ROLE THEORY AND THE ENACTMENT OF TEACHER LEADERSHIP

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In this research, I have just scratched the surface of the part role theory has in education systems. The importance of these issues may be explained more eloquently by Giroux (1988), when he stated:

> *Rather than being objective institutions removed from the dynamics of politics and power, schools actually are contested spheres that embody and express a struggle over what forms of authority, types of knowledge, forms of moral regulation and versions of the past and future should be legitimated and transmitted to students* (p. 126).

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TABLE OF CONTENTS

Page

LIST OF TABLES

Table Page

LIST OF FIGURES

Page

ABSTRACT

ROLE THEORY AND THE ENACTMENT OF TEACHER LEADERSHIP

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This study used an online survey to examine whether self-reported teacher leadership is related to role theory as it pertains to role conflict and role ambiguity. A multi-stage clustered sampling process resulted in a sample of 147 certified teachers from ten North Carolina public schools, grades K-12. The sample was predominantly female (75%) and White (88%), with more diversity across age, years of teaching experience, teaching assignment, and education level. Overall teacher leadership, defined as teachers participating in a community of teacher learners to influence others for improved instructional practices in the classroom, the school, and the profession, in decision-making, and in advocating for students and schools, was measured on a 6-point scale (M= 4.43; SD = .87). There was evidence of role conflict (M = 3.04; SD = 1.05) and role ambiguity (M = 2.69; SD = .82). Correlations revealed significant negative relationships between teacher leadership and role conflict, R_S (147) = -0.30, p = .000, and between teacher leadership and role ambiguity, R_S (147) = -.46, p = .00. Both role conflict and role ambiguity persisted after controlling for intervening variables in linear regression models. The results of this study imply that overall teacher leadership can be increased by reducing role conflict and role ambiguity. Further analysis indicated that teacher leadership may be composed of more than one construct and the effects of role conflict,

role ambiguity, and demographic or professional variables differ with the different teacher leadership constructs.

CHAPTER 1: INTRODUCTION

The importance of an excellent education system for the success of any country, state, or individual is undeniable (Carnegie Forum on Education and the Economy, 1986; Zhao, 2009), and the significance of leadership for excellence in every education system is well documented (Blasé and Blasé, 1997; Fullan, 2005; Marzano, Waters, & McNulty, 2005). However, since the mid-1980s, educational literature has broadened the definition of leadership from describing characteristic of singular individuals, to skills leaders must develop (Glatter, 2009), behaviors of leaders (Jacobson, Johnson, Ylimaki, & Giles, 2009), and finally an emphasis on teachers as educational leaders (Bush, 2006; Katzenmeyer & Moller, 2001; Mihans, 2008; Muijs & Harris, 2007; Orr, 2006; Williams, 2009).

More recently the definition of leadership has been inclusive of all the previous ideas and it has added a shared or distributed aspect as in the broad definition of school leadership given by Spillane, Diamond, and Jita (2003), "...the identification, acquisition, allocation, and use of cultural, material, and social resources, necessary to establish the conditions for the possibility of innovation in teaching and learning" (p. 535). Spillane et al (2003), are specific in defining distributed leadership, or "collective leadership," as occasions, "….when two or more leaders work together to co-enact a particular leadership task" (p. 538), but they broaden the concept as they include the relationships between leaders and all other aspects of leadership. Teacher leadership is seen as part of the newer definitions of shared leadership. Katzenmeyer & Moller (2001) defined teacher leadership as teachers who show leadership within the classroom, the school, and the

district; participate in a community of teacher learners; and influence other teachers to improve instruction or other educational practices.

These broad definitions of leadership also seem to have influenced the North Carolina Department of Public Instruction (2009) in its evaluation of teachers on their teacher leadership. A working definition of teacher leadership that encompasses the North Carolina teacher leadership standard is: teachers participating in a community of teacher learners to influence others for improved instructional practices in the classroom, the school, and the profession, in decision-making, and in advocating for students and schools.

The effects of teacher leadership on teachers are practical as well. Research shows links between teacher leadership and an increased sense of ownership and responsibility (Phillips, 2004), job satisfaction (Rinehart & Short, 1994; Zembylas & Papanastasiou, 2005), organizational commitment (Hulpia, Devos, & Van Keer, 2010; Janssen, 2004) and teacher retention (Mihans, 2008). Other practical arguments include empirical research indicating a relationship between shared decision-making and student achievement (Peterson, Marks, & Warren, 1996), and specific gains in student achievement attributed to teacher leadership in the classroom (Reeves, 2008).

With the assertions as to the importance of teacher leadership there is a growing concern of multiple components. First of all, the positive impact teacher leadership has on student achievement has even more value with the current emphasis on testing. In addition, the contributions toward reform, and full compliance of teachers, are necessary to make any change work in education (Carnegie Forum on Education and the Economy, 1986).

Furthermore, there is a looming leadership crisis. According to Reeves (2008), half of current school administrators, nationally, will be retiring over the next five years. As in most corporations, the education system has been trying to develop the new leaders from within the system, but there is a gap between the leadership positions and the number of people stepping forward. A new system of leadership is needed that would keep a continuity for the education system.

Because teacher leadership is seen as a key to reforming education, the North Carolina State Board of Education now mandates teacher leadership. The North Carolina Department of Public Instruction (NCDPI) Center for Teaching Quality (2008) sees teacher leadership as necessary for the demands of the 21st century. Therefore, as of the 2011-2012 school year, teacher leadership is part of the teacher evaluation process. The *North Carolina Teacher Evaluation Process* states:

> Leadership among the staff and with the administration is shared in order to bring consensus and common, shared ownership of the vision and purpose of the work of the school. Teachers are valued for the contributions they make to their classroom and the school. (North Carolina Department of Public Instruction, 2009. (p. 5)

Despite the purported benefits of teacher leadership, support for teacher leadership programs has not become the norm in educational settings (Helterbran, 2010; Muijs & Harris, 2007). Concern about the gap between the idea of teacher leadership and the actual enactment is growing among educators (Reeves, 2008). Evidence for this gap is seen in the 2010 and the 2012 *North Carolina Teacher Working Conditions Survey* (NCDPI New Teacher Center, 2010; NCDPI New Teacher Center, 2012). While in some

districts over half (53%) of the educators reported that teachers play a large part in devising teaching techniques, selecting grading and assessment practices, and selecting instructional materials, in other districts only 39% reported that teachers play a large role in these specific areas. This gap is particularly noticeable in issues relating to school-wide leadership. For example, only 12 percent of teachers taking the survey reported that teachers had a large part in hiring new teachers, 11 percent reported teachers had a large part in budget issues, and 16 percent reported that teachers helped determine the content of professional development. This was down from the 17.5% who reported that teachers helped determine the content of professional development in 2010. The survey also showed significant differences across districts, with some districts reporting a decline since the 2008 survey in support given to teachers by school leadership. Though some districts showed higher levels of teacher leadership, only 22% of North Carolina teacher respondents answered that their school leadership team was elected. This went down from 23% in 2010, and many of the districts with higher teacher leadership scores in other areas, had lower scores in this area. With the discrepancies between the need for teacher leadership and the enactment of teacher leadership, as well as the differences in enactment across different schools and school districts, it would make sense to explore the blocks to enacting teacher leadership.

One reason for the difficulty in implementing teacher leadership is that, even when research indicates the advantages of change in the decision making process, tradition in school cultures holds more weight (Reeves, 2008). Traditionally, teachers have seen their work as limited to working with children in the classroom while principals and administrators managed the schools and made the decisions, which are

passed down to the teacher (Smylie & Brownlee-Conyers, 1992). Administrators were concerned about whether teachers could produce needed reforms, whether teachers had the capacity to keep an instructional focus while performing in leadership roles, and whether teachers had the capacity to focus on collective improvement in instruction (Mangin, 2007).

Opportunities for teachers and administrators to work together have been limited and have led to a lack of opportunities for developing trusting relationships (Beachum & Dentith, 2004; Tschannen-Moran, 2009). While reshaping their own roles in decision-making in the school system, teachers are reshaping the roles of principals and other administrators as well. With a backdrop of distrust between teachers and administrators and the lack of experience they have in blending the different perspectives in some schools and districts, conflict can be expected. When teachers and administrators differ on how teacher leadership is defined, they jockey for power with the new roles ((Fitzgerald & Gunter, 2008; Smylie & Brownlee-Conyers, 1992).

Even teachers themselves define teacher leadership differently. For example, Angelle and DeHart (2011) found that years of experience in teaching, level of academic degree, leadership position, and grade level affect teachers' perceptions about the aspects of teacher leadership that were important. Furthermore, some teachers tend to reject the view of themselves as leaders (Helterbran, 2010). These different viewpoints have made it difficult for teachers and administrators to define the role of a teacher leader and without a clear understanding of the teacher leader role, enactment of teacher leadership is challenging (Fitzgerald & Gunter, 2008). Therefore, an exploration of role theory, as a

micro-political perspective, may illuminate the differences in perceptions of teachers and administrators and why these differences block the enactment of teacher leadership.

Rationale for Study

Conflicts in role perceptions are commonly thought to affect organizational performance in a negative way (Owens & Valesky, 2007). Rizzo, House, & Lirtzman (1970) thought role ambiguity, or a lack of certainty about the requirements of the role, would increase the probability of dissatisfaction, anxiety, and performance, while Little (1996) found cases of role conflict, or a lack of compatibility within the requirements of a role, leading to stress and disappointment. As teachers and administrators try to enact school leadership, different work orientations, as well as normative social contexts of school cultures, affect how they perceive the role of teachers-leaders (Smylie & Brownlee-Conyers, 1992). When these roles do not match, conflict and confusion can ensue between administrators and teachers, between different teachers, and within individual teachers.

These conflicts have been magnified in North Carolina because movements toward standardization and centralization, mixed with top-down requirements of teacher leadership, appear to be in opposition to the decentralized concept of teacher leadership (Chrispeels, 2004; Fullan, 2005; Lambert, 2003). For example, in North Carolina, teacher leadership is the first standard for evaluating teachers as noted by the NCDPI (2009), "Leadership among the staff and with the administration is shared in order to bring consensus and common, shared ownership of the vision and purpose of work of the school" (np). Furthermore, as a part of the Strategic Leadership standard for school executives, the principal must create "…processes to distribute leadership throughout the

school" (NCDPI, 2006). Principals are evaluated according to their promotion of teacher leadership. However, the state and most districts in North Carolina still maintain strict standardized control of curriculum and instruction. Fitzgerald and Gunter (2008) argue that the professional autonomy of teachers is increasingly threatened as the teacher's work is structured and standardized at the top levels of the educational hierarchy. Beyond that, Fitzgerald and Gunter were concerned that, "Being a functional teacher leader means being on message" (p.337).

Politics, power, and position affect the perceptions and the reality of distributing leadership (Gunter & Ribbins, 2003) and differing agendas lead to confusion (Webb, Vulliamy, Hamalainen, Sarja, Kimonen, & Nevalainen, 2004). From the literature, we can see that differences in the perceptions of principals and teachers about teacher leadership can lead to role conflict, and that role conflict can affect the development of teacher leadership (Smylie & Brownlee-Conyers, 1992). Therefore, in order to decrease blocks to the enactment of teacher leadership, a closer examination of the relationship between role conflict and teacher leadership is warranted.

Gaps in the Literature

Theoretically, the difficulties of enacting teacher leadership can be explained by role conflict and role ambiguity. However, while there is research on teacher leadership, and on role conflict and ambiguity, little research is available about the possible influence of role conflict and role ambiguity on the enactment of teacher leadership. This research is also needed to fill in some of the gaps suggested by previous research and educational literature related to interactions between teachers and principals, contexts of teacher

leadership, cultural influences on teacher leadership, and demographic data of teacher-leaders.

Allusions to the need for research in the area of teacher leadership and role conflict can be found in several studies. Calabrese, Sherwood, Fast, and Womack (2004) and Phillips (2004) encouraged research regarding interactions between teachers and principals. Cannata, McCrory, Sykes, Anagnostopoulos, and Frank (2010) suggested further research about perceived and actual influence of different leadership activities by teacher leaders. Scribner and Bradley-Levine (2010) recommended research on cultural practices as they are related to oppression in teacher leadership. They also recommended research that would look at gender and race factors in the influence and interactions of teacher leadership. Oplatka and Tako (2009) encouraged research about contexts, such as teacher career stages, as they relate to types of leadership.

The literature indicates the benefits of teacher leadership and yet the full enactment of teacher leadership continues to be elusive. Clear examples of the discrepancy between the rhetoric about teacher leadership and actual practice of teacher leadership, as well as the differences in implementing teacher leadership across the school districts, is seen in the North Carolina Teacher's Working Conditions Survey by the NCDPI New Teacher Center (2010, 2012).

Purpose of the Study

Role theory can possibly explain some of the difficulties in fully enacting teacher leadership. Thus, the purpose of this study is to explore the relationships between role conflict and role ambiguity, and the enactment of teacher leadership of public school teachers. This research distinguishes between the leadership qualities of the person versus

the actions of leadership within the educational context. In other words, this differentiates the leadership potential from the actualization of leadership. Also, this research focuses on self-ratings of leadership actions, as opposed to perceptions of teachers as a group. Finally, this research addresses the call for further empirical research on the influences and contexts of teacher leadership.

Research Questions

To achieve this purpose, an online survey was conducted addressing three central questions.

1) To what extent do teachers report that their leadership is enacted?
2) Is role conflict related to teacher leadership enactment?
3) Is role ambiguity related to teacher leadership enactment?

Definition of Terms

Teacher leadership: Teachers participating in a community of teacher learners to influence others for improved instructional practices in the classroom, the school, and the profession, in decision-making, and in advocating for students and schools. This broad definition of teacher leadership is given in order to encompass the expectations of teacher leadership by the North Carolina Teaching Standard I (NCDPI, 2009).

Role conflict- "Inconsistent prescriptions (or other standards) held for a person by himself or by one or more others.… The attribution of inconsistent prescriptions (or standards) to others, applicable to one's self.… Feelings of unease resulting from the existence or assumption of inconsistent prescriptions (or standards)" (Biddle & Thomas, 1966, p. 12). In other words, role conflict is about: 1) Conflicting ideas about the roles a person thinks he or she needs to play in his or her lives, 2) Conflicting ideas other people have about

the roles a person has to play, and 3) the feelings one has when these ideas conflict (Rizzo et al., 1970)

Role ambiguity- contradictory elements or vagueness in job roles (Biddle & Thomas, 1966). Role ambiguity is closely linked to role conflict, but is more about contradictory elements within the roles or vagueness in the roles. It is usually attributed to job roles.

Theoretical Framework

This study is based on the convergence of two theories. According to Owens and Valesky (2007), Role Theory, the primary theory behind this study, has extensive background and various applications to organizations, and role issues were mentioned throughout the literature on teacher leadership (Beachum & Dentith, 2004; Harris, 2004; Katzenmeyer & Moller, 2001). Though the applications were geared toward business, Rizzo et al. (1970) developed a scale for measuring both role conflict and role ambiguity that could be adapted to school systems. Questions on this scale provided a means to analyze role issues in a working environment such as a school system, "… in a more empirical and operational manner" (Rizzo et al., 1970, p. 162). These role issues seemed to be at the heart of the changes needed to go from vertically hierarchical organizations to distributed leadership organizations.

Converging with Role Theory, Spillane's body of work on distributed leadership came from the theory of Distributed Cognition, a socio-cultural viewpoint of leadership (Spillane, Halverson, & Diamond, 2004). By applying Distributed Cognition to the school system, Spillane and his colleagues proposed that leadership is not only composed of the people and jobs, but the artifacts, the contexts and the relationships between each of these. By using Rizzo et al. (1970) and their specific look at role conflict and role

ambiguity, an examination of teachers as leaders, in relationship to their jobs, as well as the artifacts and contexts of the jobs, is possible.

The idea of role has been recognized for centuries, but the emergence of a specialized study of role did not emerge until the 1930s, even though precursors to role theory include studies of labor division, complying with rules, status, social forces, interaction, and various theories of self (Biddle & Thomas, 1966). The analysis of role used in current sociological thinking emphasizes the importance of social determinants.

It is interesting to note that the origins of role, as it is discussed in role theory, actually came from the scripts memorized by stage actors (Biddle & Thomas, 1966). Using the stage analogy, Biddle and Thomas explained role theory as it applied to real life:

> Individuals in a society occupy positions, and their role performance in these positions is determined by social norms, demands, and rules; by the role performances of others in their respective positions; by those who observe and react to the performance; and by the individual's particular capabilities and personality. (p. 4)

Rizzo et al. (1970) argued that role conflict violated both the chain of command principle and the unity of command principle in classic organization theory. The chain of command principle refers to a clear, single flow of authority that leads to desired economic achievement and goal attainment in hierarchical organizations, while the unity of command principle requires that there be only one leader with one plan toward an objective, and an employee should receive orders from one superior. Along with these principles, classical organization theory states that every position needs a specific set of

responsibilities: "If an employee does not know what he has the authority to decide, what he is expected to accomplish, and how he will be judged, he will hesitate to make decisions…" (p. 151).

Rizzo et al. (1970) described four types of role conflict:

1. Conflict between defined role behaviors and the focal person's values.

2. Conflict between defined role behavior and resources, including time and the capabilities of the focal person.

3. Conflict caused by different roles, with different or incompatible expectations.

4. Conflicting expectations by incompatible policies or standards of evaluation.

They defined role ambiguity in terms of unpredictability in outcome and response, or a lack of clarity in requirements.

More recently, Owens and Valesky (2007) described role as a psychological concept dealing with "…expectations of behavior held both by onlookers and by the person occupying the role…. Role conflict is a situation in which two persons are unable to establish a satisfactory complimentary or reciprocal relationship…" (p. 131). Role conflict can also occur within the same person, such as with teachers put into leadership roles (Loder & Spillane, 2005). Role ambiguity comes from contradictory elements or vagueness in job roles. These theories about role conflict and role ambiguity can explain why there are different perceptions of teacher leadership, as well as identify problems these differences create in the workplace.

Significance of the Study

According to the literature, the need for implementing teacher leadership is widely accepted (Lambert, 2003; York-Barr & Duke, 2004). In fact, some states are

moving toward implementing teacher leadership standards. North Carolina is particularly relevant because teacher leadership is tied to the evaluation of teachers (NCDPI, 2008). Despite consensus on the importance of teacher leadership, the implementation of this has been inconsistent. While conflicts in role perceptions are commonly thought to affect organizational performance in a negative way (Owens & Valesky, 2007), both role conflict and role ambiguity are widespread in the educational setting, particularly in reference to teacher leadership (Smylie & Brownlee-Conyers, 1992). However, research about the effects of role conflict and role ambiguity on the enactment of teacher leadership is sparse and literature shows conflicting reports on how and where these conflicts in role perceptions manifest (Mehta, Gardia, & Rathore, 2010; Papastylianou, Kaila, & Polychronopoulos, 2009). More understanding is needed about the realities of implementing teacher leadership if it is going to live up to the potential assigned to it in theory**.** The next chapter expands on critical concepts related to this issue, including the evolution of theoretical conceptualizations of teacher leadership, the linkages of teacher leadership to positive outcomes, the emerging teacher leadership crisis, and the theoretical rationale for examining role conflict and role ambiguity as it relates to these issues.

CHAPTER 2: LITERATURE REVIEW

According to current literature, the importance of developing leadership capacity is clear (Riggio, 2008) but organizations also emphasize leadership development to address concerns about leadership succession (Rhodes, Brundett, & Nevill, 2008; Riggio, 2008; Stoll & Temperly, 2009). Like other organizations, the education systems share similar motivations for developing leadership capacity. Both business and educational organizations agree that it is more effective to build an internal reserve of high quality leaders than to find them outside the prospective organizations (Hay Group, 2008; Riggio, 2008). Many current leaders in education are looking toward teacher leadership for building leadership capacity in schools (Shumate, Munoz, & Winter, 2006).

The literature does not agree on what leadership or teacher leadership means, or what it means to build leadership capacity (Conger & Hallenbeck, 2010). While definitions, perspectives, and theories about leadership and teacher leadership abound, there is little objective research on the development of leadership capacity (Glatter, 2009; Riggio, 2008; Sentocnik & Rupar, 2009; Van de Valk & Constas, 2011). While the education field views teacher leadership as critical, the literature demonstrates that the enactment of teacher leadership is not the norm (Helterbran, 2010; Muijs & Harris, 2007).

One explanation for the gap between theoretical support of teacher leadership and the implementation of teacher leadership in the education system is that role conflict and role ambiguity interfere with the realization of true teacher leadership (Smylie & Brownlee-Conyers, 1992). This chapter examines literature pertaining to educational

leadership as it developed toward teacher leadership, as well as investigates the relationship between teacher leadership to role conflict and role ambiguity.

Leadership in Education

In order to identify and develop future leaders in education, the concepts of leaders and leadership have had several delineations. Leadership has been analyzed and defined in terms of leadership traits, leadership behaviors, and leadership skills. Historically, leadership has been defined in terms of individual heroes (Muijs & Harris, 2007). Theorists attribute the persistence of viewing leadership as an individual to the vertical nature of organization hierarchy and power (Owens & Valesky, 2007). The idea that leaders were born and not made led to trait theories such as transformational leadership (Bass, 1985). Searching for possible leaders with the same traits as past transformational leaders is one strategy for promoting leaders, and it is still common practice (Hay Group, 2009; Thompson, Grahek, Phillips & Fay, 2008).

Along these lines Blasé and Blasé (1997) studied eleven principals from successful schools and tried to identify the traits that made them exemplary leaders. More current studies compiled lists of traits necessary for optimum leadership (Sternberg, 2005; Thompson et al., 2008). Other studies looked for different characteristics, such as emotional stages or stages in adult development, to identify future leaders and leadership programs tried to emulate important experiences in order for the potential leaders to develop the identified traits (Allen & Wergin, 2009; Ibarra, Snook, & Guillen Ramo, 2008).

While theories of singular leadership still proliferate, authors such as Feeney (2009) expressed concern with the hero leader as over-romantic. Conger and Hallenbeck

(2010) argued that basing leadership on the normative models in trait theories is not practical because normative models are about the individuals instead of the vision or the performance of the leaders. Different situations, organizational climates, and cultures can influence characteristics, and even the ideal leader will have less idealistic characteristics, such as driving ambition and ego. Therefore a different approach to identifying and developing leadership is to look at behaviors of individual leaders (Jacobson et al, 2009). For example, Blasé and Blasé (1997) found that principals exhibited leadership when they encouraged teacher autonomy and innovation, encouraged and listened to teachers, shared governance, and demonstrated trust.

Along similar lines, Marzano et al. (2005) identified leaders by how well they fulfilled certain responsibilities. They found a statistically significant relationship in their meta-analysis between 21 leadership responsibilities and student achievement. Other theorists and researchers see the responsibilities as competencies. Competency-based leadership, a different trend in identifying and developing leadership, focuses on skills a leader can learn (Riggio, 2008). Glatter (2009) discussed the need for basic management skills. However, Richards (2008) asserted that even though competency-based leadership development models are abundant, they emphasize minimum standards rather than mastery, and they are too narrow for the complexities of leadership development.

While some theorists such as Day (2007), Glatter (2009), and Riggio (2008) distinguished between developing the leader and developing the leadership, still others put the two together as a strategy for developing a broad-based leadership with a combination of knowledge, skills, and dispositions (Phelps, 2008). Spillane developed a theory with others in which he defined this distributed leadership as, "…the

identification, acquisition, allocation, coordination, and use of the social, material, and cultural resources necessary to establish the conditions for the possibility of innovation in teaching and learning" (Spillane, Diamond, & Jita, 2003, p. 535). Spillane's theory was based on the premise that leadership has tasks and functions that are enacted by social distribution through and across different situations (Spillane, Halverson, & Diamond, 2004).

Lambert (1998, 2003, 2005, and 2006) expressed similar ideas of leadership as a social function. She defined leadership in terms of developing the capacity of leaders and leadership within an education system: "...an organizational concept meaning broad-based skillful participation in the work of leadership that leads to lasting school improvement" (Lambert, 2005, p. 38). Through this definition, Lambert added school improvement as the primary purpose of developing leadership capacity.

Like both Spillane (2004) and Lambert (2005), Day (2007) looked at leadership capacity building in a broad scope. He used case studies to assert the need for developing individual and collective capacities in relation to specific environments. Day (2007), Giles (2007), and Lambert (2005) saw the building of leadership capacity as a changing process of organizational learning. Professional development for all stakeholders has been a crucial aspect of the development of leadership and of organizational learning (Sackney & Walker, 2006). As the organization develops, the roles, behaviors, and necessary characteristics of stakeholders change. The traditional heroes become "hero-makers" (Slater, 2008, p. 55). Giles (2007) discussed optimum leadership as a reflective process of double-loop organizational learning that must be sensitive to the needs of

specific situations. Jones (2009) expressed the need for context sensitivity in his findings from interviews of head teachers in rural British schools.

A concern for the development of leadership capacity in any of its forms is the lack of empirical evidence that supports causal relationships between the leadership development programs and the goals that prompted the programs (Van de Valk & Constas, 2011). Riggio (2008) attributed this difficulty to the complexities of the leadership construct and asked, "How does one quantify the amount and quality of coaching or mentoring interventions?" (p. 388). Types of program evaluation used include reaction criteria, or self-evaluations about the effects of a program; learning criteria, or tests of knowledge from the program; behavior criteria, or observations by coworkers of specific behaviors reflecting the goals; and results criteria such as increased revenue, performance, or quality.

One aspect of the distributed leadership models is the different roles for teachers as leaders. The importance of extending leadership opportunities to teachers has been written about in-depth; along with the many possible leadership roles teachers could take (Katzenmeyer & Moller, 2001; Moller & Katzenmeyer, 1996; Searby & Shaddox, 2008). Phelps (2008) explained the importance of those roles in broad social terms as advocates, innovators, and stewards.

Teacher Leadership

According to Paulu & Winters (1998), teachers are needed in leadership roles because of their distinct perspectives on what is needed to help all students develop the skills necessary to participate in society as adults. Teachers know students, classroom issues, and school cultures. Furthermore, teachers make better decisions about teaching

because of their proximity to teaching situations; therefore, students will learn more (Blanchard & Karr-Kidwell, 1995; Boles & Troen, 1996; Carnegie Forum on Education and the Economy, 1986; Peterson et al., 1996). Their contributions and full compliance are necessary to make any successful, lasting change in education.

During the 1996 Teacher Forum, 120 exemplar teachers expressed their thoughts on teacher leadership (Paulu & Winters, 1998). They identified different leadership activities including participating in professional organizations; planning improvements for a school; developing standards and assessments at the school, district, and state levels; leading professional development; participating in personnel decisions; pushing for innovations; working with parents; participating in community partnerships; participating in teacher education programs; advocating for schools in political venues; and bringing awareness of good teaching and educational issues to the media.

The literature suggested a range of roles for these teacher leaders ranging from formal leadership positions to full time teachers who assumed extra responsibilities (York-Barr & Duke, 2004). Additional duties might include serving on the site–based Decision Management Council, providing professional development, active research, serving as department head, serving as the union representative, or mentoring new teachers (York-Barr & Duke, 2004; Carnegie Forum on Education and the Economy, 1986). Early roles of teacher leadership were often an extension of the administration, perpetuating the existing system by making it more effective. The importance of teachers' instructional expertise was accepted through roles of curricular specialists. Finally, teacher leadership expanded to a collaborative role that empowered others (York-Barr & Duke, 2004).

The literature emphasized the need for restructuring school culture and sharing leadership between teacher-leaders and administrators (York-Barr & Duke, 2004; Bush, 2006; Carnegie Forum on Education and the Economy, 1986; Mihans, 2008). This idea of fostering teacher leadership and decision-making for all teachers called for even more restructuring, especially when teachers became the center of leadership in school operation, teaching, and learning (York-Barr & Duke, 2004). For example, the Carnegie Forum on Education and the Economy (1986) stated the need for restructuring and asserted: "School systems based on bureaucratic authority must be replaced by schools in which authority is grounded in the professional competence of the teacher, and where teachers work together as colleagues, constantly striving to improve their performance" (p. 55).

The benefits of including teachers in school leadership can be seen throughout the literature. Participation in decision-making at the school level (impact), and at the classroom level (autonomy), has strong connections to teacher empowerment (Carnegie Forum on Education and the Economy, 1986; Fang, Fu, & Lamme, 2004; Short, 1994; Somech, 2005). Likewise, research has shown further benefits of teacher empowerment (Janssen, 2004; Rinehart & Short, 1994; Stockard & Lehman, 2004; Zembylas & Papanastasiou, 2005). For instance, a survey of 419 teachers in Cyprus, Zembylas and Papanastasiou (2005) found a positive relationship between job satisfaction and teacher empowerment. Janssen (2004) suggested a relationship between organizational commitment and teacher empowerment. In addition, Stockard and Lehman (2004) found, in their study of 379 public school teachers, that beginning teachers who were more satisfied had a stronger sense of control and influence in their environment. Hart and

Murphy (1990) found all teachers in an interview study of new teachers to be interested in teacher empowerment, but teachers with higher academic ability and potential saw teacher empowerment as opportunities for leadership and decision-making.

According to the Carnegie Forum (1986), giving teachers a voice in school decisions will attract new teachers to the profession, as well as retain good experienced teachers. In a study of data from 11,349 teachers in 1,830 schools, Liu (2007), found that first-year teachers who had more influence over school policy were more likely to stay in schools. Furthermore, Hulpia et al. (2010) found that participation in decision-making increased the teachers' commitment to their schools. Watkins (2005) argued that new teachers need to be involved in school-wide decisions in order to keep them connected to school goals and to keep them from feeling isolated. He also discussed the need for autonomy by new teachers. These same ideas, along with the possibility of modeling democracy, were behind the formation of School Based Management (SBM), sometimes called Site Based Management, where the decisions for running the school were made at the site level, by a committee of teachers (Carnegie Forum on Education and the Economy, 1986). Some of these assumptions were borrowed from the business community, where correlations were found between worker decision-making and higher rates of work quality and work satisfaction (Barth, 1990; Prawat, 1991).

Blanchard and Karr-Kidwell (1995) believed that participation in SBM increased teachers' perceptions of impact, but the participation was dependent on issues before the SBM team. In a random sample of eight schools, Dee, Henkin, and Singleton (2006) determining that participating in team structures, teacher empowerment, open communication, and teacher autonomy were all related to organizational commitment.

Participating in team structures was also associated with higher levels of communication and opportunities for teacher autonomy.

Perceptions of leadership seem to be context related (Rhodes & Brundrett, 2006, Yancey & Watanabe, 2009). Results of researching perceptions of leadership, by Yancey and Watanabe, indicated that American workers perceived leadership in terms of characteristics, while Japanese workers perceived leadership in terms of skills and behaviors. Through semi-structured interviews, Rhodes and Brundrett (2008) found differences in features of leadership thought to be important by head teachers and middle leaders in English schools and Schyns and Sanders (2007) used surveys to find a relationship between perceived leadership and the personalities of followers. The Shen study (1998) indicated that perceptions of autonomy and impact might not be reality. In research by Goodlad (1984), teachers felt a high degree of autonomy but felt powerless in school-wide decision making. At the same time, principals felt teachers were quite involved in impact due to school-wide decision making.

Also related was a survey study by Mehta et al. (2010), who found that teachers from all ages and genders wanted to participate more in decision-making at their institution than the opportunities they perceived available. The research also revealed a significant relationship between personal variables of age, designation, teaching experience, years of service in the institution, and actual participation in decision-making.

Perceptions about teacher performance in general seem to be different depending on the viewer. For example, Yariv (2009) asked, “How do the teachers perceive their own performance in comparison with their principal’s appraisal?” In his mixed method study of Israeli teachers and principals he found that both high performing teachers and low

performing teachers rated themselves high in performance, contrasting the principal's low rating of the weak teacher's performance.

In contrast, self-perception has hindered teacher leadership (Wilson, 1993). During a qualitative study, Wilson found that teacher-leaders, as identified by others, do not perceive themselves as leaders. These perceptions could be due to the more common, masculine, transactional leadership role, rather than the feminine transformational roles. Also, Shen (1998), in a study of data from the National Center for Educational Statistics of the U.S. Department of Education, found discrepancies between principals' perceptions of teacher leadership and those of teachers. While principals perceived an increase in their own influence and teachers' influence, teachers thought their own influence had not changed.

Another explanation for the differences in teachers' perceptions of their teacher leadership is the approach for collecting the data. Goddard, Hoy, & Hoy (2000) and Goddard, Hoy, & Hoy (2004) argued for using a group referent and collective approach to self-efficacy as an organizational property. They stressed that individual teacher efficacy and collective teacher efficacy were distinct constructs. Theories of collective teacher efficacy developed out of social cognitive theory based on individual teacher efficacy. It follows that individual perceptions of teacher leadership would be distinct from collective perceptions of teacher leadership. It seems, however, that the subject of teacher leadership has developed from group perceptions since more research is available utilizing the collective approach (Lunn, 2006; Paulu & Winters, 1998).

The problem with a group approach is possibly confusing group efficacy of teacher leadership with perceptions of specific teacher leadership. It is possible that a

teacher believes that teachers as a group have the skills to implement teacher leadership (group efficacy) without a positive perception of the skills for the enactment of his or her own teacher leadership (individual efficacy). It is also possible that a teacher is confident in having the skills for enactment of his or her own teacher leadership, but does not believe that teachers as a group have the skills to implement their teacher leadership. Although a group's efficacy about a specific task can be about the group performance, it may be a combination of the individuals' self-efficacy on the task. In this study the groups' perception of their teacher leadership was determined by collecting individual scores on perceptions of teacher leadership. This would give a clearer picture of teachers' experiences of teacher leadership. As Goddard et al. (2000) pointed out, "…it is through individuals that organizations act...." (p. 484).

Other problems have created barriers for teacher-leaders. The work of teacher-leaders has not had clear definition (Hart & Baptist, 1996) and there is a lack of information, resources, opportunities, and time to support this expanded role for teachers (Barth, 2001; Carnegie Forum on Education and the Economy, 1986; Hart & Baptist, 1996).

Role Theory

The idea of role, as a part one plays in the larger picture, has been recognized for centuries, but the emergence of a specialized study of role did not develop until the 1930s. Precursors to role theory included studies of labor division, complying with rules, status, social forces, interaction, and various theories of self (Biddle & Thomas, 1966). The analysis of role used in current sociological thinking emphasizes the importance of social determinants.

The origins of role, as it is discussed in role theory, actually came from the scripts memorized by stage actors (Biddle & Thomas, 1966). Using the stage analogy Biddle and Thomas (1966) explained role theory as it applied to real life:

> Individuals in a society occupy positions, and their role performance in these positions is determined by social norms, demands, and rules; by the role performances of others in their respective positions; by those who observe and react to the performance; and by the individual's particular capabilities and personality. (p. 4

Bess and Dee (2008) explained that there are both advantages and disadvantages to having precise formal roles in organizations. Benefits include set limits on employee behavior, standardized behavior, and established contractual relationships such as authority relationships. Then again, formal roles can be detrimental because they inhibit flexibility and adaptability in organizations. Strict role definitions can lead to circumscribing responsibilities. Given the advantages and disadvantages, clear role definitions without rigidity are necessary within any organization. However, determining clear definitions of roles as they play out in life is complicated.

The meaning of any given role is interdependent with other roles in a system. Therefore they are complimentary (Bess & Dee, 2008). For instance, the roles of student and of teacher depend on each other. There couldn't be one without the other. In fact, problems arise when these roles either conflict with each other or become ambiguous. Role conflict and role ambiguity are problematic across the many roles found in organizations (Bess & Dee, 2008; Rizzo et al., 1970).

In their book, *Role Theory: Concepts and Research*, Biddle and Thomas (1966) defined role conflict as including: inconsistent standards as viewed by the individual or by others; attributions of these inconsistent standards to others; and the negative feelings associated with perceived inconsistencies in expectations. Role conflict violates principals in classic organization theory pertaining to the flow of authority from a leader in an organization to an employee, and the need for a specific set of responsibilities attributed to each position (Rizzo et al., 1970). According to classic organizational theory, these principles are necessary for desired economic achievement and goal attainment in hierarchical organizations.

Rizzo et al. (1970) described four types of role conflict: 1) conflict between defined role behaviors and the focal person's values, 2) conflict between defined role behavior and resources, including time and the capabilities of the focal person, 3) conflict caused by different roles, with different or incompatible expectations, 4) conflicting expectations by incompatible policies or standards of evaluation. They defined role ambiguity in terms of 1) unpredictability in outcome and response, or 2) a lack of clarity in requirements.

More recently, Owens and Valesky (2007) stated that, "Role theory has been used extensively by observers and researchers in many kinds of organizations to better understand and predict organizational behavior (p.131). They described role as "…a psychological concept dealing with the….expectations of behavior held both by onlookers and by the person occupying the role…. Role conflict…. is a situation in which two persons are unable to establish a satisfactory complimentary or reciprocal relationship…" (p. 131). Role conflict can also occur within the same person, such as

with teachers put into leadership roles (Loder & Spillane, 2005). Role ambiguity comes from contradictory elements or vagueness in job roles. These theories about role conflict and role ambiguity can not only explain why there are different perceptions of teacher leadership, but also identify problems these differences create in the work place.

The Effect of Role Identities on Women and Minorities

According to Eagly and Chin (2010),

> The potential for prejudice is present when social perceivers hold a stereotype about a social group that is incongruent with the attributes that they believe are required for success in leadership roles.…This less favorable attitude often results in discriminatory behaviors (p. 217).

The influence of role identities has historically affected women negatively in regards to pursuing leadership positions (Eagly & Chin, 2010). In theoretic research of perceptions directly related to work situations Atkinson (1957) discussed a theory for motivational determinants of risk taking behavior that is used to explain occupational mobility. Expectation of success leads to higher motivation, and reciprocally, less expectation for success leads to less motivation. However, fear of failure also results in less motivation. For women success such as being put in positions of leadership, can be perceived as failure because, traditionally, femininity and achievements exhibiting leadership potential have been perceived as mutually exclusive (Horner, 1972). In a study of 60 adult males and 60 adult females, Bremer and Wittig (1980) found that both males and females showed negative correlations between perceptions of success for women and competitive situations. There were even more negative correlations when the cues indicated work overload from combining family and work obligations.

The negative influence of traditional role identities continues to keep women and minorities, as well as other specific groups, out of leadership positions. Wilson, Powney, Hall, and Davidson (2006) conducted a postal survey of 2158 teachers, interviews of 109 teachers and 14 administrators, and case studies in18 schools. Results indicated that older teachers, teachers from Non-white ethnic groups, teachers with disabilities, and females with children perceived that age, gender, ethnicity, and disability were factors in their career paths, but drive, confidence, and ability were more important factors for career paths. The research also revealed that 1) Non-white ethnic teachers needed strong encouragement in order to pursue opportunities for promotion; 2) teachers with disabilities were less likely to seek promotions than teachers without disabilities; 3) both men and women expect that men teaching in primary schools will progress faster than women; and 4) older teachers are less likely to seek promotion than younger teachers. In this study, head teachers were usually older white males.

Even though the younger generations are moving toward more equitable perceptions of men and women, the traditional role of women still persists. Twenge and Cambell (2008) conducted a meta-analysis of 1.4 million people and found that "Generation Me" (p.864) people, born between 1970 and 1990, no longer maintain stereotypes of male behavior but still have perceptions of stereotypical feminine traits. These perceptions can hinder women's opportunities for leadership development.

Role Conflict/Ambiguity and Teacher Leadership

According to current education literature, both role conflict and role ambiguity are common in the educational setting. The literature shows that all four of the situations typifying role conflict from Rizzo et al. (1970), and at least one of the role ambiguity

situations, are present in the current applications of teacher leadership. Seeman (1953) discussed the first type of role conflict as a conflict between the success ideology and the equity ideology. In 2004, York-Barr discussed the same concerns about teachers as they took on leadership roles. They pointed to teachers' egalitarian attitudes and misconceptions about equity as problems for new teacher-leaders. In the same vein, case studies showed that even when teacher-leaders are enthusiastic about reform, emotional attachment to school norms or roles led to stress and disappointment (Little, 1996).
In a reflection on teacher leadership through the 1990s, Urbanski and Nickolaou (1997), made a this observation,

> A good teacher was expected to stay in the classroom and teach students, just as a good woman was expected to stay at home and take care of her children. Any teacher aspiring to leadership (school-wide and beyond) became vulnerable to the accusation of abandoning her kids (p. 244).

Problems for teacher- leaders also arose when hierarchical differences affected teacher relationships. The top-down leadership of the past hindered collaboration, (Lambert, 2003; York-Barr & Duke, 2004) and disapproval of peers, due to egalitarian attitudes and misconceptions about equity was problematic. Because of these issues, York-Barr & Duke (2004) contend that teacher leaders have to break out of the follower mode.

The second type of role conflict occurs in teacher leadership when teachers take on more responsibilities but are not given the resources, time, information, or training to carry out the added responsibilities, along with their regular teaching assignments (Barth, 2001; Hart & Baptist, 1996; Katzenmeyer & Moller, 2001). Manguin (2007) gave

examples of the third type of role conflict, as he discussed administrators' concerns about teachers' ability to focus on instruction, as well as collective improvement.

The last category of role conflict, according to Rizzo et al. (1970), referred to dealing with incompatible policies. Currently, teachers are trying to deal with this role conflict as they face mandates for more empowering roles of teacher leadership (NCDPI, 2009) while at the same time they are experiencing disempowering mandates of standardization and centralization (Chrispeels, 2004; Fullan, 2005; Lambert, 2003).This last dilemma for teachers can also be an example of the role ambiguity, described by Rizzo et al., when there is a lack of clarity about requirements.

Even more role conflict and ambiguity become evident as different leaders try to define the leadership of an organization. For example, in 1952-1953 Gross, McEachern, and Mason (as cited in Biddle & Thomas, 1966) explored role conflict by interviewing 105 Massachusetts's school superintendents. The superintendents had to predict the recommendations expected from the superintendents of different influencing community groups about such situations as teacher salaries. Role conflict was evident as the participants predicted that some groups, such as teachers and unions would expect superintendents to recommend the highest possible salary increases, but other groups, such as business organizations and taxpayer's associations, would expect them to recommend the lowest possible increases. Biddle and Thomas (1966) cited a study of role conflict by Biddle, Rosencranz, Tomich, and Twyman (1966), examining shared inaccuracies in the roles of public school teachers. In this study, 98 schoolteachers, 261 parents, 237 pupils, and 67 school officials, from Kansas City, were asked to rate attributes of themselves and the other groups in different situations. Results showed that

both parents and school officials attributed teachers with norms of self-indulgence at higher rates, than teachers rated themselves and at higher rates than teacher performance demonstrated.

Role conflict and ambiguity is current in schools as teachers and principals try to redefine school leadership to include teacher leadership (Smylie and Brownlee-Conyers, 1992). Role ambiguity is manifesting because of unclear definitions of distributed leadership and teacher leadership (Mayrowetz, 2008), while role conflict is explained in terms of the underlying dynamics of power (Bolden, Petrov, & Gosling, 2009).

According to Lambert (2003), principals and superintendents have difficulties with teacher leadership because of hierarchical views of formal authority roles and reliance on external motivations for teachers. Sparks (2005) saw some of the difficulties as products of past school reforms that looked for direction and knowledge to come from policy makers and experts outside the school. These conflicts have been magnified because of movements toward standardization and centralization, mixed with top-down requirements of teacher leadership, (Chrispeels, 2004; Fullan, 2005; Lambert, 2003). For example, in North Carolina, teacher leadership is the first standard for evaluating teachers. Further evidence of the weight NCDPI is assigning to teacher leadership is the evaluation of principals according to their promotion of teacher leadership (NCDPI, 2009). Yet, strict standardized control of curriculum and instruction is still preserved in many districts of North Carolina.

Fitzgerald and Gunter (2008) argued that the professional autonomy of teachers is increasingly threatened as the teacher's work is structured and standardized at the top levels of the educational hierarchy, and Barth (2001) was concerned about the push for

accountability as expressed through standards and standardized testing. Beyond that, Fitzgerald and Gunter were concerned that, "Being a functional teacher leader means being on message" (p.337). They implied that teachers are put into leadership roles only if they parrot the same ideas and messages as the administrators.

Nevertheless, how and where these conflicts in role perceptions manifest are not certain. While studying issues of teacher burnout in Greece, survey results of 562 elementary teachers showed low role ambiguity and medium levels of role conflict (Papastylianou et al., 2009). Conversely, a survey study of 281 Banaras Hindu University faculty members showed an inverse relationship between role ambiguity and participation in decision-making, while participation in decision-making had no effect on levels of role conflict (Mehta et al., 2010).

Role Conflict, Role Ambiguity, and Performance

Conflicts in role perceptions are commonly thought to affect organizational performance in a negative way (Owens & Valesky, 2007). Rizzo et al. (1970) thought role ambiguity would increase the probability of dissatisfaction, anxiety, and performance, while Little (1996) found cases of role conflict leading to stress and disappointment. Bess and Dee (2008) stated that greater role conflict is related to job related anxiety and dissatisfaction. They further declared that greater ambiguity is related to lower productivity of the group as well as lower involvement in the group and lower job satisfaction.

In one example, Smylie and Brownlee-Conyers (1992) used a micro-political approach to study seven teacher leaders and their relationships with their principals while trying to develop teacher leadership. According to the study, as teachers and

administrators struggled with the ambiguity and uncertainties of trying to redefine new leadership roles, each group tried to formalize the leadership roles from their own perceptions and interests. Smylie and Brownlee-Conyers (1992) found that differences in these perceptions could result in interpersonal tensions and role conflict, which would interfere with task accomplishment.

A study by Bolden et al. (2009) gives another example of role conflict affecting performance. They reported significant tensions between leaders in 12 United Kingdom universities that supported a top-down approach to distributed leadership and those that supported a bottom-up approach, even though all were enthusiastic about distributed leadership itself. Similarly, in a qualitative study examining the communication of teachers and administrators of an urban high school, Rice (2006) found that participants experienced difficulties in their communication because of their perceptions of the others' work, priorities, and role expectations. Furthermore, in a qualitative study of a large English secondary school, Storey (2004) found problems due to the competition between leaders at the school. The leaders had different interpretations of leadership roles and priorities.

Politics, power, and position affect the perceptions and the reality of distributing leadership (Gunter & Ribbins, 2003) and differing agendas lead to confusion (Webb et al., 2004). From the literature we can see that differences in the perceptions of principals and teachers about teacher leadership can lead to role conflict, and that role conflict can affect the development of teacher leadership (Smylie & Brownlee-Conyers, 1992). No longer is there a question about whether there are differences in perceptions about teacher leadership but, in order to enhance the enactment of teacher leadership we must find out

where, when, and why these differences occur. Research exploring the possible relationships between role conflict or role ambiguity and teacher leadership can help to clarify these issues.

CHAPTER 3: METHODOLOGY

In order to explore the relationship between role conflict, role ambiguity, and teacher leadership enactment, I conducted a correlational study of teacher leadership enactment among North Carolina teachers. This chapter includes details regarding the research design, the delimitations, the sample, the measures, the procedures for data collection, and an overview of the statistical analyses.

Research Design

This study addressed the research questions using a cross-sectional and correlational design. A correlational design is used to describe and measure the degree of relationship between two or more variables (Creswell, 2008). This approach was appropriate because teachers were only surveyed once; thus, all relevant constructs were measured at the same time.

Delimitations

The delimitations for this study included four major boundaries. First, I only recruited licensed teachers at randomly selected non-charter K-12 public schools in North Carolina. I based this decision on the fact that charter schools and private schools have unique hierarchical structures with arrays of different assigned responsibilities between teachers and principals. Also, this ensured that all the participants would have had exposure to the NC teacher leadership mandate and would be able to provide information on classroom leadership.

Second, I conducted the study from September 16, 2012 to October 26, 2012 for several reasons. This was after the rush of the new school year and after all teachers would have completed the training on the teacher leadership standard. Furthermore, I

anticipated that this timing would maximize the response rate and allow teachers to interpret the questions with a similar understanding of how the state views teacher leadership.

Third, I recruited teachers from districts with high, medium, and low teacher leadership to ensure a range of responses on the survey (see Appendix A). These categories emerged from specific teacher leadership questions on the 2012 *North Carolina Teacher Working Conditions Survey* (NCDPI New Teacher Center, 2012).

Fourth, the sample was restricted to teachers able to receive e-mail and respond to an online survey. The online survey approach offered several advantages, including convenience, low cost, and efficiency. Along with that, it offers the highest level of confidentiality. Furthermore, the digital divide is no longer an issue, in that all North Carolina teachers have access to computers and e-mail. Email surveys can be expected to fall between 30% and 80%, but they sometimes generate response rates as low as 10%, (Church & Waclawski, 2001; Dillman, Smyth, & Christian, 2009).

Limitations and Strengths

The choices I made regarding this study had several limitations pertaining to the accuracy of teacher accounts, the extent to which the sample accurately represents North Carolina teachers, and the correlational design. The accuracy of these data relied on the willingness of teachers to report their experiences and demographic information. Even with assurances about the purpose of the survey and its confidentiality, teachers may have been concerned that the survey could be used for evaluation purposes. In other words, teacher ratings could have been inflated due to their desire to present themselves positively. Attempts at controlling these effects were made by giving clear explanations

and directions (see Appendices B-E). The data collected using Qualtrics were anonymous, thus allowing teachers to respond without worries about the principal, other administrators, or other teachers seeing their responses.

Districts, schools, and teachers could decline participation. Thus, despite random sampling, it was possible that the sample does not represent all North Carolina teachers. Access to teachers and their email addresses was dependent upon principal and district cooperation. As indicated below in the description of the sample selection, replacement sampling procedures targeted schools similar in terms of teacher leadership indicators. However, it is possible that the schools open to participating in the survey had an inclination toward higher levels of teacher leadership. Research shows a positive relationship between teacher leadership and a sense of responsibility (Phillips, 2004), as well as a positive relationship between teacher leadership and organizational commitment (Janssen, 2004).

Also, even with district and school cooperation, teachers could choose not to participate. Several factors may have contributed to the decisions teachers made to participate or not. Response rates may have reflected teacher concerns that e-mail addresses would be sent to commercial databases, fear of security breaches that could leave respondents open to fraud, and time constraints on teachers. To combat these problems, the e-mail letters addressed the use of the data and gave 5 minutes as the approximate time for completing the survey. Using a computer to complete the survey was not a likely barrier to participation, given that teachers have regular access to computers and the internet within their schools and they are trained to use computer technology.

The correlational design can only provide a snapshot of teacher perceptions and experiences. Cross sectional data do not allow one to examine changes over time. Thus, no implications regarding cause and effect can be drawn. Finally, random selection does not guarantee generalizability to all NC public school teachers. Furthermore, the findings may not generalize to other states, which may have their own standards regarding teacher leadership implementation.

Sample and Sample Selection

The population for this study included teachers in public K-12 schools of North Carolina. According to the *Highlights of the North Carolina Public School Budget February 2012 Information Analysis*, in the 2011-2012 academic year, North Carolina had 115 administrative units or school districts, which were comprised of 2,412 non-charter schools and 100 charter schools. In the 2011-2012 school year, North Carolina employed 90,936 certified teachers, excluding charter school teachers (NCDPI Division of School Business, 2012).

In order to represent North Carolina's teachers, a multistage cluster sampling process was implemented. This process included six steps to create the final sample. First, for each district, I examined sixteen items from the Teacher Leadership section (section 6) of the 2012 North Carolina's Teacher Working Conditions Initiative (NCDPI New Teacher Center, 2012). For each item, I calculated the percent of teachers indicating positive teacher leadership in that district. This varied depending upon the nature of the response options. For example, for each district, I calculated the percentage of teachers who chose "agree" or "strongly agree" to the item, "Teachers are recognized as educational experts." Second, I created a total score for each district by adding the

percentages across the six items. Third, the total score and the individual item scores were then used to calculate an overall average score. This allowed me to take into account the wide variation in scores for individual items, which would have been masked by only using the total score.

To create three levels, I divided the 115 districts into one of three groups identified as high teacher leadership, medium teacher leadership, and low teacher leadership, according to the percentage of teachers in each district who completed the teacher leadership items on the 2012 North Carolina's Teacher Working Conditions Initiative (NCDPI New Teacher Center, 2012). Specifically, these three levels were determined by looking at how many items out of 16 items and total score were in the low tertile, the medium tertile and the high tertile. For example, if 9 of the 17 items from a district's average percentages were in the first tertile, that district would be classified as low teacher leadership. If the district has the same number of items in low and high tertiles, the district was classified as medium teacher leadership.

Next, I used the IBM Statistical Product and Service Solutions (SPSS) computer program to randomly choose one district from each of the three groups established. Finally, schools from each of the three chosen districts were randomly selected until the chosen schools had a continuum of grades K-12 in each level of teacher leadership. A randomized replacement process was used in cases of schools that did not respond and cases in which the principals would not give permission for the survey. In the replacement process, the next new schools were selected from the randomized list of schools in the district. In one district no school serving the target grades was available so a replacement school was randomly chosen from another randomly selected district of

that leadership group. Using this process, I approached a total of 23 schools, from seven districts. Three of the seven districts I approached prohibited schools from participating and six principals from the remaining districts declined. This left 10 schools from four districts

The six-step procedure outlined above resulted in a sample of ten schools. For two school districts, the sample included teachers from an elementary school, a middle school, and a high school. The third district included an elementary (4-5), a middle school (6-8), and a high school (9-12), and the fourth district provided a primary (K-3), All certified teachers of the selected schools were invited to participate.

Sampling methods are not appropriate for small organizations, but the North Carolina Public School System is a large organization of 90,936 certified teachers, excluding charter school teachers (NCDPI Division of School Business, 2012). Thus, I chose a sample survey method over a census survey method due to practical constraints. Some of the challenges in this study included: 1) procuring a sample that is representative of the population; 2) recruiting a sample that is sufficient for the proposed analyses; and 3) constructing a strategy for data collection that is convenient and user friendly for teachers. The likelihood of a representative sample was increased by the stratified and clustered random selection of schools to participate.

A sample survey can provide an equally accurate snapshot of the population (Church & Waclawski, 2001), but sample research may fall short of representing smaller demographic groups because the number of data points is decreased. However, the subgroups can be compared to the population demographics to see if the sample adequately reflects the total population. Thus, an examination of the demographic

characteristics of the sample as compared to those of North Carolina provide some insight as to the extent to which findings might generalize to North Carolina teachers as a whole. An overview of the demographic characteristics of teachers in North Carolina in the 2011-2012 academic year may be accessed through the North Carolina Department of Public Instruction (NCDPI: Data and Reports, 2012a; NCDPI: Data and Reports, 2012b). In summary, the majority of North Carolina teachers were white (83%) and female (80%). Although the sample for this study was small, it did include a percentage of males (25%) and Non-White teachers (12%) similar to the overall demographic characteristics of teachers in North Carolina. The sample is highly educated, which is expected given that a bachelor's degree is a requirement of the job. The range in educational attainment is from a bachelor's degree to doctorate degree with National Board attainment.

Measures

This study explores three constructs: the enactment of teacher leadership, role conflict, and role ambiguity. Along with the major constructs, contextual and demographic factors were included in the survey based on literature indicating that each of these demographic factors—gender, ethnicity, age, number of years teaching, education, and teaching assignment—can affect teacher leadership or role conflict and role ambiguity (Angelle & DeHart, 2011; Mehta et al., 2010). The instrument for measuring the constructs is a survey consisting of 42 items in three sections (see Appendix B). According to the Qualtrics (2013) data, the survey took teachers approximately five minutes to complete. This online survey was brief, which prevented fatigue on the part of respondents and reduced the likelihood of missing data. Also, items

were placed strategically in a specific order to maintain interest of the respondent. The items included on the survey are described below.

Measure of Demographic and Professional Characteristics

The demographic items from the first section of this survey are all commonly used as covariates on sociological and education surveys (Cannata et al., 2010; Sykes et al., 2006). The first section contained items regarding gender, ethnicity, age, number of years teaching, education level of respondents, and teaching assignment. The categories for ethnicity were aligned with *Education First NC School Report Cards 2010-11 School Year* (NCDPI, 2011), but "Black" was changed to "African American" to match the other non-White categories. The "White" category was kept, following the example in the United States Census Bureau (2012). Use of the category "White" with the category "African American," even though the terms are not parallel, has precedent in the literature (Cannata, 2011; Dee et al., 2006). Age was measured by asking respondents to choose one of seven categories. An error in entering this measure in Qualtrics resulted in ages 30, 40, and 50 being repeated. For example one possible choice was age "30 to 40," while another choice was "40 to 50." In practical terms this mistake should not have much effect on the results, given that comparatively few respondents would have ages in those specific years and that respondents would choose the age group with which they felt most connected.

The categories for number of years in teaching was guided by the literature, however I used ranges of nine years, rather than ten, in order to distinguish this item from the age item. Also, I separated the first nine years into two categories, 0-5 and 6-9, in order to capture beginning teachers. The categories for education level of the respondents

were taken from *Highlights of the North Carolina Public School Budget* (NCDPI Division of School Business, 2012). Categories for teaching assignment were based on generally accepted school configurations.

In some cases, the size of the sample and the distribution of responses resulted in some categories with few respondents. This limited the statistical analyses that could be performed (e.g., low expected counts did not allow for chi square analyses). Thus, some categories were collapsed to allow for analysis while maintaining important conceptual distinctions. The ethnicity variable was collapsed to form a variable with two categories, White and Non-white. Age was collapsed into the following groups: 20-25, 26-30, 30-40, 40-50, 50 and older. Educational background of the teachers was reorganized into three categories: those with a bachelor's degree, those with a master's degree, and those who had national board certification (NBPTS), a specialist's degree, or a doctorate. Grade level taught was classified into: K-3, 4-5, 6-8, 9-12, and K-8 or K-12.

Using these variables in their collapsed state when necessary, I was able to explore the relationships between the demographic and professional characteristic variables. Tables C1-C5 in Appendix C shows the frequencies and percentages from Chi Square analyses of these variables.

Measure of Enactment of Teacher Leadership

The measure of the enactment of teacher leadership included seven items developed for this study based on the North Carolina Teacher Evaluation and the North Carolina Professional Teaching Standards, Standard I, titled *Teachers Demonstrate Leadership* (NCDPI, 2009). Unlike others in the literature, this scale measured personally experienced teacher leadership enactment and not responses to general statements about

the field. Participants rated the truthfulness of seven items using a six-point scale where one represented “disagree” and six indicated “agree.” A six-point scale, as opposed to a five point scale, prevents respondents from choosing a middle number.

The instrument was based on the North Carolina Professional Teaching Standards due to the fact that it is used annually by teachers to create an Individual Growth Plan. It is also used by administrators to evaluate each required observation of the teacher teaching a lesson, as well as to cumulatively evaluate teacher performance (NCDPI, n.d.). As of the 2011-2012 school year, all certified teachers working in North Carolina public schools were trained on the evaluation process and on the expectations of teacher leadership as the North Carolina Department of Public Instruction defines teacher leadership.

Four questions were modeled after the first, second, third and fifth subsections of the teaching standards. For example, item seven states, “My teacher leadership has been fully enacted in the classroom.” The fourth standard was broken into two items to address the two separate issues of advocating for schools and advocating for students. Item 12 was adapted from listed points in the third subtitled section of the North Carolina Teacher Evaluation. Also, an item about teachers’ decision-making was important to include due to the strong link between decision-making and teacher leadership indicated in the literature and it is included in the 2012 *North Carolina Teacher Working Conditions Survey* (Carnegie Forum on Education and the Economy, 1986; Fang et al., 2004; Mehta et al., 2010; NCDPI New Teacher Center, 2012; Watkins, 2005).

An overall teacher leadership enactment score was created by averaging all non-missing responses to six of the seven items. The question regarding ethical behaviors was

not used in the calculation of the overall score due to lack of variability in responses (i.e., ceiling effect). The overall score was used for the key analyses, which reflects the state's approach to the evaluation of teacher leadership. However, a factor analysis was performed to determine if teacher leadership was a one-dimensional construct. Two factors emerged from the analysis: 1) teacher leadership in different contexts, and 2) teacher leadership through advocacy (please see Appendix D). Supplemental analyses examined each of these forms of teacher leadership separately and are summarized in Appendix D.

The measure of teacher leadership has content validity ensured by matching the items in the survey to the North Carolina Teacher Evaluation instrument (North Carolina Department of Public Instruction, 2009). Along with that, content validity was checked by an expert in the field of survey research. Several educational administrators, supervising the development of the instrument, also verified this measure of teacher leadership.

Measure of Role Conflict and Role Ambiguity

The final section of the survey (items 14 to 33) included 29 items adapted from the Role Conflict and Ambiguity Measure, developed by Rizzo et al. (1970). This scale measures role conflict and role ambiguity; it was originally developed to identify the needs and barriers in implementing a management development program in a manufacturing company (Appendix E). Questions with an even number pertained to role conflict, whereas those with an odd number assessed role ambiguity. Two modifications were made to adapt it to the current study. First, respondents answered items using a six-point scale as opposed to the original five-point scale. Second, the wording of one

original item, “I feel certain how I will be evaluated for a raise or promotion,” was changed to, “I feel certain about how I will be evaluated by my superiors.” This change reflects the fact that, at this time, raises and promotions for teachers in North Carolina are not directly connected to evaluations. (The distribution of responses to these items can be found in Appendices F and G.) Some items were worded positively, whereas others were worded negatively. When necessary during analysis, raw responses to items were reverse scored so that a higher number always represented greater conflict or ambiguity.

Factor analyses were conducted on two of the key measures (role ambiguity and role conflict) because the scale was developed prior to 1970 and cohort differences were possible. In addition the data were collected from business professionals as opposed to educators; thus, a different factor structure could exist in the current sample. Factor analyses were conducted in a manner similar to that of Rizzo and his colleagues (Rizzo et al., 1970). The relationships and structural relationships of the role conflict and role ambiguity definitions were tested using an image covariance method; however, a Promax oblique method was used instead of using a Varimax orthogonal criterion. According to Michael Brannick (n.d.), this is the preferred method for factors with strong relationships such as role conflict and role ambiguity. The Promax method simplifies some of the complex loadings. The factor analysis was restricted to two factors.

The results of this analysis are shown in Appendix H with a Scree Plot and a factor pattern matrix. For this factor analysis, the rotation converged in three iterations. Factor 1 was role conflict; factor 2 was role ambiguity. Then all items that had weak loadings (<.30), had complex loading (loading within .10 on both factors), or loaded unexpectedly (loaded on a factor that originally was thought to match with the other

factor), were not included in the computations of role conflict, role ambiguity, or any of the different kinds of role conflict or role ambiguity. This resulted in the items 1, 6, 7, 10, 14, 15, 17, 18, 19, 20, 22, 28, and 29 being dropped from further analysis. The remaining items pertaining to role conflict were averaged to create an overall score. Likewise, an overall role ambiguity score was created.

Previous research indicated that the Role Conflict and Ambiguity Scale had internal consistency reliability between .816-.820 for role conflict and .780-.808 for role ambiguity (Rizzo et al, 1970). Thresholds of convergent and discriminant validity are met with this questionnaire, but causal relationships cannot be established in correlational research (Kelloway & Barling, 1990; Netemeyer, Johnston, & Burton, 1990).

Procedures

Western Carolina Institutional Review Board (IRB) gave approval for this research. I conducted a pilot study to identify any procedural problems with sending out the survey and carrying out the drawings. The first group of participants in the pilot study consisted of teachers in a summer school program. I obtained permission from the principal by phone and then requested teachers' email addresses. I sent the survey through an embedded link in an email letter. A reminder letter was sent one week later. At the end of each week I had a drawing for those who responded to the survey, and sent $50 to the winner using the school address.

In addition, I asked friends who were licensed North Carolina teachers, to complete the survey and give feedback on the clarity of the questions. Similarly, the survey was embedded in an email, but there was no reward system. This convenience sample helped to illuminate possible flaws in the survey and procedure. All changes

based on the pilot were submitted to the IRB for their approval in an amendment request.

After completing the random selection process, I called the principals of the selected schools and followed up by email with letters (see Appendix I). Calling before sending emails, established a contact with the most influential person in the school prevented the deletion of the email as potential "spam." If principals from the selected schools did not respond within three days, I called again. The calls and the email letters mentioned that for each participating school there would be a drawing for one of the respondents to receive $50 after the first week, the second week, and the third week that the survey is available. Hence, three different teacher respondents in each school would receive $50. The principals were also offered a copy of the aggregated data from the total survey to share with the teachers. I used my Western Carolina University email address, in order to assure the principal that the request for information is legitimate, as well as my Buncombe County school email address to assure the principals that the request comes from someone affiliated with the school system.

The principals were asked to reply with a list of the email addresses for certified teachers at that school that could be sent to my Western Carolina University email address. The principals were not asked to send out the surveys, because teachers may have concerns about principals knowing their answers. If the principal did not respond within a week, or if the principal did not want the teachers in that school to participate, I went to the next randomly selected school of the same level in the same district. If I did not get participation from schools that would yield a continuum of grades K-12, I randomly choose another district in the same category of high, medium, or low teacher leadership from which I randomly selected replacement schools.

Finally, I emailed survey letters, explaining the survey and its purpose, to the teachers (see Appendix. J). There were several advantages to sending the survey by email. Email addresses are easier to access than regular addresses. Data collection and processing are faster than other methods of survey collection, and respondents have more choice of where and when they complete the survey. In addition, some online survey programs, such as Qualtrics, allow progress to be monitored (Dillman et al., 2009). There has been little difference found in the data collected through on-line approaches and that of other approaches, so the choice of method should be an appropriate match for the context and the population data (Church & Waclawski, 2001). Teachers have computer access and training, as well as individual email accounts at schools, so giving surveys on-line is a good fit for this study. Furthermore, email surveys afford the highest level of confidentiality when used with an outside source, such as Qualtrics, to collect data (Church & Waclawski, 2001).

Because emails may seem less personal than traditional letters, I took all possible steps to make these emails more personal. Even though Qualtrics, a computer survey program, sent the same letter at the same time to each teacher in a school, the email appeared to have been sent individually rather than by bulk. Research has shown increases in the number of responses and in the completeness of responses when emails messages are sent individually (Dillman et al., 2009). The subject line of the email was, "Please help a fellow NC teacher by completing a confidential survey on teacher leadership." This subject line clarified who was doing the research and what the research was about. Therefore, the potential respondents would not have mistaken the survey for spam (Dillman et al., 2009). Providing my name and professional affiliation also

personalized the correspondence, which may have encouraged the potential respondents to reply.

Other steps taken to increase the response rate included embedding a link to the survey at the end of the letter. This was convenient for the respondent and convenience can lead to a better response rate (Dillman et al., 2009). In the letter, I explained that the link would take them to the survey in Qualtrics. Otherwise they may have been thrown off by the Qualtrics layout and logo and not want to finish the survey (Dillman, et al., 2009). Then, the emails were sent at 6:00 AM, so they were in the respondents' boxes in the early morning. Research has indicated that early morning emails are more likely to generate responses (Dillman et al., 2009).

In Qualtrics, the list of respondents' emails is not linked to survey responses. This ensured confidentiality. Qualtrics internally generated automatic codes assigned to individuals, which can increase response rates by 5% over codes that must be entered by the respondent (Dillman et al., 2009). When individuals completed the survey, it closed out and the data was sent automatically to the Qualtrics program. In a few situations so few responses were received from a school after the first week that I called the principal to determine if the problem indicated that another school should be selected, but the problems seemed to be due to district spam filters. Those principals, or their appointees, agreed to remind the teachers to look in their junk mail files for the survey.

Dillman et al. (2009) suggest that multiple email contacts effectively increase response rates. Accordingly, I sent a follow-up email reminder letter one week after the first letter (Appendix K). This was similar to a post card reminder. As advised by Dillman et al. (2009), a second follow-up acknowledged the potential participant's

limited time and then restated, in different words, the request for response (Appendix L).

Another strategy to increase the response rate was to have a drawing of $50 for the respondents during each of the three weeks the survey was available at each participating school. The Qualtrics program generated a list of email addresses from each school indicating respondents to be used for the randomized drawings. In past research, lotteries have not resulted in significant response rate increases, though Dillman et al. (2009) mentioned that gift certificates result in a limited increase in response rates. I had hoped that having weekly drawings, rather than drawings at the end of the survey process, would work as incentive to increase the response rate. After the winners of the first week's drawings received notification of their winnings, it was likely that they would encourage others to participate. In view of that, the first reminder letter stated that one teacher from that school had already been selected to receive $50 and the second reminder letter stated that two teachers from that school have already been selected to receive $50. Winners were notified through the email address and the money was sent to the school. By sending the money to the school address, there was no need for other personal information. In several cases the winner responded, through their notification emails, that they were going to encourage others to fill out the survey.

Though further follow-ups can produce more responses, the percentage of increase is generally lower with each reminder (Dillman, et al., 2009). The Qualtrics program automatically sorted out those who had already responded so they did not get the follow up emails. Each survey closed out three weeks after teachers first receive it.

There was no known psychological, legal, physical, or social risk to the subjects because no individual was linked to any response except by a computerized number.

Email lists were kept in a confidential computer file until the survey was completed, about 5-6 weeks from contacting principals. The lists were then deleted. There were no identifying characteristics in the survey since only aggregated data from all the schools was sent to principals. The schools were not identified in the survey questions. The data files were stored in a password protected Qualtrics program, and in data processing files on a personal computer available only to the researcher.

Data Analysis Procedures

Three weeks after the last school received the survey, the data was transferred from Qualtrics to SPSS and standard descriptive analyses were performed to identify outliers, unusual responses, and missing data. Univariate analyses focused on one variable at a time, including descriptive data, such as means, standard deviations, range, and distribution for each interval and ratio variable. I determined frequency counts and percentages for nominal and ordinal variables, as well as for each possible response to interval variable items.

Bivariate analyses depended upon the types of variables being examined. Chi Square analyses were performed on the nominal and ordinal variables, including the demographics and professional characteristics (See Appendix C). For variables with subgroups containing less than an expected frequency of five, the Fisher's Exact Test (FET) Value was used. In cases where the Fisher's Exact Test could not be calculated, the Monte Carlo method was used (IBM, n.d.). This method has a 99% confidence interval.

Statistical tests were then conducted to determine the relationship of each covariate to teacher leadership, to role conflict, and to role ambiguity. For each of the

nominal variables, one-way Analysis of Variance (ANOVA) tests were performed. When needed, additional contrasts were completed to determine how groups differed from one another. Given that ANOVAs assume homogeneity of variance the Welch, a robust test of equality of means, is used even when there is a violation of the assumption of homogeneity of variances (Laerd Statistics, 2012).

I completed the bivariate process by looking at the relationships between groups of interval variables, beginning with my dependent variable, teacher leadership. Because these variables were not normally distributed, I calculated Spearman Rank Order Correlation coefficients to test for relationships. This test is commonly used in place of Pearson Correlations when the variable data are not evenly distributed. I also conducted one-tailed tests of significance for relationships between role conflict and the enactment of teacher leadership, and for role ambiguity and the enactment of teacher leadership, in view of the negative relationships between similar variables reported in the research (Little, 1996). A one-tailed test has more power to reject a null hypothesis (Creswell, 2008). Correlation coefficients were determined to measure the degree of association between the variables with the probability that any relationship found is due to chance set at less than .05 percent ($p < .05$). This *p* value is common for educational research (Creswell, 2008).

Finally, I conducted a multivariate process to determine correlations between multiple variables through a Multiple Regression for all variables and individual survey items. Multiple regressions also give the strength of any relationships. Although variables in a multiple regression are sometimes assumed to be continuous and interval, ordinal data are commonly used, as well.

CHAPTER 4: RESULTS

In order to explore the relationship between role theory and the enactment of teacher leadership three questions must be answered: 1) To what extent do teachers report that their leadership is enacted? 2) Is role conflict related to teacher leadership enactment? 3) Is role ambiguity related to teacher leadership enactment?

Pilot Study

A pilot study was conducted in order to locate any problems with the survey process or with the survey instrument. The survey was sent to 26 elementary teachers in western North Carolina. Out of the 26 teachers who received the survey, 16 completed the survey. Feedback from the respondents resulted in changes to some of the wording in the survey items and in the letters sent to teachers and principals. The pilot study resulted in one procedural modification. Instead of any participant having the possibility of winning in the drawings three times, a participant could only win once.

Sample for Research Study

An online survey was sent to 402 North Carolina teachers in grades K-12. A total of 159 individuals responded. However, only 147 respondents answered at least one question, resulting in a response rate of 37%. Two respondents had a high number of missing responses, including one with 20 missing responses and one with 15 non-answered questions.

Table 1 provides an overview of the demographic characteristics of the sample. As can be seen, the sample was predominantly white (88%), female (75%) and between the ages of 30 and 50 years (56%).

Table 1

Demographic Characteristics of the Study Sample

Demographic Characteristics		N	%
Gender	Male	37	25.3
	Female	109	74.7
Age	20 to 25 years	29	19.9
	26 to 30 years	19	12.9
	30 to 40 years	37	25.2
	40 to 50 years	45	30.6
	50 to 60 years	31	21.1
	60 to 70 years	5	3.4
	71+ years	0	0
Ethnicity	White	129	87.8
	African American	14	9.5
	Hispanic/Latino	1	.7
	Asian	2	1.4
	Two or More Races	1	.7

The survey also included questions regarding professional characteristics, which are summarized in Table 2. Most respondents had taught for 10 to 18 years (27%) or 6 to 9 years (23%). However, the sample also included those relatively new to the field (20% with five or less years of experience) and highly experienced teachers (12%). The majority of participants taught either middle (38%) or high school (30%) students. Most participants had either a Bachelor's degree (48%) or a Master's degree (38%), with the remaining reporting a specialist's (n = 3) or doctorate (n = 2). Eleven percent of the sample were nationally board certified (NBPTS).

Table 2

Professional Characteristics of Study Sample

Professional Characteristics		N	%
Years of Teaching	0 to 5 years	29	19.9
	6 to 9 years	33	22.6
	10 to 18 years	39	26.7
`	19 to 27 years	28	19.2
	28 or more years	17	11.6
Grade Level Taught	K to 3	19	12.9
	4 to 5	16	10.9
	6 to 8	56	38.1
	9 to 12	44	29.9
	K to 8	6	4.1
	K to 12	6	4.1
Highest Degree	Bachelor's Degree	70	47.9
	Bachelor's w/NBPTS	5	3.4
	Master's degree	55	37.7
	Master's w/ NBPTS	11	7.5
	Specialist Degree	3	2.1
	Doctorate Degree	2	1.4

Prior to conducting the multivariate analyses, a series of bivariate analyses were conducted to examine the relationship of demographic and professional characteristics to each other. The results of these analyses may be viewed in Appendix C. Interestingly, gender was related to the grade taught, FET (4, N = 146) = 20.57, p = .000. Also, ethnicity was not related to any of the other demographic or professional characteristics. As one would expect, a higher age was associated with the years respondents had taught FET (16, N = 146) = 126.60, p < .000, and educational attainment was related to years of teaching experience, FET (8, N = 145) = 24.77, p =.000.

To What Extent Do Teachers Report That Their Leadership is Enacted?

Teacher Leadership Enactment Reported by Teachers

As indicated in Chapter 3, participants reported the extent to which they agreed with seven items regarding their leadership enactment using a 6-point scale where 1 indicated "disagree" and 6 denoted "agree." Table 3 presents the distribution of responses for each teacher leadership item. It can be seen that few teachers totally disagreed (selected 1) with any of the teacher leadership items. On the other hand, only the item indicating high ethical principles attained above 50% for total agreement. Ninety-two percent of the teachers responded on the agree end of the spectrum for teacher leadership in the classroom; but, this percentage decreased with teacher leadership in the school (73%) and teacher leadership in the profession (67%). On the other hand, only about one out of three respondents (34%) fully agreed that their leadership was fully enacted in the classroom. Whereas 41% of the teachers completely agreed that they advocate for students, the percentage of participants who chose the highest level of agreement was lower for advocacy for schools (19%). Twenty-six percent of the teachers responded on the "disagree" end of the spectrum for participation in decision-making, and only 14% totally agreed that their leadership is fully enacted by participation in decision-making structures.

Table 3

Distribution of Responses for Teacher Leadership Items

	Disagree								Agree			
	1		2		3		4		5		6	
	n	%	n	%	n	%	n	%	n	%	n	%
Leadership in the Classroom	0	0	4	3	10	7	2	22	54	37	45	31
Leadership in the School	2	1	8	5	32	22	1	35	36	25	17	12
Leadership in the Profession	1	1	16	11	34	23	5	31	33	23	16	11
Advocacy for Students	0	0	1	1	4	3	5	24	45	31	60	41
Advocacy for Schools	2	1	8	5	20	14	1	28	45	31	31	21
Decision-Making Structures	7	5	10	7	26	18	1	28	43	29	20	14
Ethical Principles	0	0	1	1	1	1	9	6	45	31	91	62

Table 4 presents the average response for each teacher leadership item. Although the reported teacher leadership was high, with means from 3.97(SD=1.19) to 5.52 (SD= .71), teachers did select the full range of answer choices for four of the survey items (See Table 3). However, with a mean of 5.52 (SD= .71), few disagreed that they had high ethical principles. A high average response was observed for advocating for students (mean= 5.10, SD = .91), but the percentage of teachers who chose the highest level of agreement was lower for this item (41%) as compared to the one regarding ethics (62%). To create an overall leadership score, the average of responses to six items was calculated

(items 7 to 12). The item regarding ethics was not included due to the lack of variability in responses. The average total leadership score for the sample was 4.43 (SD = .87).

Table 4

Average Teacher Leadership Enactment

Survey Item	N	M	SD
Leadership in the Classroom	145	4.87	1.02
Leadership in the School	146	4.11	3.97
Leadership in the Profession	145	3.97	1.19
Advocacy for Students	145	5.10	0.91
Advocacy for Schools	147	4.44	1.20
Participation in Decision-Making Structures	147	4.11	1.13
High Ethical Principles	147	5.52	0.71
Total Teacher Leadership w/o High Ethical Principles	147	4.43	0.87

In a supplementary process I performed a factor analysis on the teacher leadership variable as it is used in the NC Teacher Evaluation (NCDPI, 2009). The results, along with bivariate and multivariate analyses using the resulting factors, are displayed and discussed in Appendix D).

Demographic and Professional Characteristics Related to Teacher Leadership Enactment

One goal of this study is to understand what factors are related to teacher leadership. Table 5 displays the results of one-way ANOVAs between teacher leadership and demographic variables. Analyses indicated that only age had a significant

relationship with teacher leadership, $F(4,142) = 2.58$, $p = .04$. The Levene's Statistic ($p = .35$) indicated that the variances of the groups are not equal, but the Welch test confirmed that there is a significant difference between the groups ($p < .05$). Overall teacher leadership was greatest for those age 50 and older (M = 4.78, SD 0.83) and least for age 26-30 (M = 4.07, SD 0.82). Further analysis of the relationships between teacher leadership enactment and demographic can be found in Appendix M, which breaks down the relationships according to a teacher leadership item analysis.

Table 5

Summary of One Way ANOVAs: Teacher Leadership and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	0.03	1	0.03	0.04	.84
	Within Groups	111.09	144	0.77		
	Total	111.13	145			
Ethnicity	Between Groups	1.06	1	1.06	1.39	.24
	Within Groups	110.43	145	0.76		
	Total	111.49	146			
Age	Between Groups	7.56	4	1.89	2.04	.04*
	Within Groups	103.94	142	0.73		
	Total	111.49	146			

*Significant at $p<.05$

Table 6 displays the results of one-way ANOVAs between teacher leadership and professional characteristic variables. While no significant relationships were found with overall teacher leadership, the item analysis of the relationships between teacher leadership enactment and professional characteristic variables, in Appendix M, shows relationships with specific items of teacher leadership.

Table 6

Summary of One Way ANOVAs: Teacher Leadership and Professional Characteristics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Years Teaching	Between Groups	5.67	4	1.42	1.91	.11
	Within Groups	104.94	141	0.74		
	Total	110.61	145			
Degree	Between Groups	3.97	2	1.99	2.65	.07
	Within Groups	107.15	143	0.75		
	Total	111.13	145			
Grade Level	Between Groups	1.46	4	0.37	0.47	.76
	Within Groups	110.03	142	0.78		
	Total	111.49	146			

Is Role Conflict Related to Teacher Leadership Enactment?

Role Conflict Reported by Teachers

Though frequencies and percentages of all the original role conflict items are available in Appendix F, Table 7 shows the frequency and percentage of respondents' choices for the role conflict items remaining after the factor analysis, with 1 representing total disagreement and 6 indicating total agreement. Respondents used the full range of the scale when answering the role conflict items. The items showing the most role conflict, after the factor analysis were, "I have to do things that should be done differently," (63%) and, "I receive an assignment without adequate resources and materials to execute it." (46%). Items indicating the least role conflict were, "I perform tasks that are too easy or boring," and, "I have to buck a rule or policy in order to carry out an assignment." For each of these items 27% of the teachers showed role conflict.

Table 7

Distribution of Responses for Role Conflict Items

Survey Item	Disagree								Agree			
	1		2		3		4		5		6	
	N	%	N	%	N	%	N	%	N	%	N	%
I perform tasks that are too easy or boring. (I16)	36	25	37	25	33	22	21	14	9	6	10	7
I have to do things that should be done differently. (I 18)	5	3	17	12	33	22	29	20	35	24	28	19
I work under incompatible policies and guidelines. (I 22)	39	27	39	27	27	18	19	13	12	8	11	8
I receive an assignment without the manpower to complete it. (I 24)	25	17	35	24	29	20	26	19	18	12	12	8
I have to buck a rule or policy in order to carry out an assignment. (I 26)	44	30	32	22	27	18	28	19	9	6	3	2
I receive incompatible requests from two or more people. (I 34)	33	22	38	26	32	22	21	14	13	9	7	5
I do things that are apt to be accepted by one person and not accepted by others. (I 36)	32	22	33	22	28	19	25	17	15	10	11	8
I receive an assignment without adequate resources and materials to execute it. (I 38)	28	19	26	18	21	14	31	21	23	16	13	9
I work on unnecessary things. (I 40)	29	20	26	18	27	18	27	18	14	10	20	14

Table 8 gives the average scores for role conflict items. The item with the highest mean was, “I have to do things that should be done differently,” with a mean of 4.06 (SD = 1.42), and the item with the lowest mean was, “I have to buck a rule or policy in order to carry out an assignment,” with a mean of 2.55 (SD = 1.38). The overall role conflict mean was 3.04 (SD = 1.05). Further analyses of role conflict can be found in Appendix H.

Table 8

Average Scores for Role Conflict Items

Survey Item	N	M	SD
I perform tasks that are too easy or boring. (I 16)	146	2.73	1.48
I have to do things that should be done differently. (I 18)	147	4.06	1.42
I work under incompatible policies and guidelines. (I 22)	147	2.72	1.55
I receive an assignment without the manpower to complete it. (I 24)	145	3.09	1.54
I have to buck a rule or policy in order to carry out an assignment. (I 26)	143	2.55	1.38
I receive incompatible requests from two or more people. (I 34)	144	2.75	1.44
I do things that are apt to be accepted by one person and not accepted by others. (I 36)	144	2.94	1.55
I receive an assignment without adequate resources and materials to execute it. (I38)	142	3.24	1.55
I work on unnecessary things. (I 40)	143	3.22	1.68
Total Role Conflict (after factor analysis)	147	3.04	1.05

Demographic and Professional Characteristics Related to Role Conflict

Bivariate analyses examined the possible relationships of the demographic variables and role conflict (Table 9). Role conflict seemed to be related to ethnicity, $F(1,145) = 5.85$, $p = .02$. However, a Levene's test could not confirm the equal variance expectation for ANOVAs.

Table 9

Summary of One-way ANOVAs: Role Conflict and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	0.13	1	0.01	0.01	.92
	Within Groups	165.63	144	1.15		
	Total	165.64	145			
Ethnicity	Between Groups	7.32	1	7.32	6.69	.01 *
	Within Groups	158.48	145	1.09		
	Total	165.80	146			
Age	Between Groups	5.71	4	1.43	1.27	.29
	Within Groups	160.09	142	1.13		
	Total	165.80	146			

*Significance at $p<.05$

Table 10 displays the possible relationships of the professional characteristic variables with role conflict. The relationship between grade level taught and role conflict was significant, $F(4,142) = 2.67$, $p = .04$. The group with the highest role conflict score

was teachers of grades four and five (M = 3.40, SD 1.28). The lowest role conflict score was grades K-3 (M=.2.76, SD 1.37).

Table 10

Summary of One-way ANOVAs: Role Conflict and Professional Characteristics

Variables		Sum of Squares	Df	Mean Squares	F	Sig
Years Teaching	Between Groups	2.81	4	0.70	0.61	.66
	Within Groups	162.24	141	1.15		
	Total	165.05	145			
Degree	Between Groups	4.75	2	2.38	2.11	.13
	Within Groups	161.00	143	1.13		
	Total	165.76	145			
Grade Level	Between Groups	11.54	4	2.88	2.66	.04*
	Within Groups	154.26	142	1.09		
	Total	165.80	146			

*Significance at $p<.05$

Role Conflict and Teacher Leadership Enactment

Spearman Rho Tests showed a significant negative relationship between overall teacher leadership enactment and role conflict, R_S (147) = -.30, p = .000, though a breakdown of the relationship according to teacher leadership items shows some variability in the relationships (see Table 11). For example there is a significant negative

relationship between teacher leadership in the classroom and role conflict, there is no relationship between role conflict and teacher leadership as advocacy for students.

Table 11

Spearman Rho Correlation Coefficients between Teacher Leadership Enactment and Role Conflict

	Total Role Conflict	N
Total Teacher Leadership	-.30***	147
TL Classroom	-.35***	145
TL School	-.35***	146
Profession	-.31***	145
Advocating Students	.01	145
Advocating Schools	-.12	147
TL Decision-Making	-.31***	147

After the Spearman Rho bivariate tests, multivariate analyses, in the form of multiple regressions, were necessary to account for intervening variables. In order to build a model that would explain the variability of teacher leadership in a meaningful way, the relationships revealed in the bivariate analysis were examined. “Dummy" variables were created for nominal and ordinal variables to prevent them from reading as scale variables. Then, those dummy variables that had indicated significant relationships with overall teacher leadership, or any of its underlying items, were included in the multiple regressions. Though the demographic and professional characteristic variables related to role conflict or role ambiguity were not as important, they were also included in order to fully explain the variability in teacher leadership. Dummy variables are

interpreted as compared to the other categories of the variable. For example, the variable Degree had the categories NBPTS, Specialist or Doctorate Degree, and Master's Degree, compared to having a Bachelor's Degree.

The One Way ANOVAs in the bivariate section indicated several significant relationships between the intervening variables, demographics and professional characteristics, and the main variables, teacher leadership, role conflict, and role ambiguity. Gender, ethnicity, age, and degree were found to be significantly related to teacher leadership or one of its classifications. Ethnicity and grade level were related to role conflict. Using these relationships as guides, a multiple regression procedure was developed to move forward by starting with role conflict and adding in an increasing number of intervening variables (see Table 12). In this way, more and more of the variability should be explained by the models.

The first step of Model I, in Table 12, has overall teacher leadership as the dependent variable and role conflict as an independent variable. Although role conflict accounts for only 11% of the variability of teacher leadership, the relationship is significant. For every unit increase of role conflict, teacher leadership decreased by .33 units. Therefore, the evidence shows that a negative relationship is observed between role conflict and teacher leadership enactment.

In each step of the multiple regression, more variables were added. The second step added gender and ethnicity, but there was little increase in explaining the variability of teacher leadership. Adding in the dummy variables for age increased the R^2 to 20%, but beyond role conflict, only being age 50+ had any influence on teacher leadership with significant probability $p < .05$. Adding in the dummy variables for grade level taught by

the respondent increased the R^2 to 45%, and age 50+ still shows as significant, but when the degree held by the respondent was added to the model in Step 5C, only role conflict could explain the variability in teacher leadership with significant probability. The final step of Model I, with all the intervening variables, shows that for every standardized unit increase of role conflict, teacher leadership decreased by .37. Therefore, evidence indicates that a negative relationship will continue to be observed between role conflict and teacher leadership enactment after controlling for demographic and professional characteristic factors.

Table 12

Model I: Summary of Regression Analysis for Role Conflict and Other Variables Predicting Teacher Leadership

	R^2	Variables	*B*	*SE B*	*Beta*
Step 1C	0.11***	Intercept	5.25***	0.21	
		Role Conflict	-0.27***	0.06	-0.33
Step 2C	0.11**	Intercept	5.22***	0.23	
		Role Conflict	-0.26***	0.07	-0.32
		Gender Male	0.03	0.16	0.01
		Ethnicity Non-white	0.08	0.22	0.03
Step 3C	0.20***	Intercept	5.11***	0.32	
		Role Conflict	-0.29***	0.07	-0.36
		Gender Male	0.02	0.15	0.01
		Ethnicity Non-white	0.03	0.21	0.01
		Age 26-30	- 0.21	0.32	0.08
		Age to 40	0.16	0.29	0.08
		Age to 50	0.17	0.29	0.09
		Age 50+	0.61*	0.29	0.31
Step 4C	0.45**	Intercept	5.34***	0.41	
		Role Conflict	-0.31***	0.07	-0.37
		Gender Male	-0.01	0.17	-0.01
		Ethnicity	0.02	0.22	0.01
		Age 26-30	-0.23	0.32	-0.09
		Age to 40	0.12	0.30	0.06

	R^2	Variables	*B*	*SE B*	*Beta*
		Age to 50	0.15	0.29	0.08
		Age 50+	0.60*	0.30	0.29
		GL k-3	-0.27	0.31	-0.10
		GL 4-5	-0.16	0.33	-0.06
		GL 6-8	-0.09	0.27	-0.05
		GL 9-12	-0.21	0.27	-0.11
Step 5C	.45**	Intercept	5.35***	0.41	
		Role Conflict	-0.30***	0.07	-0.37
		Gender Male	-0.03	0.17	-0.02
		Ethnicity	0.03	0.22	0.01
		Age 26-30	-0.24	0.32	-0.09
		Age to 40	0.05	0.31	0.03
		Age to 50	0.11	0.30	0.06
		Age 50+	0.55	0.31	0.27
		GL k-3	-0.33	0.32	-0.13
		GL 4-5	-0.17	0.33	-0.06
		GL 6-8	-0.09	0.27	-0.05
		GL 9-12	-0.23	0.27	-0.12
		Master's	0.00	0.16	0.00
		NBPTS, Spec., Doc.	0.26	0.22	0.12

***Significant at $p<.001$
**Significant at $p<.01$
*Significant at $p<.05$

Is Role Ambiguity Related to Teacher Leadership Enactment?

Role Ambiguity Reported by Teachers

Table 13 shows the frequency and percentage of respondents' choices for the Role Ambiguity items in the survey, with 1 representing total disagreement, or choosing and 6 representing total agreement. Similar to role conflict, all possible responses (values 1 to 6) were used in each of the role ambiguity items. The positively worded items were reverse scored in further analysis in order to measure the construct role ambiguity.

Results show that the items indicating the most role ambiguity were 37) "I am told how well I am doing my job", with 41% of the teachers scoring in the disagree side of the spectrum, and 15) "I feel certain about how much authority I have", with 36% of

the teachers scoring in the disagree side of the spectrum. Items indicating the least role ambiguity were “I know what my responsibilities are” (8%), and “I have clear, planned goals and objectives for my job” (9%). Both items had only 2 teachers in total disagreement. Further breakdowns of role ambiguity can be found in Appendix H.

Table 13

Distribution of Responses for Role Ambiguity Items

Survey Item	Disagree										Agree	
	1		2		3		4		5		6	
	N	%	N	%	N	%	N	%	N	%	N	%
I feel certain about how much authority I have. (I15)	9	6	18	12	26	18	45	31	31	21	17	12
I have clear, planned goals and objectives for my job. (I17)	2	1	2	1	10	7	24	16	58	40	51	35
I am corrected or rewarded when I really don't expect it. (I21)	36	25	31	21	35	24	29	20	10	7	6	4
I know what my responsibilities are. (I25)	2	1	2	1	9	6	20	14	56	38	57	39
I feel certain how about how I will be evaluated by my superiors. (I29)	8	5	9	6	17	12	25	17	57	39	29	20
I know exactly what is expected of me. (I33)	6	4	10	7	19	13	39	27	41	28	30	20
I am told how well I am doing my job. (I37)	16	11	14	10	30	20	36	25	29	20	30	14
Explanation is clear of what has to be done. (I39)	5	3	16	11	30	20	37	25	39	27	18	12

Table 14 gives the average scores for role ambiguity Items. Though some items are worded in positive terms that would mean less role ambiguity, they are reverse scored when determining levels of role ambiguity. The items with the highest means indicating the most role ambiguity were 37) "I am told how well I am doing my job," with a reverse scored mean of 3.26 (SD 1.51), and 15) "I feel certain about how much authority I have," with a reversed scored mean of 3.16 (SD 1.38). The item with the lowest mean, indicating the least role ambiguity, was 25) "I know what my responsibilities are," with a reverse scored mean of 1.97 (SD 1.06). The overall role ambiguity mean was 2.69 (SD 8.2). This answers the auxiliary question: To what extent do teachers in North Carolina experience Role Ambiguity?

Table 14

Average Scores for Individual Role Ambiguity Items

Survey Item	N	M	SD
I feel certain about how much authority I have. (I15)	146	3.84	1.38
I have clear, planned goals and objectives for my job. (I17)	147	4.95	1.06
I am corrected or rewarded when I really don't expect it. (I21)	147	2.76	1.41
I know what my responsibilities are. (I25)	146	5.03	1.06
I feel certain about how I will be evaluated by my superiors. (I29)	145	4.39	1.39
I know exactly what is expected of me. (I33)	145	4.30	1.35
I am told how well I am doing my job. (I37)	145	3.74	1.51
Explanation is clear of what has to be done. (I39)	145	3.99	1.32
Total Role Ambiguity	145	2.69	.82

Demographic and professional characteristics related to role ambiguity.

One-way ANOVAs were performed between overall role ambiguity and the demographic variables. As seen in Table 15, there were no significant relationships revealed.

Table 15

Summary of One-way ANOVAs: Role Ambiguity and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	.34	1	0.40	0.61	.44
	Within Groups	93.87	144	0.65		
	Total	94.27	145			
Ethnicity	Between Groups	0.72	1	0.72	1.11	.29
	Within Groups	93.75	145	0.65		
	Total	94.47	146			
Age	Between Groups	1.47	4	0.37	0.34	.69
	Within Groups	93.00	142	0.66		
	Total	94.47	146			

One-way ANOVAs were also performed between overall role ambiguity and the professional characteristic variables. Similar to Table 15, Table 16 shows no significant relationships revealed.

Table 16

Summary of One Way ANOVAs: Role Ambiguity and Professional Characteristics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Years Teaching	Between Groups	3.45	4	0.86	1.34	0.26
	Within Groups	90.56	141	0.64		
	Total	94.01	145			
Degree	Between Groups	2.94	2	1.47	2.30	0.10
	Within Groups	91.47	143	0.64		
	Total	94.42	145			
Grade Level	Between Groups	3.68	4	0.92	1.44	0.22
	Within Groups	90.78	142	0.64		
	Total	94.47	146			

*Correlation is significant at the .05 level (1-tailed)
**Correlation is significant at the .01 level (1-tailed)
***Correlation is significant at the .001 level (1-tailed)

Role ambiguity and teacher leadership enactment. Like the role conflict tests, Spearman Rho tests showed a significant negative relationship between overall teacher leadership enactment and role ambiguity, R_S (147) = -.46, p = .00. Still, variability in this relationship appears when role ambiguity is examined in terms of the teacher leadership items. While there is a strong negative relationship between role ambiguity and teacher leadership as decision-making, a relationship between role ambiguity and teacher leadership as advocacy for students is almost non-existent. These results, as well as other role ambiguity analyses are seen in Table 17.

Table 17

Spearman Rho Correlation Coefficients between Teacher Leadership Enactment and Role Ambiguity

	Total Role Ambiguity	**N**
Total Teacher Leadership	-.46***	**147**
TL Classroom	-.35***	**145**
TL School	-.46***	**146**
Profession	-.43***	**147**
Advocating Students	-.08	**145**
Advocating Schools	-.23**	**147**
TL Decision-Making	-.52***	**147**

*Correlation is significant at the .05 level (1-tailed)
**Correlation is significant at the .01 level (1-tailed)
***Correlation is significant at the .001 level (1-tailed)

The multiple regression process was also conducted for teacher leadership and role ambiguity (see Table 16). Variables that could affect the relationship between teacher leadership and role ambiguity were included. The one-way ANOVAs indicated significant relationships between teacher leadership, or one of its underlying items, and the demographics: gender, ethnicity, age, and degree. None of the demographic or professional characteristics emerged as significant relationships for role ambiguity.

In Model II, overall teacher leadership is the dependent variable and role ambiguity is an independent variable. Thus, for every standardized unit increase of role ambiguity, teacher leadership decreased by 0.46 units. The regression also shows that with an R^2 of 0.22, role ambiguity accounts for 22% with a *p* value <.001of the variability in teacher leadership. Adding in all the intervening variables increased the

explanation of variability in teacher leadership to 29%, but the negative relationship of role ambiguity decreased to -.44, p = .000. The relationship of Age 50+ also persisted (.28, p = <.05). This final evidence leads to the conclusion that a negative relationship is observed between role ambiguity and teacher leadership enactment even when controlling for intervening variables.

Table 18

Model II: Summary of Regression Analysis for Role Ambiguity and Other Variables Predicting Teacher Leadership

	R^2	Variables	*B*	*SE B*	*Beta*
Step 1A	0.22***	Intercept	5.81***	0.23	
		Role Ambiguity	-0.50***	0.08	-0.46
Step 2A	0.24***	Intercept	5.78***	0.24	
		Role Ambiguity	-0.50***	0.08	-0.46
		Gender Male	-0.03	0.15	-0.01
		Ethnicity Non-white	0.15	0.20	0.06
Step 3A	0.28***	Intercept	5.53***	0.32	
		Role Ambiguity	-0.49***	0.08	-0.45
		Gender Male	-0.04	0.15	-0.02
		Ethnicity Non-white	0.12	0.20	0.05
		Age 26-30	-0.13	0.30	- 0.05
		Age to 40	-0.21	0.28	0.12
		Age to 50	-0.18	0.27	0.10
		Age 50+	-0.54	0.28	0.27
Step 4A	0.29***	Intercept	5.52***	0.32	
		Role Ambiguity	-0.48***	0.08	-0.44
		Gender Male	-0.05	0.15	- 0.03
		Ethnicity Non-white	0.12	0.20	0.04
		Age 26-30	-0.10	0.30	- 0.04
		Age to 40	0.24	0.29	0.12
		Age to 50	0.20	0.28	0.11
		Age 50+	0.58*	0.29	0.28
		Master's	-0.11	0.14	- 0.06
		NBPTS, Spec., Doc.	0.09	0.20	0.04

***Significant at p<.001 *Significant at p<.05

Summary

Overall, teachers reported high levels of teacher leadership enactment; however, there was variation depending upon the aspect of leadership being addressed. Teachers indicated the highest levels with regards to classroom leadership, whereas levels were lower for school advocacy. Both role conflict and role ambiguity were negatively related to overall teacher leadership enactment, even when controlling for relevant demographic and professional characteristics. However the relationships also varied depending on the aspect of leadership being addressed. For example, significant negative relationships were found between role conflict and all aspects of teacher leadership enactment except for either of the teacher leadership advocacy items. Furthermore, even stronger significant negative relationships were found between role ambiguity and all aspects of teacher leadership enactment except for the item addressing advocacy for students. Given that the picture of teacher leadership varied depending upon the item chosen by the participants, an item analysis was conducted which divided the teacher leadership items into two basic factors, teacher leadership in different contexts, and teacher leadership as advocacy.

CHAPTER 5: DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

Previous research underscores the benefits of teacher leadership for teachers (Hulpia et al., 2010; Janssen, 2004; Phillips, 2004; Rinehart & Short, 1994; Zembylas & Papanastasiou, 2005), school systems (Mihans, 2008), and student achievement (Peterson et al., 1996). In recognition of this, North Carolina has added teacher leadership to their evaluation process (NCDPI, n.d.). This raises the question of how to support the development and enactment of teacher leadership, including an examination of barriers to leadership enactment. The application of role theory to the educational domain suggests that conflict and role ambiguity would lead to lower levels of leadership. Various studies have attempted to look at the effects of role conflict and role ambiguity in the education field, with mixed results (Calabrese et al., 2004; Cannata et al., 2010; Oplatka and Tako, 2009; and Phillips, 2004). Therefore, the purpose of this study was to explore the relationship between role conflict and role ambiguity, and the enactment of teacher leadership in North Carolina public schools, from the teachers' perspective. To accomplish this goal, three basic questions were asked: 1) To what extent do teachers report that their leadership is enacted? 2) Is role conflict related to teacher leadership enactment? 3) Is role ambiguity related to teacher leadership enactment?

Summary of Findings

An anonymous online survey was administered to 147 teachers in ten schools located across North Carolina. Along with information on demographics, teachers rated their own teacher leadership enactment, role conflict and role ambiguity. Teacher leadership items were modeled after the NC Teacher Leadership Evaluation Standard (NCDPI, 2009), whereas role conflict and ambiguity were measured using the Role

Conflict/Role Ambiguity Survey developed by Rizzo et al. (1970). The sample was predominantly white, female, and between the ages of 30 and 50 years. Whereas half of the respondents had taught for 6 to 18 years, the sample also included those relatively new to the field and highly experienced teachers.

To What Extent Do Teachers Report That Their Leadership is Enacted?

The teachers in this study reported high levels of teacher leadership enactment, with an average overall score of 4.43 (SD = 0.87) on a 6-point scale, though there was some variability in the item analysis. Out of the demographic variables, gender, ethnicity, and age, the only variable that showed as having a significant relationship with teacher leadership was age, $F(4,142) = 2.58$, $p = .04$. None of the professional characteristic variables, years in teaching, degree held by the respondent, or grade level taught by the respondent, showed significant relationships with teacher leadership.

Is Role Conflict Related to Teacher Leadership Enactment?

The overall role conflict mean was 3.04 (SD = 1.05) from a 6-point scale, and according to Spearman Rho tests, a significant negative relationship exists between overall teacher leadership enactment and role conflict, $R_S (147) = -.30$, $p = .000$, though a breakdown of the relationship according to teacher leadership items shows some variability in the relationships. The only demographic or professional characteristic variable related to the level of role conflict was the grade level taught by the respondent $F(4,142) = 2.67$, $p = .04$. However, in a final multiple regression analysis, evidence indicated that a negative relationship continued to be observed between role conflict and teacher leadership enactment after controlling for demographic and professional

characteristic factors. It showed that for every standardized unit increase of role conflict, teacher leadership decreased by .37.

Is Role Ambiguity Related to Teacher Leadership Enactment?

The overall role ambiguity mean was 2.69 (SD 8.2), out of 6-point scale and, similar to the role conflict tests, Spearman Rho tests showed a significant negative relationship between overall teacher leadership enactment and role ambiguity, R_S (147) = -.46, p = .00. Also similar is the variability when tested with specific teacher leadership items. However there were no relationships showing for demographic or professional characteristics variables and role ambiguity. A multiple regression model further supported evidence of this relationship (-.44, p = .000), showing that, after controlling intervening variables, for every standardized unit increase of role ambiguity teacher leadership decreased by 0.44 units.

Discussion of Findings

To What Extent Do Teachers Report That Their Leadership is Enacted?

Teacher leadership enactment reported by teachers. Although the teachers in this study reported high levels of teacher leadership enactment, this contradicts the persistence of traditional views that teachers do not see themselves as leaders (Helterbran, 2010). These findings also challenge those of an older study by Shen (1998) of teachers who did not see a positive change in their own influence. However, the current study was geared toward teachers' individual experiences of the level of their own leadership, whereas Shen's study referred to a change in the level of the teachers' impact. Also, high levels of teacher leadership enactment may stem from the statewide efforts to broaden the definition of leadership. Although encouraging, it is unclear as to

whether teacher reports of teacher leadership enactment would correspond to administrators' evaluations or to other measures of teacher leadership. Likewise, we should be seeing the benefits of teacher leadership as described in the empirical or even the theoretical research: gains in student achievement (Peterson et al., 1996; Reeves, 2008); teacher empowerment (Hart & Murphy, 1990), an increased sense of ownership and responsibility (Phillips, 2004), job satisfaction (Rinehart & Short, 1994; Zembylas & Papanastasiou, 2005), organizational commitment (Hulpia et al., 2010; Janssen, 2004) and teacher retention (Mihans, 2008).

There was variation observed depending upon the aspect of teacher leadership being measured. Although 92% agreed that they had enacted had leadership in the classroom, only 31% of participants reported total agreement. That decreased to 12% in total agreement that their leadership was being enacted in the school and 11% in the profession. A supplemental analysis, a factor analysis, was conducted for the teacher leadership measure used in this survey, and two main factors emerged. One factor, teacher leadership in different contexts, included teacher leadership in the classroom, teacher leadership in the school, teacher leadership in the profession, and teacher leadership as decision-making. The remaining items formed the teacher leadership as advocacy and consisted of the following items: advocacy for students, advocacy for schools, and high ethical principles. Thus, teacher leadership is not a unidimensional concept. In fact, the relationship of demographic factors to teacher leadership depended upon what aspect of teacher leadership was being examined.

Also, this research defies assumptions regarding which teachers would view themselves as strong leaders. Analyses examined the extent to which demographic

characteristics were related to overall teacher leadership enactment, as well as individual items. Findings regarding the relationship of gender, ethnicity, and years of teaching experience were surprising given previous research. For example, some argue that women still have less leadership than men (Eagly & Chin, 2010; Twenge & Campbell, 2008); however, in this study women experienced more decision-making than men. Similarly, in this study minorities experienced more teacher leadership than Whites, which is counter to the ideas expressed by Wilson et al. (2006). These findings may reflect the small numbers of males and minorities in the sample. They may also reflect differences in perception as opposed to actuality, as Goddard et al. (2000), and Goddard et al. (2004) discussed. Finally, experience, shown by years of teaching, was not significantly related to overall teacher leadership. One would expect that those with greater experience would assume a more prominent role in the school, community organizations which advocate for children, and professional organizations. However, an explanation supported by Reeves (2008) declares that entrenched power roles at the school level supersede all other factors. Another explanation could be the constantly changing requirements of the school environment that do not allow for accumulated experience at any level. Overall, these findings underscore that we know very little about what is related to teacher leadership, which may reflect definitional issues.

Demographic and professional characteristics related to teacher leadership enactment. The way that teacher leadership is defined impacts whether some demographic factors are related to teacher leadership enactment. Findings regarding the role of educational background in teacher leadership enactment highlight this point. Counter to previous research (York-Barr, J., & Duke, K., 2004), there was no evidence of

a significant relationship between overall teacher leadership and educational background. However, an item analysis revealed significant relationship between teacher leadership enactment and leadership in the classroom and leadership in the profession. This relationship was not linear for any of the teacher leadership variables. In fact, in all situations, respondents with Master's degrees experienced less teacher leadership than those with Bachelor's degrees, though the group with a Specialist, Doctorate, or NBPTS certifications experienced the most teacher leadership: classroom leadership (M = 5.29, SD = 0.64), professional leadership (M =4.62, SD 0.97), teacher leadership in different contexts (M = 4.78, SD = 0.64). This is similar to Cannata et al. (2010), who found that NBPTS certified teachers engaged in more leadership activities at both the school and district levels than their non-board certified peers, but did not report greater influence over school wide policy than their colleagues.

Also, age was related to overall teacher leadership, as well as two teacher leadership items (teacher leadership at the professional level and teacher leadership through advocating for schools). However, age was not related to leadership at the classroom level, the school level, advocating for students, or decision-making (see Appendix M). Observed relationships were not linear relationship either, but age 50+ reported the greatest levels of total teacher leadership (M = 4.78, SD = 0.83), and age group 26-30 reported the least (M = 4.07, SD 0.82). This pattern of findings may reflect the challenges faced at each stage in life. Oplatka and Tako (2009) suggested that professionals go through career stages. For example, those in their early 20's could be fresh out of college and ready to take on the world, those in their later twenties and

thirties may be putting their attention on family, and those in their fifties may be ready for new professional challenges as family obligations decrease.

Is Role Conflict Related to Teacher Leadership Enactment?

Role conflict reported by teachers. Though teachers reported significant levels of role conflict, an item analysis is helpful in order to pinpoint the areas of conflict and look for patterns. The highest levels of role conflict were related to the incongruence between the teachers' large workload and the little time given to complete the work. At least four items were related to this issue, and 42% to 67% of teachers reported experiencing this. Teachers did report that they "… have to do things that should be done differently" (Mean = 4.06, SD = 1.42) and that they "work on unnecessary things" (mean = 3.22, SD = 1.68). However, teachers did not tend to report that they have a lack of training, a lack of objectives, or a conflict in values. Although many felt things should be done differently (63%), they generally do not go against rules or policies.

Demographic and professional characteristics related to role conflict. As was the case with teacher leadership, demographic variables shed little light as to which teachers experienced higher levels of role conflict. Overall, there was no evidence of relationships between the demographic variables and role conflict. The exception to this was grade level taught. Bivariate analyses indicated a significant relationship between total role conflict and grade level, although the relationship was not linear. K-3 teachers seemed to experience the least role conflict, whereas 4-5 teachers experienced the most. Perhaps this is due to the onset of end of grade testing. This can be further investigated by isolating third grade from K-2 in research, where testing starts in third grade. However, with the implementation of M-Class testing in the lower grades, more conflict may arise.

Role conflict and teacher leadership enactment. Some interesting points about the relationship between role conflict and the enactment of teacher leadership are where the conflict arises. During an item analysis role conflict has significant relationships between each level of teacher leadership, classroom, school, and in the profession. There is also a relationship between role conflict and decision-making. There is not a relationship between role conflict and advocacy for students or for schools (see Table 11). These results are further bolstered in the teacher leadership factor analysis as role conflict has a significant relationship between teacher leadership in different contexts but not teacher leadership as advocacy. Teachers have no patterns of conflict when it comes to advocacy, except that more teachers report leadership through advocating for students (96%) than for schools (80%). This discrepancy may be due to conflicts in how schools are being run rather than the existence of public schools. It could also be the leadership aspect of the item rather than the advocacy aspect.

Is Role Ambiguity Related to Teacher Leadership Enactment?

Role ambiguity reported by teachers. Teachers do experience role ambiguity in their jobs, but not as much as they experience role conflict. Individual items showing the most ambiguity were over whether they are doing a good job, (Mean = 3.26, SD = 1.51), and over how much authority they had (Mean = 3.16, SD = 1.38). The least level of ambiguity was about knowing responsibilities (Mean = 1.97, SD = 1.06).

Demographic and professional characteristics related to role ambiguity. The only noteworthy point about relationships between demographic or professional characteristics and role ambiguity is that there are no relationships. Therefore the

ambiguity is experienced across the various subgroups without distinction. Therefore the focus can be on the ambiguity rather than the people experiencing it.

Role ambiguity and teacher leadership enactment. Though teachers experience less role ambiguity than role conflict, the negative relationship between teacher leadership and role ambiguity is higher than that of role conflict. That would mean that ambiguity affects teacher leadership more than conflict does. The strongest relationships were total role ambiguity and decision-making, a lack of clarity about expected behaviors and decision-making, and a lack of clarity about expected behaviors and total teacher leadership, all with the same Spearman Rho result, R_s (147) = -.52, p = .00. Intriguingly, role ambiguity was related to all items of teacher leadership with the exception of advocating for students. Teachers know that ultimately they are there to help the students despite any conflicts or confusion.

Implications

Policy

Policy and teacher leadership. Several points need to be addressed as to policy and teacher leadership. To begin with, it is vital that policy makers, teachers, and administrators work together to achieve a consensus on how teacher leadership should be defined. This consensus should address differences in definitions, carefully consider what is included in the definition, and distinguish between factors that are under the control and teachers and those that are not. Currently, there is not a consensus in North Carolina regarding how teacher leadership should be defined. In 2012, teachers completed the Teacher Working Conditions Survey (TWC), which included three standards related to teacher leadership. These standards pertained to leadership in the classroom, leadership in

the school, and the extent to which schools have decision-making processes that are inclusive of teachers (NCDPI New Teacher Center, 2012, June). Items on the survey included specific acts of teacher leadership, such as hiring, budget, professional development, and developing new teaching techniques. However, the North Carolina standards which are used to evaluate teachers differ, in that standards also encompass teacher advocacy and ethics (NCDPI, 2009).

Given such differences, it is not surprising that a different picture of teacher leadership emerges depending upon the study. In the current study, teachers rated themselves high on the enactment of teacher leadership, whereas the TWC findings underscore areas of concern. For example, in this study, teachers rated their leadership in the school with an average of 4.11 on a 6-point scale. However, only 16% of teacher responding to the 2012 TWC indicated they helped with hiring, budget, or choosing professional development (NCDPI New Teacher Center, 2012, June).

State leaders should continue to consider how to define this important construct in a form that can be measured with validity and reliability. Definitions should be tied to leadership behaviors that have been empirical linkages with positive student academic outcomes. In this way, the definition of teacher leadership will become narrower, but retain the most essential elements.

Also, policy makers must distinguish between leadership skills and the prerequisites and responsibilities inherent in teaching. Standards of teacher leadership should be examined vis-à-vis the other standards for teachers, to ensure that there is not a high level of overlap. In other words, teacher leadership should be distinct from other duties practice in the classroom, such as behavior management or delivery of instruction.

A necessity for broadening the traditional definition of teacher leadership, to include more activities and people than just the few decision-makers at the top, was evident. However, teacher leadership, as it is framed currently, is sometimes seen as a rebranding of all the responsibilities teachers already had (Fitzgerald and Gunter, 2008). For example, high ethics is currently included in the NC standards for teacher leadership; thus, an item was included in the teacher leadership skill ("As a teacher, I demonstrate my leadership through my high ethical principles."). In this study, the average score for this item was 5.52 on a 6-point scale. It is not surprising that the vast majority of teachers reported that they have high ethical principles, given that this is requirement of the position. One might say that we have broadened the definition of leadership but we have not deepened it. The broader definition of teacher leadership leaves even more room for disagreement in defining leadership roles, and the lack of a clear understanding of the teacher leader role, challenges the enactment of real teacher leadership (Fitzgerald & Gunter, 2008

Policy and role theory. Administrators and policy makers should consider how school contexts support or deter the enactment of teacher leadership. Traditional roles have had decisions coming from the top down, keeping power and authority in a hierarchy with teachers at the bottom. Along with that, the different work orientations of teachers compared to administrators, as well as normative social contexts of school cultures, affect how each perceive the role of teachers-leaders (Smylie & Brownlee-Conyers, 1992). Indeed, as teachers stand in front of classes to teach, they are leading the class as they have always done, but how many of the decisions required about what to

teach and how to teach do the teachers really make? Angelle & Dehart (2011) promoted the value of illuminating the barriers to teachers taking leadership roles.

The findings of this study support the negative impact of role conflict and role ambiguity on teacher leadership. Role ambiguity is particularly troublesome, given that the influence of role ambiguity on teacher leadership was about twice that of role conflict. In a study of Banaras Hindu University faculty members, there was an inverse relationship between role ambiguity and participation in decision-making, while participation in decision-making had no effect on levels of role conflict (Mehta et al., 2010), and opposite results to others, such as the elementary teachers in Greece, who showed low role ambiguity and medium levels of role conflict while experiencing teacher burnout (Papastylianou et al., 2009), findings may vary depending upon teacher leadership at the school, district, state, and federal level. The full range of responses (1-6), suggests that the variability of both role conflict and role ambiguity stem from the school and district contexts, given that the state and federal context was constant for all.

Practice

Practice and teacher leadership. Given that teachers are evaluated on their ability to demonstrate leadership, the North Carolina Department of Public Instruction, the North Carolina School Board, and local entities must consider how to support the development of teacher leadership through opportunities for leadership that are intentionally provided. In fact, research documenting the number of opportunities may facilitate the implementation of teacher leadership by making this issue more salient among administrators. Leadership training can encompass any number of strategies that can be modified to fit the needs at all levels of leadership (Angelle & DeHart, 2011).

Questions on surveys such as this one can serve to inform about problem areas, so they can be addressed. As this study shows, teacher leadership diminishes as it leaves the classroom. In order to have real leadership come from teachers, other roles will need to be reexamined as well, including those of principals, districts, states, and the federal government.

As part of the education systems, universities need to develop programs of higher degrees that are geared toward teacher leadership and states need to develop certifications for those programs. On a personal note, every time I mentioned that I was pursuing my doctorate in education, an assumption was made that I was pursuing an administrative position in the school system. This assumption was bolstered by the fact that there are few teachers pursuing the highest degrees. I rarely met a classroom teacher in my doctoral classes. The classes were populated by administrators and the curriculum was focused on administration.

Beyond that, the school environment does not support a pursuit of higher degrees. The attitude of egalitarianism, common to school environments, may come into play. Along with the egalitarianism, there can be an assumption that the teacher no longer cares about teaching children, since the teacher must be positioning for an administrative job. To combat these forces, teachers must rely on their own determination to be at the top of their field, and administrators at all levels need to support those efforts, including raising pay commensurate with the degree held. Like society in general, having a highly educated work force in the schools can only lead to a stronger school system.

Practice and role theory. Strategies for addressing issues of conflict and ambiguity are already being used in community building, family therapies, and in some

schools. Examples of strategies that could be included are: leadership training, consensus building, conflict resolution, and studies in neurolinguistics, sociolinguistics, or discourse analysis. All of these strategies can be seen as part of leadership training, though they are useful in other contexts as well. Consensus building is a way to make decisions in a group that does not leave part of the group disgruntled, an effect of majority rule (Lindahl, 2008). Conflict resolution develops a set of tools for groups to make decisions while supporting differences in thought (Milhench, 2004). Both neurolinguistics and sociolinguistics study the effect that choices in language have in social and professional relationships, as well as effective leadership (Millrood, 2004; Cranston, 2010), and discourse analysis builds on and uses conflict discursive practices that hinder collaboration (Gillespie & Chrispeels, 2008).

One important step in addressing role issues is for each system and school to examine and redefine roles in ways that support the shared leadership of all. For example, teachers cannot step up to leadership positions if principals do not relinquish some authority. Neither teachers nor principals can practice fully implemented leadership in districts that dictate all aspects of curriculum and instruction. Though leadership is needed from the bottom up on the hierarchy, room for this leadership may need to come from the top down. Perhaps this was NCDPI's purpose for the leadership standard on teacher evaluations.

Possibilities for Future Research

Multiple areas of possible future research surfaced during this study. Although role theory clearly applies to the education world, most of the available research pertains to the business world. Though many point to parallels between the education world and

the business world, the differences are significant. Children are not products and teachers are not trying to make a profit.

Because of the differences in business and education irregularities arise in adapting role theory to education. For example the ideas of bosses, superiors, and subordinates are not as clear in education as they are in business. According to role theory, this very lack of clarity in roles leads to role ambiguity. Ambiguity problems come up when a subordinate is given directions by more than one superior, yet education systems have layers and layers of supervisors, all with direct influence on teachers. Teachers must abide by federal mandates, state standards, district policies, demands from local boards of education, superintendents' directives, principals' preferences, and the guidance of the curriculum specialists. While the advancement of teacher leadership is an attempt at flattening the hierarchy, the size of education systems does not allow for one boss with one set of directions. These layers of bosses may seem necessary for the management of such a big bureaucracy, but the management required of the business world may be a hindrance to the work of education (Coyle, 1997).

Other differences in education systems and the business world include how pay is decided. In business situations pay is negotiated between the employer and the employee. The employer of teachers is the state and pay is decided by lawmakers. Though some lawmakers are trying to push a business model into the teachers' pay system through merit pay, the complications of turning test scores into a business product are difficult to overcome.

Therefore, research and measurement of role conflict and role ambiguity that have developed through business models are not perfectly suitable to education systems. Items

such as, “I do not know if my work will be acceptable to my boss,” or “I feel certain how I will be evaluated for a raise or promotion,” in Rizzo’s Role Conflict and Role Ambiguity Scale (Rizzo et al., 1970) had to be adjusted for this research. Future research could focus on developing a tool for measuring role conflict and role ambiguity specific to the education world. Along with that, future research could look at the effects of business models on educational environment and goals.

In hindsight, there were several problems with this study. First of all, it would have been beneficial to delineate the school district from the state, country, or profession in general. However, the study was following the North Carolina Leadership Standards, and categories, or levels, of professional teacher leadership were not specific. Also, a larger sample would have reduced analytic problems. Further research could address these issues.

Moreover, as this study provided evidence for answering some questions pertaining to teacher leadership, other questions were brought forward. For instance, while age was found to be related to overall teacher leadership, the strongest relationships came from items where teachers reported the lowest levels of teacher leadership, teacher leadership within the profession and teacher leadership through advocating for the schools. Also, the highest level of teacher leadership was related to those 50 and older. Consequently, one would expect the majority of professional leaders, in the district and state offices to be filled with seniors, but is this an actuality? Are teachers in leadership positions older than other teachers?

One might expect age to bring leadership, but there were also results that challenge generally accepted assumptions about teacher leadership. For example, one

would expect to find a relationship between years of teaching experience and teacher leadership, as well as a relationship between a teacher's education level and teacher leadership. These relationships were not evident in this research. More confounding was the finding that both experience and education level did have relationships with teacher leadership within the classroom, but none of the professional or personal variables were related to teacher leadership in the schools. Therefore, the question arises: What does affect teacher leadership at the school level? More study is needed to uncover the influences of teacher leadership and the differences in these influences at all levels of the education system.

To conclude, this survey study of 147 North Carolina teachers found significant negative relationships between role conflict and teacher leadership, and between role ambiguity and teacher leadership. By addressing the issues of role conflict and role ambiguity, it is likely that we would see increases in teacher leadership. The benefits of teacher leadership are too great to ignore: teacher empowerment, teacher efficacy, an increased sense of ownership and responsibility by teachers, job satisfaction, organizational commitment, modeled democracy and teacher retention. With all of these benefits, it is likely that we would see the ultimate goal of increases in student achievement.

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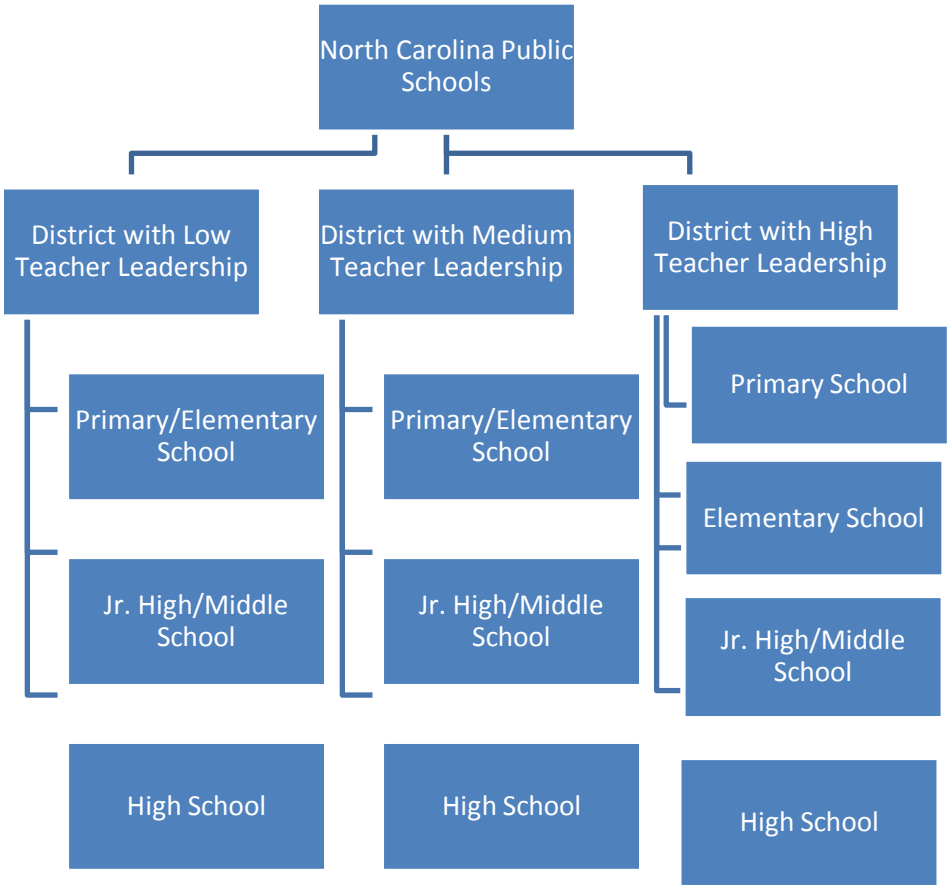
Appendices

Appendix A

Sampling Process



Appendix B

Survey

Role Conflict & Ambiguity and Teacher Leadership Survey

1) I am:

female male

2) I am:

White African American Hispanic/Latino Asian American
Indian/Alaskan Native Hawaiian/Pacific Islander

Two or more races

3) My age is:

20-25 26-30 30-40 40-50 50-60 60-70
71+

4) The number of years I have been teaching is:

0-5 6-9 10-18 19-27 28 and more

5) The highest degree for teaching I hold is:

Bachelor's degree Bachelor's degree with NBPTS Master's degree with NBPTS
Master's degree Specialist Degree Specialist Degree with NBPTS Doctorate
Doctorate with NBPTS

6) The grade level I currently teach is:

k-3 4-5 6-8 9-12 k-8 k-12

Mark the level of agreement for each item 8-14.
Scale: disagree = 1 to agree = 6.

7) As a teacher, my leadership in the classroom has been fully enacted.

1 2 3 4 5 6

Disagree Agree

8) As a teacher, my leadership in the school has been fully enacted.

1 2 3 4 5 6
Disagree Agree

9) As a teacher, my leadership in the teaching profession has been fully enacted.

1 2 3 4 5 6

Disagree Agree

10) As a teacher, I demonstrate leadership by advocating for students.

1 2 3 4 5 6
Disagree Agree

11) As a teacher, I demonstrate leadership by advocating for schools.

1 2 3 4 5 6

Disagree Agree

12) As a teacher, my leadership is fully enacted by my participation in decision-making structures.

1 2 3 4 5 6

Disagree Agree

13) As a teacher, I demonstrate my leadership through my high ethical principles.

1 2 3 4 5 6

Disagree Agree

14) I have enough time to complete my work.

1 2 3 4 5 6

Disagree Agree

15) I feel certain about how much authority I have.

1 2 3 4 5 6

Disagree Agree

16) I perform tasks that are too easy or boring.

1 2 3 4 5 6

Disagree Agree

17) I have clear, planned goals and objectives for my job.

1 2 3 4 5 6

Disagree Agree

18) I have to do things that should be done differently.

1 2 3 4 5 6

Disagree Agree

19) I have a lack of policies and guidelines to help me.

1 2 3 4 5 6

Disagree Agree

20) I am able to act the same regardless of the group I am with.

1 2 3 4 5 6

Disagree Agree

21) I am corrected or rewarded when I really don't expect it.

1 2 3 4 5 6

Disagree Agree

22) I work under incompatible policies and guidelines.

1 2 3 4 5 6

Disagree Agree

23) I know that I have divided my time properly.

1 2 3 4 5 6

Disagree Agree

24) I receive an assignment without the manpower to complete it.

1 2 3 4 5 6

Disagree Agree

25) I know what my responsibilities are.

1 2 3 4 5 6

Disagree Agree

26) I have to buck a rule or policy in order to carry out an assignment.

1 2 3 4 5 6

Disagree Agree

27) I have to "feel my way" in performing my duties.

1 2 3 4 5 6
Disagree Agree

28) I receive assignments that are within my training and capability.
1 2 3 4 5 6

Disagree Agree

29) I feel certain how about how I will be evaluated by my superiors.

1 2 3 4 5 6

Disagree Agree

30) I have just the right amount of work to do.

1 2 3 4 5 6

Disagree Agree

31) I do not know if my work will be acceptable to my boss.

1 2 3 4 5 6

Disagree Agree

32) I work with two or more groups who operate quite differently.

1 2 3 4 5 6

Disagree Agree

33) I know exactly what is expected of me.

1 2 3 4 5 6

Disagree Agree

34) I receive incompatible requests from two or more people.

1 2 3 4 5 6

Disagree Agree

35) I am uncertain as to how my job is linked to other jobs in the school system.

1 2 3 4 5 6

Disagree Agree

36) I do things that are apt to be accepted by one person and not accepted by others.

1 2 3 4 5 6

Disagree Agree

37) I am told how well I am doing my job.

1	2	3	4	5	6
Disagree					Agree

38) I receive an assignment without adequate resources and materials to execute it.

1	2	3	4	5	6
Disagree					Agree

39) Explanation is clear of what has to be done.

1	2	3	4	5	6
Disagree					Agree

40) I work on unnecessary things.

1	2	3	4	5	6
Disagree					Agree

41) I have to work under vague directives or orders.

1	2	3	4	5	6
Disagree					Agree

42) I perform work that suits my values.

1	2	3	4	5	6
Disagree					Agree

Appendix C

Relationships of Demographic and Professional Characteristic Variables to Each Other

Table C1

Relationship of Gender to Other Nominal Demographic Variables

		Gender				
		Female		Male		
		N	%	N	%	χ^2 or FET
Ethnicity						
	White	96	75	13	72.2	$\chi^2 = 0.06$
	Non-white	32	25	5	27.8	
Age						
	20 to 25	9	6.2	1	0.7	$\chi^2 = 2.47$
	26 to 30	14	9.6	5	3.4	
	30 to 40	25	17.1	12	8.2	
	40 to 50	35	24	10	6.8	
	50+	26	17.8	9	6.2	
Years of Teaching						
	0-5	19	13.1	10	6.9	$\chi^2 = 8.68$
	6-9	30	20.7	3	2.1	
	10-18	25	17.2	14	9.7	
	19-27	20	13.8	7	4.8	
	28+	14	9.7	3	2.1	
Grade Level Taught						
	K-3	19	13	0		FET=20.57***
	4-5	16	11	0		
	6-8	40	27.4	16	11.0	
	9-12	28	19.2	15	10.3	
	K-8/ K-12	6	4.1	6	4.1	
Educational Background						
	BA	52	35.9	18	12.4	$\chi^2 = 0.16$
	Master's	41	28.3	13	9.0	
	NBPTS/ Sp/Doc	15	10.3	6	4.1	

Fisher's Exact Test is used when more than 20% of cells are <5. * < .05, **p < 0.01, ***p <.001

Percentages are rounded to tenths place.

Table C2

Relationship of Ethnicity to Demographic Nominal Variables

		Ethnicity				
		White		Non-White		
		N	%	N	%	FET
Age						6.74
	20 to 25	10	6.8	0	0	
	26 to 30	19	12.9	0	0	
	30 to 40	31	21.1	6	4.1	
	40 to 50	36	24.5	9	6.1	
	50+	33	22.4	3	2.0	
Years of Teaching						3.80
	0-5	26	17.8	3	2.1	
	6-9	27	18.5	6	4.1	
	10-18	35	24.0	4	2.7	
	19-27	24	16.4	4	2.7	
	28+	17	11.6	0	0	
Grade Level Taught						5.38
	K-3	18	12.2	1	0.7	
	4-5	14	9.5	2	1.4	
	6-8	52	35.4	4	2.7	
	9-12	36	24.5	8	5.4	
	K-8/ K-12	9	6.1	3	2.0	
Educational Background						0.42
	BA	60	41.1	10	6.8	
	Master's	49	33.6	6	4.1	
	NBPTS/ Sp/Doc	19	13.0	2	1.4	

Fisher's Exact Test is used when more than 20% of cells are < 5.

Table C3

Results of Chi Square Analyses Continued with Demographics and Professional Characteristics

	Age										
	20-25		26-30		30-40		40-50		50+		
	N	%	N	%	N	%	N	%	N	%	Monte Carlo
Years Teaching											126.60***
0-5	10	6.8	8	5.5	5	3.4	4	2.7	2	1.4	
6-9	0	0	11	7.5	9	6.2	13	8.9	0	0	
10-18	0	0	0	0	22	15.1	10	6.8	7	4.8	
19-27	0	0	0	0	1	0.7	16	11.0	11	7.5	
28+	0	0	0	0	0	0	1	0.7	16	11.0	
Educational Background											14.56
Bachelor's	9	6.2	10	6.8	14	9.6	25	17.1	12	8.2	
Master's	1	0.7	8	5.5	16	11.0	16	11.0	14	9.6	
NBPTS/ Specialist's /Doctorate	0	0	1	0.7	7	4.8	4	2.7	9	6.2	
Grade Level Taught											15.97
K-3	3	2.0	4	2.7	1	0.7	4	2.7	7	4.8	
4-5	1	0.7	2	1.4	5	3.4	6	4.1	2	1.4	
6-8	3	2.0	5	3.4	17	11.6	16	10.9	15	10.2	
9-12	3	2.0	6	4.1	12	8.2	16	10.9	7	4.8	
K-8/ K-12	0	0	2	1.4	2	1.4	3	2.0	5	3.4	

Fisher's Exact Test is used when more than 20% of cells are < 5. In cases where the Fisher's Exact Test could not be calculated, the Monte Carlo method was used.
*** Significant at $p < .001$

Table C4

Results of Chi Square Analyses Pertaining to Professional Characteristics

	Educational Background						
	Bachelor's		Master's		NBPTS/Specialist/ Doctorate		Monte Carlo Value
	N	%	N	%	N	%	
Years Teaching							24.77***
0-5	23	15.9	6	4.1	0	0	
6-9	17	11.7	14	9.7	2	1.4	
10-18	15	10.3	14	9.7	9	6.2	
19-27	10	6.9	11	7.6	7	4.8	
28+	4	2.8	10	6.9	3	2.1	
Grade Level Taught							6.01
K-3	7	4.8	7	4.8	5	3.4	
4-5	6	4.1	9	6.2	1	.7	
6-8	27	18.5	20	13.7	8	5.5	
9-12	22	15.1	16	11.0	6	4.1	
K-8/ K-12	8	5.5	3	2.1	1	0.7	

Fisher's Exact Test is used when more than 20% of cells are < 5. In cases where the Fisher's Exact Test could not be calculated, the Monte Carlo method was used

***Significant at $p<.001$

Table C5

Results of Chi Square Analyses Continued Pertaining to Professional Characteristics

	Grade Level Taught										
	K-3		4-5		6-8		9-12		K-8/K-12		
	N	%	N	%	N	%	N	%	N	%	Monte Carlo
Years Taught											16.28
0-5	4	2.7	4	2.7	9	6.2	12	8.2	0	0	
6-9	4	2.7	5	3.4	12	8.2	9	6.2	3	2.1	
10-18	2	1.4	2	1.4	18	12.3	14	9.6	3	2.1	
19-27	5	3.4	2	1.4	12	8.2	6	4.1	3	2.1	
28+	4	2.7	2	1.4	5	3.4	3	2.1	3	2.1	

Fisher's Exact Test is used when more than 20% of cells are < 5. In cases where the Fisher's Exact Test could not be calculated, the Monte Carlo method was used.

Appendix D

Supplemental Factor Analysis of Teacher Leadership Measure

A factor analysis using the Promax oblique method with image factoring was performed on all of the teacher leadership items, including the ethical principles item. For this factor analysis, the rotation converged in four iterations. Three factors emerged but, as seen in Table 41, no items loaded at .30 or above for the third factor. Each item loaded at .30 or above in the other two factors. The first item loaded > .30 for both factor 1 and factor 2, which makes it complex, but the factor 2 loading was only.306, and the factor 1 loading was .14 greater, so it will be counted toward factor 1. In the Pattern Matrix, leadership in the classroom, school profession, and decision-making seem to line up with factor 1, while the advocacy items and ethics item lined up with factor 2. Because the item, "As a teacher, I demonstrate my leadership through my high ethical principles," has so little variance, it is not informative to include it in further analysis. So in further analysis, factor 1 will be called leadership in different contexts, because most of these items refer to a specific context, and factor 2 will be called teacher leadership through advocacy.

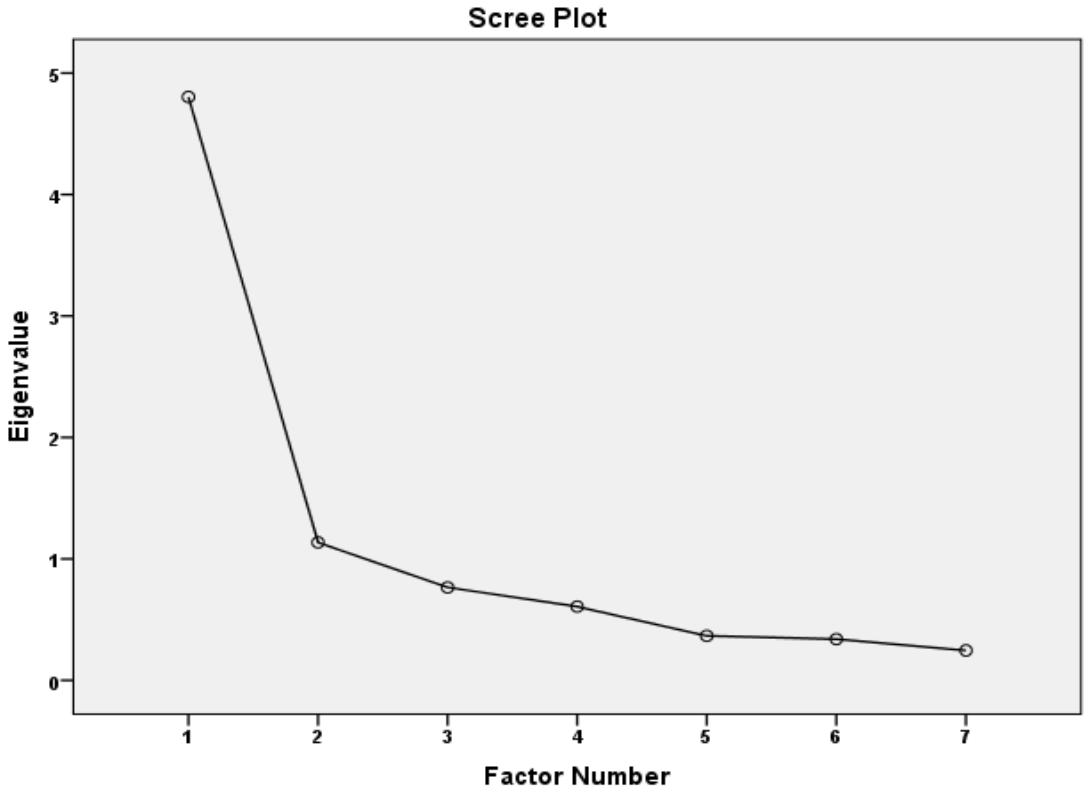


Figure D1. *Factor Analysis Scree Plot for Teacher Leadership*

Table D1

Teacher Leadership Factor Pattern Matrix

Survey Item	Rescaled Factor		
	1	2	3
As a teacher, my leadership in the classroom has been fully enacted.	**.44**	.31	-.14
As a teacher, my leadership in the school has been fully enacted.	**.85**	-.03	-.01
As a teacher, my leadership in the teaching profession has been fully enacted.	**.72**	.08	.01
As a teacher, I demonstrate leadership by advocating for students.	-.02	**.62**	.06
As a teacher, I demonstrate leadership by advocating for schools.	.22	**.43**	.12
As a teacher, my leadership is fully enacted by my participation in decision-making structures.	**.72**	-.08	.01
As a teacher, I demonstrate my leadership through my high ethical principles.	-.02	**.52**	-.10

Extraction Method: Image Factoring.
Rotation Method: Promax with Kaiser Normalization.

After determining that the teacher leadership in this survey was actually two different factors, new means were computed. Teacher leadership in different contexts had a mean of 4.27 (SD = .97), and the mean for teacher leadership as advocacy was 4.76 (SD = .97).

A series of One Way ANOVAs with leadership in different contexts and the demographic and professional characteristic variables revealed that degree held by the teacher was the only significant relationship $F(2,143) = 3.73$, $p = .03$. NBPTS certificate, a specialist degree, or a doctoral degree (M = 4.78, SD = .64) had the highest mean, while the other groups were bachelor's degree (M = 4.25, SD = 1.05) and master's degree (M = 4.11, SD = .92).

Then one- tailed Spearman Rho tests of teacher leadership in different contexts with both role conflict and role ambiguity showed significant relationships, $R_S (147) = -.38$, $p = .000$ and $R_S (147) = -.56$, $p = .000$. Finally, multiple regressions indicated that significant relationships continued between teacher leadership in different contexts and both factor analyzed role conflict and factor analyzed role ambiguity, even when controlling for the education level (degree held) of the respondents (see Tables D2 – D3). In Table 43, Step 1 shows that role conflict accounts for 16% of the variability of teacher leadership in different contexts, and Step 2 shows that, even controlling for degree, as role conflict decreases by one standardized unit, teacher leadership in the different contexts will increase by 0.38 of a standardized unit. The relationship between teacher leadership in the different contexts and role ambiguity is even more pronounced (see Table 43). Step 1 shows that role ambiguity accounts for 30% of the variability of teacher leadership in different contexts, and Step 2 shows that for each decrease of one

standardized unit in role ambiguity, teacher leadership in different contexts will increase by .53 of a standardized unit.

Table D2

Model III: Summary of Regression Analysis for Role Conflict and Other Variables Predicting Teacher Leadership in Different Contexts

	R^2	Variables	*B*	*SE B*	*Beta*
Step 1C	0.16***	Intercept	5.38	0.23	
		Role Conflict	-0.37	0.07	-.40***
Step 2C	0.19***	Intercept	5.28	0.23	
		Role Conflict	-0.35	0.07	-.38***
		Master's	-0.03	0.16	-.02
		NBPTS, Spec., Doc.	0.47	0.22	.17

***Significant at $p<.001$

Table D3

Model III: Summary of Regression Analysis for Role Ambiguity and Other Variables Predicting Teacher Leadership in Different Contexts

	R^2	Variables	*B*	*SE B*	*Beta*
Step 1C	0.30***	Intercept	6.00	0.23	
		Role Conflict	-0.65	0.08	-.55***
Step 2C	0.32***	Intercept	5.95	0.24	
		Role Conflict	-0.62	0.08	-.53***
		Master's	-0.11	0.15	-.06
		NBPTS, Spec., Doc.	0.29	0.20	.11

***Significant at $p<.001$

One Way ANOVAs were also done between teacher leadership as advocacy and the demographic and professional characteristic variables. Age was the only criteria found as a significant relationship, $F(4,142) = 2.79$, $p = .03$. This would have been a linear relationship, except that, again, age 26-30 (M = 4.20, SD1.06) was lower than 20-25 (M = 4.70, SD 0.75). Fifty and older had the highest mean (M = 5.10, SD 0.80), with 40-50 (M = 4.77, SD1.04), and 30-40 (M = 4.703, SD 0.94) following. One-tailed Spearman Rhos were also calculated. There was no significant relationship between

teacher leadership as advocacy and role conflict, Rs (147) = -.09, p = .145, but there was a significant relationship between teacher leadership as advocacy and role ambiguity, Rs (147) = -.20, p = .01.

Given that no significant relationship exists between teacher leadership as advocacy and role conflict, there was no further need for a multiple regression of those factors. However, a significant relation did appear between teacher leadership as advocacy and role ambiguity, so a multiple regression was calculated, with age as an intervening variable (see Table D4). Step 1A shows that, while role ambiguity only explains 4% of the variability of teacher leadership as advocacy, it is still significant at the $p < .05$ level, and for every standardized unit decrease in role ambiguity, teacher leadership as advocacy increases by 0.19 of a unit. The relationship between teacher leadership as advocacy persisted, even when controlling for age. Step 2A confirms the relationship, as the role ambiguity and age together explain 11% of the variability of teacher leadership as advocacy, and demonstrates that, for every standardized unit decrease in role ambiguity, controlling for age, teacher leadership as advocacy increases by 0.18 of a unit. Age of the respondent did not continue to be significant.

Table D4

Model III: Summary of Regression Analysis for Role Ambiguity and Other Variables Predicting Teacher Leadership through Advocacy

	R^2	Variables	*B*	*SE B*	*Beta*
Step 1A	0.04*	Intercept	5.36	0.27	-.19*
		Role Ambiguity	-0.23	0.10	
Step 2A	0.11**	Intercept	5.26	0.38	
		Role Ambiguity	-0.22	0.10	-.18*
		age 26-30 vs. others	-0.46	0.37	-.16
		age 30-40vs others	0.02	0.33	.01
		age 40-50vs others	0.12	0.33	.06
		age 50+	0.40	0.33	.18

*Significant at p<.05
**Significant at p<.01

Appendix E

Role Conflict and Ambiguity Measure (Rizzo, House, & Lirtzman, 1970)

1. I have enough time to complete my work.

2. I feel certain about how much authority I have.

3. I perform tasks that are too easy or boring.

4. Clear, planned goals and objectives for my job.

5. I have to do things that should be done differently.

6. Lack of policies and guidelines to help me.

7. I am able to act the same regardless of the group I am with.

8. I am corrected or rewarded when I really don't expect it.

9. I work under incompatible policies and guidelines.

10. I know that I have divided my time properly.

11. I receive an assignment without the manpower to complete it.

12. I know what my responsibilities are.

13. I have to buck a rule or policy in order to carry out an assignment.

14. I have to "feel my way" in performing my duties.

15. I receive assignments that are within my training and capability.

16. I feel certain how I will be evaluated for a raise or promotion.

17. I have just the right amount of work to do.

18. I know that I have divided my time properly.

19. I work with two or more groups who operate quite differently.

20. I know exactly what is expected of me.

21. I receive incompatible requests from two or more people.

22. I am uncertain as to how my job is linked.

23. I do things that are apt to be accepted by one person and not accepted by others.

24. I am told how well I am doing my job.

25. I receive an assignment without adequate resources and materials to execute it.

26. Explanation is clear of what has to be done.

27. I work on unnecessary things.

28. I have to work under vague directives or orders.

29. I perform work that suits my values.

30. I do not know if my work will be acceptable to my boss.

(Items 10 and 18 are repetitions due to a clerical error)

Note: This instrument is reprinted with permission from Administrative Science Quarterly.

Appendix F

Distribution of Responses to Role Conflict Items

Table F1

Distribution of Responses for Original Role Conflict Items

Survey Item	Disagree										Agree	
	1		2		3		4		5		6	
	N	%	N	%	N	%	N	%	N	%	N(%)	%
I have enough time to complete my work (I14).*	33	22	27	18	29	20	28	19	21	14	8	5
I perform tasks that are too easy or boring (I16) .	36	25	37	25	33	22	21	14	9	6	10	7
I have to do things that should be done differently (I18).	5	3	17	12	33	22	29	20	35	24	28	19
I am able to act the same regardless of the group I am with (20).*	14	10	14	10	22	15	28	19	35	24	34	23
I work under incompatible policies and guidelines (22).	39	27	39	27	27	18	19	13	12	8	11	8
I receive an assignment without the manpower to complete it (24).	25	17	35	24	29	20	26	18	18	12	12	8
I have to buck a rule or policy in order to carry out an assignment (26).	44	30	32	22	27	18	28	19	9	6	3	2
I receive assignments that are within my training and capability (28).*	1	1	3	2	12	8	22	15	66	45	39	27
I have just the right amount of work to do (30).*	42	29	29	20	26	18	29	20	12	8	7	5
I work with two or more groups who operate quite differently (32).	20	14	26	18	25	17	24	16	21	14	27	18
I receive incompatible requests from two or more people (34).	33	22	38	26	32	22	21	14	13	9	7	5
I do things that are apt to be accepted by one person and not accepted by others (36).	32	22	33	22	28	19	25	17	15	10	11	8
I receive an assignment without adequate resources and materials to execute it (38).	28	19	26	18	21	14	31	21	23	16	13	9
I work on unnecessary things (40).	29	20	26	18	27	18	27	18	14	10	20	14
I perform work that suits my values (42).*	2	1	2	1	20	14	33	22	44	30	44	30

*These items will be reverse scored in further analysis.

Appendix G

Distribution of Responses to Role Ambiguity Items

Table G1

Distribution of Original Role Ambiguity Items

Survey Item	Disagree										Agree	
	1		2		3		4		5		6	
	N	%	N	%	N	%	N	%	N	%	N	%
I feel certain about how much authority I have.* (I15)	9	6	18	12	26	18	45	31	31	21	17	12
I have clear, planned goals and objectives for my job.* (I17)	2	1	2	1	10	7	24	16	58	40	51	35
I have a lack of policies and guidelines to help me. (I19)	40	27	37	25	25	17	23	16	16	11	5	3
I am corrected or rewarded when I really don't expect it. (I21)	36	25	31	21	35	24	29	20	10	7	6	4
I know that I have divided my time properly.* (I23)	5	3	9	6	36	25	42	29	44	30	10	7
I know what my responsibilities are.* (I25)	2	1	2	1	9	6	20	14	56	38	57	39
I have to "feel my way" in performing my duties. (I27)	27	18	42	29	26	18	28	19	15	10	8	5
I feel certain how about how I will be evaluated by my superiors.* (I29)	8	5	9	6	17	12	25	17	57	39	29	20
I do not know if my work will be acceptable to my boss. (I31)	54	37	31	21	17	12	23	16	14	10	5	3
I know exactly what is expected of me.* (I33)	6	36	10	7	19	13	39	27	41	28	30	20

I am uncertain as to how my job is linked to other jobs in the school system. (I35)	53	36	52	35	14	10	10	7	13	9	2	1
I am told how well I am doing my job.* (I37)	16	11	14	10	30	20	36	25	29	20	30	14
Explanation is clear of what has to be done.* (I39)	5	3	16	11	30	20	37	25	39	27	18	12
I have to work under vague directives or orders. (I41)	29	20	41	28	20	14	25	17	22	15	8	5

*These items were reverse scored in further analysis.

Appendix H

Factor Analysis for Role Conflict and Role Ambiguity

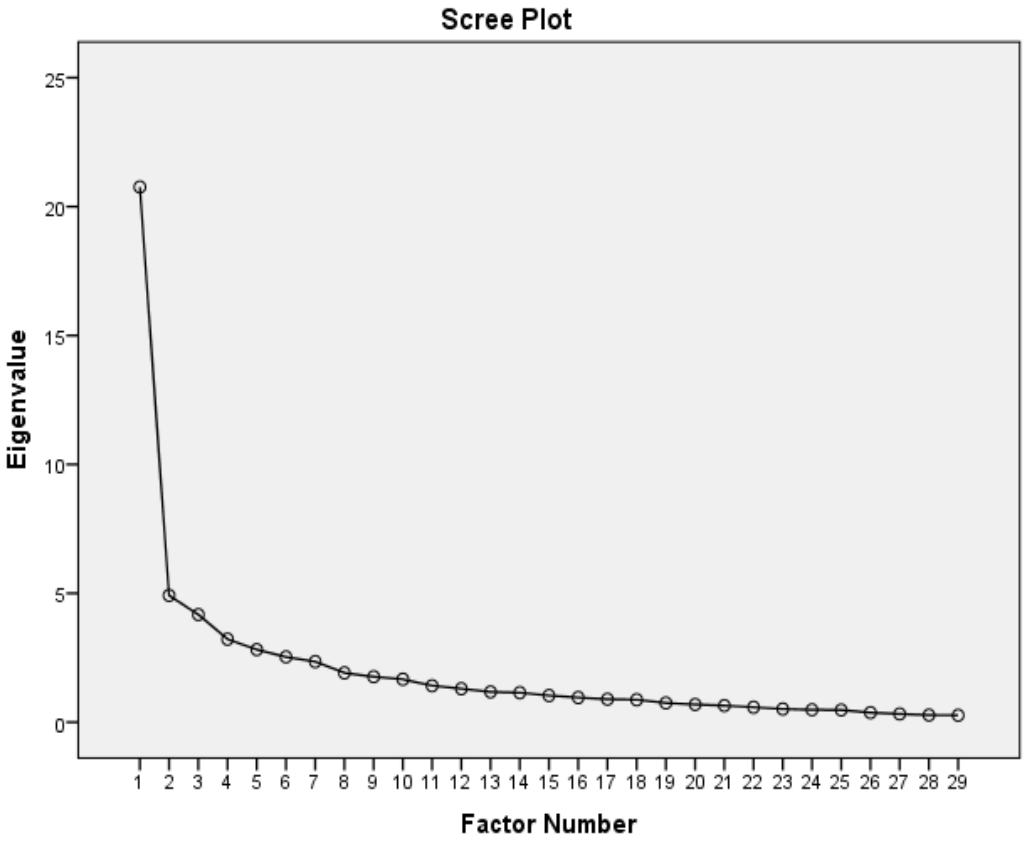


Figure H1. Factor Analysis Scree Plot for Role Variables

Table H1.

Role Conflict/Role Ambiguity Factor Pattern Matrix

Survey Item	Rescaled Factor	
	RC	RA
Reverse score of I have enough time to complete my work.	-.06	.65
Reverse score of I feel certain about how much authority I have.	.17	**.57**
I perform tasks that are too easy or boring.	**.42**	-.24
Reverse score of I have clear, planned goals and objectives for my job.	.04	**.54**
I have to do things that should be done differently.	**.68**	-.05
I have a lack of policies and guidelines to help me.	.66	-.01
Reverse score of I am able to act the same regardless of the group I am with.	-.08	.46
I am corrected or rewarded when I really don't expect it.	.17	**-.36**
I work under incompatible policies and guidelines.	**.74**	-.01
Reverse score of I know that I have divided my time properly.	-.43	.71
I receive an assignment without the manpower to complete it.	**.76**	-.09
Reverse score of I know what my responsibilities are.	.07	**.48**
I have to buck a rule or policy in order to carry out an assignment.	**.74**	-.17
I have to "feel my way" in performing my duties.	**.67**	-.19
Reverse score of I receive assignments that are within my training and capability.	.03	.43
Reverse score of I feel certain about how I will be evaluated by my superiors.	.07	**.62**
Reverse score of I have just the right amount of work to do.	-.06	.55
I do not know if my work will be acceptable to my boss.	.45	.22
I work with two or more groups who operate quite differently.	.30	.22
Reverse score of I know exactly what is expected of me.	.19	**.56**
I receive incompatible requests from two or more people.	**.70**	.02
I am uncertain as to how my job is linked to other jobs in the school system.	.23	.10
I do things that are apt to be accepted by one person and not accepted by others.	**.43**	.23
Reverse of I am told how well I am doing my job.	.13	**.57**
I receive an assignment without adequate resources and materials to execute it.	**.53**	.21
Reverse of Explanation is clear of what has to be done.	.15	**.63**
I work on unnecessary things.	**.61**	-.00

Appendix I

E-Mail Letter to Principals

Dear Principal _____,

My name is Patricia Murillo. I am a teacher in the North Carolina Public School System, and I am a doctoral student at Western Carolina University. I am following up on my previous call regarding my doctoral dissertation. The purpose of my research is to explore the relationship between the enactment of teacher leadership and role conflict and ambiguity. We are all being evaluated on teacher leadership, so it behooves us to understand as much as possible about the enactment of teacher leadership. For my research, I have randomly selected schools from your district until I had a continuum of K-12 teachers. Your school was one of the schools selected. Now I would like to invite the certified teachers from your school to participate in the survey. It will take the teachers only about 5 minutes to complete. As compensation, I will have a drawing of $50, for those teachers from your school that respond, at the end of the first week, the second week, and the third week that the survey is available. I would appreciate it if you would send me your grouped (certified) teacher email addresses. These email addresses will only be used to send this survey. There will be no attempt to identify individual respondents, with the exception of sending the money to those who win the drawings, and no attempt will be made to connect any data collected to individual respondents. Individual results will not be available, so confidentiality is guaranteed. All submissions will be done electronically. The data will be analyzed electronically. The data will be analyzed to ascertain teachers' individual perceptions as a group. With your permission, I will gladly send the aggregated results of the survey to you through your school email. I truly appreciate your help!

If you have any questions, contact Patricia Murillo at W.D. Williams Elementary, 828-686-3856 or partricia.murillo@bcsemail.org. Another contact for concerns is Dr. Kathleen Jorissen, ktjorissen@email.wcu.edu, my dissertation chairperson. Any concerns about treatment as participants in the study can also be addressed to the Institutional Review Board (IRB), at 828-227-7212 or irb@wcu.edu<mailto:irb@wcu.edu> Thank you for your prompt response.

Sincerely,

Patricia Murillo

Appendix J

E-Mail Letter to Teachers

Dear Teacher,

My name is Patricia Murillo. I am a teacher in the North Carolina Public School System, as well as a doctoral student at Western Carolina University. For my research, I am exploring the relationship between the enactment of teacher leadership and role conflict and ambiguity. The attached survey is a part of my doctoral dissertation research. As compensation, I will have a drawing of $50 for those teachers from your school that respond by the end of the first week, the second week, and the third week that the survey is available. Therefore, you will have three opportunities to receive $50 if you respond within the first week. The odds of receiving the money will depend on how many teachers from your school respond each week.

I have obtained permission from your principal to send this survey to the certified teachers at your school. Your school was one of nine schools selected through a randomized process of one set of schools representing grades k-12 from each of three districts in North Carolina.

There are no known risks to you by participating in this survey. There will be no attempt to identify individual respondents, with the exception of sending the money to those who win the drawings, and no attempt will be made to connect any data collected to individual respondents. Individual results will not be available, so confidentiality is guaranteed. All submissions will automatically go into a Qualtrics computer program where they will be assigned a number and the data will be analyzed electronically. Therefore your responses are confidential. The data will be analyzed to ascertain teachers' individual perceptions as a group. In order to assure you that your email address will only be used to receive this survey, or to contact winners from the drawings, the aggregated results will be available through your principal, unless you request a copy through my email address.

This dissertation may be published in professional literature or presented academic settings. Participation in this study is an indication of consent to use the data for these purposes. Although your participation would be greatly appreciated, you are under no obligation to participate and there is no penalty of any kind if you decide not to participate, even after you have begun the survey. However, this is an opportunity for your voice to be heard. I need your help to complete this research. Simply click on the survey link to get started.(link)

If you have any questions, contact Patricia Murillo at W.D. Williams Elementary, 828-686-3856 or partricia.murillo@bcsemail.org. Another contact for concerns is Dr. Kathleen

Jorissen, ktjorissen@email.wcu.edu, my dissertation chairperson. Any concerns about treatment as participants in the study can also be addressed to the Institutional Review Board (IRB), at 828-227-7212 or irb@wcu.edu<mailto:irb@wcu.edu> Thank you for your prompt response.

Sincerely,

Patty Murillo

Appendix K

First E-Mail Reminder Letter

Dear Teachers,

On _____ I sent you an opportunity to participate in your own teacher leadership, by filling out this survey on your teacher leadership. If you have already filled out this survey, thank-you, and please disregard this reminder. As a North Carolina public school teacher myself, I certainly know how busy you are. However, think of all the times your voice has been ignored. Here is a chance to be heard. The purpose of my research is to explore the relationship between the teacher leadership and role conflict and ambiguity. It will only take about five minutes.

Your responses will automatically go to a computer program that assigns you a number, so your individual responses will not be connected to your name and there will be no effort to connect individuals to their responses. The names of schools and school districts will also remain confidential. The aggregated data will be used as part of my dissertation, which may be published and presented in academic forums. There are no known risks to you by participating in this survey.

As incentive one teacher from your school has already been selected to win $50, in a drawing from the respondents to this survey. The next drawing will include all those (excluding the past winner) who have responded from your school over the two weeks the survey has been available. Also, the aggregated results will be sent to your school, through your principal.

Although you are under no obligation to participate, and you can stop your participation even after you begin the survey, I truly appreciate your help! Simply click on the survey link to get to the survey. Your participation indicates your permission to use the data. (survey link)

If you have any questions, contact Patricia Murillo at W.D. Williams Elementary, 828-686-3856 or partricia.murillo@bcsemail.org, or Dr. Kathleen Jorissen, ktjorissen@email.wcu.edu, my dissertation chairperson. Any concerns about treatment as participants in the study can also be addressed to the Institutional Review Board (IRB), at 828-227-7212 or irb@wcu.edu<mailto:irb@wcu.edu> Thank-you for your help.

Sincerely,

Patricia Murillo

Appendix L

Final E-Mail Reminder Letter

Dear Teachers,

On _____ I sent you an email giving you the opportunity to participate in a survey on your teacher leadership. If you have already filled out this survey, thank-you, and please disregard this final reminder. The purpose of this research is to explore the relationship between the enactment of teacher leadership and role conflict and ambiguity. I am a North Carolina public school teacher myself, so I understand the limits on your time, but this survey should only take about five or ten minutes and it is a chance for your voice to be heard. There are no known risks to you by participating in this survey, since your name, your school, and your district will remain confidential. The data will be presented in aggregated form in my dissertation which may be published and presented in educational forums.

By filling out the survey you will be giving your permission for these uses. Participation in this survey is completely voluntary and you can end your participation at any time. However, as incentive, two teachers from your school have already been selected to win $50, in a drawing from the respondents to this survey. The next drawing will include all those (excluding the past winners) who have responded from your school over the three weeks the survey was available. Also, the aggregated, combined statewide, results will be available to you, through your principal. To fill out the survey simply click on the survey link. (survey link)

If you have any questions, contact Patricia Murillo at W.D. Williams Elementary, 828-686-3856 or partricia.murillo@bcsemail.org, or Dr. Kathleen Jorissen, ktjorissen@email.wcu.edu, my dissertation chairperson. Any concerns about treatment as participants in the study can also be addressed to the Institutional Review Board (IRB), at 828-227-7212 or irb@wcu.edu<mailto:irb@wcu.edu> Thank-you for your help.

Sincerely,

Patricia Murillo

Appendix M

Teacher Leadership Items and Demographic/Professional Characteristic Variables

Teacher leadership is defined by the state of North Carolina as including diverse aspects. Thus, analyses examined the extent to which demographic and professional characteristics related to teacher leadership in the classroom, teacher leadership in the profession, and teacher involvement in decision making. These items were of particular interest because teachers are evaluated on their leadership in each of these categories (NCDPI, n.d.). While there is not a specific section of the N C Teacher Evaluation, decision-making is referenced in listed points, and having the authority to make decisions has been aligned with traditional views of leadership.

Teacher leadership in the classroom. The results of one-way ANOVAs, as shown in Tables M1 and M2, did not provide evidence for a relationship between teacher leadership in the classroom and gender, $F(1,142) = 0.01$, $p = .94$, ethnicity, $F(1,143) = 1.15$, $p = .28$, age $F(4,140) = 0.82$, $p = .52$, years of teaching experience, $F(4,139) = 0.13$, $p = .97$, grade level taught, $F(4,140) = 0.38$, $p = .82$. However, there was a significant relationships between the education level of the respondents and Teacher Leadership in the Classroom, $F(2,141) = 4.66$, $p = .01$. The Welch test confirmed the significance of the relationship between teacher leadership in the classroom and degree as robust ($p = .005$). Like that of overall teacher leadership, the reported teacher leadership in the classroom was greatest for those grouped as having a NBPTS certificate, a specialist degree, or a doctoral degree (M = 5.29, SD = 0.64) while the other groups were bachelor's degree (M = 4.99, SD = 0.98) and master's degree (M = 4.57, SD = 1.13).

Table M1

Summary of One Way ANOVAs: Teacher Leadership in the Classroom and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	0.01	1	0.01	0.01	.94
	Within Groups	149.75	142	1.06		
	Total	149.75	143			
Ethnicity	Between Groups	1.21	1	1.21	1.15	.28
	Within Groups	149.31	143	1.04		
	Total	150.51	144			
Age	Between Groups	3.44	4	0.86	0.82	.52
	Within Groups	147.07	140	1.05		
	Total	150.51	144			

Table M2

Summary of One Way ANOVAs: Teacher Leadership in the Classroom and Professional Characteristics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Years Teaching	Between Groups	0.57	4	0.14	0.13	.97
	Within Groups	149.93	139	1.08		
	Total	150.49	143			
Degree	Between Groups	9.28	2	4.64	4.66	.01*
	Within Groups	140.48	141	1.00		
	Total	149.75	143			
Grade Level	Between Groups	1.62	4	0.41	0.38	.82
	Within Groups	148.89	140	1.06		
	Total	150.51	144			

*Significant at $p < .05$

Teacher leadership in the school. As in the case of leadership in the classroom, ANOVA findings did not indicate a relationship between teacher leadership in the school and gender, $F(1,143) = 0.24$, $p = .63$, ethnicity, $F(1,144) = 3.26$, $p = .07$, age, $F(4,141) = 1.57$, $p = .19$, years of teaching, $F(4,140) = 2.10$, $p = .08$, grade level taught, $F(4,141) = 0.94$, $p = .44$. At this level there was not a relationship with the educational level of the respondent, $F(2,142) = 2.11$, $p = .13$ (Tables M3 and M4).

Table M3

Summary of One Way ANOVAs: Teacher Leadership in the School and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	0.31	1	0.31	0.24	.63
	Within Groups	183.93	143	1.29		
	Total	184.23	144			
Ethnicity	Between Groups	4.08	1	4.08	3.26	.07
	Within Groups	180.16	144	1.25		
	Total	184.25	145			
Age	Between Groups	7.87	4	1.97	1.57	.19
	Within Groups	176.38	141	1.25		
	Total	184.25	145			

Table M4

Summary of One Way ANOVAs: Teacher Leadership in the School and Professional Characteristics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Years Teaching	Between Groups	10.37	4	2.59	2.10	.08
	Within Groups	172.64	140	1.23		
	Total	183.01	144			
Degree	Between Groups	5.29	2	2.64	2.11	.13
	Within Groups	177.72	142	1.25		
	Total	183.01	144			
Grade Level	Between Groups	4.81	4	1.20	0.94	.44
	Within Groups	179.44	141	1.27		
	Total	184.25	145			

Teacher leadership in the profession. As shown in Tables M5 andMI6, teacher leadership in the profession was not related to gender, $F(1,142) = 3.76$, $p = .054$; however, ethnicity was related to leadership in the profession, $F(1,143) = 5.08$, $p = .03$, with minorities reporting more leadership in the profession (M = 4.67, SD = 0.95) than Whites (M = 4.21, SD = 1.03). There was also a significant relationship between age and leadership in the profession, $F(4,140) = 4.33$, $p = .002$, with the age group "50 and older" reporting the most professional leadership (M =4.53, SD1.08) and the age group "26 to 30" reporting the least professional leadership (M = 3.29, SD = 1.05). The Levene's tests confirm the equal variance expectation for ANOVAs for both ethnicity and age at $p = .99$, and $p = .61$ respectively. Leadership in the profession was not related to years of experience in the classroom, $F(4,139) = 2.32$, $p = .051$ (Table M6). However, this relationship could be considered marginally significant. The grade level being taught by the respondents was not related to leadership in the profession, $F(4,140) = 0.67$, $p = .61$. Furthermore, leadership in the profession was significantly related to education level F(2, 141) = 3.72, $p = .03$, with a Levene significance of .09, supporting equal variance. Once again those with Master's, Specialist, Doctorate, or NBPTS certificates had higher teacher leadership (M = 4.62, SD 0.97), and those with a Master's degree had the least teacher leadership (M = 3.84, SD 1.08), while those with a Bachelor's degree had a mean of 3.90, SD 0.16.

Table M5

Summary of One Way ANOVAs: Teacher Leadership in the Profession and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	5.26	1	5.26	3.76	.05
	Within Groups	198.63	142	1.40		
	Total	203.89	143			
Ethnicity	Between Groups	6.99	1	6.99	5.08	.03*
	Within Groups	196.90	143	1.38		
	Total	203.89	144			
Age	Between Groups	22.45	4	5.61	4.33	.00**
	Within Groups	181.44	140	1.30		
	Total	203.89	144			

*Significant at $p < .05$
** Significant at $p < .01$

Table M6

Summary of One Way ANOVAs: Teacher Leadership in the Profession and Professional Characteristics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Years Teaching	Between Groups	13.23	4	3.31	2.42	.05
	Within Groups	189.71	139	1.37		
	Total	202.94	143			
Degree	Between Groups	10.18	2	5.09	3.72	.03*
	Within Groups	192.76	141	1.38		
	Total	202.94	143			
Grade Level	Between Groups	3.83	4	40.83	0.67	.61
	Within Groups	200.06	140	72.16		
	Total	203.89	144			

*Significant at $p < .05$

Advocacy as teacher leadership. Out of all the nominal and ordinal variables with teacher leadership through advocacy, the only significant relationship to show is that of advocacy for schools and age $F(4, 142)) = 4.25$, $p = .00$ (See Table I8). Similar to other patterns of relationship with age, 50+ had the greatest level of teacher leadership through advocating for the schools (M =4.92, SD 0.97), and ages 26-30 had the least (M =3.58, SD 1.47). The other age groups were: 20-25 (M = 4.30, SD 0.95); 30-40 (M = 4.46, SD 1.10); 40-50 (M = 4.44, SD 1.22).

Therefore, the other demographic and professional characteristics showed no relationships to either teacher leadership through advocating for students, or teacher leadership through advocating for schools (See Tables M7-M10). The results of teacher leadership through advocating for students were: 1) gender, $F(1,142) = 0.00$, $p = .98$; 2) ethnicity, $F(1, 143) = 2.56$, $p = .11$, 3) age, $F(4, 140) = 1.09$, $p = .36$; 4) years of teaching experience, $F(4, 139) = 0.63$, p = .65, 5) degree, $F(2, 141) = 0.83$, $p = .44$., or 6) grade level taught by the respondents, $F(4,140) = 0.08$, $p = .99$. The results of teacher leadership through advocating for schools were: 1) gender, $F(1,144) = 0.51$, $p = .48$; 2) ethnicity, $F(1, 145) = 0.05$, $p = .83$; 3) years of teaching experience, $F(4, 141) = 1.93$, p = .11; 4) degree, $F(2, 143) = 0.18$, $p = .84$; and 5) grade level taught by the respondents, $F(4,142) = 0.82$, $p = .52$.

Table M7

Summary of One Way ANOVAs: Advocating for Students and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	0.00	1	0.00	0.00	.98
	Within Groups	117.44	142	0.83		
	Total	117.44	143			
Ethnicity	Between Groups	2.09	1	2.09	2.56	.11
	Within Groups	116.56	143	0.82		
	Total	118.65	144			
Age	Between Groups	3.60	4	0.90	1.09	.36
	Within Groups	115.05	140	0.82		
	Total	118.65	144			

Table M8

S*ummary of One Way ANOVAs: Advocating for Students and Professional Characteristics*

Variable		Sum of Squares	df	Mean Squares	F	Sig
Years Teaching	Between Groups	2.08	4	0.52	0.63	.65
	Within Groups	115.36	139	0.83		
	Total	117.44	143			
Degree	Between Groups	1.37	2	0.68	0.83	.44
	Within Groups	116.07	141	0.82		
	Total	117.44	143			
Grade Level	Between Groups	0.26	4	0.06	0.08	.99
	Within Groups	118.39	140	0.85		
	Total	118.65	144			

Table M9

Summary of One Way ANOVAs: Advocating for Schools and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	0.74	1	0.74	0.51	.48
	Within Groups	209.32	144	1.45		
	Total	210.06	145			
Ethnicity	Between Groups	0.07	1	0.07	0.05	.83
	Within Groups	210.19	145	1.45		
	Total	210.26	146	5.62		
Age	Between Groups	22.48	4	1.32	4.25	.00**
	Within Groups	187.78	142			
	Total	210.26	146			

** Significant at the < .01 level.

Table M10

Summary of One Way ANOVAs: Advocating for Schools and Professional Characteristics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Years Teaching	Between Groups	10.78	4	2.70	1.93	.11
	Within Groups	197.38	141	1.40		
	Total	208.16	145			
Degree	Between Groups	0.53	2	0.26	0.18	.84
	Within Groups	207.29	143	1.45		
	Total	207.82	145			
Grade Level	Between Groups	4.74	4	1.18	0.82	.52
	Within Groups	205.52	142	1.45		
	Total	210.26	146			

Decision-making as teacher leadership The results of the one-way ANOVAS only provide evidence for a relationship between gender and teacher leadership in terms of decision making, $F(1,144) = 4.42$, $p = .04$. Females (M = 4.25, SD = 1.27) had a higher average rating than males (M = 3.73, SD 1.37). The other covariates were not significant, including: ethnicity, $F(1,145) = 1.35$, $p = .25$, age, $F(4,142) = 0.76$, $p = .55$, years of teaching, $F(4,141) = 2.19$, $p = .07$, educational background, $F(2,143) = 2.87$, $p = .06$, and grade level taught, $F(4,142) = 0.49$, $p = .75$. These results can be seen in Tables M11 and M12.

Table M11

Summary of One Way ANOVAs: Decision-Making and Demographics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Gender	Between Groups	7.41	1	7.41	4.42	.04*
	Within Groups	241.61	144	1.68		
	Total	249.02	145			
Ethnicity	Between Groups	2.31	1	2.31	1.35	.25
	Within Groups	247.95	145	1.71		
	Total	250.26	146			
Age	Between Groups	5.24	4	1.31	0.76	.55
	Within Groups	245.02	142	1.73		
	Total	250.26	146			

Table M12

Summary of One Way ANOVAs: Decision-Making and Professional Characteristics

Variable		Sum of Squares	df	Mean Squares	F	Sig
Years Teaching	Between Groups	14.55	4	3,64	2.19	.07
	Within Groups	234.47	141	1.66		
Variable	Total	249.02	145			
Degree	Between Groups	9.69	2	4.81	2.87	.06
	Within Groups	239.40	143	1.67		
	Total	249.02	145			
Grade Level	Between Groups	3.39	4	0.85	0.49	.75
	Within Groups	246.87	142	1.74		
	Total	25.26	146			