpha)
General teacher efficacy	1-6	3.85	.96	.75
Personal teacher efficacy	1-6	4.97	.70	.74
Collective efficacy	1-6	4.35	.76	.84
Principal leadership	1-4	2.92	.67	.97
Commitment to the profession	1-5	4.19	.68	.86

Additionally, to describe the sample of the participants in this study, descriptive statistics were calculated. Table 3 provides the frequency distribution for each profile and demographic characteristic of the 260 teachers, who responded to six-page survey instrument. (See Appendix B). The demographic characteristics are presented in Chapter 3 under the participants section.

Table 3

Frequency and Percent of Participants by Demographic Characteristic (N = 260)

Demographics	Frequency	Percent
Gender		
Female	173	66.5
Male	87	33.5
Ethnicity		
American Indian	2	.8
Asian or Pacific Islander	5	1.9
Hispanic	10	3.8
White	207	79.6
African American	27	10.4
Other	9	3.5
Age		
20-29	99	38.1
30-39	88	33.8
40-49	54	20.8
50-59	15	5.8
60 and greater	4	1.5
School Level Taught		
Pre-school	8	3.1
Elementary	123	47.3
Middle School	55	21.2
High School	73	28.1
Years of Experience		
5 or less	77	29.6
6-10	93	35.8
11-15	51	19.6
16-20	23	8.8
21 or more	16	6.2
Years Working for the Principal		
3 or less	154	59.2
4-6	81	31.2
7-10	18	6.9
11-15	5	1.9
Setting of school building		
Urban	43	16.5
Suburban	196	75.4
Rural	18	6.9

Tests of Hypotheses

Analysis of Hypothesis 1

Hypothesis 1 stated that significant relationships would emerge among principal leadership, general teacher efficacy, personal teacher efficacy, collective efficacy and teacher commitment to the profession. Pearson correlations were calculated among the study variables. Significant positive low to moderate correlations were found between general teacher efficacy and personal teacher efficacy, $r = .20$, $p < .001$, general teacher efficacy and commitment to the profession, $r = 17$, $p < .001$; personal teacher efficacy and collective efficacy, $r = .21$, $p < .001$; personal teacher efficacy and commitment to the profession, $r = .22$, $p < .001$; collective efficacy and commitment to the profession, $r = .34$, $p < .001$; collective efficacy and principal leadership, $r = .34$, $p < .001$; commitment to the profession and principal leadership, $r = .38$, $p < .001$.

Hypothesis 1 was partially supported. Positive significant relationships emerged among most of the variables. Table 4 reports correlations among all study variables.

Table 4

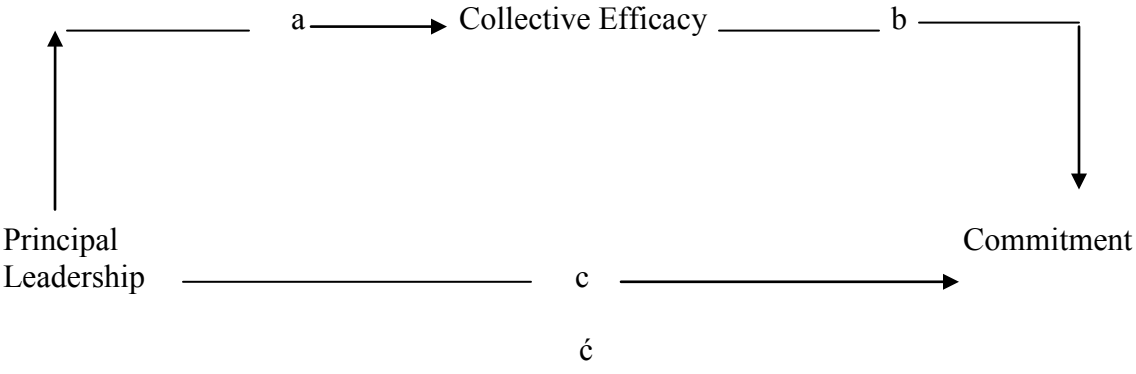
Bivariate Correlations Among the Study Variables

Variables	1	2	3	4	5
1. General teacher efficacy	1.00				
2. Personal teacher efficacy	.20**	1.00			
3. Collective efficacy	.08	.21**	1.00		
4. Commitment to the profession	.17*	.22**	.34**	1.00	
5. Principal leadership	.10	.10	.34**	.38**	1.00

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of Hypothesis 2

Hypothesis 2 stated that collective efficacy would mediate the relationship between principal leadership and teacher commitment to the profession. Table 5 summarizes the results of the regressions. The figure below illustrates the hypothesis of this study with collective efficacy as a mediator between principal leadership and commitment to the profession.



Results from three regression analyses revealed that data partially supported hypothesis 2. Collective efficacy partially mediated the relationship between principal leadership and commitment to the profession. Principal leadership alone was a statistically significant predictor of teachers' commitment to the profession, $F(1,258) = 44.00$, $p < .01$, and accounted for 15% of the variance in teachers' commitment to the profession (see Table 13). The data indicated that when participants felt supported by the principal, they had higher level of commitment to the profession.

The second regression analysis revealed that principal leadership was also a statistically significant predictor of collective efficacy, $F(1,258) = 33.92$, $p < .01$, and accounted for 12% of the variance in collective efficacy (see Table 13). The results suggest that when participants had high principal support, they had higher collective efficacy.

Regression results indicated when collective efficacy and principal leadership were jointly entered to predict teachers' commitment to the profession, both variables were statistically significant predictors of commitment, $F(2, 257) = 31.10$, $p < .01$. Further, $R^2 = .20$ indicates that 20% of variance in commitment is explained by collective efficacy and principal leadership (see Table 5). Examinations of beta weights indicated that both collective efficacy and principal leadership uniquely contributed to the prediction of teachers' commitment to the profession. These results suggest that participants who have high collective efficacy and principal support are more likely to be committed to the profession.

To test hypothesis 2, a three-step regression approach was used, all three conditions for mediation were satisfied. Hypothesis 2 was partially supported. In order to examine whether the amount of mediation (i.e, the indirect effect: reduction of collective efficacy on teachers' commitment to the profession) was statistically significant, the Sobel Test (Sobel, 1982) was performed. The results indicated that the magnitude of the indirect effect is not statistically significant, $Z_{Sobel} = .117$, $Z < 1.96$

Table 5

Summary of 3 Regression Analyses for Hypothesis 1 (N = 260)

Regression	Path Tested	*F*	*df*	*B*	R^2
1	Path c	44.00**	(1, 258)	.38**	.15
2	Path a	33.92**	(1, 258)	.34**	.12
3	Path b Path c'	31.10**	(2, 257)	.24** .30**	.20

*$p < .05$ **$p < .01$

The figure following the tables shows path coefficients among the variables.

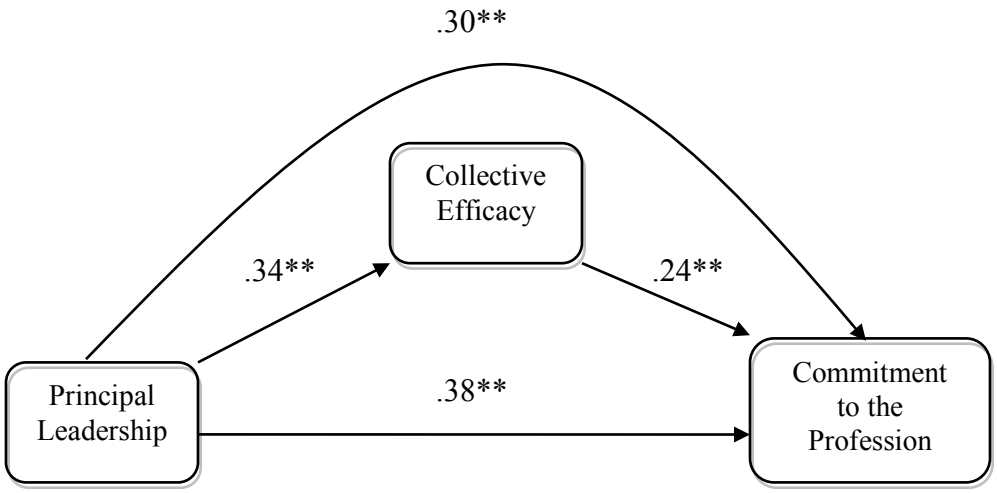
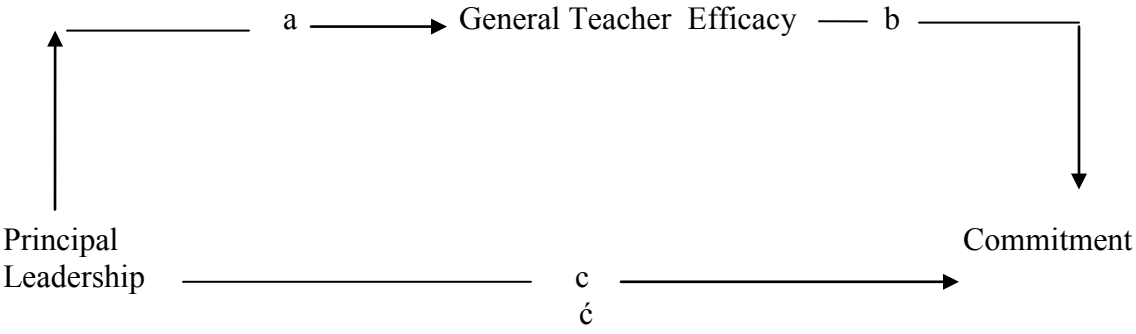


Figure 11. Diagram of collective efficacy as a mediator in the relationship between principal leadership and commitment to the profession.
*p <. 05 ** p <. 01

Analysis of Hypothesis 3

Hypothesis 3 stated that general teacher efficacy would mediate the relationship between principal leadership and teacher commitment to the profession.

The figure below illustrates the hypothesis of this study with general teacher efficacy as a mediator between principal leadership and commitment to the profession.



Overall, hypothesis 3 was not supported. Principal leadership alone, just as in hypothesis 2, was a statistically significant predictor of teachers' commitment to the profession, $F(1,258) = 44.00$, $p < .01$, and accounted for 15% of the variance in teachers' commitment to the profession. (See Table 5). The more highly supportive participants perceived principal leadership to be, the higher was their commitment to the profession.

According to the second regression results, principal leadership was not a statistically significant predictor for general teacher efficacy, $F(1,258) = 2.68$, $p = .10$; therefore, the second condition for mediation was not satisfied. Despite the fact that the first step in hypothesis testing was met, the second step was not met. When there is a case as such the hypothesis testing must be terminated (Baron & Kenny, 1996). There was no mediation in the second model, general teacher efficacy did not mediate principal leadership and teacher commitment to the profession. Table 6 summarizes the results of the regressions.

Table 6

Summary of Regression Analyses for Hypothesis 2 (N = 260)

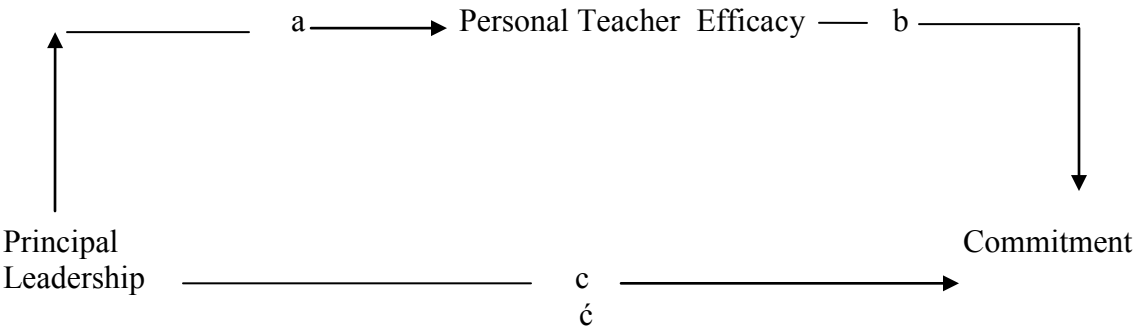
Regression	Path Tested	*F*	*df*	*β*	R^2
1	Path c	44.00**	(1, 258)	.38**	.15
2	Path a	2.68	(1, 258)	.10	.01

*$p < .05$ **$p < .01$

Analysis of Hypothesis 4

Hypothesis 4 stated that personal teacher efficacy would mediate the relationship between principal leadership and teacher commitment to the profession.

The figure below illustrates the hypothesis of this study with personal teacher efficacy as a mediator between principal leadership and commitment to the profession.



Overall, hypothesis 4 was not supported. As in Hypothesis 2 and 3, principal leadership alone, was a statistically significant predictor of teachers' commitment to the profession, $F(1,258) = 44.00$, $p < .01$, and accounted for 15% of the variance in teachers' commitment to the profession. (See Table 5).

According to the second regression results, principal leadership was not a statistically significant predictor for personal teacher efficacy, $F(1,258) = 2.87$, $p = .09$; therefore, the second condition for mediation was not satisfied. Just as in Hypothesis 2, the first step for hypothesis testing was met, but not the second one. Thus, the hypothesis testing was terminated as supported by the work of Baron and Kenny (1996). Just as in the second model, there was no mediation in the third model. Personal teacher efficacy

did not mediate principal leadership and teacher commitment to the profession. Table 7 summarizes the results of the regressions.

Table 7

Summary of Regression Analyses for Hypothesis 3 (N = 260)

Regression	Path Tested	*F*	*df*	*β*	R^2
1	Path c	44.00**	(1, 258)	.38**	.15
2	Path a	2.87	(1, 258)	.11	.01

*$p < .05$ ** $p < .01$

Summary of the Findings

Two hundred sixty teachers currently enrolled in Master's degree programs in education participated in a quantitative study in order to test relationships among study variables and the mediating role of teacher efficacy and collective efficacy on teachers' commitment to the profession. To test mediation models, separate three-step regression procedures were conducted following the steps specified by Baron and Kenny (1986).

Hypothesis 1 was tested using Pearson's r correlations. Correlations were statistically significant for most of the variables. Thus hypothesis 1 was partially supported.

Pertaining to hypothesis 2, three regression analyses were utilized. The first step of the regression analysis revealed that principal leadership was a strong predictor of teacher commitment to the profession. Therefore, when participants indicated that they felt supported by the principal, they felt more committed to the profession. The second step of the regression analysis revealed that principal leadership was a strong predictor of collective efficacy. The third step of the regression analysis revealed that collective efficacy and principal leadership predicted teacher commitment to the profession. In conclusion, the hypothesis 2 was partially supported.

To inform the response to hypothesis 3, two regression analyses were conducted. The first step of the regression analysis revealed that principal leadership was a strong predictor of teacher commitment to the profession. As in hypothesis 2, the data indicated that when participants felt supported by the principal, they had a higher level of commitment to the profession. The second step of the regression analysis revealed that general teacher efficacy was not a predictor of collective efficacy. Hypothesis 3 was not supported.

Hypothesis 4 was tested by conducting two regressions. As in hypothesis 2 and 3, the first step of the regression analysis revealed that principal leadership was a strong predictor of teacher commitment to the profession. The second step of the regression analysis revealed that personal teacher efficacy was not a predictor of collective efficacy. Hypothesis 4 was not supported.

In conclusion, the purpose of the study was to test relationship among study variables and the mediating roles of collective efficacy and teacher efficacy in teachers'

commitment to the profession. To test the hypothesized models, 3-step regression analyses were conducted. Hypotheses 1 and 2 were partially supported; hypotheses 3 and 4 were not supported by the data. The quantitative results presented here in Chapter 4 support additional discussion of these findings and form the foundation for the conclusions, implications for practice and recommendations for future research in Chapter 5.

5. Discussion

The purpose of this study was to explore relationships among principal leadership, teacher efficacy, collective efficacy and teacher commitment to the profession. This was accomplished by testing four hypotheses. Two hundred sixty practicing teachers who enrolled in a Master's program in education participated in the study. This chapter is structured to interpret the findings presented in Chapter 4 by further analyzing the data and drawing conclusions on the hypotheses for the study. Implications of the data are drawn and recommendations for further research are presented.

Discussion of Results

Hypothesis 1: It was expected that significant relationships will emerge among principal leadership, general teacher efficacy, personal teacher efficacy, collective efficacy and teacher commitment to the profession.

Hypothesis 1 was partially supported as positive significant correlations were found among most of the study variables. According to the results of bivariate correlation analyses, there were low to moderate correlations between general teacher efficacy and personal teacher efficacy, general teacher efficacy and commitment to the profession, personal teacher efficacy and collective efficacy, personal teacher efficacy and commitment to the profession, collective efficacy and commitment to the profession;

collective efficacy and principal leadership; commitment to the profession and principal leadership.

The findings in this study suggest that both general teacher efficacy and personal teacher efficacy were associated with teacher commitment to the profession. This result is consistent with previous research (Coladarci, 1992; Evans & Tribble, 1986; Hongyun et al., 2005; Hoy & Woolfolk, 1990; Weiss, 1999). Hoy & Woolfolk (1990) reported that teachers with high personal efficacy have the ability to teach all students. Hongyun et al. found that teachers' self efficacy significantly predicted teachers' work devotion and job satisfaction. The moderate correlation with teacher commitment to the profession suggests that teachers in this would be less likely to leave the profession.

It is also significant to note that the association between personal teacher efficacy and collective efficacy in this study was low and significant. Clearly, teachers who have high personal efficacy beliefs do not necessarily see themselves working in a collectively efficacious environment. Teachers in this study who highly believe that they can teach all students even the most unmotivated ones do not necessarily seek community or collegial support. This finding is not consistent with previous research (Henson, 2002; Tschannen-Moran et al., 1998), but important in this study to demonstrate teachers in this study had high personal teacher efficacy beliefs.

Another crucial finding to discuss is that teacher efficacy and principal leadership did not correlate significantly in this study. There was no significant association between teachers' senses of general and personal teacher efficacy and principal leadership. This finding is also inconsistent with previous research (Chester & Beaudin 1996; Ebmeier,

2003; Weiss, 1999) which demonstrated the influence of supportive principal behavior on teacher efficacy. This finding suggests that the teachers in the present study, those enrolled in graduate education programs are highly self efficacious (above average) don't need principal support.

Hypothesis 2: It was expected that collective efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 2 was partially supported; collective efficacy partially mediated the relationship between principal leadership and teacher commitment to the profession. In order to test this hypothesis, the Baron and Kenny (1986) three-step regression model was applied, and three regression analyses were utilized. In the first regression, commitment to the profession was regressed on principal leadership. The analysis revealed that principal leadership was a strong predictor of teacher commitment to the profession. The first condition of mediation testing was confirmed. The second step of the regression analysis revealed that principal leadership was a strong predictor of the mediator in the model, which is collective efficacy. The second condition of mediation testing was also confirmed. In the last regression, both principal leadership and the mediator, collective efficacy entered in order to predict teachers' commitment to the profession. The last regression analysis revealed that collective efficacy and principal leadership were statistically significant predictors of teacher's commitment to the profession, and collective efficacy partially mediated the relationship between principal leadership and teachers' commitment to the profession. Because all three conditions were met, the data supported the first hypothesis.

Results from the set of regression analyzing hypothesis 2 were as hypothesized and aligned with both social cognitive theory predictions and empirical results of previous research (Ascher, 1991; Mawhinney et al., 2005; NCES, 1997, 2007; Ross & Gray, 2006). Teachers with supportive principal leadership and high perceptions of collective efficacy expressed higher commitment to the profession. Teachers with supportive principal leadership also had high level of collective efficacy; in other words, the more supportive principal leadership teachers perceived, the more likely they have high collective efficacy.

To clarify the mediation component of this hypothesis, it is important to note that there was a partial mediation in this model. Principal leadership influenced commitment uniquely, but also in combination with collective efficacy. The explanatory value of principal leadership on teachers' commitment to the profession slightly decreased in the presence of collective efficacy (from .38 to .30). So, part of the influence of principal leadership on collective efficacy was actually captured by the relationship of principal leadership to collective efficacy and of teachers' commitment to the profession.

Another note is that the standardized coefficients in the third regression which included both principal leadership and collective efficacy to predict teachers' commitment to the profession indicated that, while they were both significant, the relative importance of principal leadership was greater than that of collective efficacy. A one standard deviation change in collective efficacy would result in a 0.24 standard deviation change in teachers' commitment to the profession, but a one standard change in principal leadership would result in a 0.30 standard deviation in teachers' commitment to the

profession. In other words, change in principal leadership would have a greater impact on teachers' commitment to the profession than collective efficacy.

The conclusion that principal leadership is of greater relative importance to teachers' commitment to the profession is also consistent with theory and previous research (Ebmeier, 2003; Ross & Gray, 2006; Ware & Kitsantas, 2007; Weiss, 1999). Thus, this study suggests that supportive environment with the focus on team building collaborative work opportunities nurtures teachers and influence their commitment to the profession.

Hypothesis 3: It was expected that general teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 3 was not supported; general teacher efficacy did not mediate relationship between principal leadership and teacher commitment to the profession. Two regression analyses were conducted utilizing Baron and Kenny's (1986) meditational hypotheses testing method. Teacher commitment to the profession was regressed on principal leadership. As in the second hypothesis, the first regression analysis revealed that principal leadership was a strong predictor of teacher commitment to the profession. Testing mediation was continued since the fist condition was met. In the second regression, general teacher efficacy was not a statistically significant factor of principal leadership. Further analyses couldn't be conducted because the regression analysis in the second step did not meet the condition (Baron & Kenny, 1986). Therefore, the conclusion for the second hypothesis was that the model for explaining teachers' commitment to the profession did not perform as hypothesized. General teacher efficacy did not uniquely

predict teachers' commitment to the profession; general teacher efficacy did not mediate the relationship between principal leadership and teachers' commitment to the profession. The participants in this study did not perceive general teacher efficacy differently enough to inform a relationship between principal leadership and teachers' commitment to the profession.

The results relating to hypothesis 3 are not consistent with the results of previous empirical research (Coladarci, 1992; Ebmeier, 2003; Tucker, 2003). One explanation for this inconsistent result could be related to the structure of the study. No studies previously examined the relationship of principal leadership and teacher commitment through the impact of general teacher efficacy. Second, no other studies had participants who were both practitioners and Master's students at the same time.

Hypothesis 4: It was expected that personal teacher efficacy will mediate the relationship between principal leadership and teacher commitment to the profession.

Hypothesis 4 was not supported; personal teacher efficacy did not mediate relationship between principal leadership and teacher commitment to the profession. In order to respond to hypothesis three, two regression analyses were utilized following Baron and Kenny's (1986) mediation testing method. The first step of the regression analysis revealed that principal leadership was a strong predictor of teacher commitment to the profession. In the second regression analysis, personal teacher efficacy was not a statistically significant factor of principal leadership. Further analyses couldn't be done because the regression analysis in the second step did not meet the condition (Baron & Kenny, 1986). Therefore, the conclusion for the second hypothesis was that the model for

explaining teachers' commitment to the profession did not perform as hypothesized. Personal teacher efficacy did not uniquely predict teachers' commitment to the profession; personal teacher efficacy did not mediate the relationship between principal leadership and teachers' commitment to the profession. The participants in this study did not perceive personal teacher efficacy differently enough to inform a relationship between principal leadership and teachers' commitment to the profession.

The results relating to hypothesis 4 are not consistent with the previous teacher literature where there was a strong relationship between teacher efficacy and principal influence, and administrative support for enhancing teachers' commitment to teaching (Firestone & Rosenblum, 1988; Fuller et al., 1982; Moore & Esselman, 1994). This inconsistency may be explained in two ways. One is that no studies previously examined the relationship of principal leadership and teacher commitment through the impact of personal teacher efficacy. Second, no other studies had participants who were both practitioners and Master's students at the same time, which makes this study hard to compare with earlier studies.

It is worth discussing the results of hypotheses 3 and 4 more elaborately as the results came out insignificant. Previous studies such as Hoy et al. (1992) and Hoy and Woolfolk (1993) about principal leadership and teacher efficacy confirmed Bandura's causation model. Hoy et al. (1992) found supportive behaviors of the principal enhance teacher effectiveness, as well as a community of trust among colleagues. Hoy and Woolfolk (1993) found when analyzing teachers' perceptions of self, a healthy school climate, which is composed of relationships among students, teachers, and administrators,

positively impacts teachers' efficacy beliefs. Principals who used their influence in support of teachers nurture teachers' self-efficacy. The authors concluded that a supportive environment that is created by the school leaders should reinforce teachers' efficacy beliefs.

However, the results of the data analysis in this study indicated just the opposite. Both in hypothesis 3 and 4, while principal leadership had an influence on teachers' commitment to the profession, principal leadership did not come out a predictor of teachers' either general teacher efficacy or personal teacher efficacy. Based on Bandura's (1986) reciprocal effect, teachers who are led by a principal with exemplary leadership characteristics should develop a stronger self-efficacy belief. What, then, might have produced these new results?

Explanation 1: Participants in this study demonstrated above average general teacher efficacy and personal teacher efficacy scores in their scales compared to the norms. The correlational analyses for the study variables also showed no significant relationship between teacher efficacy and principal leadership. The reason for this may be the difficulty in assessing the interaction of principal leadership with other elements that impact teacher efficacy (Smylie, 1990). Obviously many factors contribute to teacher efficacy. Hoy and Woolfolk (1993) found that teachers who went to graduate school for further development were more likely to have high personal teacher efficacy, such as the students in the present study. In conclusion, the educational level as a personal variable may interact the results of the last two hypotheses of this study.

Explanation 2: A second explanation may be factors that were not included in the hypothesized model in this study such as leadership of previous administrators, undergraduate programs, student's self-efficacy, student achievement and feedback that strengthened the teachers' self-efficacy beliefs. Ashton and Webb (1986) asserted that teachers of high achieving students would have a strong sense of self efficacy belief without recognizing the impact of current leadership. For this reason, teachers who have been influenced by other factors that were not included in the last two models of this study would possess strong teacher efficacy and would not necessarily identify current leadership as an attributing factor to their self-efficacy beliefs.

Explanation 3: The data of this study were gathered from teachers who enrolled two separate Master's degree programs. It is also important to recall that the data showed significant differences between two Master's programs in principal leadership (see Table 1). Teachers in Program B, which prepares teachers for leadership and management positions in school settings, were significantly different from those teachers in Program A in their perceptions of principal leadership. Teachers in one group might have different expectations from their leaders than they are getting, in turn; the interactions among variables would be different.

As a conclusion of this investigation, it is important to state that the relationship between principal leadership and collective efficacy points to teacher commitment to the profession. As stated in the previous research, teacher "staying" was strongly connected to supportive principal behavior on the perceived collective efficacy of teachers (Hoy, Tarter & Bliss, 1990; Knobloch & Whittington, 2002; Ross & Gray, 2006). The

leadership role of the principal in these circumstances emphasizes supportive behavior and approachable manner. Thus, teachers must feel free to use their professional judgment, collaborate and receive guidance from the principal (Johnson & Birkeland, 2003). In creating such a collaborative work environment, the role of a principal is a vital as they could build trusting relationships, and influence teachers' decision to remain in teaching (Dale, 2005, Rose & Gray 2006). A review of model 1 in this study reveals the linkage that supports this line of thinking.

Implications for Practice

The primary goal of this research was to learn more about which factors might influence teachers' commitment to the profession. Keeping teachers in the profession is a challenge for the education system. For those who stay, their reasons may be varied and it is worth further examination. For this study an environmental factor, the principal leadership, and two personal factors collective efficacy and teacher efficacy were chosen to be examined in the hypothesized models, because they were driven from Bandura's social cognitive framework.

The first model provided the conclusion that teachers' desire to remain in the profession occurs when teachers feel there is a collegial relationship among teachers and when they have supportive principal leadership. A sense of collective efficacy explains teachers' work devotion and the satisfaction of collegial relationships (Hongyun et al., 2005). The data from the first model suggest that one reason teachers leave the profession is because of the lack of principal support and weak collegial relationships among teachers. According to Bandura (1997), efficacy beliefs develop as a result of

many sources, one of which is personal performance accomplishments. When teachers are supported for their accomplishments individually and collectively, this can lead to enhanced interest in continuing in the profession.

Some practical applications of this finding can be examined at principals. Principals should create nurturing school environments where teachers use their professional judgments and share their instructional practices among each other toward creating a sense of collective efficacy. Principals can facilitate the schools setting by focusing on team building strategies. With the goal to create success for all students, principals should emphasize the school as a supportive body. For instance, they could lead a mentoring system for beginning teachers; create ongoing learning and leadership challenges for all teachers.

To elaborate more on this, thoughtfully designed staff development activities and action research projects by the principals could enhance teachers' collective efficacy. In addition, school administrators could create opportunities observing others as a model. For example, regular visits to model schools and videos of effective schools could benefit when those models are similar in population and resources to the teachers' own school. As a result, teachers who are satisfied with student learning and achievement, and collaborative work among the faculty and school administrators would highly likely stay in the profession. Teachers may feel committed when everyone in the system working collaboratively for their students' success.

The second and third model of this study concluded neither general teacher efficacy nor personal teacher efficacy has an impact on teacher attrition when principal

leadership is accounted for with this population. Given that the teachers in this study scored above average on the self-efficacy scale, and are in a Master's degree program, this result should come without surprise. Additionally, being willing to invest the money and time to earn a Master's is a sign of commitment in the profession.

Limitations

Although this study makes a significant contribution to understand the unique relationship among principal leadership, teacher efficacy, collective efficacy, and teacher commitment to the profession, there are a number of limitations that should be addressed.

1. The information gathered for this study is limited by the willingness of respondents to reveal accurately their beliefs and perspectives. The respondents were practicing teachers who were currently engaged in Master's degree work in education, thus, generalization of findings from this study to larger populations should be made cautiously.

2. This study did not investigate the effect of other potentially student relevant variables such as student achievement, student behavior, or any organizational variables such as school climate.

3. Generalization of the results beyond the present study is not valid because the participants were drawn from an "intact group", nonetheless, the study adds important data to the teacher literature broadly, and specifically to the body of the literature examining social cognitive theory.

Recommendations for Future Research

For future research, it is important continue to thoroughly investigate many other variables within the context of the school that are able to impact teachers' decision to remain in teaching. This would help decision makers better focus on the perceived and real needs of teachers with a goal of providing a more viable teaching setting for them and their students. Recommendations for further study are as follows:

1. Replication of this study that compares teachers who have a Master's degree, are earning a Master's degree, and those who have not earned a Master's degree would help us understand whether this is a proxy measure for teacher commitment, and whether that status affects teachers' sense of efficacy.
2. This data were only analyzed using regression based path analysis based on Baron and Kenny's (1986) mediation testing procedures. Regression based path analysis differs from more elaborate structural equation modeling where both observed and latent variables of the model could be tested. Future research would benefit using a different multivariate analysis method by replicating this study.
3. Future studies could investigate the effect of other potentially relevant student relevant variables such as student achievement, student behavior or self efficacy to measure teacher commitment.

4. Future studies could explore teachers' viewpoints by facilitation of other research methods, such as interviews to investigate teachers' perceptions about their principal's leadership characteristics.

Throughout this study, the focus was to examine factors that influenced teachers' commitment to the profession among teachers who enrolled in two Master's programs in a large university. The results of this study suggested that collective efficacy was perceived to be a mediating factor between principal leadership and teachers' commitment to the profession. The findings of this study also revealed that teacher efficacy (both general teacher efficacy and personal teacher efficacy) was not found to be a mediating variable in relationship between principal leadership and teachers' commitment to the profession. The important message resulting from this study is that principals must evaluate their supportiveness on an ongoing basis in order to build a sense of collective efficacy in their buildings that will create a stable teaching force in the building. As there are multiple leadership forms, the one recommended in this study would be the transformational leadership which entails the elements of collaboration among followers, shared-decision making approach in order to promote trust, teacher professionalism and empowerment.

Appendix A

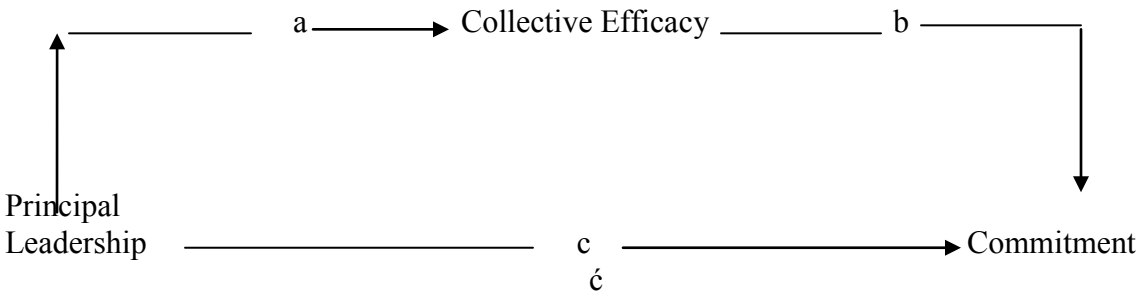


Figure 1. Hypothesis 1 where collective efficacy mediates the relationship between principal leadership and teacher commitment to the profession.

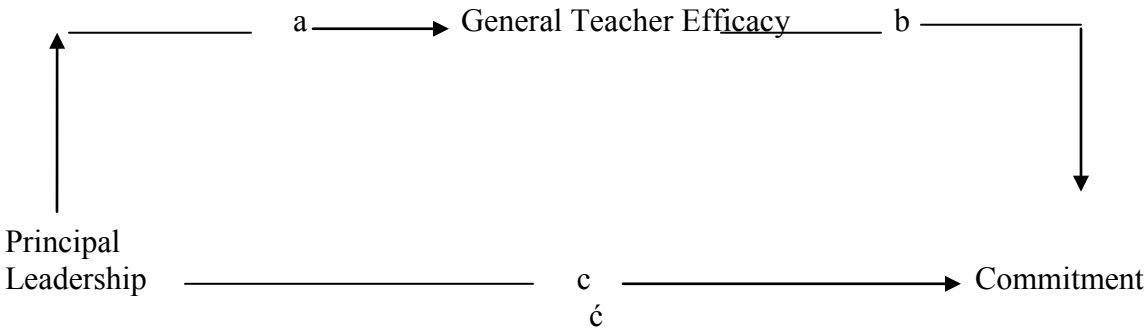


Figure 2. Hypothesis 2 where general teacher efficacy mediates the relationship between principal leadership and teacher commitment to the profession.

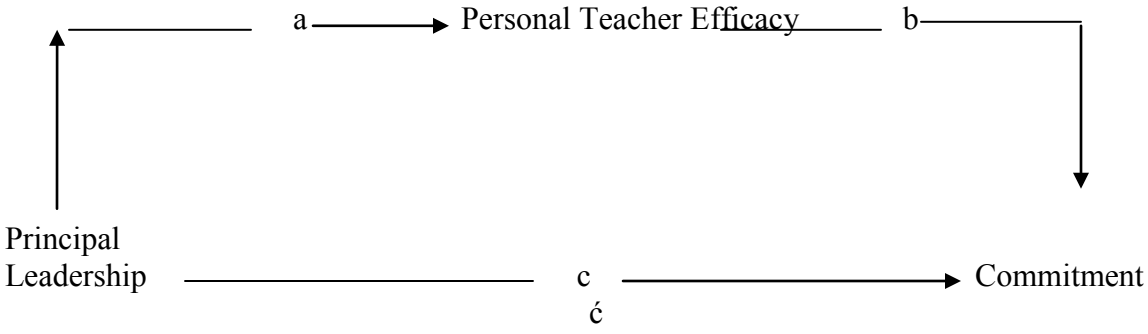


Figure 3. Hypothesis 3 where personal teacher efficacy mediates the relationship between principal leadership and teacher commitment to the profession.

Appendix B

Teacher Background Questionnaire (TBQ)

Instructions: Please circle the number which represents your response to the following items.

1. Indicate your gender:

(1) Female
(2) Male

2. Indicate your ethnicity:

(1) American Indian or Alaskan
(2) Asian or Pacific Islander
(3) Hispanic
(4) White, not of Hispanic origin
(5) Other

3. Indicate your age:

(1) 20-29
(2) 30-39
(3) 40-49
(4) 50-59
(5) 60 & greater

4. Indicate the school level you currently teach

(1) Pre-school
(2) Elementary
(3) Middle School
(4) High School

5. Indicate the years of teaching experience you have including this year:

(1) 5 or less years
(2) 6-10 years
(3) 11-15 years
(4) 16-20 years
(5) 21 or more years

6. Indicate the number of years working for this principal:

(1) 3 or less years
(2) 4-6 years
(3) 7-10 years
(4) 11-15 years
(5) 16 or more years

7. Indicate the level of academic motivation of your students:

(1) Very low
(2) Low
(3) Average
(4) High
(5) Very high

8. Indicate the setting of your school building:

(1) Urban
(2) Suburban
(3) Rural/small town

Principal Leadership Questionnaire

Please answer the following questions by considering how well the statements apply to your principal's actions in relation to his or her work with the school's faculty. Use this scale to answer the following questions.

1- Strongly Disagree 2- Disagree 3- Agree 4- Strongly Agree

The Principal:

1. Has both the capacity and judgment to overcome most obstacles.	1	2	3	4
2. Commands respect from everyone on the faculty.	1	2	3	4
3. Excites faculty members with visions of what we may be able to accomplish if we work together.	1	2	3	4
4. Gives the faculty a sense of overall purpose for its leadership role.	1	2	3	4
5. Makes faculty members feel and act like leaders.	1	2	3	4
6. Leads by "doing" rather than simply "telling."	1	2	3	4
7. Symbolizes success and accomplishment within our profession.	1	2	3	4
8. Provides good models for faculty members to follow.	1	2	3	4
9. Provides for our participation in the process of developing school goals.	1	2	3	4
10. Encourages faculty members to work toward the same goals.	1	2	3	4
11. Uses problem solving with the faculty to generate school goals.	1	2	3	4
12. Works toward whole faculty consensus in establishing priority for team goals.	1	2	3	4
13. Regularly encourages faculty members to evaluate our progress toward achievement of team goals.	1	2	3	4
14. Provides for extended training to develop my knowledge and skills relevant to being a member of the school program.	1	2	3	4
15. Provides the necessary resources to support my implementation of the school program.	1	2	3	4
16. Treats me as an individual with unique needs and expertise.	1	2	3	4
17. Takes my opinion into consideration when initiating actions that affect my work.	1	2	3	4

18. Behaves in manner thoughtful of my personal needs.	1	2	3	4
19. Challenges me to reexamine some basic assumptions I have about my work at the school.	1	2	3	4
20. Stimulates me to think about what I am doing for the school's students.	1	2	3	4
21. Provides information that helps me think of ways to implement the school program.	1	2	3	4
22. Insists on only the best performance from the school faculty.	1	2	3	4
23. Shows us that there are high expectations for the faculty as professionals.	1	2	3	4
24. Will not settle for the second best in the performance of our work as a faculty.	1	2	3	4

Teacher Efficacy Scale (Short Form)

The purpose is to gather information regarding the actual attitudes of educators concerning these statements. There are no correct or incorrect answers. We are interested only in your frank opinions. Your responses will remain confidential.

Instructions: Please indicate your personal opinion about each statement by circling appropriate response at the right of each statement.

Key: 1 = Strongly Agree
2 = Moderately Agree
3 = Agree slightly more than disagree
4 = Disagree slightly more than agree
5 = Moderately Disagree
6 = Strongly Disagree

	Strongly Agree					Strongly Disagree
1. The amount a student can learn is primarily related to family background……..	1	2	3	4	5	6
2. If students aren't disciplined at home, they aren't likely to accept any discipline……. …….	1	2	3	4	5	6
3. When I really try, I can get through to most difficult students……....……....	1	2	3	4	5	6
4. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement…….....	1	2	3	4	5	6
5. If parents would do more for their children, I could do more……	1	2	3	4	5	6
6. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson……	1	2	3	4	5	6
7. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly……..…	1	2	3	4	5	6
8. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty…….……...	1	2	3	4	5	6
9. If I try really hard, I can get through the most difficult or unmotivated students…….....	1	2	3	4	5	6
10. When it comes down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or home environment.…….....	1	2	3	4	5	6

Collective Efficacy (Short Form)

Directions: Indicate your level of agreement with each of the following statements from STRONGLY DISAGREE (1) to STRONGLY AGREE (6)

	Strongly Disagree					Strongly Agree
1. Teachers in this school are able to get through to the most difficult students……..	1	2	3	4	5	6
2. Teachers here are confident they will be able to motivate their students……	1	2	3	4	5	6
3. If a child doesn't want to learn teacher here give up…….	1	2	3	4	5	6
4. Teachers here don't have the skills needed to produce meaningful learning ……...	1	2	3	4	5	6
5. Teachers in this school believe that every child can learn…..	1	2	3	4	5	6
6. These students come to school ready to learn……	1	2	3	4	5	6
7. Home life provides so many advantages that students in here are bound to learn……	1	2	3	4	5	6
8. Students here just aren't motivated to learn……	1	2	3	4	5	6
9. Teachers in this school do not have the skills to deal with student disciplinary problems…….	1	2	3	4	5	6
10. The opportunities in this community help ensure that these students will learn……...	1	2	3	4	5	6
11. Learning is more difficult at this school because students are worried about their safety……	1	2	3	4	5	6
12. Drug and alcohol abuse in the community make learning difficult for students here……	1	2	3	4	5	6

Commitment to Teaching

To what extent do you agree that the statements below:

	Completely Disagree				Completely Agree
1. I am proud to be a teacher……..	1	2	3	4	5
2. Teaching is an excellent profession……	1	2	3	4	5
3. I tend to identify with teaching and strongly support it when it is attacked..……...	1	2	3	4	5
4. I would leave teaching for another profession if I could……	1	2	3	4	5
5. I tell my friends that I will stay in teaching for many years to come……	1	2	3	4	5
6. If offered a better salary, I would move to another profession…….....	1	2	3	4	5
7. This job gives me professional satisfaction……	1	2	3	4	5
8. I enjoy my school work very much……..…	1	2	3	4	5

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