NORTH CAROLINA ELEMENTARY AND MIDDLE SCHOOL TEACHERS'
PERCEPTIONS OF TIME RELATED TO WORKING CONDITIONS

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requirements for the degree of Specialist in School Psychology.

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ABSTRACT

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Research has demonstrated that there are many factors that contribute to teacher working

conditions, however, there is no clear definition of what constitutes working conditions or how

these conditions impact teachers and students across different grade levels. Research in this area

has primarily focused on teacher job retention but not on how working conditions may impact

teachers differently at different grade levels or how working conditions may be related to student

achievement. This study examined North Carolina public school teachers' perceptions of

working conditions, specifically in the domain of time, an area that has demonstrated

consistently negative feedback from teachers in North Carolina and across the country. Time is

defined by the available time to plan, collaborate, provide instruction, and eliminate barriers in

order to maximize instructional time during the school day ("*North Carolina Teacher,*"2010).

Differences between teachers' perceptions in the domain of time in relation to grade taught,

specifically elementary (as measured by kindergarten through fifth grade) and middle (as

measured by sixth through eighth grade) were examined by an independent samples t-test.

Significant differences were reported for elementary and middle school teacher responses on

questions about class size, collaboration, interruptions, non-instructional time, paperwork and

duties. No significant differences were reported for elementary and middle school teachers'

responses in regard to instructional time on the 2012 North Carolina Teacher Working

Conditions Survey.

CHAPTER ONE: INTRODUCTION

Educational policy and research has traditionally placed a great deal of emphasis on the characteristics of teachers and quality of instruction that impact student outcomes (Darling-Hammond & Sykes, 2003; Goldhaber & Anthony, 2003, Rivkin, Hanushek, & Kain, 2005). While initial consideration in this area has primarily focused on recruiting and rewarding teachers for student gains on standardized test scores, little has been done to create the working conditions that promote teacher success and encourage retention. There is a belief that the lack of qualified teachers and poor instruction was related to inadequate training, issues with unions, or even limited supply of teachers. Other research demonstrates that these issues are influenced by the organization of schools and interactions of teaching practice and occupational conditions (Ingersoll, 1999). In national surveys, teachers have reported the existence of problems such as excessive workload, scarcity of time, and frustration with improvement efforts, suggesting the need for a better understanding of workplace conditions (Loeb, Elfters, Knaap, & Plecki, 2004).

What research and policies fail to address in regard to the topic of working conditions, is how these conditions optimize (or shrink) teachers' proficiencies, allowing them to tackle the responsibilities of their jobs with success. Sadly, too few schools provide adequate working conditions that teachers need in order to experience success in their profession. This absence of adequate workplace conditions not only impact student performance, but also can impact a teacher's desire to remain in the field (Johnson, 2006).

Adding to the emphasis on teacher quality, educational policies such as the Elementary and Secondary Educational Act (ESEA), most recently known as No Child Left Behind, created new expectations for teacher qualification. These policies also placed an incredible amount of pressure on the evaluation of teachers and schools in relation to student outcomes such as

achievement (Ladd, 2009). Other accountability demands in policies such as the Race to the Top Initiative further increased responsibilities and accountability for teachers based on student outcomes (Coggshall, Rasmussen, Colton, Milton, & Jacques, 2012). Unfortunately, rapid and poor implementation of these policies reduced the time and autonomy that teachers had to comply with the demands of these new responsibilities.

Only recently has the focus of research in this area shifted somewhat to investigating how working conditions influence the experience of teachers and subsequently impact outcomes for students. Ingersoll (2003), a leader in research in the area of teacher qualification, preparation, and working conditions revealed, "if we want to improve the quality of our teachers and schools, we need to improve the quality of the teaching job" (p. 249). This shift in focus allows researchers to explore how teachers, administrators, and students interact in such a way that enriches workplace experiences and enhances student learning.

This shift in focus has led to the development of surveys on teacher working conditions which have been used in research about specific areas of working conditions in order to determine factors that may reduce teacher turnover and create more favorable working environments. Additionally, surveys about working conditions help to identify directions of policy change that may improve school climate and increase student learning ("*Analysis of Current Trends*,"2010). One such area of working conditions that teachers have consistently struggled with is the area of time (*"North Carolina Teacher",* 2013).

On the North Carolina Teacher Working Condition (NCTWC) Survey, there are seven questions that factor into the domain of time. These are (a) class sizes are reasonable such that teachers have the time available to meet the needs of all students; (b) teachers have time available to collaborate with colleagues; (c) teachers are allowed to focus on educating students

with minimal interruptions; (d) the non-instructional time provided for teachers in my school is sufficient; (e) efforts are made to minimize the amount of routine paperwork teachers are required to do; (f) teachers have sufficient instructional time to meet the needs of all students; and (g) teachers are protected from duties that interfere with their essential role of educating students (http://www.ncteachingconditions.org, 2012).   The data obtained from this survey has provided a much richer understanding of teacher experiences related to their working conditions.

CHAPTER TWO: LITERATURE REVIEW

History of Teacher Working Conditions

The emergence of large school systems in response to the growing population, partly due to massive immigration, influenced the expansion of the structure of school systems, as well as influenced the experience of teaching and learning in these systems (Bascia & Rottman, 2010). The structure of these systems was founded on factory and business designs, which were popular in the late nineteenth and early twentieth centuries. Darling-Hammond (1997) noted: The principles upon which these systems were built "separated the responsibility of managers, who were to do all the thinking, and workers, who were to conduct routine tasks following procedures developed by the managers" (p. 40).

Based on the social norms of this period of time, female workers were generally employed as teachers, usually being compensated at half the rate of males, with the presupposition that male teachers would need higher salaries to provide for families. Historical conditions of teachers during this time included low pay, yearly contracts with limited opportunities for tenure or pensions, increased paperwork, expectations for uniformity and routine, little training, overcrowding, and substandard facilities (Basica & Rottman, 2010).

Surprisingly, many of the working conditions that concerned teachers historically persist today. Bascia and Rottman (2011) noted: While efforts have been made to address these issues, with the "sheer size and magnitude of mass educational systems and scarce public funding, policy-makers persist in valuing broad, uniform policy solutions, rather than developing a more nuanced understanding of teaching and learning processes" (p.791).

Measuring Teacher Working Conditions

In some states today, Teacher's Working Conditions Surveys ("*Cross State Analysis*,"

2013) are being used as a tool to explore working conditions and the potential impact of these conditions on student achievement and teacher turnover. These surveys are also being used to create standards for workplace conditions and as measures of accountability, allowing principals and schools to use the data to reflect on the meaning of the results and facilitate necessary changes.

Measuring working conditions is complex, with many of the factors in the different domains appearing to be interrelated, making it difficult to understand relationships between variables. Perhaps more significant are the problems that researchers have had in defining the term "working conditions." There are many factors that relate to schools, communities, parents, and teachers and any or all of these factors can conceivably be related to working conditions (Sykes, 2008). There is not official or established agreement about what categorizes working conditions among the surveys that have been developed to investigate working conditions (Ladd, 2011). Additionally, this lack of agreement extends into the ability of researchers to compare surveys across states, as well as to investigate the various conditions faced by different teachers based on specific requirements of the position, the grade taught, and other factors that influence personal experiences. Therefore, it is difficult to define and pinpoint the experience of teachers in their daily work (Berry, 2008). Research in this area, however, does provide insight into the factors that teachers regard as important and may provide information about the organizational characteristics of schools that influence other outcomes such as achievement.

Teacher salary has been studied recently as policy makers contend with the high rate of turnover, which costs taxpayers at least four billion dollars each year (Feng, 2009). While researchers have looked at the relationships between salary and turnover, questions about salary are typically omitted from survey questions about teacher working conditions. Johnson et al.

(2005) claim that exclusion of questions about salary is standard in the working conditions literature; however, research in this area is available, especially in relation to teacher turnover (Ingersoll, 2001, Ladd, 2009, 2011). Ladd (2009) describes that omission of salary questions on surveys (such as the North Carolina Teacher Working Conditions Survey) is possibly related to a desire of policy makers to divert attention away from solutions regarding salary, which could be costly to the system. For policy makers, focusing primarily on more affordable solutions is a more desirable strategy when it comes to issues of compensation (Ladd, 2009).

Ladd (2011) reviewed research conducted in the area of teacher working conditions and identified several methodological problems commonly found in this research. First, she explains that teachers' perceptions are influenced by situational characteristics. If a teacher had a particularly good or bad day, he or she would be more likely to be influenced by the experience of the day, resulting in ratings that are far more negative or positive than normal. Another issue in surveys according to Ladd is the potential for reverse causation in which a teacher who has already made the decision to leave his or her school profession "rationalizes" this decision as a result of working conditions being poor. The possible existence of multicollinearity among measures is another limitation to the interpretation of this type of research. Many of the items on the surveys are likely to tap other related constructs, suggesting that the items are interrelated in more ways than previously expected.

Several studies have looked at the relationship between a positive school environment and academic achievement. For example, Bryan and colleagues (2012) found that attachment and involvement in school was correlated to student achievement in mathematics. In a longitudinal study of students transitioning to middle school, Niehaus, Rudasill, and Rakes (2012) assessed school connectedness and academic outcomes (i.e., GPA) at three times during sixth grade and

found that students who reported increases in school support during the school year had higher Grade Point Averages at the end of the school year than students who reported decreases in school support. Other studies indicate that school climate can be a protective factor for homeless youth and youth from single-parent homes (O'Malley, M., Voight, A., Renshaw, T. L., & Eklund, K., 2014). Despite findings that suggest that school climate is correlated with increases in academic achievement, other research has suggested more limited relationships between school climate and academic performance. Shouppe and Pate (2010) surveyed teacher perceptions of principal leadership style and school climate. Results of the teacher responses were correlated to explore relationships between school climate and student academic performance. Correlations coefficients indicated no statistically significant relationship between school climate and student academic achievement. Many studies have examined the effects of school climate on student achievement in middle school and high school, but a study by Odovski, Nahum-Shani, and Walsh (2013) focused on the effect of school climate on elementary school students' mathematics skills. Findings indicated that students' improvement in mathematics achievement over time was higher in schools characterized by a stronger climate, above and beyond students' and schools' demographic characteristics. Overall for the current study, school climate and working conditions are seen as interrelated variables with the context of viewing them as separate variables not being useful.

North Carolina Teacher Working Conditions Survey

North Carolina has demonstrated leadership in the commitment to collecting data on working conditions and has been a frontrunner in developing this survey (Hirsch, Sioberg, Robertson, & Church, n.d.). This data on working conditions has been collected in North Carolina biennially since 2001. Other states have joined in this effort to collect data, allowing for

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cross-state comparisons of working conditions ("*Cross-State Analysis*," 2013).

In 2001, the North Carolina Professional Teaching Standards Commission released a pilot study investigating several areas of teacher working conditions ("*Validity and Reliability*," n.d.). This pilot study was the result of research using focus groups and literature reviews to identify five general categories of working conditions including time, empowerment, professional development, leadership, and facilities and resources. The studies used to validate these domains included over 500 teachers. The original survey was made available to all licensed public educators in the state and included 39 statements about working conditions. The results of the survey in 2002 indicated that teachers demonstrated frustration and disappointment in working conditions in certain areas, especially in the domain of time (Emerick, Hirsch, & Berry, 2005).

Expansion of the survey over the next decade directed the development and inclusion of several other domains including Community Support and Involvement, Managing Student Conduct, and more in-depth questions involving Teacher and School Leadership, and Instructional Practices and Support ("*North Carolina Teacher*", 2010). In addition to identifying other areas of working conditions, policy makers and schools have made efforts to understand the data in order to make decisions and implement changes based on specific needs identified in the survey. Educational leaders in several other states have used the NCTWC Survey as a model to develop similar measures to examine working conditions in their state. While questions on each state's survey vary in some ways to allow for unique priorities in providing education, similar issues in working conditions surface across states ("*North Carolina Teacher*", n.d.).

The current North Carolina Teacher Working Conditions Survey (http://www.ncteachingconditions.org, 2012) measures eight constructs of working conditions

including (a) *time*, which measures the available time to plan, collaborate, provide instruction, and eliminate barriers in order to maximize instructional time during the school day; (b) *facilities and resources*, which defines the availability of technological, instructional, school, and office resources; (c) *community support and involvement,* which measures communication between parents and teachers and the extent to which parents are involved to support and influence decisions made in the school; (d) *managing student conduct*, which addresses how schools implement guidelines and practices to impact student conduct issues in order to ensure a safe school environment; (e) *teacher leadership*, which describes the extent of teacher involvement in decisions that influence the classroom and school; (f) *school leadership*, which defines the ability of the school's administration to create a positive school climate in which trust and support is present to address teacher concerns; (g) *professional development*, which describes teachers' opportunity for quality learning in order to enhance instruction; and (h) *instructional practices and support*, which measures the extent to which schools provide support for data analysis and teachers' collaboration to improve teaching and learning. This instrument includes 85 statements related to these domains (see Appendix A). Teacher and other school personnel who complete the survey rate the level of accuracy of each statement in regard to personal experiences of working conditions in their school ("*North Carolina Teacher*," 2013).

Impact of Working Conditions on Teachers

Many studies related to teacher working conditions focus on retaining teachers in their jobs (Clotfelter, Ladd, & Vigdor, 2010; Feng, 2009; Ingersoll, 2001; Johnson, Berg, & Donaldson, 2005; Johnson, 2006; Ladd, 2011). The focus of these studies has been on discovering the various factors that influence teachers' job satisfaction. Initial studies in this area allow for some insight into specific aspects of working conditions and to some degree allows for

generalizations about the benefits and drawbacks of teacher work environments. It also allows for some generalizations about how these environments potentially impact other areas such as achievement.

Currently, there is not much agreement on what conditions are most important to teachers, as well as those conditions that have the most influence on student outcomes. Although previous research has focused on factors that are relatively easy to measure such as salaries, benefits, and class size, it appears that the working conditions that are the most important to teachers and student outcomes transcend these issues. Additional research in this area would allow for a more straightforward understanding of working conditions that are not often the most visible conditions (Berry, 2008).

A research study (Rosenshine, 1981) about how time is allocated in elementary schools (particularly in relation to engaged time), addressed factors related to academic engaged time. Additionally, this study provided valuable descriptions about how time was allocated in 2nd and 5th grade classrooms during this time period. Although this study was conducted more than 30 years ago, it provided some information about how time factors into student engagement. Current studies (Fisher et al., 2015) indicate that Academic Learning Time (ALT) is the amount of time a student is performing successfully while engaged in an academic task. For some of the allocated time, a student could be off task for a variety of reasons and is only learning during the time in which the student is on task. Therefore, ALT is observed to be a more refined measure of student learning in comparison to allocated time. With the implementation of common core standards and more standardized testing in our more recent history, many changes in the way students spend time in the classroom have taken place. These policy changes likely shape the schedule of the school day, impacting not only working conditions for teachers, but also student

engaged time. Hattie (2009) also addressed the issue of time on task in his synthesis of over 800 meta-analyses. Overall, engagement in class activity was seen as separate from allocated time and increasing allocated time was not a viable solution for improving educational outcomes. Deliberate practice and coaching were some of the methods seen to have more benefit to issues of time on task. Research was limited in regard to middle grades allocation of time as well as investigating differences between elementary and middle schools in this area.

Robert Marzano (2003) researched and described school, teacher, and student factors that directly influence student outcomes. Many of these factors, which have been studied since the school effectiveness movement in the early 1970s, relate to working conditions. According to Marzano (2003), there are five school or organizational factors that have been demonstrated through research to have a relationship with achievement. Table 1 provides a description of each of these five factors and the relationship of each to the working conditions measured through the NCTWC survey.

Table 1.

School/Organizational Factors and Working Conditions Components

Research-Based School/Organizational Factors	North Carolina Teacher Work Conditions Survey Components
1. Guaranteed and viable curriculum including opportunities to learn and time for instruction	Time Facilities and Resources Instructional Practices and Supports
2. Challenging goals and effective feedback including establishing challenging goals (for student and schools) and tracking the extent to which goals are met	Instructional Practices and Support School Leadership
3. Parent and community involvement including the extent to which parents and the community are supportive and involved in a school	Community Support and Involvement School Leadership
4. Safe and orderly environment including the safety and the policies and rules that are in place to manage student behavior	Managing Student Conduct School Leadership
5. Collegiality and professionalism including the manner in which teachers interact with one another and teacher efficacy	Time Professional Development Teacher Leadership Instructional Practices and Support

Research on how time is used in the classroom became a popular research topic in the 1970s and 1980s with models developed to assess Academic Learning Time (ALT) and evaluate studies of time in relation to achievement and studies of teacher student interaction and student response as dependent on varying teacher expectations and student characteristics. This is different from the domain of time on the NCTWC Survey in that the focus in on different categories in relation to learning. The research on instructional time was discussed in five categories: (a) quantity of schooling, or time in the school day; (b) teacher reports of opportunity to learn; (c) teacher reports of allocated time; (d) direct observation of allocated time; and (e)

student engaged time. The primary purpose of these studies was to analyze the extent to which different groups of children have different learning opportunities (Graden, 1982).

John Hattie (2009) addressed many characteristics of student achievement in the context of teacher and other factors that greatly influence student achievement in his meta-analysis. One of the conclusions that has been drawn from his work in this area is that while much of the existing research is focused on structural aspects of education (including working conditions), many influences that make a difference in student achievement are within schools; namely teachers, curriculum, school climate and specific strategies that are used to teach. Perhaps the focus of educational research on these structural factors is the result of more ease in educational policy changes in these areas in lieu of finding a way to address issues that are more difficult to implement or change. While working conditions are certainly important, Hattie (2009) suggests that other factors must be considered equally as important to student outcomes, in order to create more balance in educational research questions.

There is no unified theory that confirms the specific links between working conditions and student outcomes; however, the research does provide advancements in thinking on the topic (Berry, 2008). Despite these limitations, there is much to be learned about the data collected in the survey. The data set provided by the NCTWC Survey gives researchers a glimpse into the workplace of teachers, allowing for the exploration of the various conditions that influence their work.

Time as a Significant Working Condition Component

One component of teacher working conditions that has been identified as a primary area of concern for teachers is that of time ("*Analysis of Current Trends,*"2010). Within the NCTWC survey, there are seven questions that factor into the domain of time. These are (a) class sizes are

reasonable such that teachers have the time available to meet the needs of all students; (b) teachers have time available to collaborate with colleagues; (c) teachers are allowed to focus on educating students with minimal interruptions; (d) the non-instructional time provided for teachers in my school is sufficient; (e) efforts are made to minimize the amount of routine paperwork teachers are required to do; (f) teachers have sufficient instructional time to meet the needs of all students; and (g) teachers are protected from duties that interfere with their essential role of educating students (http://www.ncteachingconditions.org, 2012).

One report (Hirsch, Sioberg, Robertson, and Church (n.d.)) indicated that on a cross-state analysis examining teacher working conditions data from the 2006-2008 Teaching, Empowering, Leading, and Learning (TELL) Survey, the greatest number of schools made growth in the area of time, meaning that comparing responses from consecutive years indicated more positive responses in this area. These results were attributed to some extent by legislation passed regarding school improvement teams to document practices to provide a minimum of five hours of planning per week. Despite this, in 2012, of all the conditions measured on the NCTWC Survey, educators reported the least agreement with items related to finding sufficient time to teach, plan and collaborate *("North Carolina Teacher,"*2013). Even more surprising is that many of the conditions related to time declined between 2010 and 2012. One item specifically, "The non-instructional time provided for teachers in my school is sufficient", demonstrated the greatest decline across this timespan ("*Analysis of Current Trends,"*2010.). Likewise, in a cross-state analysis of the results of the TELL Survey conducted in 2012, educators viewed time as the condition with the most limitations ("*North Carolina Teacher*,"2013). In fact, over a period of five years, the domain of time was repeatedly claimed to be the most challenging area.

A report (http://www.nea.org/home/12661.htm) by the National Education Association (NEA) indicated that, on average, teachers spend approximately 50 hours per week on instructional duties, including an average of 12 hours each week of unpaid activities such as grading, other duties, and advising for clubs. Further, when researchers examined the time teachers spent working outside of the standard school week, most of teacher time was not spent working directly with students; rather the time was spent planning, grading, attending meetings, and other preparation activities. It should be noted that labor statistics data indicate that education and health service employees worked an average of 32.3 hours per week, which is less than the natural resources and mining, construction, and manufacturing workers in the country ("Current Labor Statistics,"2013).

Other surveys have examined whether teachers feel that they have the time needed to be able to cover topics that are designated by state curriculum requirements. In one survey, 70 percent of teachers reported insufficient time was provided to cover required topics. (Doherty, 2001).

On the NCTWC survey, the domain of time included questions related to class size, collaboration, interruptions, non-instructional time, routine paperwork, instructional time, and duties. Research within each of these areas will be discussed further below:

Class Size. Class size is a relatively well-studied topic, but there has been limited agreement on the effect of reducing class size on achievement. Studies suggest that reducing class sizes improve teacher attitudes to a small extent (Pate-Bain, Achilles, Boyd-Zacharias, & McKenna, 1992). Additionally, Johnson (2006) noted: "While small classes benefit all kinds of students, much research has shown that the benefits may be greatest for minority students or students attending inner-city schools" (p.3). In one study (Merritt, Rimm-Kaufman, Berry,

Walkowiak, Larsen, & Society for Research on Educational Effectiveness, 2011) class size was a significant predictor of achievement for students from low-income families. Results indicated that students scored eleven points higher on the third grade achievement test for every three fewer students in the classroom. These findings suggest the significance of quality mathematics instruction and smaller class size, particularly for students coming from low-income homes. Unfortunately, studies suggest that schools serving poor and culturally diverse populations tend to have larger class sizes (Berry, 2008).

Still other studies indicate that reducing class size has limited effects. Hattie indicated that class size has a limited effect in his meta-analysis of factors that contribute to student learning (Hattie, 2009). There were 3 meta-analyses used to address the question of class size. These meta-analyses included 96 studies with more than 500,000 participants. Overall, Hattie reported small effect sizes when class sizes are reduced. He determined it is more important to address the reasons why the effects are so small. One reason effects are small could be related to teachers failing to adopt new strategies for smaller classes, and missing opportunities to optimize smaller group learning. Further, Hattie indicated that the effects of studies supporting lower class sizes are associated more with teacher and student work-related conditions, and the effects of those not supporting lower class sizes are more related to the small effects on student learning. Hattie indicated that reducing class size might be greater on teacher and student work-related conditions, which then may or may not impact student learning. Reducing class size is seen to be a costly policy initiative, and with limited research suggesting the benefits, it might be more beneficial to address more of the teacher effects in this area.

The implementation of policies decreasing class size has caused some critics to suggest a hidden agenda of teacher's unions to enlarge their role within education or to reduce the

responsibility of teachers (Johnson, 2006). The rapid and poor implementation of class reduction policies has led to an increased need for teachers, resulting in an unintended consequence of under qualified teachers entering the schools in order for schools to fill open positions. This detriment may influence the achievement of students (Sims, 2008). On the TELL Survey, the greatest range in responses occurred related to the question, "class sizes are reasonable so that teachers can meet the needs of all students" ("*Cross-State Analysis,*"2013). On this survey, teachers in Vermont responded more favorably to this item, with 79% agreeing that this working condition is present in their schools, while only 49% of educators in Delaware reported that this is true ("Cross-State Analysis,"n.d.). On the NCTWC Survey, agreement about class size declined by a small margin, with 61.7% of teachers agreeing that class size was reasonable in 2010 to 61.5% in 2012 ("*Analysis of Current Trends,*"2010). Class size is related to the concept of time on the NCTWC Survey in that teachers must have enough instructional time to meet the needs of all of the students, regardless of the size of the class.

Collaboration. On the North Carolina survey, lack of time for collaboration is an area in which teachers report moderate agreement. Only 71.6 percent of teachers reported they have time available to collaborate with colleagues in 2012, a decline of 1.6 percent from the 2010 results ("*North Carolina Teacher,*"2013.). Researchers have identified social elements of the workplace such as being able to build productive working relationships with colleagues as being very important to teachers (Johnson, Kraft, & Papay, 2012). This can be accomplished through shared planning times with coworkers. Professional learning communities (PLCs) have been studied in terms of effectiveness on improving teacher instructional methods and student learning (McLaughlin & Talbert, 2006). Teachers indicate a preference for this in relation to job satisfaction, but even more impressive is that when these types of collaborative working

relationships are present, student achievement growth appears to be greater (Johnson, Kraft, & Papay, 2012). While this is promising, other researchers suggest that creating more opportunities for teachers to collaborate will be limited if other priorities are in competition for teachers' time and attention (Coburn & Russell, 2008).

Hattie (2012) argued that collaboration is as a powerful effect for teachers, not only in discussing curriculum guidelines, success criteria, and learning progression, but also in developing a common understanding about progression through the school. The most valuable of these interactions are structured in such a way to review data, set incremental and measurable goals, engage in discussion about goals and improving instruction, and create plans to monitor and assess learning and instruction.

Further, while collaborative planning time is important, it is often up to the administration to schedule these times for teachers. Often, administrators lack the preparation to design and implement school schedules to allow for teachers to work together (Berry, 2008). Few schools are designed in such a way as to promote collaborative work, and while some administrators attempt to provide a structure to encourage collaboration, Johnson (2006) states: "The open exchange of ideas and feedback takes time, and the school schedule seldom allows for ongoing interaction" (p.6). While collaboration is an important and meaningful part of working conditions and learning, it is necessary to consider that many collaborative efforts (in teaching and in other aspects of working) are not successful. It would be useful to consider the aspects of successful collaboration in order to include this in future policy development.

Interruptions. Interruptions can cause a great deal of frustration for a teacher, and it is clear that interruptions in student learning have the potential to negatively influence achievement. The North Carolina standards for working conditions, ("*Working Condition*

Standards," n.d.) developed in order to provide a context for addressing and discussing the needs of schools, describe some of the specific problems of interruptions related to working conditions. For example, school wide procedures can cause interruptions. Some examples of these procedures include hallway procedures, student tardy rules, front office communication (i.e. announcements), and classroom observations. The nature of how these are scheduled and implemented all can impact instructional continuity. Additionally, students can be pulled from classes to receive remediation, attend field trips, or participate in activities, all which have the potential to disrupt the schedule and plans for instruction. Finally, the role of the teacher in minimizing disruptions in instructional time is discussed in relation to interruptions. Some activities such as classroom management issues, pencil sharpening, throwing trash away, and collecting materials can cause large and frequent interruptions in instructional delivery. Classroom management is another factor that was found to have a strong effect on student learning and student engagement (Hattie, 2009). This factor is also related to teacher and student relationships, one of the more powerful effects of student performance. The NCTWC Survey questions do not make a distinction between the types of classroom interruptions, which might help in clarifying some of the issues teacher's report with this issue.

The issue of teacher's perceptions of interruptions is apparent in the NCTWC Survey. Only 69.6 percent of teachers indicated that they "are allowed to focus on educating students with minimal interruptions", demonstrating a 1.1 percent decline since 2010 ("*North Carolina Teacher*,"2013)

Non-instructional Time. Non-instructional time refers to the amount of time that teachers have to address their own work related to their classroom. Teachers have added responsibilities besides planning for instruction including attending meetings, communicating

with parents, and meeting requirements for exceptional children services. In relation to the standards that were created to address this issue in the schools, questions to facilitate discussions about this matter were included *("North Carolina Teacher,"* 2010.). These include:

"What is an appropriate amount of non-instructional time for teachers? Is that amount different between administrator and teacher perception? Would a discussion to define what is an appropriate amount of non-instructional time between teachers and administrators help to set expectations and goals?" (p.5).

On the North Carolina survey, the question related to non-instructional time demonstrated the greatest decline across items between years. Only 59.3 percent of teachers indicated that the time they had for planning is sufficient *("North Carolina Teacher,"*2010.).

Routine Paperwork. Routine administrative paperwork is an additional area that may lead to dissatisfaction with working conditions. Some examples of routine paperwork may include individual education plans, newsletters, progress reports, and collection of data for progress monitoring and placement decisions. While many of these routine tasks are necessary, increased time spent on these activities may decrease the availability in time spent in other areas needed for success in the job. The frequency of these activities could potentially impact how a teacher feels about his or her position and the ability of the teacher to complete necessary work. Another challenge to paperwork may be linked to teacher experience. While many of the procedural types of paperwork are relatively easy to complete, a new or inexperienced teacher may spend additional time trying to learn how to fill out this paperwork. This also relates to the administration allowing teachers adequate time to complete paperwork *("North Carolina Teacher,"* 2013). Much of the literature in this area relates to special education, where teachers are also case-managing their student's educational plans and important documents.

Hart (1998) made suggestions in relation to this issue, indicating that in the system of individual educational planning, monitoring, and review takes a considerable amount of time, but has limited impact on teaching and learning in the classroom. These systems are viewed to primarily serve accountability needs, and the time spent creating these documents takes away from time available to plan and enhance supportive curriculum for special needs students. King, Rucker, and Duncan (2013) studied factors that might be related to teacher attrition in agricultural education. These teachers are reported to be at high risk for leaving the classroom. One of the specific stressors related to classroom instruction and agricultural programming was paperwork, reports, and time management strategies among others.

In the TELL Survey, educators were least likely to agree that efforts are made to minimize the amount of routine paperwork they do. In fact, only 39% of teachers in Delaware agreed that these efforts are in place *("Cross State Analysis,"*2013). In the NCTWC Survey, only 54.6 percent of teachers agree that efforts are made to minimize the amount of routine paperwork teachers are required to do *(Validity and Reliability,* 2012). It appears that educators consistently report being burdened by routine paperwork, suggesting that administrators might want to explore efforts to reduce paperwork requirements, or investigate how time can be built into schedules to allow for routine paperwork to be completed.

Instructional Time. Meeting the needs of all students in a classroom is difficult to gauge. Several impacts such as class sizes, student background and ability, the specific area of instruction, experience of the teacher, and pacing guides are some examples of factors that potentially influence the amount of time a teacher must spend to address the needs of all students. In addition to the factors that influence the time that is needed to address the needs of the students, the time that is lost in other areas must be considered as well. Some examples of

factors that result in loss of time include interruptions, unplanned meetings, and ineffective classroom management procedures. Other considerations include the experience of teachers to understand the time in which students will need to complete activities and move through the curriculum. In order for teachers to have sufficient time for instruction, these time costs must be minimized ("*North Carolina Teacher,*" n.d.).

Duties. In addition to the many classroom responsibilities, teachers are often expected to take on additional responsibilities within the school. Some examples of these duties include before and after-school student monitoring, hallway, bus, or lunch supervision, and athletic and extracurricular clubs. In addition to providing support for students, teachers can also participate in a broad range of professional activities such as leading teams for grade level instruction, mentoring new teachers, and school improvement activities ("*Working Conditions Standards*" n.d.). On the NCTWC Survey, the question that addresses teacher's protection from duties that interfere with educating students declined by a small margin. In 2010, 70% of teachers agreed with this statement, while in 2012, 69.7% agreed with this statement ("*Analysis of Current Trends,*"2010).

Comparing Elementary and Middle Schools

Limited research has been conducted comparing elementary and middle schools, however some literature exists comparing the organizational aspects of elementary and middle schools in relation to achievement. Byrnes and Ruby (2007) found students attending older schools organized as kindergarten through eighth grade performed significantly better than traditional middle schools (as organized as sixth through eighth grade). However, newly established kindergarten through eighth grade schools performed similarly to traditional middle schools, despite having smaller grades and lower transition rates. This result was believed to be due to the

newly established schools serving more disadvantaged populations. These results are somewhat surprising, given that historically, the kindergarten through eighth school was the popular organizational model for primary and middle grades education, only to be replaced by the junior high model in the early 1900s (Herman, 2004). The junior high model was developed in order to target both academic and educational needs based on the developmental and behavioral needs of adolescents. Studies examining the differences between elementary and middle schools in relation to working conditions are largely absent from existing literature.

CHAPTER THREE: STATEMENT OF THE PROBLEM

Teacher working conditions may be a major component of the effectiveness of a school on many levels. As mentioned previously, past research on this topic has focused on investigating the reasons why teachers leave the profession, as well as what aspects of teacher characteristics improve student learning. Recently, this focus has shifted to investigating specific areas of teacher working conditions related to student outcomes. Since the domain of time has regularly been an area of concern on previous iterations of the survey, this research study will examine how educators at different grade levels in North Carolina view their working conditions, specifically in the area of time.

The data that was used for this project is from the 2012 North Carolina Teachers Working Conditions Survey. A summary of the results of this survey is available to the public on the North Carolina Teachers Working Conditions website (http://www.ncteachingconditions.org). Access was obtained to the complete data set from this survey the data were used for analysis with a specific focus on each item measured within the area of Time. The following research questions were addressed:

1. What differences, if any, exist between North Carolina elementary and middle school teacher's perception of class size as a working condition in the domain of time?

2. What differences, if any, exist between North Carolina elementary and middle school teacher's perception of collaboration, as a working condition in the domain of time?

3. What differences, if any, exist between North Carolina elementary and middle school teacher's perception of interruptions, as a working condition in the domain of time?

4. What differences, if any, exist between North Carolina elementary and middle school teacher's perception of non-instructional time, as a working condition in the domain of time?

5. What differences, if any, exist between North Carolina elementary and middle school teacher's perception of routine paperwork, as a working condition in the domain of time?

6. What differences, if any, exist between North Carolina elementary and middle school teacher's perception of instructional time, as a working condition in the domain of time?

7. What differences, if any, exist between North Carolina elementary and middle school teacher's perception of duties, as a working condition in the domain of time?

CHAPTER FOUR: METHOD

Participants

For the 2012 NCTWC survey, the New Teacher Center reported that responses from 100,042 North Carolina educators from 2,501 schools were included in the final data set. Data was reported back to each school and published on-line only if the school reached the required 40% response rate. Approximately 86% of schools in North Carolina met this requirement ("*Validity and Reliability*", 2012). According to "Facts and Figures" on the North Carolina public schools website, North Carolina had a total of 2,526 schools in 2012 making up 115 school districts across the state (http://www.ncpublicschools.org/docs/fbs/resources/data/factsfigures/2012-13figures.pdf). The figures reported from these two organizations are not similar. In comparing the 86% response rate indicated by the New Teacher Center to the figure indicated by the North Carolina Facts and Figures, there is a difference of 382 schools. If the New Teacher Center had an 86% response rate for the survey with 2501 schools meeting the requirement to have data included, a total of 2908 schools would have participated. The North Carolina Public Schools website indicated there are a total of 2526 schools that existed in the state in 2011-2012.

Materials

The NCTWC Survey was developed in order to gain knowledge of teacher working conditions, specifically in relation to areas that might contribute to teacher turnover ("*North Carolina Teacher*", n.d.). A literature review conducted by the North Carolina Professional Teaching Standards Commission (NCPTSC) in 2001 identified thirty working conditions factors, which were grouped as items in five domains. These domains included time, facilities and

resources, teacher leadership, school leadership and professional development ("*North Carolina Teacher*", n.d.).

Over the course of the next ten years, through research and statistical analysis, those 30 items were used to develop a more comprehensive measure of working conditions, designed to assess whether or not educators agree that the working conditions, or standards, were in place in schools across North Carolina. The 2012 NCTWC Survey is based on the original survey administered in 2002, but with several expansions ("*Validity and Reliability*", 2012). The 2002 Survey was in paper and pencil format and included 39 questions on a 1 to 6 Likert scale. In 2004, the Survey was converted into an online format with 72 questions. In the 2004 NCTWC Survey, a sample of educators was asked to rank the relevance or "reality" of each question, allowing for a factor analysis comparison of the results to identify the importance of the conditions in each area of the survey. Since then, feedback on the wording of the questions and other statistical data has been collected to improve the instrument. Although the original constructs of the 2002 Survey are still in place, some additions to the survey have been included the provision of a more detailed representation of the working conditions in the state. These include (a) in 2006, a section on new teacher support was added, gathering data about teachers in their first three years in the profession; (b) in 2008, principal only items were added that measured district support; (c) in 2010, Managing Student Conduct, Community Support and Involvement, and Instructional Practices and Support were included to provide more details about working conditions; (d) also in 2010, the scale was changed from a 6-point Likert scale to a 4-point scale and included a "Don't Know" selection. Teachers had the following options: 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree and 5 = Don't Know. Since 2010, there have been no changes to the current instrument, which include eight domains. As

previously described, these domains include (a) Time, (b) Facilities and Resources, (c) Community Support and Involvement, (d) Managing Student Conduct, (e) Teacher Leadership, (f) School Leadership, (g) Professional Development, and (h) Instructional Practices and Support ("*North Carolina Teacher*",n.d.).

Confirmatory and exploratory factor analyses have been conducted to determine the degree to which the NCTWC Survey measures the eight constructs on which it is presently designed. There are certain degrees of overlap between the School Leadership and Teacher Leadership domain, as well as a division in the area of Instructional Practices and Support. Questions that loaded strongly for each construct were considered best measures for that particular area ("*Validity and Reliability*,"n.d.).

The internal consistency of the constructs was calculated by Cronbach's alpha in order to determine the consistency of the 2012 NCTWC for measuring characteristics of teaching conditions in each of the domains. Alphas above a 0.70 level are generally recognized as a minimum threshold for assessing reliability. In the area of time, Cronbach's alpha was 0.86, representing a reliable measure of this construct. The Cronbach's alpha for the remaining domains included; (a) facilities and resources as 0.87; (b) community supports and involvement as 0.89; (c) managing student conduct as 0.90; (d) teacher leadership as 0.93; (e) school leadership as 0.93; (f) professional development as 0.95; and (g) instructional practices and support as 0.86. All areas of the constructs represented in the NCTWC Survey were considered reliable ("*Validity and Reliability*," n.d.).

Procedure

An email was sent to The New Teacher Center detailing the research of interest, requesting the data set for the 2012 TWCS, along with a brief analysis plan. Permission was

granted with the agreement that all data would be password protected and used in the analysis described. Information from each elementary school (K-5) and middle school (6-8) that met the 40% participation rate and thus had data published on the North Carolina Teacher Working Conditions website was provided in an EXCEL spreadsheet. Additionally, a codebook with all questions and coded responses was provided, along with a response rate document, indicating the schools by county and the percentage of teachers responding from each school. Any data not relevant to the time domain was removed from the EXCEL spreadsheet, including the questions related to other domains, the number of years teaching, and the number of years employed at the current school. All principal responses were removed. Finally, each school that did not meet the criteria of a traditional elementary (k-5) and middle school (6-8) were removed from the spreadsheet. Among those eliminated included charter schools, high schools, early colleges, and any other organization of school that did not meet these criteria.

In preparation for conducting all analyses, a number of statistical procedures were used to arrange the data file. After uploading the data set from EXCEL to the Statistical Package for the Social Sciences (SPSS), the variables on the survey response items were recoded so that analysis could be conducted on elementary and middle school responses. Items on each of the scales were coded to allow SPSS to analyze each of the survey items. The coding for each of the items remained the same with 1 representing "Strongly Disagree", 2 representing "Disagree", 3 representing "Agree", and 4 representing "Strongly Agree". The "Don't Know" responses were recoded as missing data and were not included in the analysis. Appendix B includes the codebook used to track and record each survey item and codes for responses.

It was also decided that the database would only include those schools where the teachers were consistent in their responses to the survey items considered in this study. Data from each

school was analyzed with a Cronbach's alpha of all items in the time domain to examine consistency of teacher responses within that school for all items under the domain of time. Schools that had a Cronbach's alpha lower than 0.7 were eliminated from the study due to inconsistent responding. The original data set had 100,042 participants and a total of 2501 schools. After eliminating schools that did not meet the criteria of being a traditional elementary school (organized as kindergarten through fifth grade) or a traditional middle school (organized as sixth through eighth grade) a total of 1722 schools remained. Of those remaining, 1265 were elementary schools and 457 were middle schools. After completing the statistical analysis to determine which of the remaining schools met the criteria of the 0.7 Cronbach's alpha, a total of 1642 schools remained. Of those remaining, 1211 were elementary schools and 431 were middle schools. Of the original 100,043 participants, only 55,191 remained after all criteria were applied to the data set.

Using data from the remaining schools, all items under the domain of time were analyzed using a Cronbach's alpha in order to examine consistent responding across schools. A score of 0.82 was obtained and indicated that there was considerable consistency across the schools on these survey items. Therefore, it was decided that there would not be enough variability among schools in order to conduct research on the relationship between time as a Teacher Working Condition and student achievement.

The number of schools that remained in the spreadsheet after all of these revisions was 1642, indicating that a total of 859 schools were removed from the analysis. It was determined that the "Don't Know" response on each of the survey items should be removed from the analysis which meant that the items were analyzed based on a 4 point scale of 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. The "Don't Know" data was recoded

as missing data in SPSS. This resulted in increases to the missing data values for each question. Frequency analysis was conducted to obtain descriptive statistics. Measurements of skewness and kurtosis values were used to assess normality for all data obtained. The independent samples t-test was selected and performed for an analysis of differences in responses between elementary and middle school level teachers on each of the seven items included in the domain of Time.

Results

      Frequency Data. Frequency data was analyzed with SPSS for the seven questions in the domain of time. A total of 55,191 teacher responses were included in the results. However, 4,506 teachers provided a response of "Don't Know" on at least one of the seven questions leaving 50,685 teachers who provided a response other than "Don't Know" to all seven questions in the domain of time. Elementary teacher responses included 38,835 participants and represented 70.4 percent of all responses. Middle school teacher responses included 16,356 participants and represented 29.6 percent of the responses. The 2012 Facts and Figures from the North Carolina Department of Public Instruction (http://www.dpi.state.nc.us/fbs/resources/data) provide information about the total number of school personnel, but do not give information about the percentages of teachers in elementary and middle school; therefore it is not possible to make comparisons about percentages of teachers in elementary and middle school in the state of North Carolina to percentages of elementary and middle school teachers for the current study.

      Responses from a total of 54,800 survey participants were included in the final analysis regarding class size. The ratings indicated 15.6 percent 'Strongly Agree', 44.2 percent 'Agree', 30.1 percent 'Disagree' and 10.1 percent 'Strongly Disagree' that 'Class sizes are reasonable such that teachers have the time available to meet the needs of all students'.

Responses from a total of 54,318 survey participants were included in the final analysis regarding collaboration. The ratings indicated 17.9 percent 'Strongly Agree', 52.6 percent 'Agree', 22.6 percent 'Disagree' and 6.9 percent 'Strongly Disagree' that 'Teachers have time available to collaborate with colleagues'.

Responses from a total of 54,252 survey participants were included in the final analysis regarding interruptions. The ratings indicated 15.9 percent 'Strongly Agree', 52.2 percent 'Agree', 24.6 percent 'Disagree', and 7.3 percent 'Strongly Disagree' that 'Teachers are allowed to focus on educating students with minimal interruptions'.

Responses from a total of 54,290 survey participants (98.3% of all participants) were included in the final analysis regarding non-instructional time. The ratings indicated 10.2 percent of teachers 'Strongly Agree', 43.3 percent of teachers, 'Agree', 33.2 percent of teacher 'Disagree', and 13.3 percent of teachers 'Strongly Disagree' that 'The non-instructional time provided for teachers in my school is sufficient'.

Responses from a total of 53,822 survey participants were included in the final analysis regarding paperwork, The ratings indicated 8.9 percent of teachers 'Strongly Agree', 41.8 percent of teachers 'Agree', 32.9 percent of teachers 'Disagree', and '16.4 percent of teachers 'Strongly Disagree' that 'Efforts are made to minimize the amount of routine paperwork teachers are required to do'.

Responses from a total of 54,376 survey participants (98.6% of all participants) were included in the final analysis regarding instructional time. The ratings included 12.4 percent of teachers 'Strongly Agree', 53.4 percent of teachers 'Agree', 27.7 percent of teachers 'Disagree', and 6.5 percent of teachers 'Strongly Disagree' that 'Teachers have sufficient instructional time to meet the needs of all students'.

Responses from a total of 54.511 survey participants were in the final analysis regarding duties. The ratings included 14.9 percent of teachers 'Strongly Agree', 54.8 percent of teachers 'Agree', 22.1 percent of teachers 'Disagree', and 8.2 percent of teachers 'Strongly Disagree' that 'Teachers are protected from duties that interfere with their essential role of educating students'.

Analysis of the distribution demonstrated that the data are highly negatively skewed for each item (skewness = - .232, -.449, -.406, -.165, .137, .-.357, -.505). This suggests the non-normality of the data distribution. All of the skewness values were negative, indicating a clustering of scores at the high end (i.e., more positive responses) and all kurtosis values were negative indicating a distribution that is relatively flat. Since the sample size in our analysis was very large, the kurtosis value did not make a fundamental difference, however it can be noted that the distribution was not normal. Since tests of skewness and kurtosis are relatively sensitive with large sample sizes, a histogram was inspected to check the distribution. Again, the assumption of normality was violated for each item with the exception of instructional time and paperwork. All other histograms demonstrated non-normality where responses clustered toward the right of the graph indicating more favorable responses. See Appendix C for the Histogram results.

Differences Between Elementary and Secondary Teacher Ratings. An independent-samples t-test was conducted to compare the survey responses on the seven questions in the domain of time on the NCTWC Survey for elementary and middle school teachers. Levene's test for equality of variance was significant for all items on the time domain, with the exception of paperwork and instructional time. The alternative t-test value was used in analyzing the results for the items that were significant for the Levene's test.

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For the question related to class size, there were significant differences in scores for elementary teachers (M= 2.72, SD = 0.84) and middle school teachers (M = 2.49, SD = 0.843), t (29432.69) = 28.78, p < .001, two-tailed. The magnitude of the differences in the means (mean difference = 0.23, 95% CI: 0.22 to 0.25) was very small (η^2 = > .01).

For the question related to collaboration, there were significant differences in scores for elementary teachers (M = 2.79, SD = 0.81) and middle school teachers (M = 2.87, SD = 0.79) t (31049.32) = -10.92, p = >.001, two-tailed. The magnitude of the differences in the means (mean difference = -0.82, 95% CI: -0.96 to -0.67) was very small (η^2 = >.01).

For the question related to interruptions, there were significant differences in scores for elementary teachers (M = 2.80, SD = 0.79) and middle school teachers (M = 2.68, SD = 0.823), t (29109.29) = 15.35, p = >.001, two-tailed. The magnitude of the differences in the means (mean difference = 0.12, 95% CI: 0.10 to 0.13) was very small (η^2 = > .01).

For the question related to non-instructional time, there were significant differences in scores for elementary teachers (M = 2.46, SD = 0.85) and middle school teachers (M = 2.61, SD = 0.84), t (30504.19) = -18.98, p = >.01, two-tailed. The magnitude of the differences in the means (mean difference = -0.15, 95% CI: -0.17 to -0.14) was very small (η^2 = >.01).

For the question related to paperwork, there were significant differences in scores for elementary teachers (M = 2.40, SD = 0.87) and middle school teachers (M = 2.49, SD = 0.86), t (53.820) = -11.26, p = >.01, two-tailed. The magnitude of the differences in the means (mean difference = -0.92, 95% CI: -0.11 to -0.08) was very small (η^2 = >.01).

For the question related to instructional time, there were no significant differences in scores for elementary teachers (M = 2.72, SD = 0.76) and middle school teachers (M = 2.72, SD = 0.77), t (54374), p =.06, two-tailed.

For the question related to duties, there were significant differences in scores for

elementary teachers (M = 2.82, SD = 0.81) and middle school teachers (M = 2.64, SD = 0.81) t

(29515.64), p = >.01, two-tailed. The magnitude of the differences in the means (mean difference

= 0.17, 95% CI: 0.16 to 0.19) was very small (η^2 = >.01). See Table 2 for Independent Samples t

test results.

Table 2

Result of t-test and Descriptive Statistics for NCTWC items in the domain of time by School Level

Survey Item		Means	Significance
Class Size	Elementary	2.72	.000*
	Middle	2.49	
Collaboration	Elementary	2.79	.000*
	Middle	2.87	
Interruptions	Elementary	2.80	.000*
	Middle	2.68	
Non-instructional Time	Elementary	2.46	.000*
	Middle	2.61	
Paperwork	Elementary	2.40	.000*
	Middle	2.49	
Instructional Time	Elementary	2.72	.737
	Middle	2.72	
Duties	Elementary	2.82	.000*
	Middle	2.64	

*Sig. (2-tailed)

CHAPTER FIVE: DISCUSSION

As discussed previously, the domain of time has consistently been an area that has been rated more negatively by teachers, not just in North Carolina, but in other states as well.("*Improving Teacher Working Conditions*", n.d.). It can be inferred that this working condition is one that is not in place for many teachers, and likely represents an area of difficulty and perhaps a direction for policy changes and future research.

Upon examining the descriptive statistics for this study, it was found that the distribution of responses by elementary and middle school teachers was flat and clustered at the high end, with more favorable responses to all items (with the exception of paperwork and instructional time). Paperwork and instructional time indicated a more normal distribution for responses.

Even though more items were rated as being agreeable, it should be noted that elementary and middle school teachers alike are divided about many of the questions related to the domain of time and many provided negative responses to these questions. While more teachers provide favorable ratings, there are still high percentages of teachers providing negative ratings for these items.

Additionally, the descriptive data indicates that there is more "Don't Know" and missing data for the item of paperwork. Even though responding "Don't Know" and not responding are two fundamentally different responses, we could expect that if more participants provided a response to this item, the distribution might have appeared more similar to the other items in the domain. The mean scores for both elementary and middle school teacher responses on the paperwork item were the lowest of all items in the domain. Items related to collaboration, interruptions, non-instructional time, and instructional time also demonstrated high numbers of

participants responding "Don't Know" or not responding to the items at all. The item related to class size was responded to most frequently.

A review of the literature indicated that differences between ratings of teachers at the elementary and middle school level have not been explored before. The information that was gathered in the current study provides some descriptions about how time as a structural component of schools impacts teachers at the traditional elementary and middle school level.

When comparing elementary and middle school teachers, there was no variability in the area of instructional time and while middle school teachers were significantly more positive about paperwork than elementary school teachers there was also very little variability in this area. Perhaps teachers find that instructional time and paperwork are necessary components of the teaching job, and that many of these issues can be handled independently and are more in the control of the individual teacher. Class size, collaboration, interruptions, non-instructional time, and duties are to some extent controlled more by leadership and often are at the mercy of the structural organization of the school (i.e., schedules or policy initiatives). These issues would be essential to investigate as they might be related more to teacher retention and to some extent might even influence teacher effectiveness.

In this study, elementary school teachers reported more positive ratings in the areas of class size, interruptions, and duties, while the middle school teachers reported more positive ratings in the areas of collaboration, interruptions, non-instructional time, and paperwork. However, while the results are statistically significant, the magnitude of the differences for all items was quite small.

In the area of class size, it is not surprising that middle school teachers were more negative given that large class sizes are quite common in middle schools. Despite the fact that

middle school teachers are typically working with students who are more independent, middle school teachers might find it difficult to address some of the needs that middle school students face with large class sizes. Additionally, middle school teachers who serve more students are more likely to have more grading responsibilities and are likely to encounter more students at levels outside of their instructional expertise (i.e., a sixth grade student reading on a second grade reading level) making their work more difficult. Finally, the development of strong student-teacher relationships might be difficult with larger class sizes.

These results indicate that middle school teachers report being more negative about the amount of duties assigned to them and about the level of interruptions that are experienced in the classroom. This might indicate a need for investigation into the organizational aspects of these working conditions that might impact middle school teachers negatively, as well as any of these factors that might influence school climate or student performance.

Elementary school teachers were slightly more negative about issues pertaining to collaboration, non-instructional time, and paperwork. It was surprising that middle school teachers responded more positively in the area of collaboration since middle school teachers typically might not have as many teachers to collaborate with on their grade level. This often happens because many teachers cover one subject across three grade levels or teach one grade level one subject. Perhaps middle school teachers perceive collaboration more positively because they are collaborating in smaller groups or sharing ideas about working with students, particularly when the student body is large. Also, effective collaboration requires the use of specific skills, some of which do not come naturally to individuals. Future studies might investigate years of experience and working conditions such as leadership and professional development in order to examine any existing relationships.

Limitations of the Study

The results obtained in this analysis should be interpreted with caution due to several reasons. Although the assumption of the normality of the distribution was violated for the independent-samples t-test, the large sample size compensated for this issue. The descriptive statistics provided information concerning the distribution of the scores. When looking at the Histogram, the assumption of normality was violated in most cases, with the exception of paperwork and instructional time. Responses for all other items clustered toward the right of the graph, indicating more favorable responses.

In addition, the assumption of the homogeneity of variance was violated, indicating that the variance within each of the populations was unequal. Other statistical methods such as ANOVA were considered as an alternative to the independent samples t-test. ANOVA works well even when the assumption of the homogeneity of variance is violated, except in the case where there are unequal numbers of subjects in the various groups. ANOVA could not be used in the current study because the sizes of the groups in the data set were not reasonably similar (with many more elementary schools in comparison to middle schools). Additionally, the other groups were not normally distributed.

The elimination of participants based on the characteristics we selected might have limited our sample size. After excluding the data that was not of interest for our purposes, nearly half of our original data set was removed. Even though the sample size is still quite large, removing many of the teacher responses limits interpretation. Other organizations of schools might be included in future studies to get more of a sense of how teachers at all levels feel about these issues. Additionally, when removing the schools based on the criteria selected for the purposes of the current study, the issues with variability of responses for the entire data set

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remained a problem for interpretation. The consistency of responses makes comparisons between elementary and middle schools difficult.

Finally, while elementary and middle schools are organized in such a way to meet the developmental needs of their students, it might be useful to gain a better understanding of what works in terms of working conditions for both elementary and middle school teachers, as well as what works for elementary and middle school teachers on a more individual level. For example, class size has reasonable research to suggest that this working condition does not translate to increased student achievement for most students, however, research that addresses class size in relation to school climate might shed more light on this issue and provide more details about what makes it so important to teachers, particularly in middle school.

Future Research. The current study provides some information about how teachers respond to questions related to the domain of time, but what this information fails to address is the factors that might be related to these responses and the effects that these responses might have on academic achievement, teacher retention, and school climate. Future studies in this area might explore relationships between the responses, help to identify factors that are causing problems in these areas, and understand potential effects on individuals that are impacted by the school. Researchers might find that exploring other factors such as years of experience, demographics of the school, and achievement might highlight new relationships between these factors and response rates. Other studies might create models of positive or negative working conditions and explore the factors that might relate to teachers responses. Future studies might investigate the allocation of time in elementary and middle schools, with a focus on identifying any factors that improve working conditions for both teachers and students.

Additionally, broad policy changes are often implemented at the state level, despite the fact that research has cautioned against these practices. While it is important to consider the individual classroom environments that lead to student success, continuing research on a broader level will help to guide any larger scale changes that policymakers often implement. Additionally, investigating teacher-working conditions in response to policy changes might help to identify the impacts of these changes and pinpoint areas that are in need of improvement and areas that are working for teachers. Considering any policy changes that might influence teacher responses in this area is important as well. It would be important to recognize that policy changes might result in shifts in perceptions in working conditions that occur years after the changes are implemented. Taking the temperature of schools on a very broad level might help to understand how larger scale policies might influence working conditions. Looking at regional aspects of working conditions might be useful to consider how policy changes might influence communities and understanding differences between schools might provide some information about how general policies impact schools at different levels

Since there were many instances of participants responding "Don't Know" or not responding to some of the items, future research might address how to investigate neutral perspectives in regard to each item, and understand how patterns of responding might be related to how each item is defined and why individuals choose not to respond or respond "Don't Know".

Finally, more research that addresses the relationship of items in each domain will help to better organize the survey and address any issues in the construct. Since the research in this area was quite limited, future studies might conduct an item or factor analysis to investigate the relationships between domain items and develop new questions based on these constructs.

Working conditions might only comprise a minor influence on student achievement, but they are seen as a way to improve the life of teachers, which might translate into a better school climate, and more teachers remaining in the field. Our study is more preliminary in that we have identified differences, however, the factors that are related to these differences are unknown.

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Appendix A

North Carolina Teacher Working Condition Survey Questions

TIME
1. Class sizes are reasonable such that teachers have the time available to meet the needs of all students
2. Teachers have time available to collaborate with colleagues
3. Teachers are allowed to focus on educating students with minimal interruptions
4. The non-instructional time provided for teachers in my school is sufficient
5. Efforts are made to minimize the amount of routine paperwork teachers are required to do
6. Teachers have sufficient instructional time to meet the needs of all students
7. Teachers are protected from duties that interfere with their essential role of educating students
FACILITIES AND RESOURCES
1. Teachers have sufficient access to appropriate instructional materials
2. Teachers have sufficient access to instructional technology, including computers, printers, software and internet access
3. Teachers have sufficient access to instructional technology, including computers, printers, software and internet access
4. Teachers have sufficient access to office equipment and supplies such as coly machines, paper, pens, etc.
5. Teachers have sufficient access to a broad range of professional support personnel
6. The school environment is clean and well maintained
7. Teachers have adequate space to work productively
8. The physical environment of classrooms in this school supports teaching and learning
9. The reliability and speed of Internet connections in this school are sufficient to support instructional practices
COMMUNITY SUPPORT AND INVOLVEMENT
1. Parents/guardians are influential decision makers in this school
2. This school maintains clear, two-way communication with the community
3. This school does a good job of encouraging parent/guardian involvement
4. Teachers provide parents/guardians with useful information about student learning
5. Parents/guardians know what is going on in this school
6. Parents/guardians support teachers, contributing to their success with students
7. Community members support teachers, contributing to their success with students
8. The community we serve is supportive of this school
MANAGING STUDENT CONDUCT
1. Students at this school understand expectations for their conduct
2. Students at this school follow rules of conduct
3. Policies and procedures about student conduct are clearly understood by the faculty
4. School administrators consistently enforce rules for student conduct
5. School administrators support teachers' efforts to maintain discipline in the classroom
6. Teachers consistently enforce rules for student conduct

7. The faculty work in a school environment that is safe

TEACHER LEADERSHIP
1. Teachers are recognized as educational experts
2. Teachers are trusted to make sound professional decisions about instruction
3. Teachers are relied upon to make decisions about educational issues
4. Teachers are encouraged to participate in school leadership roles
5. The faculty has an effective process for making group decisions to solve problems
6. In this school, we take steps to solve problems
7. Teachers are effective leaders in this school
8. Teachers have an appropriate level of influence on decision making in this school

SCHOOL LEADERSHIP
1.The faculty and staff have a shared vision
2. There is an atmosphere of trust and mutual respect in this school
3. Teachers feel comfortable raising issues and concerns that are important to them
4. The school leadership consistently supports teachers
5. Teachers are held to high professional standards for delivering instruction
6. The school leadership facilitates using data to improve student learning
7. Teacher performance is assessed objectively
8. Teachers receive feedback that can help them improve teaching
9. The procedures for teacher evaluation are consistent
10. The school improvement team provides effective leadership at this school
11. The faculty are recognized for accomplishments
The school leadership addresses concerns in:
12. Leadership
13. Facilities and resources
14. The use of time in my school
15. Professional development
16. Teacher leadership
17. Community support and involvement
18. Managing student conduct
19. Instructional practices and support
20. New teacher support

PROFESSIONAL DEVELOPMENT
1. Sufficient resources are available for professional development in my school;
2. An appropriate amount of time is provided for professional development
3. Professional development offerings are data driven
4. Professional learning opportunities are aligned with the school's improvement plan
5. Professional development is differentiated to meet the individual needs of teachers
6. Professional development deepens teachers' content knowledge
7. Teachers have sufficient training to fully utilize instructional technology
8. Teachers are encouraged to reflect on their own practice
9. In this school, follow up is provided from professional development
10. Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices
11. Professional development is evaluated and results are communicated to teachers

12. Professional development enhances the teachers' ability to implement instructional strategies that meet diverse student learning needs
13. Professional development enhances teachers' abilities to improve student learning
INSTRUCTIONAL PRACTICES AND SUPPORT
1. State assessment data are available in time to impact instructional practices
2. Local assessment data are available in time to impact instructional practices
3. Teachers use assessment data to inform their instruction
4. The curriculum taught in this school is aligned with Common Core Standards
5. Teachers work in professional learning communities to develop and align instructional practices
6. Provided supports (i.e. instructional coaching, professional learning communities, etc.) translate to improvements in instructional practices by teachers
7. Teachers are encouraged to try new things to improve instruction
8. Teachers are assigned classes that maximize their likelihood of success with students
9. Teachers have autonomy to make decisions about instructional delivery (i.e. pacing, materials and pedagogy)
10. State assessments provide schools with data that can help improve teaching
11. State assessments accurately gauge students' understanding of standards

Appendix B

Codebook

SCHOOLEVEL

		Value	Count	Percent
Standard Attributes	Position	6		
	Label	School Level		
	Type	Numeric		
	Format	F8		
	Measurement	Ordinal		
	Role	Input		
Valid Values	1	Elementary	38835	70.4%
	2	Middle	16356	29.6%

CLASSIZE

		Value	Count	Percent
Standard Attributes	Position	10		
	Label	Class Size		
	Type	Numeric		
	Format	F8		
	Measurement	Ordinal		
	Role	Input		
Valid Values	1	Strongly disagree	5608	10.2%
	2	Disagree	16295	29.5%
	3	Agree	24421	44.2%
	4	Strongly agree	8476	15.4%
	5	Don't know	0	0.0%
Missing Values	System		391	0.7%

COLLABORATE

		Value	Count	Percent
Standard Attributes	Position	11		
	Label	Collaborate		
	Type	Numeric		
	Format	F8		
	Measurement	Ordinal		
	Role	Input		
Valid Values	1	Strongly disagree	3788	6.9%
	2	Disagree	12294	22.3%
	3	Agree	28507	51.7%
	4	Strongly agree	9729	17.6%
	5	Don't know	0	0.0%
Missing Values	System		873	1.6%

INTERRUPTION

		Value	Count	Percent
Standard Attributes	Position	12		
	Label	Interruptions		
	Type	Numeric		
	Format	F8		
	Measurement	Ordinal		
	Role	Input		
Valid Values	1	Strongly disagree	3966	7.2%
	2	Disagree	13349	24.2%
	3	Agree	28310	51.3%
	4	Strongly agree	8627	15.6%
	5	Don't know	0	0.0%
Missing Values	System		939	1.7%

NONINSTRUCTION

		Value	Count	Percent
Standard Attributes	Position	13		
	Label	noninstructional time		
	Type	Numeric		
	Format	F8		
	Measurement	Ordinal		
	Role	Input		
Valid Values	1	Strongly disagree	7254	13.1%
	2	Disagree	18052	32.7%
	3	Agree	23518	42.6%
	4	Strongly agree	5466	9.9%
	5	Don't know	0	0.0%
Missing Values	System		901	1.6%

PAPERWORK

		Value	Count	Percent
Standard Attributes	Position	14		
	Label	paperwork		
	Type	Numeric		
	Format	F8		
	Measurement	Ordinal		
	Role	Input		
Valid Values	1	Strongly disagree	8844	16.0%
	2	Disagree	17724	32.1%
	3	Agree	22516	40.8%
	4	Strongly agree	4738	8.6%
	5	Don't know	0	0.0%
Missing Values	System		1369	2.5%

INSTRUCTIONAL

		Value	Count	Percent
	Position	15		
	Label	instructional time		
Standard Attributes	Type	Numeric		
	Format	F8		
	Measurement	Ordinal		
	Role	Input		
	1	Strongly disagree	3528	6.4%
	2	Disagree	15052	27.3%
Valid Values	3	Agree	29080	52.7%
	4	Strongly agree	6716	12.2%
	5	Don't know	0	0.0%
Missing Values	System		815	1.5%

DUTIES

		Value	Count	Percent
	Position	16		
	Label	duties		
Standard Attributes	Type	Numeric		
	Format	F8.1		
	Measurement	Ordinal		
	Role	Input		
	1.0	Strongly Disagree	4445	8.1%
	2.0	Disagree	12042	21.8%
Valid Values	3.0	Agree	29875	54.1%
	4.0	Strongly Agree	8149	14.8%
	5.0	Don't Know	0	0.0%
Missing Values	System		680	1.2%

Appendix C

Histogram

Mean = 2.77
Std. Dev. = .802
N = 54,252

Mean = 2.5
Std. Dev. = .848
N = 54,290

Mean = 2.43
Std. Dev. = .866
N = 53,822

paperwork

Mean = 2.72
Std. Dev. = .761
N = 54,376

instructional time

59

Mean = 2.77
Std. Dev. = .801
N = 54,511