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Teacher Well-Being and Virginia Standards of Learning

A dissertation

presented to

the faculty of the Department of Educational Leadership & Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education in School Leadership

by

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Keywords: Teacher Assessment, Standards of Learning, Mental and Physical Well-Being

ABSTRACT

Teacher Well-Being and Virginia Standards of Learning

by

Matthew William McCarty

The Virginia Standards of Learning (SOLs) were created by the Virginia Department of Education as a method to assess student learning. The SOLs were implemented in the mid-1990s and were used as end of grade and end of course assessments for grades 3-8 and secondary courses. The SOLs have taken on a foundational role within the Virginia public schools as they now count toward student graduation and teacher evaluation. Virginia now uses a teacher evaluation system that is in large part based upon student performance on the SOL assessments. This evaluation system is in place in all public school divisions in Virginia.

This study began as an attempt to understand the potential changes in the mental and physical well-being of teachers as related to the Virginia SOLs. Teachers were asked to complete a brief survey designed to measure their response to various mental and physical stressors. One hundred twenty-one surveys responses were received with 117 completed. The survey data will be used to discuss the possibility of creating a quality program of professional development that will help teachers guide their stress into positive and productive areas.

This study revealed that elementary/middle school teachers tended to experience higher rates of insecurity, vulnerability, depression, and coping ability than secondary teachers during SOL test administration. However, it was also determined that elementary/middle school instructors did not experience changes in most aspects of physical well-being during the SOL test

administration that are drastically different than their secondary school counterparts. The study indicated elementary teachers experienced a higher rate of heart racing than their secondary colleagues. The means and standard deviations across the areas surveyed were similar and did not vary significantly across surveyed responses except for the areas mentioned above.

DEDICATION

This work is dedicated to my family. My wonderful wife Pamela, who supported me when I wanted to stop, is my rock. I hope that my journey will inspire my children, Andrew and Sadee, to exceed what I have done and to change the world. My parents, Raymond and Vada McCarty have always been supportive of all my personal and professional goals. My grandparents were always proud of me. Lastly, to my in-laws, Leonard and Sadie Deel. Thank you for giving me my family.

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CHAPTER 1

INTRODUCTION

Student assessment is an essential part of public education. The role of the classroom teacher in guiding students toward meeting state and federal standards is integral to the success of the school and students. The Virginia Standards of Learning (SOLs) were implemented in the spring of 1998 and were soon followed by federal legislation under the blanket of the No Child Left Behind legislation (NCLB) enacted into law in 2001. These efforts, which were designed to measure student performance and teacher accountability, have created a culture of ongoing assessment, data analysis, and evaluation. Teachers are evaluated on methods of actively integrating the SOL assessments into their daily instruction and development of both formal and informal classroom assessments (Wise County Public Schools, 2012).

Typically Virginia students take their SOL assessments in December and May, but testing schedules may vary depending on each division's calendar. Third and 4th grade students take their SOL tests in May and 7th and 8th grade students take their first SOL tests in December. They also take another SOL test in May as do 5th and 6th grade students. However secondary level students are required to take an SOL at the end of every semester.

Administrators and guidance departments have allotted a flexible 2-week time period for classes to take their respective SOLs in order to accommodate inclement weather and other unforeseen circumstances. The 2-week assessment window was created by the Virginia Department of Education in a uniform fashion. However, in order to complete testing in the allotted timeframe each school division is given leeway to alter their assessment window depending on the days of

inclement weather and other schedule changes such as adjustments to the school calendar by the local school division.

Classroom instructors who teach courses assessed under the SOLs are considered core content teachers. These teachers provide instruction in mathematics, science, English, language arts, and social studies and include both general and special education teachers. SOL teachers are expected to provide instruction, constantly assess their students, measure student progress, and use that information to create instructional lessons (Wise County Public Schools, 2012). These teachers are also expected to maintain accurate records of student performance and demonstrate efforts to adjust their instruction to meet the needs of every student. SOL teachers often experience a range of emotions during the SOL review process and during the actual assessment window (P. Potter, personal communication, April, 15, 2014).

The Virginia SOLs are the basis by which all student performance is measured in public schools in the commonwealth. The SOLs are used to determine if schools and school divisions have met all required federal standards as presented in the No Child Left Behind legislation. During the 2012-2013 school year, the Virginia Department of Education required that all classroom teachers undergo an updated evaluation process with 40% of each individual's evaluation being derived from student assessment scores (Virginia Department of Education, 2012). The new teacher evaluation instrument was designed to replace an instrument that did not place as much emphasis on student progress as it relates to state and federal yearly improvement requirements. The revised evaluation instrument was initially implemented in the fall of 2012 (Wise County Public Schools, 2012).

The Virginia SOLs were first administered to students during the 1997-1998 school year. The early versions of the SOLs were designed to determine if the multiple choice testing format

would be an acceptable measure of student progress. Over the last 17 years SOL assessments have evolved into a method to critique the performance of individual teachers, schools, and school divisions (Welsh, 2013) and to discuss the downward spiral of public education. As a result, school leaders have been forced to gauge the performance of their instructional staff through both the SOL and NCLB lenses. According to the Virginia Education Association teachers who left the teaching profession within the first 5 years of SOL implementation indicated that large classes (54%), an overloaded teaching schedule (57%), and not having enough planning time (64%) were the primary reasons for choosing another career (Virginia Education Association, 2008).

Teacher mental and physical well-being is an area of consideration for school and division leaders. However many teachers communicate that they do not receive the level of support from school or division leaders that they need to be effective (Dawson, 2012). They argue that school leaders and the division staff are only concerned with the end result of the SOL assessments – meaning the student scores. Many teachers describe their school administrators as leaders who do not consider areas such as student discipline, class size, allotted time, and other factors that can have an effect on assessment results and the subsequent individual professional evaluations (Dawson, 2012). Many teachers state that they do not have enough support from their leaders to be effective on a constant basis (Dawson, 2012; Otto & Arnold, 2005).

Statement of the Problem

Classroom teachers who work in areas assessed by the SOLs experience considerable external stress from the school, school division, federal and state mandates (NCLB, 2008; Virginia Department of Education, 2012) as well as internal pressure to succeed and pressure for

student success. This stress, (headaches, increased sick leave, gastrointestinal issues), and pressure, (longer instructional preparation issues, changes in evaluation procedures), increases during the 2-week assessment windows that occur in December and May. This stress is different than the daily stress experienced by all teachers. Teachers who teach SOL content are required to maintain more in-depth instructional pacing, plan review/re-teaching periods, provide accommodation for students with disabilities that include state required assessment accommodations, and conduct constant assessment, based on the SOLs, in order to inform daily instruction. SOL content teachers have different ways of coping with this stress and pressure, both positive and negative, depending on factors that include support by the school, divisional administration, and parents as well as factors including schedule changes and delays (Wise County Public Schools, 2014). This stress and pressure and the methods teachers use to cope with them may vary depending on the factors surveyed in this study.

Research Questions

This study was used to address the following research questions:

Research Question 1: Is there a significant difference between the mental well-being of teachers at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle school levels?

Research Question 2: Is there a significant difference in the physical well-being of teachers at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels?

Research Question 3: Is there a significant difference in the stress level of male SOL content teachers and female SOL content teachers?

Research Question 4: Is there a significant relationship between years of classroom teaching experience and the stress level of SOL content classroom teachers?

Significance of Study

This study will potentially contribute to school leadership in two ways: 1) school leaders may be able to identify teachers who may be experiencing stress and changes in their well-being during the SOL test administration period, and 2) school leaders may use the results of this study to design and implement measures that can help teachers maintain healthy attitudes through the SOL test administration. The researcher examined whether teachers experience various types of stress at the primary, middle, or secondary levels and whether that stress is different for teachers depending on their current teaching assignment.

The researcher examined whether or not an increased teacher efficacy, (through support for new teachers), access to technology, and content area professional development could be harnessed to promote close relationships among colleagues. Additionally this researcher examined whether or not this increased teacher efficacy could lead to increased support from school administration and create opportunities for using students' assessment scores in a positive fashion. Efforts at increasing teacher efficacy are shown to have decreased teacher burnout and other issues associated with a constant round of assessment (Renihan & Noonan, 2012). A positive teacher efficacy is an essential component of student success.

Definitions of Terms

The terms mentioned below are general in nature with regard to the increased emphasis on assessment in public education today. However, the Standards of Learning are particular to Virginia and therefore must be defined here in order for the reader to gain an understanding of what teachers must plan for and address in their individual classrooms. The NCLB is legislation that is commonly referred to as “No Child Left Behind.” SOLs and the NCLB are synonymous with an emphasis on assessment and accountability.

1. *Core Content Teacher*: A teacher who provides daily instruction in an area assessed by the SOLs (Wise County Public Schools, 2012).
2. *Fast Fatigue*: Physical or mental weariness due to exertion. (American Heritage College Dictionary, 2005)
3. *No Child Left Behind (NCLB)*: Federal legislation that designates benchmark goals that schools and school divisions must meet in order to be accredited by the United States Department of Education. Mastery of the SOLs is designed to help Virginia public schools meet the NCLB requirements (NCLB, 2008). PL 107-110.
4. *School District*: The local school system (Virginia Department of Education, 2014).
5. *Teacher Mental Well-Being*: The mental health of individual teachers. This can be measured through factors including insecurity, vulnerability, coping, depression, and anxiousness (Fimian, 2000).
6. *Teacher Physical Well-Being*: The physical health of teachers. This can be measured through factors including sleeping more than usual, procrastination, fast fatigue, blood pressure, heart racing, rapid breathing, physical weakness, physical exhaustion, stomach acid, stomach pain, and stomach cramps (Fimian, 2000).

7. *Teacher Stress*- “The experience by a teacher of negative, unpleasant emotions such as tension, anger, or depression as the result of some aspect of their work” (Kipps-Vaughan, 2013, p. 1)
8. *Teaching Assignment*: The daily schedule of an individual teacher. This can either be across grade level (primary and middle), or on a 4, 6, 7, or 8-period day (middle and secondary) (Wise County Public Schools, 2014).
9. *Virginia Standards of Learning (SOL)*: The standards of content that students in Virginia public schools are expected to master by graduation from high school. These standards are assessed in grades 3-11 in mathematics, science, social studies, and English/language arts (Virginia Department of Education, 2014).
10. *Years of Service*: The length of time a particular teacher has worked in the classroom (Wise County Public Schools, 2014).

Limitations and Delimitations

This study was designed to examine the gap between the stress and pressure that teachers face as they progress through an educational career with the demands that the SOLs and the NCLB legislation place upon schools and school divisions. The survey that is the basis for this study was distributed to individuals via their school email addresses as a Microsoft Word attachment. The ease of use that accompanies assisted the author in gathering data and forming quality conclusions. The alternative to the ease of use option brings concerns about the participants' willingness to give honest answers, reservations that surround possible retaliation from superiors, and willingness to return the survey on time. The division of the survey should have eliminated any fears such as being able to have answers easily matched to particular

respondents, being able to associate particular departments or grade levels with particular responses, or having school leaders react negatively to various responses that individuals may have when giving responses.

Overview of the Study

This study is organized into five chapters. Chapter 1 contains an introduction to the study, statement of the problem, significance of the study, definition of terms, and limitations and delimitations. Chapter 2 includes a review of literature that is organized according to topic. Chapter 3 includes the research methodology, research questions, research design, and population of the study. Chapter 4 provides results of the study, while Chapter 5 includes a summary of the findings, conclusions, and recommendations for future research and practice.

CHAPTER 2

LITERATURE REVIEW

Educational assessment is a foundational part of public education. This concept has created new avenues of research for educational practitioners, observers, and academicians. Educational research can be used to assist with the proper measurement and determination of student progress. This research can take a quantitative form which relies on the interpretation of numerical data (Bogdan & Biklin, 2007; Ravid, 2011), or a qualitative form that relies upon researcher interaction and subjective observation (Holliday, 2009).

Educational assessment provides teachers a foundation on which to judge student progress in areas such as cognitive growth and content mastery. These areas are governed by increased accountability through student assessment requirements of the Federal No Child Left Behind Legislation (NCLB, 2008). The Virginia Standards of Learning (SOLs) and other types of formal student assessment are given at particular times and are not accurate representations of student content mastery and teacher effectiveness but rather reflect where the students are at a given point (Levine & Levine, 2013).

Student assessment is an integral part of public education throughout the United States. Virginia has been actively involved for 20 years in increasing the measurement of student progress. According to Danielson (as cited in Alvarez & Anderson-Ketchmark, 2011) assessment is an essential part of the instructional domain of good teaching. Teachers who can master the use of assessment data to drive instruction may be able to eliminate crucial aspects of the stress and changes in well-being, such as headaches, gastrointestinal issues, and anxiety, which occur among teachers as a result of the SOL assessments. School leaders can also use assessment data

to create a positive school culture, (Poulos, Culbertson, Piazza, & D'Entrement, 2014), foster collaboration and communication with colleagues, to learn what works in individual classrooms, and to give individual teachers time to collaborate with other core content teachers who may teach the same portion of the curriculum or may teach standards that are covered across the disciplines (Guskey, 2000; Oakes, Lane, Jenkins, & Booker, 2013).

Student success and teacher accountability have become a renewed emphasis in judging the success or failure of school systems. Novice teachers can be prepared pedagogically and technically for providing instruction in SOL content but may not be experienced in dealing with the wide variety of learning styles that will be present in an individual classroom. This weakness can be the fault of certification programs, (Fox & Peters, 2013), or simply the inability of individual teachers to master the daily tasks that support success for every student in the classroom. Novice teachers will benefit from the above mentioned collaboration and communication with their veteran colleagues and with each other. Veteran teachers can incorporate new ideas and strategies into their classroom skillset through observation of their new peers as a result of changing practices in preparation programs.

SOL content teachers, regardless of their place on the experience spectrum, can create an environment for student success that can be extremely effective. Students need to understand that their mastery of the content and success on the SOL course assessments should be the desired goal of every member of the instructional staff. SOL content teachers, through collaboration and communication, can facilitate that success. They can create learning goals for all students to assist in designing and implementing quality lessons, design and implement formative assessments based upon the SOLs and that are used to monitor student progression, and intervene early with students who may be struggling based upon the data received from the SOL-

based formative assessments (Brennan, 2015). Collaboration and communication using these types of goals can assist veteran teachers in identifying students who may need extra help and novice teachers in learning how to design quality lessons and identify concepts that may need to be retaught. This type of professional activity will help teachers handle stress that can result from the knowledge of the impending SOL assessments and the increased stress of those assessments.

Situational Basis

The literature surrounding the growing field of student assessment is constantly evolving. Assessment is in part “. . . the process of gathering information to inform instructional decisions” (Stiggins & Duke, 2008, p. 640). In Virginia, student progress is assessed through the SOLs. The SOLs have evolved through time and are currently undergoing revisions to both content and format as they reflect changes in increased rigor (Virginia Department of Education, 2014). According to Wise and Usdan (2013) the SOLs pre-date the implementation of the national Common Core Standards and are more rigorous than the Common Core; thus the SOLs are viewed as a model for national assessment standards including the Common Core (Virginia Department of Education, 2014). The SOLs have begun to affect areas that have been integral parts of the public school system and include arts, music, and the humanities, (Graham, Wilkens, Jesse, & Westfall, 2002; Lind-Tufte, n.d.). Schools and school divisions struggle to find ways to continue the emphasis on the SOLs while maintaining a quality daily school program (Newsome, 2014).

The SOLs are content-driven standards that every student is required to master before graduating from high school. SOLs are assessed periodically, depending upon grade level and daily schedule, usually in December and/or May. They cover content in grades 3-8 as well as

math, science, social studies, and English/language arts secondary school courses. The passing score on an individual SOL test is 400 and students can acquire up to 10 verified credits for passing the SOLs that accompany standards-based courses (Virginia Department of Education, 2014). These assessments give teachers a template for creating quality instruction. The SOLs are the foundation for instructional planning, teacher assignments, student scheduling, and services for students with disabilities and provide direction for decisions affecting every aspect of the daily instructional practices in Virginia public schools (Virginia Department of Education, 2014).

The SOLs have been part of a change in the emphasis, attitude, and organization of public schools in Virginia. However the SOLs have also brought about a change in teachers' instructional methods and how that instruction is evaluated and measured (Wise County Public Schools, 2012). School leaders are under constant stress to provide increased avenues for technology integration and the training that teachers need in order to use that technology (Wise County Public Schools, 2012). As a result teachers can experience increased stress and pressure due to the additional non-instructional tasks, such as increased record keeping, data management, and monitoring technology usage, that the SOLs have introduced. These non-instructional tasks consume a great deal of the school day.

Non-instructional tasks have long been part of the daily routine of classroom teachers. A particular aspect of non-instructional tasks are the routine usage and monitoring of educational technology. Many teachers use technology in the classroom. However, in many schools, the luxury of using technology daily to assess students is difficult at best. School districts have turned to virtual professional development tools to help teachers learn how to properly use technology to assess students and monitor student technology usage (Sugar & Tryon, 2014).

Virtual professional development can give teachers who are not as experienced with technology opportunities to learn new skills in an individual environment rather than a group workshop where teachers may feel uncomfortable.

The usage and monitoring of technology in rural schools can consume a great deal of the thought processes of teachers. Teachers who are tapped to monitor a virtual class or a mobile iPad lab could consider their task overwhelming, especially if something happens to the lab or the internet service is disrupted and students cannot complete their work. Rural teachers report that “technical difficulties, limited time, insufficient support, and the regimes of accountability testing,” cause stress with regards to technology usage and monitoring (Howley, Wood, & Bough, 2011, p. 2). Rural school systems, such as Wise County, can have difficulty when a majority of students are accessing the internet for assessment purposes. This can create a tense situation for teachers who are waiting for their students to complete those assessments.

Non-instructional tasks are an important part of the educational day. The proper usage and monitoring of educational technology can help to ensure that every student has a successful assessment experience. The proper usage and monitoring of educational technology will also help teachers feel comfortable in planning for practice assessment sessions. Non-instructional tasks, such as the usage and monitoring of educational technology are essential to effective instruction. Those tasks are important to building a foundational and comfortable experience in preparing for the SOL assessments.

Teacher Health and Well-Being

Individuals who teach the courses assessed by the SOLs may find their jobs filled with more non-instructional related requirements every academic year. As a result these teachers

leave the profession in high numbers and consider their time in the classroom to be traumatic at best. This is especially true of teachers who are new to the profession. School leaders should realize that these novice teachers leave the classroom for a variety of reasons including the pressures of teaching “to the test” (Lloyd & Sullivan, 2012). Teachers report feeling more comfortable in providing essential instruction when they have the technology that is important in preparing students. Most teachers have basic instructional technology, (97% have computers in their classroom, 93% are internet accessible, and 56% use Smart boards daily) that can help them to prepare for the assessments (Gray, Thomas, & Lewis, 2010).

Individuals who use technology can be more comfortable with implementing the standards and related daily classroom instruction (Trel & Johnston, 2012). School leaders can assist teachers with becoming comfortable with the standards through providing technology and related support. Whiting (2001) described strategies that school leaders can use to help teachers integrate technology into the classroom in ways that can be minimally stressful and will not disrupt the flow of the classroom. These strategies can be as mundane as having students create exit cards to having students create projects that will pop up to illustrate a concept.

The mental and physical stress that is a part of teaching SOL-assessed courses, learning how to use the technology involved, and other requirements of daily school instruction are areas that are not considered by pre-service or novice teachers until they are in the classroom (Rieg, Paquette, & Chen, 2007). These pressures can also be felt more by instructors who are teaching out-of-field or teaching in areas for which they are not fully certified (Hobbs, 2013). Veteran teachers, however, are more likely to find avenues for coping with the changes in their stress levels and well-being that accompany the SOL test administration through a healthy diet, exercise, and not using alcohol or tobacco (Flook, Goldberg, Pinger, Bonus, & Davidson, 2013).

Pre-service teachers are provided instruction on how to create lessons, how to measure progress, and how to work with students to review complicated material. However they are not taught how to cope with the environment that the high-stakes SOL tests can create. Pre-service teachers also are not given training on how to cope with the varied levels of support that come from their fellow professionals or school and divisional leadership (Knobloch & Whittington, 2002; Rhoads, Radu, & Weber, 2011). In many cases these teachers learn how to cope with these changes in stress and well-being when they enter the classroom. They learn how to cope with the lack of professionalism by colleagues and supervisors that can result from the stresses related to the SOL test administration. School leaders can use the research generated from this study to assist in developing support programs for novice teachers (Brock & Grady, 1997).

Teaching Experience and Well-Being

Teaching is rapidly becoming an evolving profession. Across the United States, prospective teachers who complete a university preparation program must complete an internship in student teaching and attain passing scores on academic and professional examinations (ETS, 2013; Virginia Department of Education, 2013). These teachers are hired by school systems and expected to provide instruction in SOL content areas in which they are professionally certified. Virginia school systems, including Wise County, experience perpetual shortages in special education, science, and mathematics teachers (Virginia Department of Education, 2014). As a result, school systems are hiring individuals who hold a four-year degree but are not trained in the pedagogical and technical aspects of classroom management and instruction.

Teachers who complete all of these requirements and who hold certification in a critical area can be essential to the success of students as they complete the SOL assessments. First-year

teachers who have an assigned mentor in the same content area have support that can help them succeed in the classroom. They have an opportunity to collaborate with veteran teachers who have learned strategies which have helped their students master the SOL content. Many of these teachers reflect on their first year in the classroom by expressing either their preparedness, through collegiate training or a qualified mentor, or their lack of preparedness as a result of not being fully certified in their assigned content area. Many also reflect that their training did not prepare them for their first classroom placement (Desimone et al., 2013).

Veteran teachers often relate how their views towards teaching and assessment change as they progress through their careers. Many veteran teachers feel an overwhelming sense of isolation as they attempt to navigate the increasing demands of instruction and assessment (Danielson, 2002). Veteran teachers can benefit from increased collaboration and participation in professional development opportunities which include professional learning communities (Dufour, Dufour, Eaker, & Many, 2010). Veteran teachers who have experience in SOL content can work within their professional learning communities to communicate strategies or instructional ideals that their colleagues can incorporate into their own instruction. These relationships benefit both novice and veteran teachers.

Years of experience in a particular discipline can also be a factor in teacher stress and how it relates to the SOLs. General education teachers and special education teachers are often involved in teaching many learning styles and a wide variety of subject matter. Special education teachers are expected to maintain a grounding in the professional literature of their field, (Williams & Dikes, 2015), maintain their content knowledge to serve students in multiple content areas, and to keep that level of dedication and professionalism throughout their careers. Many special education teachers describe different reasons for leaving the profession depending

upon their years of teaching experience. Special education teachers who are under 22 years of experience have reported emotional exhaustion as the main reason for burnout and exiting the teaching profession (50%), while teachers who range in age from 52-61 have reported experiencing depersonalization (91%) as the main reason for experiencing burnout and leaving the profession (Williams & Dikes, 2015) .

Veteran teachers, both general and special educators who have experience in SOL content instruction benefit their novice colleagues. Their knowledge of SOL content and the methodology needed to deliver that content to students in a meaningful way can benefit novice teachers as they find their way throughout the classroom environment. However, as teachers move through the stages of their careers, they can experience a multitude of changes that can lead them to re-evaluate their careers (Sezer, 2012). These veteran teachers can find themselves looking at an earlier than usual exit from the profession, a change in assignment or even school placement, or changes in their mental and physical health as there are faced with increasing rounds of assessment and data analysis.

Gender and Stress

Teaching is a profession that has changed during the last several decades. Historically, teaching was considered a female profession with males serving in administrative roles. The last several years have witnessed a change in the demographic make-up of the teaching profession. Increasingly, females are assuming positions in secondary school SOL content areas such as science and mathematics. Research indicates that females are more likely to complete a certification program through a four-year college or university (Marso & Pigge, 1997). Males appear to be more likely to move up the educational career ladder and to seek careers other than

that of classroom teacher (Sass, Flores, Claeys, & Perez, 2012). Male and female classroom teachers are inherently similar in their desire to make a difference in their classrooms.

A study by Eichinger (2000) revealed male and female special education instructors exhibited similar factors with regards to teacher stress. Male and female special education teachers indicated similar factors when asked about the reasons why they left the position. Both gender groups indicated similar job satisfaction in their special education job (female teachers had a mean job satisfaction rating of 5.04 with a standard deviation of 0.771, while male teachers had a mean job satisfaction of 4.88 with a standard deviation of 0.862). Male and female special education teachers stress levels diverged when asked about the level of depersonalization with their respective positions. Male special education teachers indicated that their level of depersonalization was higher than their female counterparts.

Increased levels of stress that lead to teacher burnout are varied among genders. Many studies have indicated that male teachers, regardless of grade level or content, experience higher levels of job related depersonalization than their female counterparts (Greenglass & Burke as cited in Biyani et al., 2013). Female teachers indicated higher levels of stress that led to teacher burnout in their emotional exhaustion from their teaching assignments (B.M. Byrne., as cited in Biyani et al., 2013). These did not vary due to age or years in their current teaching assignments but were solely indicative of gender. These areas of emotional exhaustion and job depersonalization were present in all age groups.

Gender appears to be an overriding factor that can effect teacher stress. There are other factors that support gender as a foundational aspect of teacher stress. A study by Sezer (2012) revealed that many female teachers who increased their years of experience reported that their stress levels increased. This was due to their increasing mastery of their current assignment.

However, the amount of graduate degrees that teachers attained did not seem to be a factor that was divided among gender groups. Teachers who held advanced degrees, (degrees that required credits above a bachelors' or four-year degree), had higher instances of stress that eventually led to burnout (Sezer, 2012).

Teacher Efficacy and Well-Being

Teacher efficacy is teachers' confidence in their ability to promote student learning. It is an area that is difficult to maintain in the era of standards-based student assessment (Protheroe, 2008). Many instructors, after experiencing a semester of teaching students who do not perform well on the SOL assessments, begin to doubt their effectiveness and their ability to influence their students' learning. These teachers, through the changes in their well-being, may have an effect on the psychological mindset of their students (Yoon Yoon, Evans, & Strobel, 2014). These changes can be imperceptible to the teachers but will begin to be identified by their colleagues as the SOL assessment window approaches. These changes in teacher stress levels and well-being can be monitored and supported through teacher mentors, technology support and training, and guidance from school leaders (Yost, 2002).

Individual teachers are the instructional mentors for their students. They can also be mentors for novice colleagues who are not familiar with the pressures of the SOL assessments. School leaders can provide support for both veteran and novice teachers with regard to coping with the SOL assessments and the immense amount of time devoted to test administration and analysis of data from the assessments (Hobson, Harris, Buckner-Manley, & Smith, 2012; McKerrow, 1996). This can lead to increased teacher efficacy and efforts to promote collegiality.

Teacher efficacy is an area of importance that can be enhanced through data analysis and the above mentioned efforts and collegiality. Teachers who have a focused effort on increased efficacy in the classroom will most surely have an effect on the behavior and success of their students. These teachers will work with students longer and provide enhanced instructional support for students in daily instructional lessons, test practice and preparation, and in assessment results. Increased self-efficacy in the classroom can help teachers take risks in trying new methods and skills in the classroom, attempt different types of test preparation, and incorporate technology into the classroom more often (Yoon Yoon et al., 2014). These teachers will thrive in the classroom and be willing to assist their colleagues in the same efforts.

Veteran teachers with considerable years of experience can use their self-efficacy skills to help their novice colleagues navigate the complicated SOL content standards and the changing assessments that measure those standards. Veteran teachers who have clear control of their classrooms, have daily lessons that both communicate the content and help students master the standards, and are fluid enough to change their methodology based upon their student population, can provide their novice counterparts with the professional development that they need to gain a foothold in the profession and create a positive learning environment (Muijs & Reynolds, 2015). School leaders can utilize these veteran teachers to help create relevant professional development that be utilized with colleagues in their individual buildings and in their school systems.

Teacher efficacy can be a driving force in retaining quality teachers in critical shortage areas. Teachers with a strong sense of efficacy will have a greater sense of accomplishment when their students complete the required SOL assessments. Teachers with a reactionary classroom management methodology will more than likely not be able to control student behavior which

will have a negative impact on instruction and on assessment results (Alo, Amo, & Shanahan, 2014). School leaders who are proactive in providing quality professional development can use programs in increasing teacher efficacy as a foundation support for helping teachers who are strong in particular content areas marry those strengths with quality and effective classroom control and management programs.

Veteran classroom teachers with a highly developed sense of efficacy will be able to help their novice colleagues learn how to adapt to and understand the mental and physical stresses that will develop during the SOL test administration. Opportunities should be given to novice teachers that will help them become confident in the classroom and in test preparation and administration. These opportunities will have benefits that greatly outweigh the cost. School systems that can retain teachers, especially teachers in critical shortage areas, will reduce their costs greatly. Additionally, these teachers, the longer that they remain in the classroom, will increase student success as they become used to their students' learning styles and their students will become used to their classroom management skillset (Fry, 2009).

Teacher efficacy is a principle aspect of retaining quality teachers. As mentioned above, there are critical shortage areas in many schools. Veteran teachers who work in these areas, who have mastered both the content and the classroom environment are essential in working with younger teachers to ensure that they stay in the classroom. Veteran teachers can show their novice counterparts how to take ownership of their classroom and to make sure that their students are successful on the SOL assessments. Their continued success will most certainly affect their mental and physical well-being.

Teacher Stress Levels

School leaders should monitor the general stress levels of their professional staff (Abbey & Esposito, 1985; Johnson, 2008). Teachers' stress is defined as "the experience by a teacher of negative, unpleasant emotions such as tension, anger, or depression as the result of some aspect of their work" (Kipps-Vaughan, 2013, p. 1). Many teachers exhibit greater degrees of stress as they engage in new teaching assignments or changes in their normal teaching schedules.

Teachers report that a schedule that is conducive to covering additional material and giving them the range they need to cover what students need to understand is essential to good instructional practices (Flocco, 2012; Salvaterra & Adams, 1996).

Stress levels among teachers can play an integral role in the morale of the school. School leaders must be able to recognize these changes in stress levels and implement any changes needed to reduce them (Kipps-Vaughan, 2013). The implementation of a needs assessment can give teachers a voice and will indicate to the school and divisional leadership whether those changes in stress levels, especially as the SOL assessment schedule approaches, has a lasting effect upon all aspects of student learning (Klassen, 2010).

Changes in the stress levels of the professional staff during the SOL test administration are often felt by the non-instructional staff, (school administration, custodial, secretarial, and transportation staff) as well. Many teachers will relate stories about their school leaders being either actively involved in the instructional process or being withdrawn and not engaging teachers or students unless forced to do so (Litrell, Billingsley, & Cross, 1994; Pretsch, Flunger, & Schmitt, 2012). Non-instructional school staff are more likely to cope with stress in a negative light and are more likely not to recover as easily from those stress-filled events. These staff members will manage stressful situations through resilience (dealing with stress positively) or

through neuroticism (dealing with stress negatively). This will often result in changes in how school leaders support their core content teachers during the SOL assessment window (Pretsch et al., 2012).

Stress levels among teachers will invariably go up and down depending on a wide variety of factors, (teaching assignment, years of experience, administrator support, and professional preparation) and will have a great deal of influence on how long classroom teachers stay in the profession (Ruhland, 2001). Classroom teachers may spend their whole careers providing instruction in the same content area or grade level or they may move into different placements throughout their careers. These changes in placement, or lack of changes, can cause teachers to experience the preparation of their students for the SOL assessments and the assessments themselves through a lens of complacency. This can cause stress levels to change when teachers realize that their students may or may not be successful on the assessments.

As mentioned elsewhere, the amount of stress that a classroom teacher can experience is an important cause in the continuing changes that are a large part of the teaching profession. Teachers who find themselves in teaching assignments that are difficult and that do not provide positive outcomes are at increased risk for leaving the profession. Teachers in special education often find themselves having to complete Individual Education Plans, (IEP), co-teach regular education courses, and maintain a case-load of students who are expected to successfully master the content on the SOL assessments. These teachers often report that their stress levels will increase due to these demanding assignments and that efforts and mentoring and increased administrator support will help them to stay in the classroom for longer periods (Schlichte, Yssel, & Merber, 2005).

Teacher stress can be a strong indicator of the longevity of classroom teachers. Teachers who work in schools that are labeled “rural” or “urban” can have barriers that include a lack of quality technology for student instruction, funding for strong professional development, and continued administrator support. Schools that are lacking in these areas find difficulty in hiring and retaining quality teachers in all areas and especially in areas that are in critical demand. They must find ways to increase collegiality, professional development opportunities, and the ability to have access to instructional tools that can enhance their delivery of the SOL content. Classroom teachers with these resources will be able to meet the needs of their students and their schools.

Teacher Stress and Collegiality

Instructional staff members who provide daily instruction in SOL-assessed courses may have more of a connection to other staff who teach the same subject or grade level. School leaders can benefit from helping teachers create avenues for collegiality such as Professional Learning Communities (PLC). The PLC can be an effective means for allowing teachers an opportunity to share lesson plans, discuss ideas, and create remediation strategies for students in need of extra instruction (Hoaglund, Birkenfeld, & Box, 2014). The PLC can create an improved collegiality among the instructional staff. Staff members who can share ideas and express concerns openly are more likely to put forth extra effort for students, and school leaders who support their instructional staff in the decision-making process will have teachers who are excited about coming to work (Esquith, 2014).

School leaders should be informed of the demands that can be placed upon teacher leaders. It is important for teacher leaders to be allowed enough time and resources to make quality instructional decisions; however, they should not be called away from the classroom and

prevented from providing instruction to students (Cambern, 2009). According to Helterbran (2010) “. . . teacher leadership in its truest sense, involves those informal aspects of leadership where a teacher sees a need or identifies a problem and takes the reins to address it within his or her means” (p. 365). School leaders must be comfortable within their own leadership styles to allow teachers to become leaders and make quality instructional decisions. Sound research that is used to identify ideal goals and opportunities for teacher leaders will give teachers the confidence to succeed as leaders and give school leaders the confidence to delegate responsibility (Umphey, 2013).

PLCs, also referred to as “shared leadership schools” (Wilhelm, 2013, p. 62), are effective avenues for SOL-content teachers who want to take an increased role in instructional decisions that include technology, textbook adoption, and class sizes while creating lasting relationships among colleagues, students, and families (Perron, 2013). School and divisional leaders should realize that efforts at positive collegiality are, by default, different at the primary, middle, and secondary levels. Primary and middle school teachers may be concerned with developing basic academic skills among students while secondary teachers are concerned with content mastery and preparing students for post-secondary studies (Noddings, 2014).

Professional learning communities are one of the most direct ways that school leaders can give teachers for collegiality and collaboration. The PLC, by design, has a “focus on student learning, is a collaborative culture with a focus on learning for all, is a collective inquiry into best-practices, and is results driven” (DuFour et al., 2010, 9-13). Teachers who will actively participate in the PLC can have the opportunity to work with other teachers in the same content area or grade-level who may have experience teaching the same students or students with the same needs and learning styles. PLCs give teachers the chance to collaborate through building

direct instructional lessons, data analysis, and assessment preparation. The successful PLC will be teacher-led with an agenda developed in close consultation with building level administrators, which will address the needs of content specific departments at the secondary level and/or content specific grade-levels at the middle/primary levels.

The implementation of successful PLCs will give school leaders the opportunity to create leadership opportunities for teachers. Teachers who participate in these leadership opportunities, or “shared leadership schools,” can communicate the skills that they learn to their colleagues. These shared learning opportunities can be in assessment preparation and student practice, data analysis and record keeping, and technology integration. School leaders who allow teachers the opportunities to participate in these types of collegial professional development opportunities will give teachers the confidence that they need to be more communicative and to increase their classroom skillsets. Increased collegiality of this type can help teachers prepare for the SOLs in a collective, whole school effort, and can take some of the stress from individual teachers as they approach and move through the SOL assessment window.

Teacher Stress: Assessment and Accountability

Classroom teachers may experience changes in their physical and emotional health as the time for administering SOL assessments approaches. This can lead to these teachers worrying about trying to predict their students’ outcomes on the SOL assessments (Krolak-Schwert, Bohmer, & Grasel, 2013). As a result this can lead to many teachers leaving the classroom earlier than anticipated. The loss of veteran teachers because of these increasing assessment demands has led to concern that classrooms are being increasingly staffed by teachers who are unprepared for the demands of this type of assessment (Kipps-Vaughan, 2013). According to

Edwards (2003), “Public schools can ill-afford to lose veteran teachers at this time of increased attention on students’ test scores and accountability” (p. 68).

Assessment and accountability are the foundations of education. As mentioned above, the SOLs are standards that are tested periodically, depending upon the schedule and calendar of individual schools within school systems across Virginia. Teachers are actively encouraged to develop assessments within their own classrooms that are in line with the SOLs and that take the form of the actual SOL end of course assessments. These assessments can be designed by the individual classroom teacher or can be standard assessments designed through assessment firms such as Interactive Achievement (2014). The Interactive Achievement assessments are SOL based and can be formative in nature and tailored to specific content areas or grade-levels.

Formative assessment can be an effective tool for helping teachers prepare their students for the SOLs. Teachers can use formative assessment to drive instruction and to craft daily lessons that will help students master the SOL-assessed content. Teachers can also provide students with quality, positive feedback that will help them prepare for the rigors of learning the SOL content (Tomlinson, 2014). A study of this nature can provide school leaders with avenues for veteran teachers to work with their novice counterparts in establishing quality, uniform, and sound assessments for their students. Horowitz et al. (2005) believe that efforts like these can lead to quality daily instruction:

Good teachers understand what students everywhere can confirm: teaching is not just talking, and learning is not just listening. Effective teachers are able to figure out not only what they want to teach, but also how to do it in a way that students can understand and use the new information and skills. Teachers know what students are ready for and need to learn, so they choose tasks that are productive, and they organize these tasks in a way that builds understanding. Finally, they monitor students’ growth and progress so they can address specific needs and keep students in school, learning productively, and growing as cooperative and thoughtful citizens, who will be able to participate in society. (p. 88)

Relationships with School and District Leaders

Teachers will often have varied views of their relationships with their principals who are considered by many to be the lead instructional practitioners within the school (Finnegan & Stewart, 2009) and who serve as divisional leaders. This relationship is influenced by previous interaction, professional evaluations, and other factors. Some teachers feel as though they have never been encouraged to take ownership of creating assessments or becoming master teachers through more efforts at instructional leadership (Neumerski, 2013; Wagner, 2001). Increased efforts at accountability have created a system of teacher evaluation that is tied directly to student performance. School leaders can improve this process by using needs assessments such as the Comprehensive Assessment of Leadership for Learning (CALL) which is a needs assessment designed to give school leaders a new look at instructional leadership (Halverson, Kelley, & Shaw, 2014).

The increased emphasis on accountability as well as performance or merit-based pay evaluation strategies have had a clear effect on both general and special education teachers who provide daily instruction in SOL assessed courses (Benedict, Thomas, Kimerling, & Leko, 2013). The issue of performance-based evaluation has resulted in having teachers “teach to the test” to increase the chance that their students will pass the assessments. Teachers expect they will be able to influence their principals to award them a positive performance evaluation. Teachers who have had a wide variety of experiences and have received advanced degrees can have access to various classroom management techniques such as grouping that younger teachers may never have tried. This could potentially give older teachers an advantage because they understand the wide variety of factors that can affect student performance (Burton, Brown, & Johnson, 2013; Mathes & Tollerud, 1990).

Increased accountability is a catchphrase among school reform advocates. However teachers are becoming increasingly concerned with the lasting effects of reform efforts on their teaching (Rose, 2010). Increased assessment and accountability may alter the amount of work for which an individual teacher will be responsible and may change the attention paid by individual teachers to the changes in accountability (Portin, Atesoglu, Samuelson, & Knapp, 2013). School leaders who have a healthy dialogue with their instructional staff will be able to gauge any potential effects that an evaluation system based on student performance will have on the well-being of their teachers. School leaders should understand that using increased levels of accountability to infuse performance-based pay into teacher evaluations can result in negative competition among staff members as well as individuals questioning why staff members who do not work in courses assessed by required assessments may not be evaluated along the same lines (Clees & Nabors, 1992; Neils, 2012).

Novice teachers may experience changes in their relationships with school and school system leaders. Teachers in the first years of their careers may find themselves feeling like they need more support from their school leaders (Schlichte et al., 2005). These teachers can view their relationships with their school leaders in a negative light, especially if their students do not perform as well on the SOL assessments as school leaders think they should. They may find themselves desiring a change in placement or changing careers completely in hopes of lowering their stress levels or eliminating their stress entirely. School leaders need to provide their teachers with professional development opportunities that will underscore their dedication and devotion to their teachers and to the success of their students.

Efforts at Teacher Well-being

This study examined ways to motivate teachers and to help teachers become continuously productive in the classroom. This can be as simple as urging teachers to step away from school completely during the summer to learn a new skill or take a class, thus giving younger teachers an opportunity to improve their skillset through quality professional development programs designed to help them become more confident in the classroom (Greene, 2013; Richards, 2004; Rieg et al., 2007; Tomlinson, 2013; Wormeli, 2013). Teachers, veteran or novice, may not express their stressors in the same fashion. School leaders should be able to identify the potential environmental demands that individuals may be experiencing as assessment time approaches (O'Donnell, Lambert, & McCarthy, 2008). Principals and leaders who work at the primary and middle school levels should realize that the stressors that individuals within their buildings may experience could be potentially different than teachers who work in secondary classrooms (Klassen, 2010; Reglin & Reitzammer, 1998) that are SOL content based.

By creating quality professional development programs to help teachers maintain a healthy sense of well-being, school leaders should realize that teachers who have an increased sense of self-worth and responsibility will exhibit this to their students (Day, 2012). Teachers will be dedicated to student learning and committed to student success. School leaders can implement professional development programs such as the Cultivating Awareness and Resilience in Education (CARE) program. This program was designed to give teachers information about ways to help increase the ability to deal with stress, apply varying methods for coping with stress that are less taxing on their emotions, and provide the means to establish cooperative relationships among colleagues (Jennings, Snowberg, Coccia, & Greenberg, 2011). School leaders can assist younger or novice teachers by having professional development workshops to

present programs like CARE to provide teacher mentors a means of support and to offer resources in other areas such as time management and relaxation (Wilkins-Cantor, Edwards, & Young, 2000).

School leaders can implement programs that will be used by a significant percentage of the faculty, be supported by the administrative team, and that will urge a healthy lifestyle characterized by eating well, drinking water, and getting plenty of relaxation (Davies, Davies, & Heacock, 2003; Rescinow, Davis, & Smith, 1998).

A report for the Association for Supervision and Curriculum Development outlined in great detail ways school leaders can support the continued growth and development of teachers and how they can ensure that increased rigor and assessment requirements do not have negative effects on the health and well-being of their instructional staff. School leaders can understand factors such as low salaries, student discipline, and other issues that affect teacher attrition. These factors can lead to a sense of continuity or discontinuity and can cause student assessment scores to plummet (Darling-Hammond, 2003).

School leaders and classroom teachers should work together to create an assessment program that will benefit the entire school. This collaboration should begin as teachers are hired. School leaders must make sure that they hire teachers who can cope with the pressure and help students succeed on the required SOL tests (Mason & Schroeder, 2010). Principals must make sure that they hire teachers who will make the extra effort towards success and consider that teachers will put forth extra effort depending on their tenure and other issues (Krantz-Kent, 2008).

Chapter Summary

Teacher mental and physical well-being is an area of educational research that is becoming a bigger part of pre-service training. School leaders face the possibility of losing teachers on an annual basis due to increased stress levels related to assessment and accountability. Supporting teachers through enhancing their credentials, which can include helping teachers acquire additional tools to improve their skillset by designing programs to use well-prepared and veteran teachers to lead in instructional development, will help enable school leaders to instill exciting and innovative learning environments in their daily school programs.

CHAPTER 3

RESEARCH METHODOLOGY

This study was an effort to examine if individual teachers experience variations in stress and changes to their well-being during the Virginia SOL testing administration that occurs periodically. The researcher used the study to gauge whether or not teachers who work in SOL content courses experience stress at a high level and whether or not this stress has a positive or negative effect on their physical and mental health. The researcher examined the relationship between teacher well-being and student performance and utilized a survey that was distributed to teachers in schools in Wise County, Virginia to determine if there were changes in stress levels and well-being among teachers across SOL assessed grade levels and content areas. The researcher attempted to address the stress and pressure that teachers face as they progress through their educational careers with the demands that the SOLs and the NCLB legislation place upon schools and school divisions.

This study attempted to show that school leaders should also be able to identify the stressors that are commonly found among instructional staff members. These stressors include but are not limited to: a perceived lack of support, lack of student motivation, and little time to relax (Margolis & Nagol, 2006; Richards, 2011). If school leaders can identify these stressors, especially among younger staff members, they can begin to build a program that will increase morale and productivity (Petty, Fitchett, & O'Connor, 2012). These efforts will provide positive rewards during the SOL assessments. This study will provide school leaders with possible foundations for professional development and instructional support.

This research relied on researcher interaction and subjective observation (Holliday, 2009). This study was quantitative in nature and used the survey method to answer the proposed research questions (Lodico, Spaulding, & Voegtle, 2010).

Research Questions and Null Hypotheses

RQ1: Is there a significant difference between the mental well-being of teachers at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle school levels?

H_{o11}: There is not a significant difference in the mental well-being of teachers, as measured by feelings of insecurity, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

H_{o12}: There is not a significant difference in the mental well-being of teachers, as measured by feelings of vulnerability, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

H_{o13}: There is not a significant difference in the mental well-being of teachers, as measured by coping ability, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

H_{o14}: There is not a significant difference in the mental well-being of teachers, as measured by feelings of depression, at the secondary level who provide instruction in Standards of Learning

(SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

H₀₁₅: There is not a significant difference in the mental well-being of teachers, as measured by anxious feelings, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

RQ2: Is there a significant difference in the physical well-being of teachers at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels?

H'2₁: There is not a significant difference in the physical well-being of teachers, as measured by sleeping more than usual, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₂: There is not a significant difference in the physical well-being of teachers, as measured by feelings of procrastination, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₃ There is not a significant difference in the physical well-being of teachers, as measured by fast fatigue, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₄: There is not a significant difference in the physical well-being of teachers, as measured by physical exhaustion, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₅: There is not a significant difference in the physical well-being of teachers, as measured by physical weakness, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₆: There is not a significant difference in the physical well-being of teachers, as measured by blood pressure, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₇ There is not a significant difference in the physical well-being of teachers, as measured by heart racing, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₈ There is not a significant difference in the physical well-being of teachers, as measured by rapid breathing, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₉: There is not a significant difference in the physical well-being of teachers, as measured by stomach pain, at the secondary level who provide instruction in Standards of Learning (SOL)

content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₁₀: There is not a significant difference in the physical well-being of teachers, as measured by stomach cramps, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₁₁: There is not a significant difference in the physical well-being of teachers, as measured by stomach acid, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels

H'2₁₂: There is not a significant difference in the physical well-being of teachers, as measured by the use of OTC medication, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₁₃: There is not a significant difference in the physical well-being of teachers, as measured by prescription drug usage, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₁₄: There is not a significant difference in the physical well-being of teachers, as measured by alcohol use, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

H'2₁₅: There is not a significant difference in the physical well-being of teachers, as measured by sick time used, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

RQ3: Is there a significant difference in the stress levels of male SOL content teachers and female SOL content teachers?

H'3₁: There is not a significant difference in the stress levels of male teachers, as measured by feelings of insecurity, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₂: There is not a significant difference in the stress levels of male teachers, as measured by feelings of vulnerability, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₃: There is not a significant difference in the stress levels of male teachers, as measured by coping ability, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₄: There is not a significant difference in the stress levels of male teachers, as measured by feelings of depression, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₅: There is not a significant difference in the stress levels of male teachers, as measured by anxious feelings, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₆: There is not a significant difference in the stress levels of male teachers, as measured by sleeping more than usual, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₇: There is not a significant difference in the stress levels of male teachers, as measured by procrastination, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₈: There is not a significant difference in the stress levels of male teachers, as measured by fast fatigue, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₉: There is not a significant difference in the stress levels of male teachers, as measured by feelings of physical exhaustion, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₀: There is not a significant difference in the stress levels of male teachers, as measured by feelings of physical weakness, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₁: There is not a significant difference in the stress levels of male teachers, as measured by blood pressure, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₂: There is not a significant difference in the stress levels of male teachers, as measured by feelings of heart racing, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₃: There is not a significant difference in the stress levels of male teachers, as measured by rapid breathing, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₄: There is not a significant difference in the stress levels of male teachers, as measured by stomach pain, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₅: There is not a significant difference in the stress levels of male teachers, as measured by stomach cramps, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₆: There is not a significant difference in the stress levels of male teachers, as measured by stomach acid, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₇: There is not a significant difference in the stress levels of male teachers, as measured by the use of OTC medications, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₈: There is not a significant difference in the stress levels of male teachers, as measured by prescription drug use, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₁₉: There is not a significant difference in the stress levels of male teachers, as measured by alcohol use, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

H'3₂₀: There is not a significant difference in the stress levels of male teachers, as measured by sick leave used, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

RQ4: Is there a significant relationship between years of classroom teaching experience and the stress levels of SOL content classroom teachers?

H'4₁: There is not a significant relationship, as measured by feelings of insecurity, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₂: There is not a significant relationship, as measured by feelings of vulnerability between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₃: There is not a significant relationship, as measured by coping ability, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₄: There is not a significant relationship, as measured by feelings of depression, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₅: There is not a significant relationship, as measured by anxious feelings, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₆: There is not a significant relationship, as measured by sleeping more than usual, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₇: There is not a significant relationship, as measured by procrastination, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₈: There is not a significant relationship, as measured by fast fatigue, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₉: There is not a significant relationship, as measured by physical exhaustion, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₀: There is not a significant relationship, as measured by physical weakness, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₁: There is not a significant relationship, as measured by blood pressure, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₂: There is not a significant relationship, as measured by heart racing, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₃: There is not a significant relationship, as measured by rapid breathing, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₄: There is not a significant relationship, as measured by stomach pain, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₅: There is not a significant relationship, as measured by stomach cramps, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₆: There is not a significant relationship, as measured by stomach acid, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₇: There is not a significant relationship, as measured by OTC medication use, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₈: There is not a significant relationship, as measured by prescription drug use, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H'4₁₉: There is not a significant relationship, as measured by alcohol use, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

H⁴₂₀: There is not a significant relationship, as measured by sick leave used, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

Population and Sample

The population chosen for this study was the instructional staff of the Wise County Virginia Public Schools. The Wise County school division is a rural school district that is experiencing an economic downturn that has resulted in a yearly decrease in student population. The primary industry in Wise County, coal mining, has become contentious and divisive and has led to an increasingly negative perception of schools as an entity that uses tax money that could be used to attract new jobs. Wise County has had a quality record of continual improvement on the SOL assessments and has consistently met federal requirements. Wise County is a division engaged in technology integration and student centered instruction.

The sample used for the study included instructors who teach courses that are required by the SOLs in both general and special education. These included teachers in grades 3-8 as well as teachers in secondary math, science, English/language arts, and social studies. Special education instructors were also included in the study. The study survey was distributed electronically to each of these teachers after consulting with the divisional and building leaders and participants were selected by teaching assignment. This process ensured an objective sample was studied.

Instrumentation

This study was conducted using the Teacher Stress Inventory. It was distributed as a Microsoft Word document sent as an email attachment. Teachers were provided instructions on

how to access the survey, complete, and submit. The survey was brief and specific, and there was a small demographic section with the remainder of the survey being geared towards addressing the research questions mentioned in this chapter. All items, other than the demographic section, used a Likert scale type of point system and were the basis for the data analysis. The survey was divided into three categories: demographic, objective, and subjective questions.

This study began with a need to understand the possible changes that SOL general and special education teachers experience during the SOL testing window. This researcher realized that teachers are individuals and that experiences will vary based upon grade/content taught and years of experience. As a result, this survey was developed with the understanding that teachers may give different types of responses. Responses are designed to gauge if teachers are affected by the various areas mentioned or if they are satisfied with their current placement. The survey was divided into three sections: demographic, objective, and subjective questions. The demographic section consisted of questions about age, experience, and teacher assignment. Each section was designed to focus on how teachers are affected by the imposition of the SOL testing window and how that time frame can possibly change the outlook that teachers may have on their profession.

Data Collection

The data for this study were collected via the Teacher Stress Inventory. Each survey was distributed to participants via email following consultation with school and divisional leadership along with a letter indicating the purpose of the survey. The survey link was distributed electronically to individual teachers who work in the content areas that are required to be tested by the periodic SOLs via an email distributed through the division and school administration.

Instructions were sent with the survey indicating the time frame for completion and outlining processes to protect the anonymity of the participant. The researcher collected the surveys via the www.surveymonkey.com data collection tool. Each survey was counted and the results broken down by school, grade-level, content taught, age, and years of experience. Data collection reflected the time frame, (Fall/Spring for Secondary, Spring for Elementary/Middle), mentioned above. Teachers were assured that their responses were anonymous and that all responses would be used in a positive manner.

Data Analysis

Each survey was counted and the results broken down by school, grade-level, content taught, age, and years of experience. The researcher then collected the data and scored the responses. All of the questions, other than the demographic section, were scored using a Likert scale type of point system and were the basis for the data analysis. The scores collected were the basis for a series of independent *t*-tests. This statistical analysis was performed on research questions 1-3. After the independent *t*-tests were performed, the researcher conducted a correlation measurement to determine if there was a viable relationship between years of teaching experience and factors including male/female teachers and grade level/content area which addressed Research Question 5. All data were analyzed at the .05 level of significance.

Chapter Summary

The survey that was the foundation for this study was developed using the Survey-Monkey internet based survey system. The survey contained demographic, objective, and subjective questions. Teachers had a specified time frame to complete and submit this survey.

The researcher collected the surveys and scored them. The data from the surveys were analyzed using independent *t*-tests and a Pearson correlation statistical analysis. The survey was designed with teachers' technology aptitude in mind. A letter was distributed with the survey indicating that responses would remain anonymous and that data would only be used in a positive manner.

CHAPTER 4

FINDINGS

This study was approached from two different perspectives. The initial perspective was one of assisting the individual classroom teacher with gaining an understanding of the types of changes, both physical and mental, that may occur as a result of having to provide instruction in SOL content courses and the knowledge that those courses will be assessed on a time schedule that is fixed and will not vary by more than a couple of weeks, even taking into account weather and other similar scheduling changes. The second perspective attempted to offer school leaders data that can be used to potentially provide quality professional development to help teachers cope with the stress of the SOL assessments and offer teachers positive ways to maintain a quality classroom environment during testing season. These perspectives have been the foundation for this study. The data from this study will be made available for school leaders and teachers who provide instruction in SOL content.

This study was based upon the Teacher Stress Inventory pioneered by Fimian (1988). A demographic section asked for basic information such as years of experience, subject or grade taught, and teaching credentials. Respondents were asked to rate themselves using a Likert-scale type of response to questions that dealt with emotional and physical stress responses. Several types of emotional/physical manifestations were assessed in the survey. These included emotional, fatigue, cardiovascular, gastronomical, and behavioral manifestations.

The survey used for this study was distributed via [surveymonkey.com](https://www.surveymonkey.com). Teachers were given a link to the survey in an email with an introductory note. The survey was distributed to all teachers within Wise County, Virginia who provide instruction in SOL content based courses.

The central office leadership and building level principals were informed of the survey both informally in a principal's meeting as well as through a formal email communication. They were asked to provide contact information for their staff members. Two building level principals provided contact information via email while the researcher was able to locate the additional contact information via the Wise County Public Schools internet website (<http://www.wise.k12.va.us>).

Research Question 1

RQ1: Is there a significant difference between the mental well-being of teachers at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle school levels?

The first research question was tested using an independent samples *t*-test. There were 117 survey respondents ($N = 117$). Seventy survey respondents were listed as elementary teachers (primary school/middle school) and 47 respondents were listed as secondary teachers. Teachers were asked to determine how they deal with stress through indicating a 1) not, 2) barely, 3) moderately, 4) very, and 5) extremely to the choices of insecure, vulnerable, coping, depression, and anxious. An independent *t* test was performed on each of the five possible choices. Findings from each *t* test are discussed below.

H₀₁: There is not a significant difference in the mental well-being of teachers, as measured by feelings of insecurity, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

The t test for insecurity was significant, $t(115) = 3.16, p = .02$. Therefore, the null hypothesis was rejected. Elementary ($M = 2.43, SD = 1.10$) teachers indicated a significantly higher tendency to feel insecure than secondary teachers ($M = 1.79, SD = .10$).

H₀1₂: There is not a significant difference in the mental well-being of teachers, as measured by feelings of vulnerability, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

The t test for vulnerability was significant, $t(115) = 3.00, p = .03$. Therefore, the null hypothesis was rejected. Elementary teachers ($M = 2.31, SD = 1.20$) felt significantly more vulnerable in their abilities to handle the stress of the SOL testing window than secondary teachers ($M = 1.70, SD = .88$).

H₀1₃: There is not a significant difference in the mental well-being of teachers, as measured by coping ability, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

The t test for coping ability, $t(115) = 2.84, p = .01$, was significant. Therefore, the null hypothesis was rejected. This indicated that elementary school teachers ($M = 2.04, SD = 1.10$) reported coping significantly better with the impending assessments than secondary teachers ($M = 1.53, SD = .69$).

H₀1₄: There is not a significant difference in the mental well-being of teachers, as measured by feelings of depression, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

The t test for depression, $t(115) = 2.39$, $p = .02$, was significant. Therefore, the null hypothesis was rejected. The data determined that elementary school teachers suffered depression as a result of the impending SOL assessments ($M = 2.07$, $SD = 1.18$) that was significantly greater than their secondary counterparts ($M = 1.57$, $SD = .97$). This indicated a significantly greater chance for elementary school teachers to suffer depression during the SOL assessment window.

H₀₁₅: There is not a significant difference in the mental well-being of teachers, as measured by anxious feelings, at the secondary level who provide instruction in Standards of Learning (SOL) content and the mental well-being of teachers who provide instruction in SOL content at the primary and middle-school levels.

The t test for anxiety, $t(115) = .99$, $p = .33$, was not significant. Therefore, the null hypothesis was retained. Elementary teachers ($M = 2.95$, $SD = 1.29$) did not report experiencing anxiety about SOL assessments to a significantly different degree than their secondary colleagues ($M = 2.72$, $SD = 1.21$). Table 1 compares the means of elementary/middle school teachers to that of secondary teachers based on factors of mental well-being.

Table 1.

Comparison of Elementary/Middle School Teachers and Secondary Teachers on Factors of Mental Well-Being

Factors of Mental Well-Being	Elementary/Middle School Teachers	Secondary Teachers	Level of Significance
Insecurity	2.43	1.79	$p=.02$
Vulnerability	2.31	1.70	$p=.03$
Coping Ability	2.04	1.53	$p=.01$
Depression	2.07	1.57	$p=.02$
Anxious	2.95	2.72	$p=.33$

Research Question 2

RQ2: Is there a significant difference in the physical well-being of teachers at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels?

The second research question sought to determine if there was a significance difference in physical well-being among elementary, (primary/middle) and secondary teachers who provide SOL content instruction. The physical well-being of teachers who provide SOL content instruction was surveyed through several responses. These included sleeping more than usual, procrastination, fast fatigue, physical exhaustion, physical weakness, blood pressure, heart racing, rapid breathing, stomach pain, stomach cramps, stomach acid, OTC medication, prescription drugs, alcohol use, and sick time. The independent *t*-tests for these areas indicated that there was not a significant difference in the physical well-being of elementary and secondary SOL content teachers. As a result, we failed to reject the null hypothesis for all but one of the null hypotheses applicable to this research question. The only exception was heart racing which had a *p* value of .02.

H'2₁: There is not a significant difference in the physical well-being of teachers, as measured by sleeping more than usual, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The *t* test for sleeping more than usual, $t(115) = 1.51, p = .13$, was not significant. Therefore, the null hypothesis was retained. Elementary school teachers ($M = 1.66, SD = .98$)

did not report sleeping a significant amount more or less than secondary teachers ($M = 1.94$, $SD = .99$).

H'2₂: There is not a significant difference in the physical well-being of teachers, as measured by feelings of procrastination, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for procrastination, $t(115) = 1.568$, $p = .12$, was not significant. Therefore, the null hypothesis was retained. Elementary teachers ($M = 1.93$, $SD = 1.1$) did not report procrastinating to a significantly different degree than secondary teachers ($M = 2.26$, $SD = 1.11$).

H'2₃ There is not a significant difference in the physical well-being of teachers, as measured by fast fatigue, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for fast fatigue, $t(115) = .110$, $p = .91$, was not significant. Therefore, the null hypothesis was retained. Elementary teachers ($M = 2.4$, $SD = 1.26$) did not report experiencing fast fatigue to a significantly higher degree than their secondary school colleagues ($M = 2.42$, $SD = 1.19$).

H'2₄: There is not a significant difference in the physical well-being of teachers, as measured by physical exhaustion, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for physical exhaustion, $t(115) = .933$, $p = .36$, was not significant. Therefore, the null hypothesis was retained. Elementary teachers ($M = 2.76$, $SD = 1.15$) did not report

experiencing physical exhaustion to a significantly different degree than their secondary counterparts ($M = 2.55$, $SD = 1.18$).

H'2₅: There is not a significant difference in the physical well-being of teachers, as measured by physical weakness, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test results for physical weakness, $t(115) = .532$, $p = .60$, was not significant. Therefore, the null hypothesis was retained. Elementary teachers ($M = 2.07$, $SD = 1.20$) did not report experiencing physical weakness to a significantly different degree than secondary teachers ($M = 1.96$, $SD = 1.04$).

H'2₆: There is not a significant difference in the physical well-being of teachers, as measured by blood pressure, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for blood pressure, $t(115) = 1.86$, $p = .07$, was not significant. Therefore, the null hypothesis was retained. Elementary school teachers ($M = 2.37$, $SD = 1.94$) did not report significantly different blood pressures than secondary school teachers ($M = 1.94$, $SD = 1.13$).

H'2₇ There is not a significant difference in the physical well-being of teachers, as measured by heart racing, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for heart racing, $t(115) = 2.28$, $p = .024$, was significant. Therefore, the null hypothesis was rejected. Elementary school teachers ($M = 2.23$, $SD = 1.22$) had a significantly higher likelihood of experiencing heart racing than secondary school teachers ($M = 1.74$, $SD = .97$). This is the only area, when looking at physical well-being, where the significance level was less than .05.

H'2₈ There is not a significant difference in the physical well-being of teachers, as measured by rapid breathing, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for rapid breathing, $t(115) = 1.75$, $p = .082$, was not significant. Therefore, the null hypothesis was retained. Elementary school teachers ($M = 1.86$, $SD = 1.16$) did not report experiencing rapid breathing to a significantly different degree than secondary teachers ($M = 1.51$, $SD = .96$).

H'2₉: There is not a significant difference in the physical well-being of teachers, as measured by stomach pain, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels. (Results after H_02_{11} .)

H'2₁₀: There is not a significant difference in the physical well-being of teachers, as measured by stomach cramps, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels. (Results after H_02_{11} .)

H'2₁₁: There is not a significant difference in the physical well-being of teachers, as measured by stomach acid, at the secondary level who provide instruction in Standards of

Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

Stomach pain, stomach cramps, and stomach acid presented t values of $t(115) = .97$, $p = .335$, $t(115) = 1.31$, $p = .19$, $t(115) = .39$, $p = .70$, respectively. These values were not significant. Therefore, the null hypotheses were retained. Elementary school teachers ($M = 1.96$, $SD = 1.21$) did not report experiencing stomach pain to a significantly different degree than secondary teachers ($M = 1.74$, $SD = 1.10$). Elementary school teachers ($M = 1.89$, $SD = 1.64$) did not report experiencing stomach cramps to a significantly different degree than secondary teachers ($M = 1.64$, $SD = .97$). Lastly, elementary school teachers ($M = 2.07$, $SD = 1.31$) did not report experiencing stomach acid to a significantly different degree than secondary teachers ($M = 1.98$, $SD = 1.22$).

H₂₁₂: There is not a significant difference in the physical well-being of teachers, as measured by the use of OTC medication, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The final area of physical well-being responses dealt with subjects that might have been sensitive for some respondents. The t test for over the counter medications (OTC), $t(115) = .210$, $p = .52$, was not significant. Therefore, the null hypothesis was retained. Elementary school teachers ($M = 1.47$, $SD = .97$) did not report using OTC medications significantly more or less than secondary school teachers ($M = 1.36$, $SD = .76$).

H₂₁₃: There is not a significant difference in the physical well-being of teachers, as measured by prescription drug usage, at the secondary level who provide instruction in Standards

of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for prescription drugs, $t(115) = .01$, $p = .142$, was not significant. Therefore, the null hypothesis was retained. Elementary school teachers ($M = 1.47$, $SD = 1.02$) did not report using prescription drugs significantly more or less than secondary school teachers ($M = 1.79$, $SD = 1.28$).

H₂₁₄: There is not a significant difference in the physical well-being of teachers, as measured by alcohol use, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for alcohol use was, $t(115) = .21$, $p = .56$, was not significant. Therefore, the null hypothesis was retained. Elementary school teachers ($M = 1.1$, $SD = .35$) did not report using alcohol significantly more or less than secondary teachers ($M = 1.15$, $SD = .55$).

H₂₁₅: There is not a significant difference in the physical well-being of teachers, as measured by sick time used, at the secondary level who provide instruction in Standards of Learning (SOL) content and the physical well-being of teachers who provide instruction in SOL content at the primary and middle school levels.

The t test for sick time use, $t(115) = .38$, $p = .68$, was not significant. Therefore, the null hypothesis was retained. Elementary school teachers ($M = 1.14$, $SD = .52$) did not report using sick time significantly more or less than secondary teachers ($M = 1.11$, $SD = .37$). Table 2 compares the means of elementary/middle school teachers compared to secondary teachers on factors of physical well-being.

Table 2.

Comparison of Elementary/Middle School Teachers and Secondary Teachers on Factors of Physical Well-Being

Factors of Physical Well-Being	Elementary/Middle School Teachers	Secondary Teachers	Level of Significance
Sleeping More	1.66	1.94	p=.13
Procrastination	1.93	2.26	p=.12
Fast Fatigue	2.40	2.42	p=.91
Physical Exhaustion	2.76	2.55	p=.36
Physical Weakness	2.07	1.96	p=.36
Blood Pressure	2.37	1.94	p=.07
Heart Racing	2.23	1.74	p=.02*
Rapid Breathing	1.86	1.51	p=.08
Stomach Pain	1.96	1.74	p=.34
Stomach Cramps	1.89	1.65	p=.19
Stomach Acid	2.07	1.98	p=.70
OTC Medication	1.47	1.36	p=.52
Prescription Drugs	1.79	1.47	p=.14
Alcohol Use	1.10	1.15	p=.56
Sick Time	1.14	1.11	p=.68

*Indicates a significant difference between elementary/middle school and secondary teachers

Research Question 3

RQ3: Is there a significant difference in the stress levels of male SOL content teachers and female SOL content teachers?

H₃₁: There is not a significant difference in the stress levels of male teachers, as measured by feelings of insecurity, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The *t* test for insecurity, $t(115) = 1.68$, $p = .10$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.26$, $SD = 1.13$) did not report experiencing insecurity to a significantly different degree than male teachers ($M = 1.83$, $SD = 1.00$).

H'3₂: There is not a significant difference in the stress levels of male teachers, as measured by feelings of vulnerability, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The *t* test for vulnerability, $t(115) = .743$, $p = .46$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.10$, $SD = 1.15$) did not report experiencing vulnerability to a significantly different degree than males ($M = 1.92$, $SD = 1.02$).

H'3₃: There is not a significant difference in the stress levels of male teachers, as measured by coping ability, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The *t* test for coping, $t(115) = .722$, $p = .472$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 1.87$, $SD = .98$) did not report coping abilities that were significantly different than males ($M = 1.71$, $SD = 1.00$).

H'3₄: There is not a significant difference in the stress levels of male teachers, as measured by feelings of depression, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The *t* test for depression, $t(115) = 1.21$, $p = .23$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 1.94$, $SD = 1.14$) did not report experiencing depression to a significantly higher degree than males ($M = 1.63$, $SD = 1.06$).

H'3₅: There is not a significant difference in the stress levels of male teachers, as measured by anxious feelings, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for anxious feelings, $t(115) = 1.596$, $p = .11$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.96$, $SD = 1.27$) did not report experiencing feelings of anxiousness to a significantly different degree than male teachers ($M = 2.50$, $SD = 1.18$).

H'3₆: There is not a significant difference in the stress levels of male teachers, as measured by sleeping more than usual, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for sleeping more than usual, $t(115) = 2.25$, $p = .03$, was significant. Therefore, the null hypothesis was rejected. Male teachers ($M = 2.17$, $SD = 1.01$) reported sleeping more than usual to a significantly higher degree than female teachers ($M = 1.67$, $SD = .96$).

H'3₇: There is not a significant difference in the stress levels of male teachers, as measured by procrastination, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for procrastination, $t(115) = .942$, $p = .35$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.01$, $SD = 1.12$) did not report procrastinating to a significantly different degree than male teachers ($M = 2.25$, $SD = 1.07$).

H'3₈: There is not a significant difference in the stress levels of male teachers, as measured by fast fatigue, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for fast fatigue, $t(115) = 1.09$, $p = .28$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.47$, $SD = 1.27$) did not report experiencing fast fatigue to a significantly different degree than male teachers ($M = 2.17$, $SD = 1.00$).

H'3₉: There is not a significant difference in the stress levels of male teachers, as measured by feelings of physical exhaustion, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for physical exhaustion, $t(115) = 1.63$, $p = .11$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.76$, $SD = .18$) did not report experiencing physical exhaustion to a significantly higher or lower degree than male teachers ($M = 2.33$, $SD = 1.01$).

H'3₁₀: There is not a significant difference in the stress levels of male teachers, as measured by feelings of physical weakness, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for physical weakness, $t(115) = 1.63$, $p = .79$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.01$, $SD = 1.16$) did not report experiencing physical weakness to a significantly different degree than male teachers ($M = 2.08$, $SD = 1.06$).

H'3₁₁: There is not a significant difference in the stress levels of male teachers, as measured by blood pressure, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for blood pressure, $t(115) = 1.71$, $p = .10$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.10$, $SD = 1.29$) did not report experiencing significantly different blood pressures than male teachers ($M = 2.58$, $SD = 1.02$).

H'3₁₂: There is not a significant difference in the stress levels of male teachers, as measured by feelings of heart racing, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for heart racing, $t(115) = .44$, $p = .66$ was not significant. Therefore, the null hypothesis was retained. Females ($M = 2.01$, $SD = 1.18$) did not report experiencing heart racing to a significantly different degree than males ($M = 2.13$, $SD = 0.99$).

H'3₁₃: There is not a significant difference in the stress levels of male teachers, as measured by rapid breathing, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for rapid breathing, $t(115) = .60$, $p = .55$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 1.69$, $SD = 1.09$) did not report experiencing rapid breathing to a significantly different degree than male teachers ($M = 1.83$, $SD = .55$).

H'3₁₄: There is not a significant difference in the stress levels of male teachers, as measured by stomach pain, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for stomach pain, $t(115) = .57$, $p = .57$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 1.90$, $SD = 1.18$) did not report experiencing stomach pain to a significantly different degree than male teachers ($M = 1.75$, $SD = 1.11$).

H'3₁₅: There is not a significant difference in the stress levels of male teachers, as measured by stomach cramps, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for stomach cramps, $t(115) = .88$, $p = .38$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 1.83$, $SD = 1.04$) did not report experiencing stomach cramps to a significantly different degree than males ($M = 1.63$, $SD = 0.87$).

H'3₁₆: There is not a significant difference in the stress levels of male teachers, as measured by stomach acid, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The t test for stomach acid, $t(115) = .21, p = .83$, was not significant. Therefore, the null hypothesis was retained. Female teachers ($M = 2.02, SD = 1.30$) did not report experiencing stomach acid to a significantly different degree than male teachers ($M = 2.08, SD = 1.17$).

H'3₁₇: There is not a significant difference in the stress levels of male teachers, as measured by the use of OTC medication, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content. (Results after H'3₂₀.)

H'3₁₈: There is not a significant difference in the stress levels of male teachers, as measured by prescription drug use, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content. (Results after H'3₂₀.)

H'3₁₉: There is not a significant difference in the stress levels of male teachers, as measured by alcohol use, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content. (Results after H'3₂₀.)

H'3₂₀: There is not a significant difference in the stress levels of male teachers, as measured by sick leave used, who provide instruction in Standards of Learning (SOL) and the stress levels of female teachers who provide instruction in SOL content.

The use of OTC drugs, prescription drug use, alcohol use, and sick time use presented t values of $t(115) = .45, p = .66, t(115) = .47, p = .64, t(115) = .07, p = .95, t(115) = 1.15, p = .15$, respectively. Female teachers ($M = 1.41, SD = .89$) did not report using over the counter medications significantly more or less than male teachers ($M = 1.50, SD = .93$). Female teachers

($M = 1.62$, $SD = 1.15$) did not report using prescription drugs significantly more than male teachers ($M = 1.50$, $SD = 1.10$). Female teachers ($M = 1.12$, $SD = .44$) did not report using alcohol significantly more or less than male teachers ($M = 1.13$, $SD = .45$). Lastly, female teachers ($M = 1.10$, $SD = .36$) did not report using sick time significantly more or less than male teachers ($M = 1.25$, $SD = .74$). The data generated from these t tests did not show any statistical significance. Therefore, these null hypotheses were retained.

Overall, the data for research question three did not indicate any significant differences in the stress levels of male and female teachers except in the area of sleeping more than usual. Therefore, the null hypotheses were retained in all areas except for one. Table 3 compares the means of female teachers and male teachers on factors of mental and physical well-being.

Table 3.

Comparison of Female Teachers and Male Teachers on Factors of Mental and Physical Well-

Being

Factors of Mental/Physical Well-Being	Female Teachers	Male Teachers	Level of Significance
Insecurity	2.26	1.83	p=.10
Vulnerability	2.10	1.92	p=.46
Coping	1.87	1.71	p=.47
Depression	1.94	1.63	p=.23
Anxiousness	2.96	2.50	p=.11
Sleep Times	1.67	2.17	p=.03 *
Procrastination	2.07	2.25	p=.35
Fast Fatigue	2.47	2.17	p=.28
Physical Exhaustion	2.76	2.33	p=.11
Physical Weakness	2.01	2.08	p=.79
Blood Pressure	2.10	2.58	p=.10
Heart Racing	2.01	2.13	p=.66
Rapid Breathing	1.69	1.93	p=.55
Stomach Pain	1.90	1.75	p=.57
Stomach Cramps	1.83	1.63	p=.38
Stomach Acid	2.02	2.08	p=.83
OTC Medication	1.41	1.50	p=.66
Prescription Drugs	1.62	1.50	p=.47
Alcohol Use	1.12	1.13	p=.95
Sick Time	1.10	1.25	p=.15

*Indicates a significant difference between male and female teachers.

Research Question 4

RQ4: Is there a significant relationship between years of classroom teaching experience and the stress levels of SOL content classroom teachers?

This research question attempted to determine if there were significant relationships between years of classroom experience and stress levels among primary, middle, and secondary

SOL content teachers. In order to retain or reject the null hypothesis for this question, a series of Pearson correlations was conducted.

H⁴₁: There is not a significant relationship, as measured by feelings of insecurity, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of insecurity and years of experience. The results of the analysis revealed a weak negative relationship between insecurity ($M = 2.17$, $SD = 1.12$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = -.10$, $p = .27$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of insecurity do not necessarily have more years of experience.

H⁴₂: There is not a significant relationship, as measured by feelings of vulnerability, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of vulnerability and years of experience. The results of the analysis revealed a negligible relationship between vulnerability ($M = 2.07$, $SD = 1.12$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .07$, $p = .94$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of vulnerability do not necessarily have more years of experience.

H⁴₃: There is not a significant relationship, as measured by coping ability, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported coping ability and years of experience. The results of the analysis revealed a negligible relationship between coping ability ($M = 1.84$, $SD = .98$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = -.03$, $p = .75$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of coping ability do not necessarily have more years of experience.

H'4₄: There is not a significant relationship, as measured by feelings of depression, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of depression and years of experience. The results of the analysis revealed a weak positive relationship between depression ($M = 1.88$, $SD = 1.13$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .10$, $p = .29$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of depression do not necessarily have more years of experience.

H'4₅: There is not a significant relationship, as measured by anxious feelings, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of anxiousness and years of experience. The results of the analysis revealed a negligible relationship between anxiousness ($M = 2.86$, $SD = 1.26$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .08$, $p = .41$]. As a result of the

analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of anxiousness do not necessarily have more years of experience.

H⁴₆: There is not a significant relationship, as measured by sleeping more than usual, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of sleeping more than usual and years of experience. The results of the analysis revealed a weak negative relationship between sleeping more than usual ($M = 1.76$, $SD = .99$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = -.10$, $p = .27$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of sleeping more than usual do not necessarily have more years of experience.

H⁴₇: There is not a significant relationship, as measured by procrastination, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of insecurity and years of experience. The results of the analysis revealed a negligible relationship between procrastination ($M = 2.06$, $SD = 1.11$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .05$, $p = .62$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of procrastination do not necessarily have more years of experience.

H'4₈: There is not a significant relationship, as measured by fast fatigue, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of insecurity and years of experience. The results of the analysis revealed a negligible relationship between fast fatigue ($M = 2.41$, $SD = 1.23$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .03$, $p = .74$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of fast fatigue do not necessarily have more years of experience..

H'4₉: There is not a significant relationship, as measured by physical exhaustion, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of physical exhaustion and years of experience. The results of the analysis revealed a negligible relationship between physical exhaustion ($M = 2.68$, $SD = 1.16$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .07$, $p = .48$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of physical exhaustion do not necessarily have more years of experience.

H'4₁₀: There is not a significant relationship, as measured by physical weakness, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of physical weakness and years of experience. The results of the analysis revealed a weak negative relationship between physical weakness ($M = 2.03$, $SD = 1.13$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = -.12$, $p = .20$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of physical weakness / do not necessarily have more years of experience.

H⁴₁₁: There is not a significant relationship, as measured by blood pressure, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of high blood pressure and years of experience. The results of the analysis revealed a negligible relationship between high blood pressure ($M = 2.20$, $SD = 1.25$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .05$, $p = .58$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of blood pressure do not necessarily have more years of experience.

H⁴₁₂: There is not a significant relationship, as measured by heart racing, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of heart racing and years of experience. The results of the analysis revealed a negligible

relationship between feelings of heart racing ($M = 2.03$, $SD = 1.14$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = -.04$, $p = .84$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of heart racing do not necessarily have more years of experience.

H⁴₁₃: There is not a significant relationship, as measured by rapid breathing, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of rapid breathing and years of experience. The results of the analysis revealed a negligible relationship between rapid breathing ($M = 1.72$, $SD = 1.06$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .02$, $p = .84$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of rapid breathing do not necessarily have more years of experience.

H⁴₁₄: There is not a significant relationship, as measured by stomach pain, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of stomach pain and years of experience. The results of the analysis revealed a negligible relationship between stomach pain ($M = 1.87$, $SD = 1.16$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = -.03$, $p = .79$]. As a result

of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of stomach pain do not necessarily have more years of experience.

H⁴₁₅: There is not a significant relationship, as measured by stomach cramps, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of stomach cramps and years of experience. The results of the analysis revealed a negligible relationship between stomach cramps ($M = 1.79$, $SD = 1.01$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .02$, $p = .84$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of stomach cramps do not necessarily have more years of experience.

H⁴₁₆: There is not a significant relationship, as measured by stomach acid, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported feelings of stomach acid and years of experience. The results of the analysis revealed a weak positive relationship between stomach acid ($M = 2.03$, $SD = 1.27$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .15$, $p = .12$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of stomach acid do not necessarily have more years of experience.

H⁴₁₇: There is not a significant relationship, as measured by OTC medication use, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported OTC medication use and years of experience. The results of the analysis revealed a weak positive relationship between OTC medication use ($M = 1.43$, $SD = .90$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .10$, $p = .27$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of OTC medication use do not necessarily have more years of experience.

H⁴₁₈: There is not a significant relationship, as measured by prescription drug use, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported prescription drug and years of experience. The results of the analysis revealed a weak positive relationship between prescription drug use ($M = 1.60$, $SD = 1.14$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .10$, $p = .46$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of prescription drug use do not necessarily have more years of experience.

H⁴₁₉: There is not a significant relationship, as measured by alcohol use, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported alcohol use and years of experience. The results of the analysis revealed a weak positive relationship between alcohol use ($M = 1.12$, $SD = .44$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .14$, $p = .13$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of alcohol use do not necessarily have more years of experience.

H⁴₂₀: There is not a significant relationship, as measured by sick leave used, between years of classroom teaching experience and the stress levels of teachers who provide instruction in SOL content.

A Pearson correlation coefficient was computed to test the relationship between reported sick leave used and years of experience. The results of the analysis revealed a negligible relationship between sick leave used ($M = 1.13$, $SD = .46$) and years of experience ($M = 1.43$, $SD = .53$) and a statistically non-significant correlation [$r(117) = .00$, $p = .97$]. As a result of the analysis, the null hypothesis was not rejected. In general, the results suggest that teachers who report high levels of insecurity do not necessarily have more years of experience.

Each of the areas chosen as possible responses within the Teacher Stress Inventory did not give a clear positive or negative correlation between years of teaching experience and stress levels. Teachers across the experience spectrum indicated that they have exhibited stress related illness or changes but these changes were not particular to a certain group. Table 4 shows the relationship of elementary/middle school teachers and secondary teachers on factors of mental/physical well-being as related to years of experience.

Table 4.

Relationship of Elementary/Middle School Teachers and Secondary Teachers on Factors of Mental/Physical Well-Being as related to Years of Teaching Experience

Factors of Mental/Physical Well-Being	Mean/Standard Deviation	Level of Significance
Insecure	2.17/1.12	p=.27
Vulnerable	2.07/1.12	p=.94
Coping	1.84/.98	p=.75
Depression	1.87/1.13	p=.29
Anxious	2.86/1.26	p=.41
Sleeping Times	1.77/.99	p=.62
Procrastination	2.06/1.11	p=.90
Fast Fatigue	2.41/1.23	p=.74
Physical Exhaustion	2.68/1.16	p=.48
Physical Weakness	2.03/1.13	p=.20
Blood Pressure	2.20/1.25	p=.58
Heart Racing	2.03/1.14	p=.84
Rapid Breathing	1.72/1.06	p=.84
Stomach Pain	1.87/1.16	p=.79
Stomach Cramps	1.79/1.01	p=.84
Stomach Acid	2.03/1.27	p=.12
OTC Medication	1.43/.90	p=.27
Prescription Drugs	1.60/1.14	p=.46
Alcohol Use	1.12/.44	p=.13
Sick Time	1.43/.51	p=.97

Chapter Summary

The researcher attempted to determine if there were significant changes in stress levels as they relate to the SOL assessments. Based upon the data generated from the Teacher Stress Inventory, the researcher determined that elementary/middle school teachers experience feelings of insecurity, vulnerability, coping ability, and depression to significantly higher or lower rates than their secondary counterparts. Regarding physical well-being, the researcher determined that

elementary/middle school teachers experience factors of physical well-being that are similar to their secondary counterparts except in the area of heart racing. Elementary/middle school teachers had tendencies to experience heart racing at a higher rate than their secondary counterparts. The researcher also determined that neither gender nor years of experience yielded significant correlations in regard to experiencing stress during SOL administration.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The Virginia Standards of Learning (SOLs) are one of the foundational aspects of Virginia public schools. The SOLs were instituted in Virginia classrooms twenty years ago to assess students in grades 3-8, and in secondary content courses in mathematics, science, social studies, and English. The SOLs have evolved into the framework with which students pass from grade to grade through graduation, schools are judged to be accredited or need additional assistance, and districts are judged on their ability to provide individual students with a quality education. Teachers who provide instruction in SOL content courses are provided with additional resources that they are encouraged to use in hopes of giving their students the skills needed to master the SOL assessments. SOL content teachers constantly assess their students throughout the course of the academic term in preparation for the SOL assessments.

This study began with an interest in how teachers handle preparation for the SOLs. As a former classroom teacher, this researcher has had numerous conversations, both formally and informally, with colleagues who are both novice and veteran teachers, in hopes of learning about stress and how the knowledge of the SOL assessments can impact stress. This study was considered as a survey, online discussion board, and possible face to face and online communication research opportunity. This researcher decided to utilize the Teacher Stress Inventory (TSI) which had numerous mental and physical stressors to understand the impacts of SOL assessment stress and individual teachers. The TSI allowed the researcher to compile anonymous responses to the stressors.

The survey was distributed to the identified SOL content teachers through an email invitation with a link to the SurveyMonkey online survey system. The researcher gathered

individual email addresses and distributed the survey to over 250 possible respondents. Individual teachers were asked to give their responses to areas of dealing with mental stress including insecure, vulnerable, coping, depression, and anxious. Teachers were asked to give their responses to areas dealing with physical stress including sleeping more than usual, procrastination, fast fatigue, physical exhaustion, physical weakness, blood pressure, heart racing, rapid breathing, stomach pain, stomach cramps, stomach acid, over the counter medication use, prescription drug use, alcohol use, and sick leave used. Teachers chose 1) not, 2) barely, 3) moderately, 4) very, and 5) extremely to indicate how they respond to the stressors.

The survey was available to teachers from June 8, 2015 until June 23, 2015. The researcher received 121 responses, 4 of which were only partially completed and could not be used, 2 of which answered most of the survey but chose not to answer the last two sections. The survey responses were received from teachers at primary, middle, and secondary schools across Wise County. Responses were from novice teachers, veteran teachers, and master teachers. The survey was brief and allowed for ease of completion.

Classroom teachers who work in areas assessed by the SOLs experience considerable external stress from the school, school division, federal and state mandates (NCLB, 2008; Virginia Department of Education, 2012) as well as internal pressure to succeed and pressure for student success. This stress, (headaches, increased sick leave, gastrointestinal issues), and pressure, (longer instructional preparation issues, changes in evaluation procedures), increases during the 2-week assessment windows that occur in December and May. This stress is different than the daily stress experienced by all teachers. Teachers who teach SOL content are required to maintain more in-depth instructional pacing, plan review/re-teaching periods, provide accommodation for students with disabilities that include state required assessment

accommodations, and conduct constant assessment, based on the SOLs, in order to inform daily instruction. SOL content teachers have different ways of coping with this stress and pressure, both positive and negative, depending on factors that include support by the school, divisional administration, and parents as well as factors including schedule changes and delays (Wise County Public Schools, 2014). This stress and pressure and the methods teachers use to cope with them may vary depending on the factors surveyed in this study.

Conclusions

Research question one attempted to determine if there was any significant difference in the mental well-being of elementary (primary/middle) teachers and secondary teachers who provide instruction in SOL content courses. An independent *t*-test was conducted. Individual teachers were asked to respond 1) not, 2) barely, 3) moderately, 4) very, and 5) extremely to the potential mental stress symptoms of insecurity, vulnerability, coping ability, depression, and anxiousness. The null hypotheses for research question one was rejected in every area except anxiousness because the *p* values were less than .05. The research indicated that there was not a significant difference in the mental well-being of teachers across grade levels. In the area of anxiousness, the *p* value was .33 which indicated that there was not a significant difference in elementary and secondary teachers experiencing anxiousness.

Research question two attempted to determine a possible significant difference in the physical well-being of elementary and secondary SOL content teachers as they worked towards the mandated assessments. An independent *t*-test was conducted for this question as well. Teachers were again asked to respond 1) not, 2) barely, 3) moderately, 4) very, and 5) extremely. The potential physical symptoms were sleeping more than usual, procrastination, fast fatigue,

physical exhaustion, physical weakness, blood pressure, heart racing, rapid breathing, stomach pain, stomach cramps, stomach acid, over the counter drug usage, prescription drug usage, alcohol usage, and sick leave used. Respondents indicated no significant difference in physical changes to their well-being with p values being at above the .05 significance level in every area except heart racing. The heart racing p value was .024. As a result, the null hypotheses for research question two are retained. The null hypothesis of heart racing was rejected.

Research question three attempted to determine the possibility of a significant difference in the mental and physical well-being of female SOL content teachers as compared to male SOL content teachers. An independent t -test was conducted for this question. The majority of elementary (primary/middle) SOL content teachers were female while the majority of secondary SOL content teachers were male. P values for research question three were over the .05 level of significance, except in the area of sleep which had a $p=.03$. This indicated an insignificant relationship, except in the area of sleeping more than usual, between the gender of individual teachers and mental and physical well-being.

Research question four assessed the possibility of a relationship between years of teaching experience and changes in mental and physical well-being. A Pearson correlation was conducted on each of the above possible mental and physical stress symptoms. Each of the r values for the possible mental and physical stress symptoms was above .05. This indicated an insignificant relationship between the years of teaching experience and changes in mental and physical well-being. As a result, the researcher retained the null hypotheses for research question four.

Each of the research questions provided data that the researcher can use to provide a foundation for professional development for teachers and support for school leaders as they

support their instructional staff members through the SOL assessment window. Data for research question one showed a significant relationship in mental well-being as compared among elementary and secondary teachers. Research question two indicated an insignificant relationship between mental and physical well-being and male and female teachers. Data for research question four retained the null hypothesis. These research conclusions may be eye-opening to stakeholders that are not familiar with daily instruction across the entire school program. School leaders can use this data to work within their buildings to provide support to manage and identify any changes in the well-being of their instructional staff.

Implications for Future Practice

The data gathered from the independent *t*-tests and correlations indicated that SOL content teachers did experience some types of stress with regards to the SOL assessments. However, the data also indicated that the stress experienced does not tend to be particular to either elementary or secondary, male or female. There was also not a great impact upon changes in mental or physical well-being as compared to years of teaching experience. Teachers experienced both mental and physical stress and, based upon the data, the stress that they experienced was generalized. As mentioned earlier, teachers can use this data to determine their master schedules, individual teacher placement, special education teacher placement, and professional development.

The literature reviewed indicated that teacher well-being can be and is influenced by relationships that teachers have with their school and district leadership (Finnegan & Stewart, 2009). This can also be a strong indicator of how successful professional development and support programs will be. School leaders can use the data from this study to craft professional

development programs that can provide both instructional and personal support for instructional staff who provide instruction in SOL content. School leaders can utilize their positions as the school instructional leader to incorporate the data from this study into both traditional professional development programs and technology based programs. Teachers respond well to professional development that is positive and that will create opportunities to improve the school climate (Bayar, 2014).

Implications for Future Research

This study was conducted with the intention of identifying any possible relationship between changes in the mental and physical well-being of teachers and the Virginia Standards of Learning content assessments. The study attempted to determine if there were any significance to possible changes based upon several elementary/secondary teacher assignment, male/female, and years of experience. The study yielded significant results in question one, and insignificant results in questions two and three, through the *t*-tests that were performed. The researcher was able to use the Pearson correlation to retain the null hypotheses related to years of experience.

The first implication for future research would be a study, building off of this study that could compare the survey responses from Wise County with possible responses from a similar school division. School and district leaders could use this research to determine if they are meeting the professional development needs of their respective instructional staff. Another implication for future research would be a study that would compare the respondents from Wise County to a similar division in nearby state or geographical area that utilizes state assessments that are similar to the Virginia Standards of Learning. Results from a study of this nature could generate networking opportunities for instructional staff across content areas or grade levels.

This would enhance instructional practice as teachers would be able to generate ideas and attempt strategies that were effective in other schools, divisions, or states.

Summary

This research study began with a question. Do teachers experience changes in their mental and physical well-being as they relate to the Virginia Standards of Learning (SOL) assessments? The researcher attempted to determine if there were changes in teachers' mental and physical well-being through conducting independent *t*-tests and a Pearson correlation. The researcher conducted the independent *t*-test using the variables elementary (primary/middle) and secondary teachers, female and male teachers, and years of teaching experience. The data from these tests did not indicate a significant relationship between any of the variables and changes in mental or physical well-being.

The literature reviewed suggested that teachers will engage with their colleagues, will collaborate, and will be in a much better position to handle stress with school leaders who are devoted to their well-being and support (Finnegan & Stewart, 2009). Teachers will provide quality instruction and will engage in professional development that is meaningful and relevant to their grade level or subject area. Many times they will experience changes in their well-being due to perceived notions of administrator lack of support, lack of understanding from community stakeholders, and lack of concern from their students. The respondents in this study indicated that they perceived stress in similar ways which did not indicate significant changes in their well-being.

The data from this survey can be used by school leaders to develop a quality professional development program for instructional staff. Teachers should be given the opportunity to

collaborate, to strategize, and to network with their colleagues across their school, district, state, and country. Professional development should address the potential changes in well-being that arise when teachers offer SOL content to students of all ages and ability levels. These programs should target coping strategies and methods for working through unforeseen changes in the classroom. This study can be a foundation for those programs.

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If you never feel this way, and the feeling does not have noticeable strength, you would circle number 1.

	1	2	3	4	5
HOW	no	mild	medium	great	major
STRONG	strength;	strength;	strength;	strength;	strength;
?	not	barely	moderately	very	extremely
	noticeable	noticeable	noticeable	noticeable	noticeable

I respond to stress by:

Emotional Manifestations

- 1. Feeling insecure.....1 2 3 4 5
- 2. Feeling vulnerable.....1 2 3 4 5
- 3. Feeling unable to cope.....1 2 3 4 5
- 4. Feeling depressed.....1 2 3 4 5
- 5. Feeling anxious.....1 2 3 4 5

Fatigue Manifestations

- 6. Sleeping more than usual.....1 2 3 4 5
- 7. By procrastinating.....1 2 3 4 5
- 8. By becoming fatigued in a short time.....1 2 3 4 5
- 9. With physical exhaustion.....1 2 3 4 5
- 10. With physical weakness.....1 2 3 4 5

Cardiovascular Manifestations

- 11. With feelings of increased blood pressure.....1 2 3 4 5
- 12. With feelings of heart pounding or racing.....1 2 3 4 5
- 13. With rapid and/or shallow breathing.....1 2 3 4 5

Gastronomical Manifestations

- 14. With stomach pain of extended duration.....1 2 3 4 5
- 15. With stomach cramps.....1 2 3 4 5
- 16. With stomach acid.....1 2 3 4 5

Behavioral Manifestations

17. By using over the counter drugs.....	1	2	3	4	5
18. By using prescription drugs.....	1	2	3	4	5
19. By using alcohol.....	1	2	3	4	5
20. By calling in sick.....	1	2	3	4	5

APPENDIX B

Email Script/IRB Approval Letter

Email Script:

Hello. My name is Matthew McCarty. I am a former employee of the Wise County Public Schools and am pursuing my Doctor of Education degree at East Tennessee State University in Johnson City, TN. You have been identified by the Wise County Public Schools central office as providing instruction in content that is assessed by the Virginia Standards of Learning in a regular and/or special education classroom. I am asking for your participation in the research study "Teacher Well-being and Virginia SOLs." Please follow the link surveymonkey.com to access a brief survey which will ask you to respond to a number of questions. The survey is brief. It will take approximately 10 minutes to complete. Participation is completely voluntary. Thank you in advance for your help with this research study. Please contact me at zmwm3@geld-mail.etsu.edu or matthew.mccarty@k12.wv.us if you have any questions.

Thank you,

Matthew

APPROVED
By the IRB

JUN 03 2015

BY 
Chair IRB



EAST TENNESSEE STATE
UNIVERSITY

Office for the Protection of Human Research Subjects • Box 70565 • Johnson City, Tennessee 37614-1707
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IRB APPROVAL – Initial Exempt

June 4, 2015

Matthew McCarty

RE: Teacher Well-being and Virginia Standards of Learning.
IRB#: c0515.23e
ORSPA#: ,

On **June 3, 2015**, an exempt approval was granted in accordance with 45 CFR 46.101(b)(2). It is understood this project will be conducted in full accordance with all applicable sections of the IRB Policies. No continuing review is required. The exempt approval will be reported to the convened board on the next agenda.

- new protocol submission xform, CV of PI, email script, survey questions, permission/attestation from Wise County

Projects involving Mountain States Health Alliance must also be approved by MSHA following IRB approval prior to initiating the study.

Unanticipated Problems Involving Risks to Subjects or Others must be reported to the IRB (and VA R&D if applicable) within 10 working days.

Proposed changes in approved research cannot be initiated without IRB review and approval. The only exception to this rule is that a change can be made prior to IRB approval when necessary to eliminate apparent immediate hazards to the research subjects [21 CFR 56.108 (a)(4)]. In such a case, the IRB must be promptly informed of the change following its implementation (within 10 working days) on Form 109 (www.etsu.edu/irb). The IRB will review the change to determine that it is consistent with ensuring the subject's continued welfare.

Sincerely,
Stacey Williams, Chair
ETSU Campus IRB

Cc: Pamela Scott



Accredited since December 2005

VITA

MATTHEW WILLIAM MCCARTY

Education: Public Schools, Dickenson County, Virginia
B.A. History, Clinch Valley College of the University of
Virginia, Wise, Virginia 1997
M.A. History, East Tennessee State University, Johnson City,
Tennessee, 2003
Ed.S. Educational Administration, Capella University,
Minneapolis, Minnesota, 2012
Ed. D. Educational Leadership and Policy Analysis, East
Tennessee State University, Johnson City, TN, 2015

Professional Experience: Teacher, Clintwood High School; Clintwood, Virginia,
1998-2002
Teacher, Magna Vista High School; Ridgeway, Virginia,
2004-2006
Teacher, Virtual Virginia, Wise, Virginia, 2006-2007
Teacher, Jenkins High School, Jenkins, Kentucky,
2007-2008
Teacher, Wise County Alternative School, Wise, Virginia,
2008-2011
Teacher, Union High School, Big Stone Gap, Virginia,
2011-201

Assistant Principal, Logan Senior High School, Logan,
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Publications: McCarty, Matthew W. (forthcoming). “An Inside Look
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Honors and Awards Lead Social Studies Instructor, Wise County Schools,
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