AN EXAMINATION OF ADMINISTRATORS', TEACHERS', AND SCHOOL
PSYCHOLOGISTS' CONCERNS ABOUT AND PERCEPTIONS OF THE
IMPLEMENTATION OF MULTI-TIERED SYSTEM OF SUPPORTS
ACROSS NORTH CAROLINA

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ABSTRACT

Sevgi Aslan: An Examination of Administrators', Teachers', and School Psychologists'
Concerns about and Perceptions of the Implementation of Multi-Tiered System of Supports
across North Carolina
(Under the direction of Steven Knotek)

Response to intervention (RTI) has become one of the most discussed innovation

initiatives since its recognition by the Individuals with Disabilities Education Act (IDEA) in

2004. With the 2004 reauthorization of IDEA, RTI was recognized as an alternative to

discrepancy model for the identification of students with specific learning disability (SLD). RTI

is now considered as a part of Multi-Tiered System of Supports (MTSS) and integrated with

Positive Behavior Intervention Support (PBIS). North Carolina Department of Public Instruction

(NCDPI) have had the option to use RTI as a means for determining SLD eligibility since 2004,

rather than the discrepancy model. In fact, NCDPI is in the process of changing policy to

eliminate the IQ-achievement discrepancy model as a permissible approach and aims to use

MTSS data to identify and determine eligibility for students with SLD for special education

services. Changes in policy put pressure on educators as they raise questions related to their

concerns about the implementation of the MTSS framework. According to Hall, George, and

Rutherford (1977), not necessarily the situation around them but individuals' perceptions are the

predictors of their concerns; therefore, it is essential to take into account how they perceive their

skills and MTSS practices of their schools before addressing their concerns.

The purpose of this study was to investigate how administrators, teachers, and school

psychologists in North Carolina perceive their MTSS skills and their school's MTSS implementation and to what extent their perceptions predict their stages of concern regarding implementing MTSS. Following these purposes, online surveys including Perceptions of RTI Skills Survey and Perceptions of Practices Survey and a questionnaire, Stages of Concern Questionnaire, were administered to 84 North Carolina public school personnel. Statistical analyses indicated significant differences in school personnel's perceptions of their MTSS skills and their school's MTSS implementation, as well as stages of concern regarding implementing MTSS by their staff position. Besides, statistically significant associations were observed between teachers' years implementing MTSS and their perceptions of MTSS skills, perceptions of MTSS practices, and stages of concern. Furthermore, school personnel's staff position was a significant predictor of their stages of concern regarding implementing MTSS. Finally, school personnel's perceptions of their MTSS skills and their school's MTSS practices improved the prediction of their stages of concern over and above staff position alone. Implications for policy and practice are provided.

To my family, for your endless support, encouragement, and love throughout this journey.
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

CBAM   Concerns Based Adoption Model

DoI   Diffusion of Innovations

EAHCA   Education for All Handicapped Children Act

IC   Innovation Configuration

IDEA   Individuals with Disabilities Education Act

LoU   Level of Use

MTSS   Multi-Tiered System of Supports

NASP   National Association of School Psychologists

NCDPI   North Carolina Department of Public Instruction

PBIS   Positive Behavior Intervention Support

RTI   Response to Intervention

SLD   Specific Learning Disability

SoC   Stages of Concern

CHAPTER I

INTRODUCTION

Organizational context of schools has continuously been changing to improve student

outcomes through the alteration of educational practices, which involves implementing

innovations to accommodate teaching strategies. Successful implementation of innovation

requires more than providing school personnel with necessary training and resources (Hall &

Hord, 2014). Educators' participation in change efforts, which is essential for successful adoption

of an innovation (Cunningham, Hillison, & Horne, 1985; Borko & Putnam, 1995), mostly

depends on their level of comfort with the innovation (Hall, George, & Rutherford, 1977).

Personal comfort is crucial to their concerns regarding the implementation practices (Martin,

1989). According to Hall (1976), individuals' concerns are correlated with their level of

performance. Individuals are not likely to adopt an innovation if they do not feel confident

enough in their ability to implement it effectively (Lee & Strobel, 2014). This study will focus on

the introduction of the Multi-Tiered System of Supports (MTSS) innovation in schools.

Multi-Tiered System of Supports

MTSS is a system that utilizes data-based problem solving and decision making with

multi-layered interventions and evidence-based practices and is comprised of two distinct

elements Response to Intervention (RTI) and Positive Behavior Intervention Support (PBIS).

RTI has become one of the most discussed innovation initiatives since its inclusion in the

Individuals with Disabilities Education Act (IDEA) in 2004. It is a widely adopted multi-tiered

data-based problem-solving approach to supporting students' academic achievement. Another

multi-layered approach, PBIS, is also in extensive practice and it aims to support and improve student behavior. MTSS is the combination of RTI and PBIS. This systematic framework that utilizes data-based problem solving and decision making to integrate academic and behavior instruction and intervention in a continuum of multi-layered evidence-based practices is the focus of this study (Gamm et al., 2012).

With the reauthorization of IDEA in 2004, RTI was recognized as an alternative to discrepancy model for the identification of students with a specific learning disability (SLD). The RTI framework shifts the responsibility from the special education teachers to the general education teachers; general education teachers are now required to monitor, observe, and document academic and behavioral outcomes for the inclusion students who receive special education services in the general education classrooms (Isbell & Szabo, 2014). Besides, states have begun to shift from using an ability/achievement discrepancy model to responsiveness to intervention for the identification of students with SLD and qualification for special education services. This is because evidence suggests that an ability/achievement discrepancy model is not relevant to the identification of learning disabilities and also causes disproportionality in the qualification of students with SLD in special education services (Mather & Gregg, 2006). Therefore, states make changes to policy to no longer mandate ability/achievement discrepancy model and. The multi-tiered frameworks provide more benefits than a mere data-collection tool for SLD identification. For example, MTSS framework facilitates the early identification of behavior and learning problems; therefore, provides an opportunity to assist students immediately rather than waiting for academic and behavioral difficulties to become more significant (Gresham, 2007). MTSS is a problem-solving process in which student data is used to drive instructional and intervention decisions aimed to improve academic and behavioral

outcomes. Within this framework, all students are actively and routinely screened for academic and behavioral needs. Once their needs have been identified students receive evidence-based interventions for their specific needs. Implementing schools provide a variety of academic and behavioral interventions at varying levels of intensity available to improve the performance of all students (Gamm et al., 2012).

MTSS Implementation and Specific Learning Disability in North Carolina

In North Carolina, the Department of Public Instruction (NCDPI) developed a five-year plan that eliminates the ability/achievement discrepancy model and requires the use of MTSS for the identification of students with SLD. By the 2020-2021 school year all for K-12 schools in North Carolina will use MTSS for SLD identification and qualification in special education services. Therefore, districts have begun to prepare for change in this policy. School personnel (e.g., administrators, school psychologists, school social workers, general education teachers, and special education teachers) will need to change elements of their system of delivering instruction and interventions and therefore may struggle with its implementation in schools (North Carolina Department of Public Instruction. (n.d.). *Specific learning disabilities eligibility*. Retrieved from http://mtss.ncdpi.wikispaces.net/SLD+Eligibility).

Implementation Issues

With the implementation of new MTSS methods and strategies, professionals have begun to raise questions and concerns about their ability to implement it effectively. Many are asking how they will manage their time to accommodate teaching and learning practices; how the innovation will impact student outcomes; and how the innovation will benefit the educational practices. How school personnel responds to these concerns may either facilitate or disrupt the change efforts (Hall & Hord, 2014); thus, it is necessary to understand the concerns that might

interfere with the possible adoption of MTSS. This can be achieved by examining and addressing the concern profiles of school personnel. Such an examination will give insight into the strengths and weaknesses of the MTSS framework and help determine future implications to improve implementation outcomes by addressing needs and developing appropriate interventions.

According to Hall, George, and Rutherford (1977) "it's the person's perceptions that stimulate concern, not necessarily the reality of the situation" (p. 14). Thus, this study seeks to examine perceptions of K-12 school personnel in North Carolina concerning their own skills and their schools' capacity to implement the MTSS framework, and the prediction of these perceptions on their concern profiles. Understanding the extent professionals perceive their MTSS skills and their school's practices can be used to inform the implementation processes including consensus development and infrastructure building. These processes are crucial to successful implementation of MTSS framework. This understanding can also be used to facilitate the appropriate professional development that addresses specific needs of school personnel.

Concerns-Based Adoption Model and MTSS Implementation

Concerns-Based Adoption Model (CBAM) will serve as the theoretical guide in this study. The CBAM describes how feelings and perceptions (i.e., concerns) are essential elements of all change processes because they may either facilitate or disrupt the change efforts (Hall & Hord, 2014). The CBAM helps assess school personnel's concerns about MTSS practices; therefore, gives leaders opportunities to address these concerns to help foster a change in moving forward. By understanding school personnel's concerns about the MTSS practices, it is possible to see where individuals are within the change cycle and identify critical factors that help or hinder the reform from taking hold.

Research about teachers' or school psychologists' concerns in regard with RTI practices has been conducted in a variety of settings using the CBAM (Isbell, 2013; Isbell & Szabo, 2014; Kaplan, 2011; Koons, 2013; Salato, 2012). However, few if any studies have examined professionals' more specific perceptions of MTSS skills and practices and their impact on predicting their concern profiles regarding the innovation they are implementing. Therefore, this study will examine the relationship between school personnel's perceptions regarding the level of their MTSS skills and the frequency of their school's MTSS practices and the stages of concern they demonstrate. The researcher assumes that the results of this study may be used by districts within North Carolina to help foster the MTSS change efforts in moving forward across the state.

Definitions of Staff Positions

This study will focus on administrators, teachers, and school psychologist. Definitions of each staff position are provided below to an insight on the similarities and the differences of their responsibilities in an education system.

Administrator - the individual who fulfills the requirement of managing a company, school, or other organization by controlling the use of material and financial resources (Merriam-Webster, 2015). Typical job titles may include principal, assistant principal, etc.

Teacher - "an expert who is capable of imparting knowledge that will help learners to build, identify and to acquire skills that will be used to face the challenges in life. The teacher also provides the learners knowledge, skills, and values that enhance development" (Senge, 2000, p.26). Typical job titles may include general education teacher, special education (exceptional children) teacher, etc.

School Psychologist - a member of a school team "that support[s] students' ability to learn and teachers' ability to teach. … [School psychologists] apply expertise in mental health, learning,

and behavior, to help children and youth succeed academically, socially, behaviorally, and

emotionally" (National Association of School Psychologists, 2015).

CHAPTER II

REVIEW OF THE LITERATURE

Professional Development

School personnel's role in the success of every student is crucial in the educational system. Teachers' success is highly dependent on their knowledge and skills. Also referred as staff development and in-service development, Truitt (1969) defined professional development as including "all activities engaged in by the personnel worker to improve the skills, techniques, and knowledge that will enable him to become an effective agent of education" (p. 2). The vehicles for professional development include "workshops, formal courses, weekly or semiweekly staff meetings, discussions between student leaders and staff members, professional seminars, and attendance at national and state professional conferences" (Truitt, 1969, p. 2). Professional development is necessary for every teacher to obtain positive student outcomes.

According to Guskey (1985), "educators generally agree that the three major outcomes of effective staff development programs are changes in 1) teachers' beliefs and attitudes, 2) teachers' instructional practices, which result in changes in 3) students' learning outcomes" (p. 57). However, Guskey's (1985) model illustrates how teachers' beliefs and attitudes change as the result of improved student outcomes (See Figure 1). According to Guskey (1985), "significant change in teachers' beliefs and attitudes takes place only after student learning outcomes have changed. These changes in student learning result, of course, from specific changes teachers have made in their classroom practices" (p.57).

Figure 1. Guskey's model of teacher change
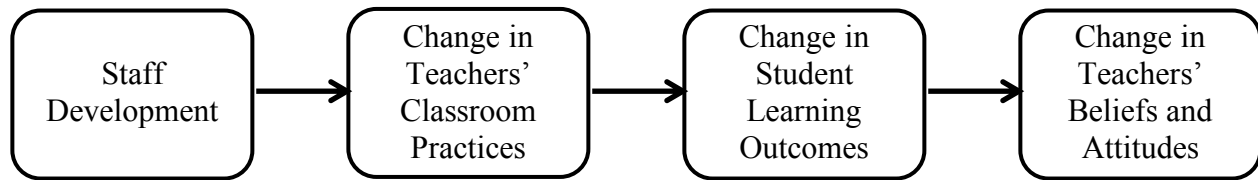
In addition, the Guskey (2002) model includes five levels of professional development evaluation. Level 1, participants' reactions, addresses staff's initial satisfaction with the experience by asking the questions include but not limited to: (a) "Did they like it? (b) Did the material make sense to them? (c) Will it be useful?" Level 2, participants' learning, addresses new knowledge and skills of the participants by asking if participants acquired the intended knowledge and skills. In Level 3, organization support and change, the evaluation addresses the organization's advocacy, support, accommodation, facilitation, and recognition. Level 3 is critical to inform future change efforts. Level 4, participants' use of new knowledge and skills, addresses the degree and quality of implementation by asking if participants expertly applied the new knowledge and skills. Level 5, student learning outcomes, addresses student outcomes in three areas, cognitive, affective, and psychomotor. Information from the evaluation of student learning outcomes is used to demonstrate the overall impact of professional development.

According to CBAM, which will be explained in detail in the following section, individuals develop concerns in sequential order. Early stages of concern are related to the self, whereas later stages consist of concerns related to the impact on student outcomes. Professional development is vital in the process of the evolution of concern profiles because moving toward the later stages of concern requires individuals to learn and use new knowledge and skills in an ongoing process. Individuals move from self-related concerns to task or impact related concerns in about three years (Hall & Hord, 2014). Changes in teachers' beliefs and attitudes also take

time because positive student outcomes will encourage teachers to change their methods of teaching and learning (Guskey, 1985) and adopt the new initiatives.

Diffusion of Innovation Models

      Rogers's Diffusion of Innovations (DOI) Model. The research on diffusion of innovations started in the early 1900s and among innovation theorists. Everett Rogers has been the most well-published contributor to the DOI model since then (Lee & Strobel, 2014). "Rogers's DOI model … describes how, why, and at what rate innovations become diffused into widespread practice among members of a social system" (Lee & Strobel, 2014, p.166). Rogers (2003) defines diffusion as "the process in which an innovation is communicated through certain channels over time among the members of a social system" (p. 5). Rogers indicates that in the process of diffusion, which he describes as a type of social change, alteration occurs in the structure of a social system.

      According to Rogers (2003), DOI involves four main elements: innovation, communication channels, time, and the social system.

      Innovation. Innovation as "an idea, practice, or object that is perceived as new by an individual or other units of adoption" (Rogers, 2003, p. 12). Considering an innovation as new does not always involve just new knowledge; an innovation may be considered new when someone has known about the innovation but not yet developed an attitude toward it, or not yet adopted or rejected it (Rogers, 2003).

      The importance of understanding that diffusion and adoption of innovations are not necessarily desirable. In an innovation diffusion process, the characteristics of innovation impact the rate of adoption (Rogers, 2003). "Innovations that are perceived by individuals as having greater relative advantage, compatibility, trialability, and observability and less complexity will

be adopted more rapidly than other innovations" (Rogers, 2003, p.16). The characteristics of innovations are described in Table 1.

Table 1. Characteristics of innovations

Characteristics	Aspects
Relative advantage	"The degree to which an innovation is perceived as better that the idea it supersedes" (p.15).
Compatibility	"The degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters" (p.15).
Complexity	"The degree to which an innovation is perceived as relatively difficult to understand and use" (p.15).
Triability	"The degree to which an innovation may be experimented with on a limited basis" (p.16).
Observability	"The degree to which the results of an innovation are visible to others" (p.16).

Source: Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: The Free Press

Communication channels. Communication channels are mechanisms that influence the adoption of a new idea by allowing the diffusion of messages through communications between individuals. "Most individuals evaluate an innovation … through the subjective evaluations of near peers who have adopted the innovation" (Rogers, 2003, p. 35). The interaction between individuals who are different in certain characteristics, such as education and beliefs, results in particular problems in achieving productive communication (Rogers, 2003).

Time. The time element is involved in diffusion in the process of innovation-decision regarding the adoption or rejection of the innovation. The innovation-decision process involves five main steps (Rogers, 2003), which are described in Table 2. An innovation-decision process

may lead to the adoption, or the rejection of the innovation and those decisions may be reversed at a later point during the diffusion process (Rogers, 2003).

Table 2. Five stages of the innovation-decision process

Stage	Description
Knowledge	An individual learns about the existence of an innovation and seeks information about it.
Persuasion	The individual develops a positive or negative attitude toward the innovation.
Decision	The individual makes a decision of adopting or rejecting the innovation.
Implementation	The individual puts the innovation into practice, and reinvention of the innovation may take place.
Confirmation	The individual stays away from "conflicting messages about the innovation" (Rogers, 2003, p.189), seeking confirmatory information supporting his/her decision, but discontinuance may still occur.

Source: Lee, J., & Strobel, J. (2014). Engineering in elementary schools. In S. Purzer, J. Strobel, & M. Cardella (Eds.), *Engineering in pre-college settings: Synthesizing research, policy, and practices* (pp. 163-182). Lafayette, IN: Purdue University Press. (p.167)

Social system. Social systems consist of interrelated units such as, individuals, organizations, or subsystems, that are driven by a common goal to accomplish through engaging in joint problem-solving. According to Rogers (2003), seeking to reach a mutual goal keeps the system together.

The Concerns-Based Adoption Model (CBAM). CBAM was initially developed by researchers at the University of Texas at Austin in the late 1970s based on the extensive work of Frances Fuller (1969), who originally called individuals' perceptions and feelings as concerns (Hall & Hord, 2014; Saunders, 2012). Fuller was interested in the concerns of student teachers;

thus, she proposed a model describing how the student teachers' concerns move through four different levels of concern as a result of their increased experiences in a teacher education program (Hall & Hord, 2014). The four main stages of the CBAM are (a) Unrelated, (b) Self, (c) Task, and (d) Impact. Individuals in the unrelated stage are not interested in the change efforts, and they have other important concerns that consume their attention. Concerns in the self-stage are related to individuals' perceived abilities to complete the required tasks for the change process. Task stage concerns involve classroom management, planning, and organizational matters related to teaching on a daily basis. Individuals in this stage are concerned about the task itself rather than their abilities. During the impact stage, individuals are aware of the impact the change is having on students. They are now concerned about the outcome of the change and how change efforts will impact student learning. Concerns develop sequentially in the order of self-concerns, task-concerns, and impact-concerns (Malone, 1984). Fuller's sequence of concern is an approach to understand the affective domain in adult development (Hollingshead, 2009).

CBAM consists of 3 major components; Stages of Concern (SoC), Level of Use (LoU), and Innovation Configuration (IC). SoC and LoU, which focus on the implementer and are exploratory in nature and scoop, were developed out of Fuller's work; whereas IC, which considers the nature of the innovation itself and is diagnostic in nature, was developed much later (Newhouse, 2001). All three components of the CBAM will be described in detail below; however, SoC is the only CBAM component that will be the focus of this study.

Stages of concern. Hall and Hord (2014) emphasize that change is a complicated, multivariate, and dynamic process at all individual, organizational, and system levels; however, it is important to note that, "successful change starts and ends at the individual level" (p.12). Feelings and differing perceptions are important elements of all change processes because they

may either facilitate or disrupt the process. Therefore, identifying individuals' feelings and perceptions, also called concerns, regarding an innovation they are involved with is essential for a successful implementation. Hall and Hord (2014) define concern as "composite representation of the feelings, preoccupation, thought, or consideration given to a particular issue or task" (p.85). When school personnel involves in a change process, they may refuse change because of negative concerns or the feeling that they are forced to use new methods of teaching and learning. In most efforts of change, some people may appear to resist to change, and some may actively sabotage the change efforts. Resistance to change may have very different underlying reasons for individuals.

Table 3: Stages of concern: Typical expressions of concern about the innovation

	Stages of Concern	Expressions of Concern
IMPACT	6. Refocusing	I have some ideas about something that would work even better.
	5. Collaboration	I am concerned about relating what I am doing with what my co-workers are doing.
	4. Consequence	How is my use affecting clients?
TASK	3. Management	I seem to be spending all of my time getting materials ready.
SELF	2. Personal	How will using it affect me?
	1. Informational	I would like to know more about it.
UNRELATED	0. Unconcerned	I am more concerned about some other things.

Source: Hall, G., & Hord, S. (2014). *Implementing change: Patterns, principles, and potholes* (Fourth ed.). Pearson. Kindle edition. (p. 85)

SoC provides "a research-verified construct for identifying and describing the different feelings and perceptions people can experience when implementing change" (Hall & Hord, 2014, p.104). Hall and Hord (2014) have identified seven stages of SoC. The seven stages and the symbolic expressions for each stage are shown in Table 3. Even though the stages are

distinguished from one another, individuals may indicate concerns at more than one stage at the same time. Understanding and using SoC can lead significantly more effective implementation practices of change process through personalizing school personnel support (Hall & Hord, 2014).

In Stage 0 (unconcerned) individuals indicate little concern or involvement with the change efforts. In Stage 1 (informational) individuals would like to know more about the innovation. In Stage 2 (personal) individuals are concerned about how using the innovation will affect them. In Stage 3 (management) individuals are concerned primarily with managing processes, tasks, and resources. In Stage 4 (consequence) individuals are concerned about how the innovation is impacting the students. In Stage 5 (collaboration) individuals are interested in how colleagues are using the innovation. In Stage 6 (refocusing) individuals are concerned with making the innovation work even better (Hall & Hord, 2014). A more detailed description of each of the seven stages is reported in Table 4.

Level of use. Hall and Hord (2014) identified eight behavioral profiles that describe individuals implementing an innovation. These profiles describe distinctions between whether an individual is a user or a non-user of the innovation. Three different types of nonusers include (a) nonuse, (b) orientation, and (c) preparation. Five different types of users include: (a) mechanical use, (b) routine, (c) refinement, (d) integration, and (e) renewal.

Innovation configuration. IC is a characteristic dimension of CBAM. Through IC, facilitators can define what the innovation "will look like when it is actually and actively in operation in its intended setting" (Hall & Hord, 2014, p. 31). The IC Map is a tool that visually presents assessment results of the configurations of an innovation. The IC Map describes core components of innovation as well as the observable variations of each component (Hall & Hord, 2014).

Table 4: Stages of concern about the innovation: Definitions

	Stages of Concern	Definitions
IMPACT	**6 Refocusing:**	The focus is on the exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.
	5 Collaboration:	The focus is on coordination and cooperation with others regarding use of the innovation.
	4 Consequence:	Attention focuses on impact of the innovation on "clients" in the immediate sphere of influence.
TASK	**3 Management:**	Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to, efficiency, organizing, managing, scheduling, and time demands are utmost.
SELF	**2 Personal:**	Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation. This includes analysis of his/her role in relation to the reward structure of the organization, decision-making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.
	1 Informational:	A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about himself/herself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner, such as general characteristics, effects, and requirements for use.
UNRELATED	**0 Unconcerned:**	Little concern about or involvement with the innovation is indicated. Concern about other thing(s) is more intense.

Source: Hall, G., & Hord, S. (2014). *Implementing change: Patterns, principles, and potholes* (Fourth ed.). Pearson. Kindle edition. (p. 86)

Summary. Rogers's DOI model describes innovation and adoption in a more general way by providing us a model of how an individual goes through the stages of the decision-making process about whether or not to adopt a new initiative. It also illustrates the complexity of an innovation diffusion process regarding the differences in individuals' attitudes and perceptions of innovation and the influences of external factors on adoption rates (Lee & Strobel, 2014). Whereas, Hall and Hord's CBAM focuses more on the educational innovations, particularly in the K-12 system (Lee & Strobe, 2014). Hence, this study uses DOI model to provide guidance at the macro level and focuses on the Stages of Concern component of CBAM and seeks to investigate school personnel's concerns regarding the implementation of MTSS in North Carolina public schools. According to Hall (1976), individuals' concern levels correlate with their levels of performance. The SoC element of CBAM allows the researchers to understand and evaluate individuals' progress and experience in the MTSS adoption and implementation process by using individuals' concerns as an indicator.

Historical Overview of Identification of Students with Specific Learning Disability

Specific learning disability (SLD) identification and eligibility practices and policies have varied over the last three decades. These variations included using the identification of the presence of a severe discrepancy between intellectual ability and achievement and implementation of RTI to identify students with SLD, which created uncertainties regarding how best to determine SLD eligibility for special education services. Given these issues, understanding the SLD definition and a historical overview of how SLD identification emerged is vital to inform current challenges regarding identification and service delivery for students with SLD.

Specific Learning Disability. According to IDEA, SLD is:

A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage (20 U.S.C. § 1401 (30)).

SLD is included in 13 national categories of disabilities defined within Individuals with Disabilities Education Act (IDEA) (IDEA, 2004), which allows students to receive special education services in the United States. The prevalence of students with SLD ranges from 5-15% among various cultures, and SLD continues to be the largest classification area for special education services under the IDEA in the United States (American Psychiatric Association, 2013; Zirkel, 2013b).

Discrepancy Model. In 1975, President Gerald Ford signed Education for All Handicapped Children Act (EAHCA) into law that required school districts to provide free and appropriate education for all students, including students with SLD. In 1977, U.S. Office of Education defined SLD as EAHCA reached full implementation:

The term "specific learning disability" means a disorder in one or more of the

psychological processes involved in understanding or in using language, spoken

or written, which may manifest itself in an imperfect ability to listen, speak, read,

write, spell, or to do mathematical calculations. The term does not include

children who have LD which is primarily the result of visual, hearing, or motor

handicaps, or mental retardation, or emotional disturbance, or of environmental,

cultural, or economic disadvantage. (U.S. Office of Education, 1977, p. 65083)

In addition to this definition, U.S. Office of Education proposed the discrepancy model for the identification of students with SLD in 1977; however, because of the negative public

responses, the model was not included (Swanson, Harris, & Graham, 2013). An ability-achievement discrepancy model was presented to determine whether or not substantial discrepancy existed between a student's scores on an individualized test of general intelligence and one or more areas of academic achievement (e.g., reading decoding, reading comprehension, math calculation) for identification in the area of SLD. Most states adopted the discrepancy between ability and achievement approach in the United States; however, criticisms quickly arose regarding its reliability, which continues today. Scientific evidence emphasizes that an ability-achievement discrepancy model not be relevant to the identification of SLD and may also cause disproportionate identification (Mather & Gregg, 2006). Kovaleski, VanDerHeyden, and Shapiro (2013) claim that "a student's response to robust interventions is the best evidence for the existence of SLD rather than the student's performance on a group of norm-referenced tests" (p.8.). These arguments resulted in the promotion of alternatives to the discrepancy-based identification, which included phonological assessments, treatment validity approaches, and later RTI (Swanson, Harris, & Graham, 2013).

According to the National Association of School Psychologists' (NASP; 2011) position statement, evidence-based multi-tiered service delivery systems provide a continuum of high-quality data-based instruction and intervention strategies for academic and behavior practices within general education for children with SLD. Therefore, identification of children with SLD should be implemented within the context of these delivery systems.

SLD and Response to Intervention. The 2004 reauthorization of the IDEA yielded a new alternative, RTI, for the identification of students with SLD. The recognition of RTI in the 2004 amendments of the IDEA as an approach for identifying students with SLD has generated subsequent changes in the IDEA 2006 regulations and in following state laws (Zirkel, 2013b).

With the recognition of RTI, the substantial debate has focused on the roles of general intelligence measures, broad and narrow cognitive processing measures, and oral language measures in the identification of SLD identification (Mather & Gregg, 2006).

According to IDEA Regulations (2011), each state in the United States must choose either (a) to permit or require RTI; (b) to permit or prohibit severe discrepancy; or (c) to permit or omit a third option which is "other alternative research-based procedures" (§ 300.307[a]; Zirkel (2013a). In January 2011, 13 states required RTI for identification of SLD and increased to 14 by March 2012 (Zirkel, 2011). Complete and exclusive use of RTI for SLD identification is mandated in Colorado, Connecticut, Florida, Idaho, Louisiana, Rhode Island, West Virginia, and Wisconsin. Complete with the option of adding severe discrepancy of RTI for SLD identification is mandated in Georgia, Illinois, and Maine; and in Delaware (reading and math), New Mexico (Grades K–3), and New York (reading in Grades K–4) partially (Zirkel, 2012). In addition, Iowa requires the districts to use either RTI or another alternative research-based procedure (Zirkel, 2012).

SLD Identification in North Carolina. Schools in North Carolina have had the option of using RTI for determining SLD eligibility rather than the ability-achievement discrepancy model since the 2004 regulations of IDEA. NCDPI "is currently making recommendations for changes to policy to eliminate the IQ-achievement discrepancy model as a permissible approach to determining SLD eligibility, recognizing the criticisms and concerns by national experts and the Learning Disabilities community" (NCDPI, 2015).

NCDPI has proposed a 5-year plan for the elimination of ability-achievement discrepancy model for SLD identification. The timeline for this change is as follows:

February 2015   Policy changes; public notice and comment

June 2015   Policy changes seek School Board of Education approval

2015-2016   Rollout for the elimination of 15-point and alternative to

                     discrepancy begins

2020-2021   All K-12 use MTSS data for eligibility decisions for SLD (simple

                     discrepancy eliminated)

Source: North Carolina Department of Public Instruction. (n.d.). *Specific learning disabilities eligibility.*
Retrieved from http://mtss.ncdpi.wikispaces.net/SLD+Eligibility

NCDPI believes that being the most effective and efficient approach to improving student outcomes, RTI/MTSS ensures equitable access to education for all students.

Multi-Tiered System of Supports

Schools have been adopting the multi-layered response to intervention systems to improve student outcomes in both academics (i.e. RTI) and behavior (i.e. PBIS). Integrating academic and behavior support into one system has become an area of increasing interest because such systems require an intensive level of resources to implement and sustain (McIntosh, Goodman, & Bohanon, 2010). There is growing consensus that integrating academic and behavior support should be considered together because there is evidence that problem behavior is associated with low academic skills and vice versa. For example, McIntosh, Goodman, and Bohanon (2010) indicate that the risk for problem behavior and depression later in life is at a higher level for students with low academic skills.

In North Carolina, MTSS is defined as "a multi-tiered framework, which promotes school improvement through engaging research-based academic and behavioral practices 'and' employs

a systems approach using data-driven problem solving to maximize growth for all" (NCDPI, 2015).

MTSS is an umbrella term that includes a data-based problem-solving approach with tiered interventions for both academics and behavior. Many existing initiatives such as PBIS and RTI, share the typical components of data-based problem-solving approach. PBIS is a multi-layered data-based problem-solving approach, which aims to support and improve student behavior. RTI is a well-known multi-tiered approach to supporting student academic achievement. MTSS and RTI are sometimes used interchangeable, and both terms may be used within a state, which causes confusions among professionals. For example, in Florida, RTI integrates academic and behavioral instruction and intervention and "has been described as a multi-tiered system of supports (MTSS) for providing high-quality instruction and intervention matched to student needs using learning rate over time and level of performance to inform instructional decisions" (Florida's Multi-Tiered System of Supports). Therefore, in this study, to avoid confusions resulting from using different terms to refer the same approach the term MTSS is used and defined as; a systematic framework that utilizes data-based problem solving and decision making with multi-layered instructions and interventions to integrate academic and behavior instruction and intervention in a continuum of evidence-based practices (Gamm et al., 2012).

MTSS is a problem-solving process that focuses on the instructional needs of students, necessitates adjustments for continued improvement of student academic performance and behavior, and assesses the efficacy of instructions and interventions on student outcomes. Therefore, MTSS is designed to provide students with appropriate instruction and intervention in

varying levels of intensities to ensure that students receive resources at an adequate level of quality to improve the performance of all students (Gamm et al., 2012).

The MTSS framework facilitates the early identification of behavior and learning problems; therefore, provides an opportunity to assist students immediately rather than waiting for academic and behavioral difficulties to become more significant (Gresham, 2007). Students are screened for potential academic and behavior problems early in school and are provided with supplemental evidence-based instruction and intervention based on their needs; thus, problem behaviors are prevented from becoming more serious.

MTSS employs a three-tiered approach in which the intensity of the intervention is increased when the student does not demonstrate an adequate response to an intervention (Gresham, 2007).

Tier I, or core universal instruction, is designed and provided for all students in general education classrooms to address the majority of students' instructional needs (Algozzine et al., 2012; Gamm et al., 2012; Richards et al., 2007). Core instruction is differentiated to address diverse student classroom needs. Desired positive behaviors are taught and reinforced for all students. All students receive screening assessments to identify who meet grade-level standards with the universal core instruction, and who do not (Richards et al., 2007). For those who have not demonstrated mastery of grade level standards, additional instruction/intervention is provided based on their specific needs through Tier II or targeted intervention.

Students who demonstrate inadequate progress toward the general education standards receive more targeted Tier II interventions, which are driven by evidence-based practices (Fuchs et al., 2007). Tier II or targeted supplemental instruction and interventions are administered to small groups of students who have common academic or behavioral needs (Gamm et al., 2012).

Tier II support is provided in addition to Tier I instruction/intervention; however, the progress of students receiving Tier II interventions is assessed more frequently (Richards et al., 2007).

Students, who also demonstrate insufficient progress after receiving Tier II interventions, are provided the most intensive Tier III interventions (Fuchs et al., 2007). Tier III intensive individualized instruction and intervention is provided to a few students based on their specific and individual academic or behavioral needs (Algozzine et al., 2012; Gamm et al., 2012). Tier III interventions may replace some part of the core curriculum because of the increased length of time needed (Richards et al., 2007).

Facilitating MTSS Implementation. Implementation of MTSS framework requires all school personnel change the teaching and learning practices, which they have traditionally performed. This change underlines the motivation and competency of school personnel to work toward a common goal collaboratively. "Educators must understand the need for the change, have the skills required to meet the needs of the organization, and be confident in their ability to function within the changing environment" (Castillo et al., 2012, p. 5).

One system change model to facilitate MTSS implementation involves three stages: consensus development, infrastructure building, and implementation (Castillo et al., 2012).

Consensus development. An essential principle of facilitating implementation through a systems change is the development of consensus among key stakeholders regarding the implementation of the new initiative. According to Curtis, Castillo, and Cohen (2008), the majority (80% is often suggested) of stakeholders (e.g., principal, teachers, instructional support personnel, student services personnel) should commit to implementing the new initiative before proceeding with implementation of new practices. The level of commitment from school personnel regarding the new initiative impacts the extent to which MTSS implementation occurs;

therefore, it is essential to evaluate factors that may impact buy-in from educators. Achieving consensus is facilitated by ensuring that school personnel is aware of the need for the implementation process and believes that they have necessary skills for successful implementation of the framework.

Examining the perceptions of school personnel in regard with their own skills will help inform the decisions regarding the consensus development and facilitate the appropriate professional development by examining and addressing needs of school personnel to enhance the implementation of MTSS practices.

Infrastructure building. Infrastructure building involves creating the structures required to promote and support MTSS implementation. According to Castillo et al. (2012), a school must examine its current goals, policies, resources, and school personnel responsibilities concerning their alignment with MTSS service delivery. Castillo et al. (2012) indicate that to enhance their capacity to implement MTSS practices schools must consider addressing structures including but not limited to:

- Development/adoption of standards-based comprehensive assessment systems
- Identification of which Tier I, II, and III resources are available to teachers and the development/adoption of resources that are needed
- Alignment of existing policies and procedures to be consistent with the use of MTSS practices across tiers
- Development/adoption of decision rules regarding students' response to intervention

- Development/adoption of technology to facilitate efficient data collection and graphical display of data that is useful to teachers when making decisions about student progress

- Determination of what existing meeting times educational personnel can use to employ MTSS practices or how to rearrange personnel schedules to create time

- Time to provide ongoing professional development (i.e., training, coaching, and follow-up support) to all educators in the building who are expected to implement the MTSS model (p. 7).

Examining perceptions of school personnel in regard with their school's MTSS practices will give insight into the weakness and strengths of the process of infrastructure building and help determine future steps and what to intervene for improved outcomes.

Implementation. Implementation stage begins with accomplishing action plans developed during infrastructure and may occur at various levels across a school or district. An implementation may begin on a smaller scale for achieving consensus development and infrastructure building. Evaluating the extent to which critical components of MTSS are being implemented with integrity is essential before decision-making regarding the framework's impact on student outcomes (Castillo et al., 2012).

Conclusion

RTI has become one of the most discussed innovation initiatives since its recognition by the IDEA in 2004. With the reauthorization of IDEA in 2004, RTI was recognized as an alternative to discrepancy model for the identification of students with SLD. Identification of students with SLD using RTI data is a vehicle to require schools implement school-wide multi-tiered problem-solving frameworks; however, SLD identification is not the only benefit of RTI.

RTI is a problem-solving process that focuses on the instructional needs of students, necessitates adjustments for continued improvement of student academic performance, and assesses the efficacy of instructions on student outcomes.

RTI is now considered as a part of MTSS and integrated with PBIS. Schools in the United States have begun to implement MTSS framework for improved academic and behavioral student outcomes. In all North Carolina public K-12 schools, students with SLD will be identified and qualified for special education services using MTSS data by the 2020-2021 school year. Changes in policy put pressure on educators as they raise questions related to their concerns about the implementation of the MTSS framework. According to Hall, George, and Rutherford (1977), not necessarily the situation around them but individuals' perceptions are the predictors of their concerns; therefore, it is essential to take into account how they perceive their skills and MTSS practices of their schools before addressing their concerns.

Purpose of the Current Study

Exploring school personnel's concerns about MTSS is critical to understand the factors that can support the adoption and subsequent implementation of MTSS framework in school settings. As such, investigating school personnel's concern profiles must be considered. Additionally, assessing concerns toward MTSS framework can be used to understand the supports needed to support schools and educators. To ensure program adoption, implementation effectiveness, and subsequent positive student outcomes, educators must not only understand the benefits of the innovation, but they must also feel adequately trained and supported.

For the purpose of this study, it is theorized that school personnel's staff position, perceptions of their own skills, perceptions of their school's practices and the level of their experience implementing MTSS predict their stages of concern related to MTSS implementation.

The independent variables include staff position (administrator, teacher, and school psychologist), and implementation length. Stage of concern toward MTSS implementation is considered dependent variable and proximal outcomes. As innovation adoption and implementation have been found to be associated with concerns demonstrated toward the innovation implementation (Hall & Hord, 2014), adoption and implementation of innovation are considered medial outcomes. Figure 1 provides a conceptual framework for the predicted relationship between staff position, school personnel's perceptions of their skills and their school's practices, and school personnel's stages of concern.
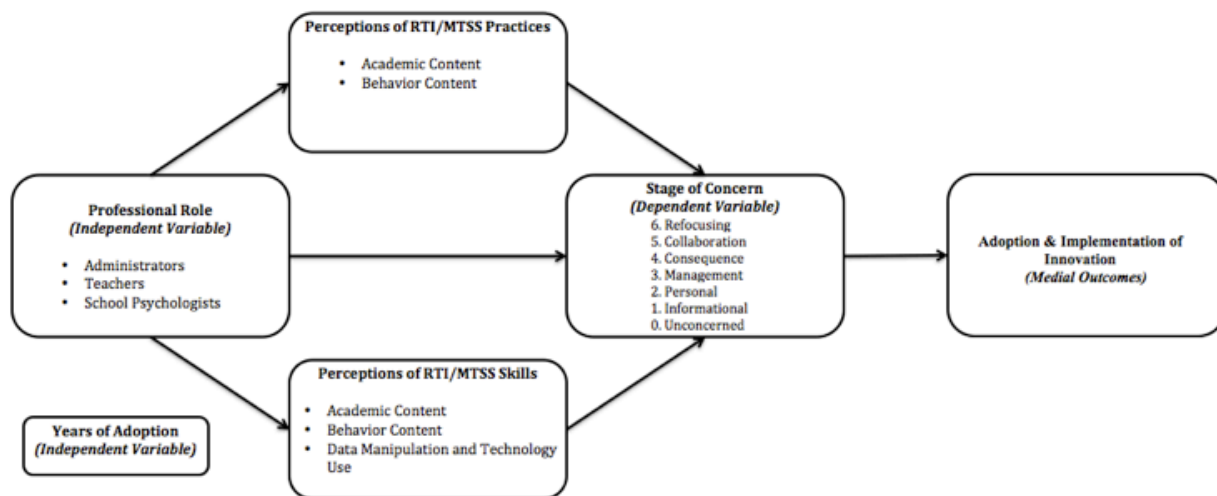

Figure 2. Predicted relationship between staff position, school personnel's perceptions of their skills and their school's practices, and school personnel's stages of concern

Research Questions and Hypotheses

Research question 1. What are the differences in school personnel's perceptions of their MTSS skills and perceptions of their school's MTSS practices as a factor of staff position?

Hypothesis associated with research question 1. School personnel with different staff positions will exhibit different levels of perceptions of their skills and distinguish different frequencies of their school's MTSS practices.

Research question 2. What is the relationship between MTSS implementation length and staff position, and school personnel's perceptions of their MTSS skills, perceptions of their school's MTSS practices, and stages of concern?

Hypothesis associated with research question 2. Within the same staff position, school personnel who have spent more years in MTSS implementation are more likely to demonstrate higher levels of perceived skills, distinguish their school's MTSS practices as being more frequent, and exhibit later stages of concern.

Research question 3. To what extent do school personnel's staff position and perceptions of their MTSS skills predict their stages of concern?

Hypothesis associated with research question 3.1. School psychologists and administrators are more likely to demonstrate later stages of concern whereas teachers are more likely to demonstrate earlier stages of concern.

3.2. School personnel who demonstrate lower levels of perceived skills are more likely to demonstrate earlier stages of concern.

3.3. School personnel who demonstrate higher levels of perceived skills are more likely to demonstrate later stages of concern.

Research question 4. To what extent do school personnel's staff position and perceptions of their school's MTSS practices predict their stage of concern?

Hypothesis associated with research question 4.1. School personnel who perceive their school's practices as being occurred less often are more likely to demonstrate earlier stages of concern.

4.2. School personnel who perceive their school's practices as being occurred more frequently are more likely to demonstrate later stages of concern.

CHAPTER III

METHODS AND PROCEDURES

To address previously mentioned research questions, a quantitative study design was used in this study to understand how K-12 school personnel perceives their MTSS skills and their school's MTSS practices and to what extent their perceptions predict their stages of concern regarding implementing MTSS practices. The proposed study included the collection and analysis of the quantitative data from self-report measures. Individual items included in the survey measured demographics, including staff position, years of implementing MTSS, years in current school, and years in current position. School personnel's ratings of their perceptions about the skills they possess to implement MTSS were measured with Perceptions of RTI Skills survey (Florida Statewide Problem Solving and Response to Intervention Project, 2012). School personnel's ratings of their perceptions on the extent to which their schools practice or implement MTSS were measured with Perceptions of Practices survey (Florida Statewide Problem Solving and Response to Intervention Project, 2012). In addition, school personnel's stages of concern regarding the change efforts they are involved with were measured with Stages of Concern Questionnaire (The Southwest Educational Development Laboratory; SEDL, 2006). All scale items were included in one survey, and the final survey was distributed via Qualtrics, an online database for surveys, data collection, and analysis. Data were analyzed using the Statistical Program for Social Sciences (SPSS) software. Multivariate analysis of variance (MANOVA) was conducted for Perceptions of MTSS Skills and Perceptions of MTSS Practices as a factor of Staff Position. Kendall's tau-b correlation coefficients were conducted to evaluate

the strength of the relationship between Staff Position and Years of Implementing MTSS and Perceptions of MTSS Skills, Perceptions of School's MTSS Practices, and Stages of Concern. Hierarchical multiple regression analysis was conducted to determine if the addition of Perception of MTSS Skills or Perceptions of MTSS Practices improved the prediction of Stage of Concern over and above Staff Position alone.

Procedures

In order to protect the rights and privacy of the participants involved in this research project, several measures were taken to ensure that individuals were informed about their involvement and responsibilities as participants. Before data collection took place, the project was submitted to the University of North Carolina at Chapel Hill Institutional Review Board for approval. Participants read and signed an informed consent form that was made available online before participating in the study. The informed consent explained the purpose of the study, benefits, and risks of participation, responsibilities of participants, information regarding confidentiality, and the rights of the individuals to terminate participation at any time without penalty. Also, the participants' identities and the information they divulge in surveys were kept confidential and secure. Individual and school names were not recorded.

Educators in North Carolina's public school system were asked to participate in the study via educational contacts from North Carolina school districts and schools. An email to district level and school level contacts were sent to distribute electronic survey email to solicit school personnel to participate in the study. Emails contained the title and the purpose of the study, the risks and benefits to the participants, and the procedures for accessing the survey.

A pilot study was conducted with a small group of people in order to note the length of the survey administration, the clearness and the difficulty of the survey questions, and the

accuracy of the terms used in the survey items.

 To ensure that scales are appropriate for educators in North Carolina public schools, the language on Perceptions of RTI Skills and Perceptions of Practices surveys were slightly altered. For example, the item "Select appropriate data (e.g., Curriculum-Based Measurement, DIBELS, FCAT, behavioral observations) to use for progress monitoring of student performance during interventions:" was changed to "Select appropriate data (e.g., Curriculum-Based Measurement, DIBELS, behavioral observations) to use for progress monitoring of student performance during interventions:" because FCAT, The Florida Comprehensive Assessment Test, is an assessment tool specific to Florida's education system and is not used in North Carolina.

Participants

Participants were recruited from approximately 60 K-12 schools distributed across North Carolina. To recruit participants, electronic method of recruitment was used and request emails to district, and school contacts were sent to distribute survey invitation emails to school personnel across North Carolina via listservs. Participation in this study was voluntary. Principals, assistant principals, general education teachers, special education teachers, and school psychologists were included for the purposes of this study. The inclusion criteria for participant selection included being experienced with MTSS implementation for at least one year. School personnel working at charter schools and school personnel who implemented MTSS for less than one year were excluded from the study.

This study had 102 school personnel completed the electronic survey. Of the completed surveys, school personnel who have implemented MTSS for less than one year accounted for 16 of the participants and were excluded from the study for the purposes of the inclusion criteria. Of the remaining 86 participants, 2 participants selected *Other (Reading Specialist and Literacy*

Coach) category for Staff Position and were also excluded from the study. Principals, assistant principals, general education teachers, special education teachers, and school psychologists were included in the data analysis. The final analytical sample included 84 participants (administrators, teachers, and school psychologists). Most respondents reported implementing MTSS for 1-4 years (50%). 38.1% of the respondents have implemented MTSS for 5-9 years. In addition, most participants were teachers (53.6%), while 27.4% of the participants were school psychologists and 19% were administrators.

Measures

Demographics. The demographics measure used in this study is a set of items that allow the researcher to identify participant's demographic information including, job description, years of experience in their current position, in their current school, and implementing MTSS and if a participant currently works at a charter school. The measure includes five items. The first item, "Job Description" allows respondents to select their staff position category and includes following response options: Principal; Assistant Principal; General Education Teacher; Special Education Teacher; School Psychologist; or Other. The second item asked the respondents "Do you currently work at a charter school?" and allows them to select from "Yes" or "No" response options. Third item "Years in Current School," fourth item "Years in Current Position," and fifth item "Years Implementing MTSS" allows respondents select from following response options: Less than one year; 1-4 years; 5-9 years; 10-14 years; 15-19 years; or 20 or more years.

Perceptions of RTI Skills Survey. The Perceptions of RTI Skills Survey (Florida Statewide Problem Solving and Response to Intervention Project, 2012) is a self-report measure that assesses school personnel's perceptions of the skills they possess to implement RTI/MTSS. The instrument contains 50 Likert-type scaled items that assess skills in applying RTI/MTSS

practices to (1) academic and (2) behavior content as well as skills in (3) data manipulation and technology use. Respondents can select from the following scale when responding to items on the survey: 1 = I do not have the skill at all (NS); 2 = I have minimal skills in this area; need substantial support to use it (MnS); 3 = I have the skills, but still need some support to use it (SS); 4 = I can use this skill with little support (HS); 5 = I am highly skilled in this area and could teach others this skill (VHS). Examples of questions include: "The skill to: Access the data necessary to determine the percent of students in core instruction who are achieving benchmarks in: (a) Academics, (b) Behavior; The skill to: Identify the most appropriate type(s) of data to use for determining reasons (hypotheses) that are likely to be contributing to the problem for: (a) Academics, (b) Behavior" (see Appendix A).

Castillo et al. (2012) indicate that project staff conducted content and construct validity on the Perceptions of RTI Skills Survey. Results indicated that the three factors, (1) Perceptions of RTI Skills Applied to Academic Content, (2) Perceptions of RTI Skills Applied to Behavior Content, and (3) Perceptions of Data Manipulation and Technology, collectively accounted for 80% of the common variance. The factor analysis yielded internal consistency reliability estimates of α = .98 for the subscale of perceptions of RTI skills applied to academic content; of α = .97 for perceptions of RTI skills applied to behavior content; and α = .94 for perceptions of data manipulation and technology use skills, as measured by Cronbach's alpha (Castillo et al., 2012).

This measure will be referred as Perceptions of MTSS Skills Survey in this study.

Perceptions of Practices Survey. The Perceptions of Practices Survey **(**Florida Statewide Problem Solving and Response to Intervention Project, 2012) is a self-report measure that assesses school personnel's perceptions of the extent to which their schools implement

RTI/MTSS practices. The instrument contains 42 Likert scaled items that examine the perceptions of school personnel regarding implementation of RTI/MTSS practices applied to (1) academic and (2) behavior content across tiers. Respondents select from the following scale when responding to items on the survey: 0 = Do Not Know (DK); 1 = Never Occurs (NO); 2 = Rarely Occurs (RO); 3 = Sometimes Occurs (SO); 4 = Often Occurs (OO); 5 = Always Occurs (AO). Examples of questions include: "In my school: Progress monitoring occurred for all students receiving supplemental and/or intensive interventions for: (a) Academics, (b) Behavior; In my school: Data were collected to confirm the reasons that the student was not achieving the desired level of performance for (a) Academics, (b) Behavior" (see Appendix A).

Castillo et al. (2012) indicate that project staff conducted content and construct validity on the Perceptions of Practices Survey. Results indicated that the two factors, (1) Perceptions of RTI Practices Applied to Academic Content and (2) Perceptions of RTI Practices Applied to Behavior Content, accounted for 75% of the common variance. The factor analysis yielded internal consistency reliability estimates of $\alpha = .97$ for the subscale of perceptions of RTI practices applied to academic content; and of $\alpha = .96$ for perceptions of RTI practices applied to behavior content, as measured by Cronbach's alpha (Castillo et al., 2012).

This measure will be referred as Perceptions of MTSS Practices Survey in this study.

Stages of Concern Questionnaire. Stages of Concern Questionnaire (SoCQ) (The Southwest Educational Development Laboratory; SEDL, 2006) was initially developed in the 1970s and updated to its latest version (Form 075) in 2006. SoCQ is a 35-item questionnaire that was designed to apply to all educational innovations to measure individuals' concerns regarding change efforts. Each item requires an 8-point rating from the lowest level of intensity (0) through the highest level of intensity (7) using the following response scale: 0 = Irrelevant; 1-2 = Not true

of me now; 3-4-5 = Somewhat true of me; 6-7 = Very true of me now. Examples of questions include: "I have very limited knowledge of the innovation; I am concerned about my inability to manage all that the innovation requires" (see Appendix A).

Results from SoCQ can be used to establish concern profiles in individual, organizational, or systems level. Hall and Hord (2014) describe what an ideal goal of concerns-based implementation effort is best represented by high Stage 4 (Consequence) and Stage 5 (Collaboration) in a concerns profile.

The questionnaire has strong reliability estimates and internal consistency; test/retest reliabilities range from .65 to .86 and alpha coefficient ranges from .66 to .83 (Hall & Hord, 2014).

Data Analyses

The data analyses of this study consisted of three types of analyses, first, MANOVA second, a series of Kendall's tau-b correlations, and third, hierarchical multiple regression.

The Perceptions of MTSS Skills and the Perceptions of MTSS Practices surveys used in this study included several factors. The Perceptions of MTSS Skills survey included three factors: 1. Academic; 2. Behavior; and 3. Data Manipulation and Technology Use. Perceptions of MTSS Practices Survey included two factors: 1. Academic; and 2. Behavior. Before analyzing data, the researcher divided items in both surveys based on their factors and calculated mean scores for each factor repeated for each participant. After mean scores were calculated, data was entered to SPSS, each factor being treated as a variable: 1. Perceptions of MTSS Skills - Academic; 2. Perceptions of MTSS Skills - Behavior; 3. Perceptions of MTSS Skills - Data Manipulation and Technology Use; 4. Perceptions of MTSS Practices - Academic; and 5. Perceptions of MTSS Practices - Behavior.

The researcher repeated similar procedures for SoCQ. SoCQ consisted of 35 items and seven categories: 1. Unconcerned; 2. Information; 3. Personal; 4. Management; 5. Consequence; 6. Collaboration; and 7. Refocusing. Each category included five items. The researcher divided items based on their categories and calculated raw and percentile scores for each category. The category with the highest percentile score represented the participant's stage of concern profile and data was entered to SPSS under variable "Stage of Concern Profile." Other variables included "Staff Position" and "Years Implementing MTSS."

To examine the research question 1, MANOVA was conducted for Perceptions of MTSS Skills and Perceptions of MTSS Practices as a factor of Staff Position using data from *Staff Position, Perceptions of RTI Skills,* and *Perceptions of Practices.* The researcher explored whether there were differences in school personnel's perceptions of their MTSS skills and perceptions of their schools' MTSS practices as a factor of staff position. Independent variables included one categorical variable, Staff Position (Administrator, Teacher, or School Psychologist). Dependent variables included three factors from Perceptions of MTSS Skills Survey: (1) Academic Factor, (2) Behavior Factor, and (3) Data Manipulation and Technology Use Factor; and two factors from Perceptions of MTSS Practices Survey: (1) Academic Factor and (2) Behavior Factor.

To examine the research question 2, Kendall's tau-b correlation coefficients were conducted to evaluate the strength of the relationship between Staff Position and Years Implementing MTSS and Perceptions of MTSS Skills, Perceptions of MTSS Practices, and Stages of Concern using data from *Staff Position, Years Implementing MTSS, SoCQ, Perceptions of RTI Skills,* and *Perceptions of Practices*. The researcher investigated the relationship between school personnel's staff position and years implementing MTSS and perceptions of their MTSS

skills, perceptions of their schools' MTSS practices, and stages of concern. Independent

variables included one categorical variable, Staff Position (Administrator, Teacher, or School

Psychologist) and one continuous variable, Years Implementing MTSS. Dependent variables

included three factors from Perceptions of MTSS Skills Survey: (1) Academic Factor, (2)

Behavior Factor, and (3) Data Manipulation and Technology Use Factor; two factors from

Perceptions of MTSS Practices Survey: (1) Academic Factor and (2) Behavior Factor; and

Stages of Concern.

   To examine the research question 3, hierarchical multiple regression analysis was

conducted to determine if the addition of Perception of MTSS Skills improved the prediction of

Stages of Concern over and above Staff Position alone, using data from *Staff Position,*

Perceptions of RTI Skill, and SoCQ. The researcher investigated to what extent school

personnel's staff position and perception of MTSS skills predicted their stages of concern.

Independent variables included one categorical variable, Staff Position (Administrator, Teacher,

or School Psychologist); and three factors from Perceptions of MTSS Skills Survey: (1)

Academic Factor, (2) Behavior Factor, and (3) Data Manipulation and Technology Use Factor.

Because independent variable, Staff Position, was a categorical variable with three categories,

three dummy variables (Administrator, Teacher, and School Psychologist), which are also

independent variables that represent the original categorical variable but are coded in such a

manner to solve the natural order problem, were created. Each dummy variable included all the

participants and coded "1" for participants belonged in the category and "0" for the participants

who did not belong in the category. See Table.5 for an example of dummy coding used in this

study. Dependent variables included Stages of Concern.

Table 5. Dummy coding for categorical independent variable (staff position)

Participant	Staff Position	Dummy Variables		
		Administrator	Teacher	School Psychologist
1	Teacher	0	1	0
2	School Psychologist	0	0	1
3	Teacher	0	1	0
4	Teacher	0	1	0
5	Administrator	1	0	0
6	Administrator	1	0	0
7	School Psychologist	0	0	1

To examine the research question 4, hierarchical multiple regression analysis was conducted to determine if the addition of Perception of MTSS Practices improved the prediction of Stages of Concern over and above Staff Position alone, using data from *Staff Position, Perceptions of RTI Practices, and SoCQ*. The researcher investigated to what extent school personnel's staff position and perception of MTSS practices predicted their stages of concern. Independent variables included one categorical variable, Staff Position (Administrator, Teacher, or School Psychologist); and two factors from Perceptions of MTSS Practices Survey: (1) Academic Factor, and (2) Behavior Factor. Because independent variable, Staff Position, was a categorical variable with three categories, three dummy variables (Administrator, Teacher, and School Psychologist), which were created previously, were used. See Table 5 for an example of dummy coding used in this study. Dependent variables included Stages of Concern.

CHAPTER IV

RESULTS

The purpose of this study was to investigate how K-12 school personnel perceives their

MTSS skills and their school's MTSS practices and to what extent their perceptions predict their

stages of concern regarding implementing MTSS practices. Following these purposes, the

researcher conducted an electronic survey consisting of two surveys: (1) Perceptions of MTSS

Skills Survey, and (2) Perceptions of MTSS Practices Survey; and a questionnaire: Stages of

Concern Questionnaire.

This chapter describes the data that were collected and analyzed to

investigate the research questions and presents the results of the electronic survey. The results of

each question follow each research question.

Participant Demographics

Participants were recruited from approximately 60 K-12 schools distributed across North

Carolina. Principals, assistant principals, general education teachers, special education teachers,

and school psychologists were included for the purposes of this study. The inclusion criteria for

participant selection included having experience with MTSS implementation for at least one

year. School personnel working at charter schools and school personnel who implemented MTSS

for less than one year were excluded.

This study included a total of 84 who completed the electronic survey. No missing or

incomplete data were recorded.

On the first section of the electronic survey participants had six different choices for job

description, General Education Teacher, Special Education Teacher, Principal, Assistant Principal, School Psychologist, and Other. Because the focus of this study was on staff positions based on broader categories, the staff position variables were recoded to include Administrator, Teacher, and School Psychologist. Assistant Principal and Principal were recoded into one variable, Administrator. General Education Teacher and Special Education Teacher were recoded into one variable, Teacher. School Psychologist remained in its unique category. Therefore, the new staff positions were recoded to form three variables, Administrator, Teacher, and School Psychologist. Table 6 below explains the actual number of participants for the study and categorizes them by their staff position.

Table 6. Participants' staff positions and years of implementing MTSS

Demographic Variables		N(Valid)	Percent
Staff Position			
	Principal	7	8.3
	Assistant Principal	9	10.7
Administrator		16	19
	General Education Teacher	33	39.3
	Special Education Teacher	12	14.3
Teacher		45	53.6
School Psychologist		23	27.4
Years Implementing MTSS			
1-4 years		42	50
5-9 years		32	38.1
10-14 years		9	10.7
15-19 years		1	1.2
Total Participants		84	100

Participants' number of years in their current school are reported below in Figure 3. This figure shows that participants who have spent 1-4 years in their current school made up 44% of the study participants (n = 37). These numbers reflect the actual sample size after adjustments were made for the inclusion criteria.

Figure 3. Participants' number of years in their current school
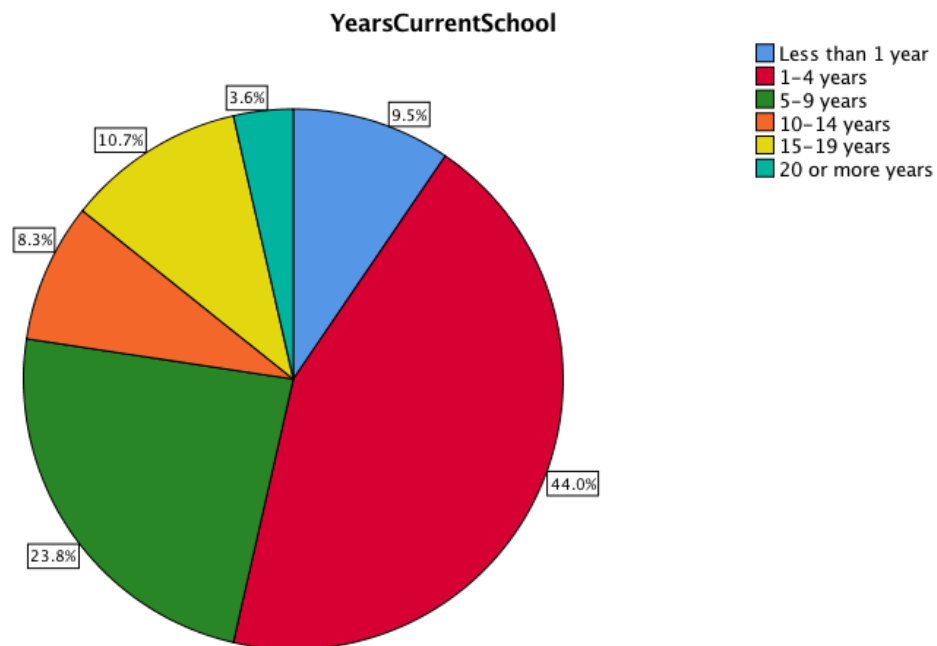
Participants' number of years in their current position is reported below in Figure 4. This figure shows that 32.1% (n = 27) of participants have spent 1-4 years in their current position and 31% (n = 26) of participants have spent 5-9 years in their current position. These numbers reflect the actual sample size after adjustments were made for the inclusion criteria.

Figure 4. Participants' number of years in their current position
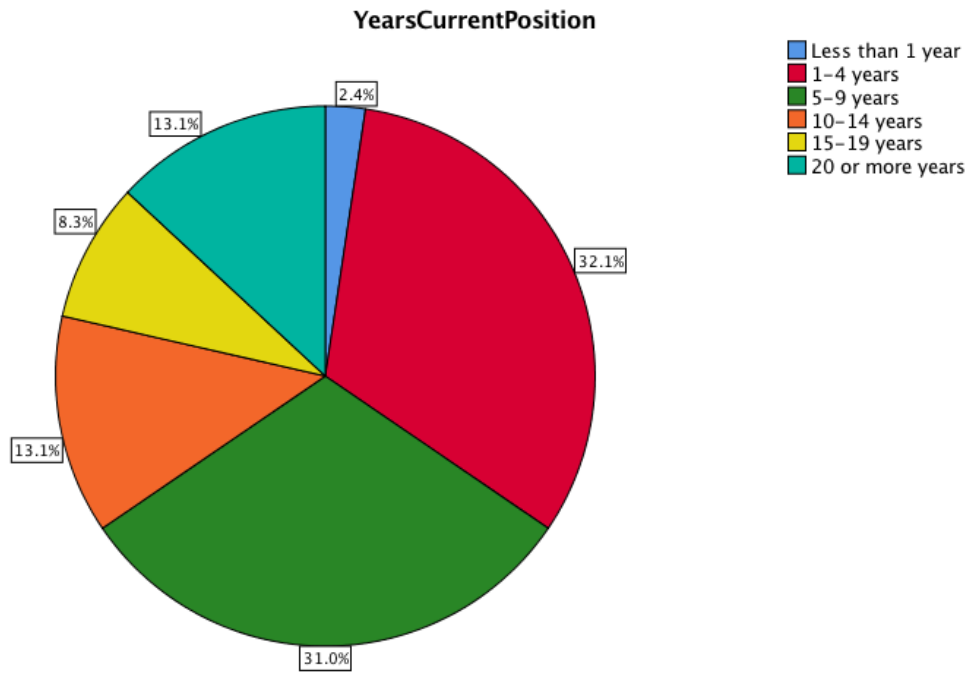
Research Questions

      Research question 1. What are the differences in school personnel's perceptions of their MTSS skills and perceptions of their school's MTSS practices as a factor of staff position?

      A MANOVA was run to determine the effect of school personnel's staff position on their perceptions of their MTSS skills and perceptions of their school's MTSS practices. The independent variable Staff Position (i.e., the between-subjects factor) had three categories: Administrator, Teacher, and School Psychologist. The five dependent variables (i.e., the within-subjects factors) were (1) Academic Skills, (2) Behavior Skills, and (3) Data Manipulation and Technology Use Skills as measured by the Perceptions of MTSS Skills Survey; and (4) Academic Practices and (5) Behavior Practices as measured by Perceptions of MTSS Practices Survey.

42

Preliminary assumption checking revealed that data was normally distributed, as assessed by visual inspection of histograms and skewness and kurtosis values. There were no univariate or multivariate outliers, as assessed by boxplot and Mahalanobis distance ($p > .001$), respectively. There were linear relationships, as assessed by scatterplot; no multicollinearity; and there was homogeneity of variance-covariance matrices, as assessed by Box's M test ($p = .005$). The means and standard deviations for Perceptions of MTSS Skills and Perceptions of MTSS Practices by factor and Staff Position are presented in Table 7.

Table 7. Means and standard deviations for perceptions of MTSS skills and perceptions of MTSS practices by staff position

Factors	Staff Position	Mean	Std. Deviation
MTSS Skills	Administrator	4.00	.730
Academic	Teacher	3.82	.834
	School Psychologist	4.30	.635
MTSS Skills	Administrator	4.25	.447
Behavior	Teacher	3.51	.695
	School Psychologist	4.09	.733
MTSS Skills	Administrator	3.87	.885
Data	Teacher	3.40	1.053
	School Psychologist	4.26	.752
MTSS Practices	Administrator	4.19	.655
Academic	Teacher	3.80	.815
	School Psychologist	3.70	.703
MTSS Practices	Administrator	3.87	.719
Behavior	Teacher	3.40	.837
	School Psychologist	3.48	.665

It was hypothesized school personnel with different staff positions would exhibit differences in their perceptions of their skills and their school's practices. Findings of MANOVA

revealed there was a statistically significant difference between the staff positions on the

combined dependent variables, $F(10, 154) = 4.214$, $p < .0005$; Wilks' $\Lambda = .616$; partial $\eta^2 = .215$.

Further investigation with Tukey post-hoc tests, as presented in Table 8, showed that school

psychologists ($M = 4.3$, $SD = 0.635$) had significantly higher perceptions of MTSS academic

skills compared to teachers ($M = 3.82$, $SD = 0.834$) with a mean difference of .48, 95% CI [.01,

.95] ($p = .042$). Additionally, administrators ($M = 4.25$, $SD = 0.447$) and school psychologists

($M = 4.09$, $SD = 0.733$) had significantly higher perceptions of MTSS behavior skills compared

to teachers ($M = 3.51$, $SD = 0.695$), a mean difference of .74, 95% CI [.28, 1.20] and .58, 95% CI

[.17, .98], respectively, ($p = .001$, $p = .003$, respectively). Further, school psychologists ($M =$

4.26, $SD = 0.752$) scored significantly higher on their perceptions of MTSS skills in data

manipulation and technology use compared to teachers ($M = 3.40$, $SD = 1.053$) with a mean

difference of .86, 95% CI [.28, 1.44] ($p = .002$).

Table 8. Differences in observed means for perceptions of MTSS skills and perceptions of MTSS practices by staff position

Dependent Variable	(I) Staff Position	(J) Staff Position	Mean Difference (I-J)	Std. Error	Sig.	95% CI Lower Bound	95% CI Upper Bound
MTSS Skills Academic	Administrator	Teacher	.18	.223	.705	-.35	.71
		School Psychologist	-.30	.249	.444	-.90	.29
	Teacher	Administrator	-.18	.223	.705	-.71	.35
		School Psychologist	-.48*	.196	.042	-.95	-.01
	School Psychologist	Administrator	.30	.249	.444	-.29	.90
		Teacher	.48*	.196	.042	.01	.95
	Administrator	Teacher	.74*	.194	.001	.28	1.20

	(I)	(J)	Mean Diff	Std. Error	Sig.	Lower	Upper
MTSS Skills Behavior		School Psychologist	.16	.217	.734	-.36	.68
	Teacher	Administrator	-.74*	.194	.001	-1.20	-.28
		School Psychologist	-.58*	.171	.003	-.98	-.17
	School Psychologist	Administrator	-.16	.217	.734	-.68	.36
		Teacher	.58*	.171	.003	.17	.98
MTSS Skills Data	Administrator	Teacher	.47	.276	.204	-.18	1.13
		School Psychologist	-.39	.309	.428	-1.12	.35
	Teacher	Administrator	-.47	.276	.204	-1.13	.18
		School Psychologist	-.86*	.243	.002	-1.44	-.28
	School Psychologist	Administrator	.39	.309	.428	-.35	1.12
		Teacher	.86*	.243	.002	.28	1.44
MTSS Practices Academic	Administrator	Teacher	.39	.221	.191	-.14	.91
		School Psychologist	.49	.247	.120	-.10	1.08
	Teacher	Administrator	-.39	.221	.191	-.91	.14
		School Psychologist	.10	.194	.853	-.36	.57
	School Psychologist	Administrator	-.49	.247	.120	-1.08	.10
		Teacher	-.10	.194	.853	-.57	.36
MTSS Practices Behavior	Administrator	Teacher	.47	.225	.093	-.06	1.01
		School Psychologist	.40	.251	.261	-.20	1.00
	Teacher	Administrator	-.47	.225	.093	-1.01	.06
		School Psychologist	-.08	.198	.918	-.55	.39

School						
Psychologist	Administrator	-.40	.251	.261	-1.00	.20
	Teacher	.08	.198	.918	-.39	.55

Significance is based on observed means.
The error term is Mean Square(Error) = .596.
[*] Mean difference is significant at the .05 level.
CI = Confidence Interval

Research question 2. What is the relationship between MTSS implementation length and staff position, and school personnel's perceptions of their MTSS skills, perceptions of their school's MTSS practices, and stages of concern?

A correlational analysis was conducted to evaluate the strength of the relationship between Staff Position and Years of Implementing MTSS and Perceptions of MTSS Skills, Perceptions of MTSS Practices, and Stages of Concern. Three factors of Perceptions of MTSS Skills (Academic, Behavior, and Data Manipulation and Technology Use), two factors of Perceptions of MTSS Practices (Academic and Behavior), and Stages of Concern were analyzed. Kendall's Tau-b correlations were calculated examining the relationship between staff position and years of implementing MTSS and perceptions of MTSS skills, perceptions of school's MTSS practices, and stages of concern among 84 participants and within each staff position (Administrator, Teacher, and School Psychologist). The matrix of correlation coefficients is presented in Table 9. The results of the two-tail correlation tests are presented in Table 10.

It was hypothesized within the same professional role, school personnel who have spent more years implementing MTSS were more likely to demonstrate higher levels of perceived skills and practices and stages of concern. There were moderate to strong, positive associations between Years Implementing MTSS and Perceptions of MTSS Skills factors, Perceptions of MTSS Practices factors, and Stages of Concern individually, among 84 participants ($p < 0.01$). To further investigate the relationship, data were grouped by Staff Position (Administrator,

46

Teacher, and School Psychologist) and the correlation coefficients were conducted for each group. There were strong, positive relationships between Years Implementing MTSS and each dependent variable within the Teacher group ($p < 0.01$); and between Years Implementing MTSS and Stages of Concern within the School Psychologist group ($p < 0.01$); however, no other significant relationships were observed within the School Psychologist group. Within the Administrator group, the association between Years Implementing MTSS and Stages of Concern was significant at the .05 level.

Table 9. Correlational matrix of study variables

		Years Implementing MTSS	Perceptions of MTSS Skills			Perceptions of MTSS Practices		Stages of Concern
			Academic	Behavior	Data	Academic	Behavior	Concern
	Years Implementing MTSS	1.000						
Perceptions of MTSS Skills	Academic	.380**	1.000					
	Behavior	.492**	.669**	1.000				
	Data	.492**	.690**	.616**	1.000			
Perceptions of MTSS Practices	Academic	.368**	.428**	.376**	.360**	1.000		
	Behavior	.406**	.381**	.368**	.382**	.664**	1.000	
	Stages of Concern	.651**	.535**	.590**	.595**	.411**	.390**	1.000

*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)

Table 10. Intercorrelations for years implementing MTSS and perceptions of MTSS skills, perceptions of MTSS practices, and stages of concern

Years Implementing MTSS	n	Perceptions of MTSS Skills			Perceptions of MTSS Practices		Stages of Concern
		Academic	Behavior	Data	Academic	Behavior	
Whole Group	84	**.380****	**.492****	**.492****	**.368****	**.406****	**.651****
		.000	.000	.000	.000	.000	.000
Administrator	16	-.037	.252	.359	.140	.282	**.507***
		.874	.302	.120	.549	.224	.038
Teacher	45	**.555****	**.675****	**.653****	**.538****	**.578****	**.689****
		.000	.000	.000	.000	.000	.000
School Psychologist	23	.370	.377	.378	.146	.071	**.833****
		.068	.058	.058	.467	.727	.000

*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)

Research question 3. To what extent do school personnel's staff position and perceptions of their MTSS skills predict their stage of concern?

A hierarchical multiple regression was run to determine if the addition of Perception of MTSS Skills (Academic, Behavior, and Data Manipulation and Technology Use) improved the prediction of Stage of Concern over and above Staff Position alone. See Table 11 for full details on the regression model.

Assumptions of hierarchical multiple regression analysis were assessed with the following methods. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.111. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There

was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ±3 standard deviations. There was only one observation with a leverage value slightly greater than 0.2 (0.25); however, there were no values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot. See Table 11 for full details on the regression model.

It was hypothesized that school psychologists and administrators were more likely to demonstrate higher stages of concern profiles whereas teachers were more likely to demonstrate lower stages of concern profiles and school personnel who demonstrated lower levels of perceived skills were more likely to demonstrate lower stages of concern. The full model of staff position and perceptions of MTSS skills to predict stage of concern was statistically significant, $R^2 = .571$, $F(5, 78) = 20.726$, p < .0005 (adjusted $R^2 = .543$). The addition of Perceptions of MTSS Skills to the prediction of Stage of Concern led to a statistically significant increase in R^2 of .383, F(3, 78) = 23.193, p < .0005. When examining individual predictors of Stages of Concern within the full (second) model, which included Staff Position (Administrator, Teacher, and School Psychologist) and Perceptions of MTSS Skills (Academic, Behavior, and Data Manipulation and Technology Use), the only significant predictors of Stages of Concern were Administrator position ($B = .681$, p = .011) and Perceptions of MTSS Data Manipulation and Technology Use Skills ($B = 442$, p = .002). This finding means that being an administrator (ß = .230) and higher scores on MTSS data manipulation and technology use skills (ß = .381) were significantly related to higher scores on stages of concern.

Table 11. Hierarchical multiple regression predicting stage of concern from staff position and perceptions of MTSS skills

Model	Variable	*B*	*SE_B*	ß
1	Intercept	3.489	.159	
	Administrator	1.136	.311	**.383**[**]
	School Psychologist	.902	.274	**.346**[**]
2	Intercept	-.040	.506	
	Administrator	.681	.260	**.230**[*]
	School Psychologist	.231	.221	.089
	MTSS Skills - Academic	.289	.188	.193
	MTSS Skills - Behavior	.263	.194	.165
	MTSS Skills - Data	.442	.138	**.381**[*]

[*]$p < .05$,[**]$p < .001$; B = unstandardized regression coefficient; SE_B = Standard error of the coefficient; ß = standardized coefficient

Research question 4. To what extent do school personnel's staff position and perceptions of their school's MTSS practices predict their stage of concern?

A hierarchical multiple regression was run to determine if the addition of Perception of MTSS Practices (Academic and Behavior) improved the prediction of Stage of Concern over and above Staff Position alone. See Table 12 for full details on the regression model.

Assumptions of hierarchical multiple regression analysis were assessed with the following methods. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.217. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ±3 standard deviations, no leverage values

greater than 0.2, and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot.

It was hypothesized that school psychologists and administrators would be more likely to demonstrate higher stages of concern profile whereas teachers were more likely to demonstrate lower stages of concern profile and school personnel who demonstrated lower levels of perceived practices were more likely to demonstrate lower stages of concern. The full model of staff position and perceptions of MTSS practices to predict stage of concern was statistically significant, R^2 = .409, $F(4, 79)$ = 13.641, p < .0005 (adjusted R^2 = .379). The addition of Perceptions of MTSS Practices to the prediction of Stage of Concern led to a statistically significant increase in R^2 of .221, F(2, 79) = 14.761, p < .0005. When examining individual predictors of Stages of Concern within the full (second) model, which included Staff Position (Administrator, Teacher, and School Psychologist) and Perceptions of MTSS Practices (Academic and Behavior), the only significant predictors of Stages of Concern were Administrator position (B = .813, p = .004), School Psychologist position (B = .939, p = .000), and Perceptions of MTSS Academic Practices (B = .535, p = .008). This finding means that being an administrator (ß = .274) or school psychologist (ß = .360) and higher scores on MTSS academic practices (ß = .351) were significantly related to higher scores on stages of concern.

Table 12. Hierarchical multiple regression predicting stage of concern from staff position and perceptions of MTSS practices

Model	Variable	B	SE_B	ß
1	Intercept	3.489	.159	
	Administrator	1.136	.311	**.383****
	School Psychologist	.902	.274	**.346****
2	Intercept	.626	.545	
	Administrator	.813	.276	**.274***
	School Psychologist	.939	.239	**.360****
	MTSS Practices - Academic	.535	.196	**.351***
	MTSS Practices - Behavior	.244	.193	.163

*$p < .05$, **$p < .001$; B = unstandardized regression coefficient; SE_B = Standard error of the coefficient; ß = standardized coefficient

Summary

A series of quantitative data analyses were conducted in this study to investigate how K-12 school personnel perceives their MTSS skills and their school's MTSS practices and to what extent their perceptions predict their stages of concern regarding implementing MTSS practices. 102 school personnel across North Carolina had completed the electronic survey. Of the completed surveys, 84 participants were included in the study for inclusion criteria. A MANOVA was conducted for Perceptions of MTSS Skills and Perceptions of MTSS Practices as a factor of Staff Position. Statistically significant results included higher perceived MTSS academic, behavior, and data manipulation and technology skills for school psychologists and higher perceived MTSS behavior skills for administrators when compared to teachers. Kendall's tau-b correlation coefficients were conducted to evaluate the strength of the relationship between Staff Position and Years of Implementing MTSS and Perceptions of MTSS Skills, Perceptions of MTSS Practices, and Stages of Concern. Statistically significant results included moderate to strong, positive associations between years implementing MTSS and perceptions of MTSS skills,

perceptions of MTSS practices, and stages of concern individually, among 84 participants. When participants were grouped by Staff Position, there were strong, positive relationships between years of implementing MTSS and each dependent variable within the teacher group; and between years implementing MTSS and stages of concern within the school psychologist and administrator groups. Hierarchical multiple regression analysis was conducted to determine if the addition of Perception of MTSS Skills or Perceptions of MTSS Practices improved the prediction of Stage of Concern over and above Staff Position alone. Statistically significant results included improved prediction of Stages of Concern for both Perception of MTSS Skills and Perceptions of MTSS Practices when added to the prediction over Staff Position.

CHAPTER V

DISCUSSION

Introduction

The purpose of this study was to investigate how administrators, teachers, and school psychologists across North Carolina perceive their MTSS skills and their school's MTSS practices and to what extent their perceptions predict their stages of concern regarding implementing MTSS practices. This study sought to discover any differences and relationships among school personnel's perceptions and concerns relative to their staff position and their number of years implementing MTSS.

Discussion of the study results first focuses on an overview of the study, followed by a discussion of major findings and interpretation of major findings and how they relate to the stages of systems change model: 1. Consensus Development, 2. Infrastructure Building, and 3. Implementation.

Major Findings

Perceptions of MTSS Skills and Perceptions of MTSS Practices by Staff Position.
The Perceptions of MTSS Skills Survey is a self-report measure that assesses school personnel's perceptions of the skills they possess to implement MTSS. The instrument includes three factors: 1. Academic; 2. Behavior; and 3. Data Manipulation and Technology Use. Academic factor included questions, such as: *Do you have the skill to ensure that any supplemental and/or*

intensive interventions are integrated with core instruction in the general education classroom?
School psychologists had statistically significantly higher Perceptions of MTSS Academic Skills
than teachers with an effect size $d = .65$. While this finding had medium effect size, Perceptions
of MTSS Academic Skills by Staff Position accounted for only 6.9% of the variability among the
different staff positions.

Behavior factor included questions, such as: *Do you have the skill to identify the*
appropriate supplemental intervention available in your building for a student identified as at-
risk for behavior? Administrators and school psychologists had statistically significantly higher
Perceptions of MTSS Behavior Skills than teachers with effect sizes $d = 1.27$, $d = .82$,
respectively. While these findings had large effect sizes, Perceptions of MTSS Behavior Skills
by Staff Position accounted for only 19.8% of the variability among the different staff positions.

Data Manipulation and Technology Use factor included questions, such as: *Do you have*
the skill to construct graphs for large group, small group, and individual students? School
psychologists had statistically significantly higher Perceptions of MTSS Data Manipulation and
Technology Use Skills than teachers with an effect size $d = .93$. While this finding had a large
effect size, Perceptions of MTSS Data Manipulation and Technology Use Skills by Staff Position
accounted for only 18.8% of the variability among the different staff positions.

The Perceptions of MTSS Practices Survey is a self-report measure that assesses school
personnel's perceptions of the extent to which their schools implement MTSS practices. The
instrument includes two factors: 1. Academic; and 2. Behavior. Academic factor included items,
such as: *In my school, progress monitoring occurred for all students receiving supplemental*
and/or intensive interventions for academics. Behavior factor included items, such as: *In my*
school, data were collected to confirm the reasons that the student was not achieving the desired

level of performance for behavior. The findings indicated no significant differences in Perceptions of MTSS Practices among the different staff positions.

Years of Implementing MTSS and Perceptions of MTSS Skills, Perceptions of MTSS Practices, and Stages of Concern. When participants were treated as a whole group, school personnel who have spent more years implementing MTSS had higher perceived skills in MTSS Academic, Behavior, and Data Manipulation and Technology Use Skills with effect sizes $r = .38$, $r = .49$, and $r = .49$, respectively, as well as higher perceived practices in MTSS Academic and Behavior Practices with effect sizes $r = .37$ and $r = .41$, respectively. School personnel who have spent more years implementing MTSS also had higher Stages of Concern with an effect size $r = .65$.

When grouped by Staff Position, within the Administrator group, those who have spent more years implementing MTSS had higher Stages of Concern with an effect size $r = .51$. No significant associations between Years Implementing MTSS and Perceptions of MTSS Skills and Perceptions of MTSS Practices were observed within the Administrator group.

Within the Teacher group, those who have spent more years implementing MTSS had higher perceptions in MTSS Academic, Behavior, and Data Manipulation and Technology Use Skills with effect sizes $r = .56$, $r = .68$, and $r = .65$, respectively, as well as higher perceptions in MTSS Academic and Behavior Practices with effect sizes $r = .54$ and $r = .58$, respectively. School personnel who have spent more years implementing MTSS also had higher Stages of Concern with an effect size $r = .69$.

Within the School Psychologist group, those who have spent more years implementing MTSS had higher Stages of Concern with an effect size $r = .83$. No significant associations

between Years Implementing MTSS and Perceptions of MTSS Skills and Perceptions of MTSS Practices were observed within the School Psychologist group.

Stages of Concern by Staff Position and Perceptions of MTSS Skills. Stages of Concern Questionnaire is a self-report measure that assesses individuals' concerns regarding change efforts. The questionnaire included items, such as: *I am concerned about my inability to manage all that the innovation requires.* The addition of Perceptions of MTSS Skills (Academic, Behavior, and Data Manipulation and Technology Use) improved the prediction of Stage of Concern over and above Staff Position alone with an effect size $R^2 = .57$.

Stages of Concern by Staff Position and Perceptions of MTSS Practices. The addition of Perceptions of MTSS Practices (Academic and Behavior) improved the prediction of Stage of Concern over Staff Position alone with an effect size $R^2 = .41$.

Interpretation of Major Findings

Research question 1. What are the differences in school personnel's perceptions of their MTSS skills and perceptions of their school's MTSS practices as a factor of staff position? This question explored whether there were differences between school personnel's perceptions of their MTSS skills and perceptions of their school's MTSS practices as a factor of their staff position. The researcher expected that administrators, teachers, and school psychologists would exhibit different levels of perceptions of their skills and distinguish different frequencies of their school's MTSS practices due to the different responsibilities MTSS implementation required of different staff positions.

The results indicated differences between administrators', teachers', and school psychologists' perceptions of their MTSS skills. Specifically, school psychologists scored significantly higher in their perceived academic MTSS skills when compared to teachers.

57

Additionally, administrators and school psychologists had significantly higher perceived behavioral MTSS skills than teachers. Further, school psychologists' perceived MTSS skills in data manipulation, and technology use was significantly higher when compared to teachers. In general, there was a significant difference in school psychologists' and teachers' overall perceived MTSS skills. No significant differences were observed in administrators', teachers', and school psychologists' perceived practices of their schools' MTSS practices.

As previously mentioned in this study, one system change model to facilitate MTSS implementation involves three stages: consensus development, infrastructure building, and implementation (Castillo et al., 2012). Achieving consensus is facilitated by ensuring that school personnel is aware of the need for the implementation process and believes that they have necessary skills for successful implementation of the framework. The results suggest teachers are still in the consensus development stage of the systems change model while administrators and school psychologists moved to the infrastructure building stage of the systems change model.

Research question 2. What is the relationship between MTSS implementation length and staff position, and school personnel's perceptions of their MTSS skills, perceptions of their school's MTSS practices, stages of concern? This question explored the strength of the relationship between staff position and years of implementation MTSS and school personnel's perceptions of MTSS skills, perceptions of their school's MTSS practices and stages of concern. The researcher expected that, when grouped based on their staff position, school personnel who have implemented MTSS for more years are more likely to demonstrate higher perceived skills, distinguish their school's MTSS practices as being more frequent, and exhibit later stages of concern due to the level of their experience with MTSS and professional development over time.

The results indicated, when the participants were treated as a whole group, years of implementing MTSS was positively associated with school personnel's perceptions of their MTSS skills, perceptions of their school's MTSS practices, and stages of concern. In other words, school personnel who have spent more years implementing MTSS had higher perceived MTSS skills, distinguished their schools implemented MTSS more often and were more likely to demonstrate task (Stage 3: Management) and/or impact concerns (Stage 4: Consequence, Stage 5: Collaboration, and Stage 6: Refocusing). When the participants were grouped based on their staff positions under the groups of Administrator, Teacher, and School Psychologist, only the teachers who have spent more years in implementing MTSS were more likely to demonstrate higher levels of perceived skills and higher frequency of perceived practices. Both teachers and school psychologists who have experienced MTSS longer were more likely to demonstrate task (Stage 3: Management) or impact concerns (Stage 4: Consequence, Stage 5: Collaboration, and Stage 6: Refocusing). Considering the experience and professional development individuals receive through time during a system change model, the positive relationship between years spent implementing MTSS and higher perceptions of skills and practices among teacher was not surprised. Castillo et al. (2011) found that staff members who received more professional development and training had higher perceptions of academic and behavior skills.

Research question 3. To what extent do school personnel's staff position and perceptions of their MTSS skills predict their stage of concern? This question investigated how school personnel's Staff Position and three factors of Perceptions of MTSS Skills (Academic, Behavior, and Data Manipulation and Technology Use) account for variability for their Stages of Concern. The researcher expected that school psychologists and administrators were more likely to demonstrate later stages of concern due to the training and professional

development they receive during and after graduate education whereas teacher education programs do not offer comprehensive MTSS training, and thus teachers often lack skills and knowledge necessary to implement MTSS and demonstrate self-related, earlier stages of concern. Besides, the researcher expected that school personnel who perceived lower MTSS skills were more likely to demonstrate earlier stages of concern because their knowledge base and skill level are not adequate to develop later stages of concern.

The results indicated staff position and perceived MTSS skills, particularly data manipulation and technology use skills, accounted for predictions of school personnel's stage of concern profile. Administrators were more likely to demonstrate higher stages of concern profile when compared to teachers. The addition of Perceptions of MTSS Data Manipulation and Technology Use Skills improved the prediction of Stage of Concern over and above Staff Position alone. It was school personnel who had higher perceived MTSS data manipulation and technology use skills were more likely to demonstrate higher stages of concern profiles.

Stages of concern, one of the components of the CBAM, consists of seven stages. Lower stages of concern generally indicate very little concern regarding innovation or more self-related concerns including but not limited to seeking more information regarding innovation, being worried about demands of the innovation and individual's adequacy to meet those demands. On the other hand, higher stages of concern usually indicate task or impact related concerns, such as organization, management, scheduling, focusing, or coordination and collaboration. Data collection and interpretation is an integral part of MTSS implementation, and many school personnel may lack necessary skills in this area. MTSS is a data-based decision-making model that necessitates teacher-based skill sets that include collecting and using student progress monitoring data for planning instruction, delivering evidence-based instruction and interventions,

and working collaboratively within a problem-solving framework for successful implementation (Prasse et al., 2012). This study's findings suggest when school personnel has higher perceived data manipulation and technology use skills, their concerns related to MTSS implementation is less self-related and more task or impact-related. In other words, when school personnel perceive themselves as having necessary skills for a successful implementation of MTSS, they move from consensus development to the infrastructure building stage of the system change model that involves creating the structures required to promote and support MTSS implementation. School personnel in this stage is concerned more about the processes and tasks of using the innovation, impact of the innovation, and coordination and cooperation with other professionals regarding the use of the innovation.

Research question 4. To what extent do school personnel's staff position and perceptions of their school's MTSS practices predict their stage of concern? This question investigated how school personnel's Staff Position and two factors of Perceptions of MTSS Practices (Academic and Behavior) account for variability for their Stages of Concern. The researcher expected that school personnel who believed their school's MTSS practices occurred less often were more likely to demonstrate earlier stages of concern because their experience with implementing MTSS would be less compared to other school personnel, who distinguish their school's MTSS practices as being occurred more often and exhibit later stages of concern due to their higher level of experience with MTSS implementation.

The results indicated staff position and higher frequency of practices occurred during MTSS implementation, mainly academic practices, accounted for predictions of school personnel's stages of concern profile. Administrators and school psychologists were more likely to demonstrate higher stages of concern profile when compared to teachers. The addition of

Perceptions of MTSS Academic Practices improved the prediction of Stage of Concern over and above Staff Position alone. It was school personnel who perceived the frequency of their school's MTSS academic practices as higher were more likely to demonstrate higher stages of concern profiles. This study's findings suggest when school personnel believes their school's MTSS practices have occurred more frequently, their concerns related to MTSS implementation is less self-related and more task or impact-related. As supported earlier in this study, perceiving higher frequency of practices may require more time and experience implementing MTSS, especially at the school level, rather than individual level. According to Castillo et al. (2012), a school must examine its current goals, policies, resources, and school personnel responsibilities concerning their alignment with MTSS service delivery. When schools provide the necessary time for professional development, resources, training, coaching for development and adoption of technology to facilitate efficient data collection and decision making, and follow up meetings with professionals within the school building, school personnel may perceive their school's practices as adequate. Therefore, they may worry less about the resources and their knowledge and adequacy, knowing that they have support in their building, and may focus more on the impact of the MTSS model on student outcomes and implementation with integrity to successfully move to the implementation stage of the system change model. With all the efforts mentioned above and continuous evaluations, a school building may successfully move from infrastructure building to the implementation stage of system change model when the action plans developed during infrastructure building are accomplished.

Limitations and Recommendations for Further Research

Although the findings from this study add to the MTSS literature, there are several limitations to this study that impact the extent to which conclusions can be drawn. The small

sample size in this study leads to less conclusive results and may not be a representative of K-12 school personnel across North Carolina. Relatively larger sample size would give more meaningful results. Therefore, the results of this study may not be generalizable.

The surveys included in this study are self-report measures that may have biased responses. Even though no identification information was recorded during data collection process, there are many reasons individuals might offer biased responses, including a misunderstanding of what a proper measurement is and social-desirability bias, where the participant wants to look good in the survey (Rosenman, Tennekoon, & Hill, 2011).

Lack of comparison groups is another limitation of this study. When demographic information of the participants was examined, it was observed 50% of the participants (n = 42) have implemented MTSS for 1-4 years, and 38.1% of the participants (n = 32) have implemented MTSS for 5-9 years. These categories accounted for only 2 out of 5 categories in Years Implementing MTSS variable. Collecting less detailed demographic information has resulted in limitations while comparing results of specific comparison groups. Thus, collecting more specific responses in this category may be helpful to determine how the comparison groups could be treated for the purposes of sample size.

This study grouped general education teachers and special education teachers under the same category for the sample size purposes and examined their responses as a whole. Considering the differences regarding their education and professional practices, it could provide better results when the two staff positions were examined separately. Results of separate examination could also provide more specific implications in order to improve teacher's perceptions of their MTSS skills.

Although data-based decision-making models have been implemented for many years, MTSS is a pretty new term and is often confused with RTI and PBIS. Another limitation added to this study when participants reported they had implemented MTSS for more than ten years because this might be due to the confusion between MTSS and other school-wide problem-solving models. However, MTSS takes RTI and PBIS beyond and a system-wide continuum of support. Explaining MTSS clearly and distinguishing it from other problem-solving models by examples and additional survey questions may help participants provide more appropriate responses specific to MTSS.

The measures used in this study are called RTI surveys although they are used to examine perceptions of MTSS skills and practices. Even though RTI and MTSS share many similarities, they are different problem-solving models. Using RTI measures to examine MTSS perceptions could have impacted the construct validity and thus should require greater attention and more profound examination.

The study design used in this study is also a limitation that should be noted. When considering individual's concerns regarding an innovation, it might be helpful to include qualitative study design and investigate more on what these individuals are concerned explicitly about and in what areas they need support to help deal with certain types of concern. As such, a follow-up interview approach is recommended for future research. The information obtained from the interviews may also lead to future practices in the area.

Despite limitations to the study, findings support the notion that school personnel demonstrates effective level concerns when they perceive their skills and their school's practices as adequate. Lack of professional knowledge and skills necessary for a successful implementation of MTSS may generate challenges both at the individual and school level.

Improving and increasing professional development for MTSS would allow school personnel to feel more self-confident, and thus, with higher perceived skills, they focus more on the outcome and how to improve MTSS practices. According to Hall (1976), individuals' concerns are correlated with their level of performance. Individuals are not likely to adopt an innovation if they do not feel confident enough in their ability to implement it effectively (Lee & Strobel, 2014). Therefore, creating a more supportive environment in which educators feel more confident and accomplish tasks impact how they react to innovation adoption and implementation. By understanding school personnel's concerns about the MTSS practices, we can see where individuals are within the change cycle and identify critical factors that help or hinder the reform from taking hold.

Implications for Policy and Practice

This study provided exploration and explanation of school personnel's perceptions of their MTSS skills, perceptions of their school's MTSS practices, and stages of concern related to MTSS implementation. The results suggested school psychologists demonstrated significantly higher MTSS skills compared to teachers. This result was expected as school psychologists' role in promoting and supporting competency development for data-based decision making, evidence-based interventions, implementation fidelity, and systematic problem solving, which are core components of MTSS, is essential (Eagle, Dowd-Eagle, Snyder, & Gibbons Holtzman, 2015). School psychologists often serve as professional development providers to support teachers with their knowledge base and expertise with MTSS model. This professional development is necessary for building infrastructure and is often done in a manner that designated individuals receiving outside, in-depth training and then using the trainer's model (Castillo et al., 2012). Teachers will need ongoing coaching and support throughout the

implementation; therefore, school psychologists are in the center of a successful infrastructure building of the system change model.

This study also suggests teachers may lack necessary knowledge base for MTSS components and struggle with implementation. Failure at the individual level may lead to rejection of innovation and the overall failure of implementation. As mentioned previously, school psychologists play an important role in training teachers; however, due to the overload of responsibilities, school psychologists may not always be available for in-depth and ongoing training and coaching. For an effective teacher preparation and in-depth knowledge base, higher education courses should focus more on MTSS practices or training built around explicit problem-solving, and how to read schoolwide and individual data, and how to determine the needs of the school or individual student. In addition, administrators possess exceptional leadership and social skills and may provide opportunities to the school personnel at the school and individual level to improve implementation outcomes.

APPENDIX A: SURVEY

Dear Survey Participant:

Your participation in a research project, "An Examination of Administrators', Teachers', and School Psychologists' Concerns about and Perceptions of the Implementation of Multi-Tiered System of Supports across North Carolina". The research is being conducted by Sevgi Aslan, a doctoral student in the Department of Education at The University of North Carolina at Chapel Hill, who is seeking information that will be useful in the field of School Psychology. The aim of the research is to investigate how K-12 school personnel perceive Multi Tiered System of Supports (MTSS) and how their perceptions influence their concerns regarding implementing MTSS practices. In accordance with these aims, the following procedure will be used: A survey, consist of three parts called the (1) Perceptions of Response to Intervention Skills Survey, (2) Perceptions of Practices Survey, and (3) Stages of Concern Questionnaire.

MTSS is an umbrella term that includes a data-based problem solving approach with tiered academic and behavioral interventions. Many existing initiatives such as, Positive Behavior Intervention Support (PBIS) and Response to Intervention (RTI), share the common components of data-based problem solving approach. PBIS is a multi-layered data-based problem solving approach, which aims to support and improve student behavior. RTI is a well-known multi-tiered approach to supporting student academic achievement. In this study, MTSS is defined as a systematic framework that utilizes data-based problem solving and decision making with multi-layered instructions and interventions to integrate academic and behavior instruction and intervention in a continuum of evidence-based practices. If you decide to participate in this research, please consider the definition of the term MTSS provided above even though it is called RTI, PBIS or any other terms but carries the same definition in your school.

If you decide to participate in this research, you will be asked to answer survey the questions about your perceptions of a data-based problem solving approach, as well as your experience using it. It should take no more than 25 minutes to complete.

The risks of involvement in this study are minimal and include possible stress from answering school related questions; however, to minimize these risks, you can exit the survey at any time. There are no direct benefits for participating in this study; however, your participation will contribute to educational research in the area of MTSS. Please print a copy of this cover letter as proof of your participation.

As a survey participant, information you provide is anonymous, that is, no names or other identifiers will be collected. Qualtrics.com gives researchers an option to anonymize responses by removing panel information and IP address from collected responses. In this study no IP address will be delivered to the researcher. While individual responses are anonymously obtained and recorded online through Qualtrics, data is kept in the strictest confidence. Responding participants' email addresses will be tracked using Qualtrics for follow-

up notices, but names and email addresses are not associated with individual survey responses. The researcher will know if a participant has submitted a survey, but will not be able to identify individual responses, therefore maintaining anonymity for the survey. The results of this project will be coded in such a way that the respondent's identity will not be attached to the final form of this study. If you have concerns please review the privacy policy of Qualtrics.com before you begin.

Aggregate data will be presented representing averages or generalizations about the responses as a whole. All data will be stored in a secure location accessible only to the researcher. Upon completion of the study, all information will be destroyed. Final aggregate results will be made available to participants upon request.

This survey is strictly voluntary; at any time participants can exit the survey by closing your web browser or navigating away from the survey and choose not to participate. Choosing not to participate will not affect their employment with the school district. There are minimal risks, such as possible stress from answering questions regarding school issues. There are no benefits; however, participants may enjoy answering questions regarding their work. They will also be benefiting research in the area of MTSS.

By selecting "Begin the Survey" below and by submitting a completed survey, you are giving permission to use your data record in this study. If you select the "Exit Survey" option, you will immediately exit this site.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Sevgi Aslan, by phone at (317) 319-5360 or by email at saslan@live.unc.edu.

You may also contact the University of North Carolina Institutional Review Board by phone at 919-966-3113 or by email at irb_questions@unc.edu.

Thank you for your participation.

Sincerely,

Sevgi Aslan, M.S.Ed.

Print this page if you would like proof of participation.

○ Begin the Survey

○ Exit Survey

End of Block: Cover Letter

Please select the response option that best represents your answer

- -

Job description:

○ Teacher: General Education

○ Teacher: Special Education

○ School Psychologist

○ Principal

○ Assistant Principal

○ Other (please specify) _____

- -

Do you currently work at a charter school?

○ Yes

○ No

- -

Number of Years at your Current School:

   ◯ Less than 1 year

   ◯ 1-4 years

   ◯ 5-9 years

   ◯ 10-14 years

   ◯ 15-19 years

   ◯ 20 or more years

Number of Years in your Current Position:

   ◯ Less than 1 year

   ◯ 1-4 years

   ◯ 5-9 years

   ◯ 10-14 years

   ◯ 15-19 years

   ◯ 20 or more years

Years of Experience Implementing MTSS:

○ Less than 1 year

○ 1-4 years

○ 5-9 years

○ 10-14 years

○ 15-19 years

○ 20 or more years

Directions: *Please read each statement about a skill related to assessment, instruction, and/or intervention below, and then evaluate YOUR skill level within the context of working at a school/building level. Where indicated, rate your skill separately for academics (i.e., reading and math) and behavior. Please use the following response scale:*
No skill: *I do not have this skill at all*
Minimal skill: *I have minimal skills in this area; need substantial support to use it*
Some skill: *I have this skill, but still need some support to use it*
High skill: *I can use this skill with little support*
Very high skill: *I am highly skilled in this area and could teach others this skill*

- -

The skill to access the data necessary to determine the percent of students in core instruction who are achieving benchmarks (district grade-level standards) in:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

The skill to use data *to make decisions* about individuals and groups of students for the:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Core academic curriculum	○	○	○	○	○
Core/Building discipline plan	○	○	○	○	○

The skill to perform each of the following steps when identifying the problem for a student for whom concerns have been raised: a. Define the referral concern in terms of a replacement behavior (i.e., what the student should be able to do) instead of a referral *problem* for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

b. Use data to define the current level of performance of the target student for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

c. Determine the desired level of performance (i.e., benchmark) for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

d. Determine the current level of peer performance for the same skill as the target student for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

e. Calculate the gap between student current performance and the benchmark (district grade level standard) for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

f. Use gap data to determine whether core instruction should be adjusted or whether supplemental instruction should be directed to the target student for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

The skill to develop potential reasons (hypotheses) that a student or group of students is/are not achieving desired levels of performance (i.e., benchmarks) for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

The skill to identify the most appropriate type(s) of data to use for determining reasons (hypotheses) that are likely to be contributing to the problem for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

The skill to identify the appropriate supplemental intervention available in my building for a student identified as at-risk for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

The skill to access resources (e.g., Internet sources, professional literature) to develop evidence-based interventions for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academic core curricula	○	○	○	○	○
Behavioral core curricula	○	○	○	○	○
Academic supplemental curricula	○	○	○	○	○
Behavioral supplemental curricula	○	○	○	○	○
Academic individualized intervention plans	○	○	○	○	○
Behavioral individualized intervention plans	○	○	○	○	○

The skill to ensure that any supplemental and/or intensive interventions are integrated with core instruction in the general education classroom:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

The skill to ensure that the proposed intervention plan is supported by the data that were collected for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

The skill to provide the support necessary to ensure that the intervention is implemented appropriately for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

- -

The skill to determine if an intervention was implemented as it was intended for:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

The skill to select appropriate data (e.g., Curriculum-Based Measurement, DIBELS, behavioral observations) to use for progress monitoring of student performance during interventions:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Academics	○	○	○	○	○
Behavior	○	○	○	○	○

The skill to construct graphs for large group, small group, and individual students:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Graph target student data	○	○	○	○	○
Graph benchmark data	○	○	○	○	○
Graph peer data	○	○	○	○	○
Draw an aimline	○	○	○	○	○
Draw a trendline	○	○	○	○	○

The skill to make modifications to intervention plans based on student response to intervention.

○ No skill

○ Minimal skill

○ Some skill

○ High skill

○ Very high skill

- -

The skill to collect the following types of data:

	No skill	Minimal skill	Some skill	High skill	Very high skill
Curriculum-Based Measurement	○	○	○	○	○
DIBELS	○	○	○	○	○
Access data from appropriate district- or school-wide assessments	○	○	○	○	○
Standard behavioral observations	○	○	○	○	○

- -

The skill to use technology in the following ways:

	No skill	Minimal skill	Some skill	High skill	Very high skill
a. Use electronic data collection tools (e.g., PDAs)	○	○	○	○	○
b. Graph and display student and school data	○	○	○	○	○

Directions: *For each item on this survey, please indicate how frequently or infrequently the given practice occurred in your school for both academics (i.e., reading and math) and behavior during the 2016-17 school year.*
Please use the following response scale:
Never: *Never occurred*
Rarely: *Rarely occurred*
Sometimes: *Sometimes occurred*
Often: *Often occurred*
Always: *Always occurred*
Do Not Know

In my school, data (e.g., Curriculum-Based Measurement, DIBELS, Office Discipline Referrals) were used to determine the percent of students receiving core instruction (general education classroom only) who achieved benchmarks (district grade-level standards) in:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

Page 13 of 26

79

In my school, data were used to make decisions about necessary changes to the core curriculum or discipline procedures to increase the percent of students who achieved benchmarks (district grade-level standards) in:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, data were used (e.g., Curriculum-Based Measurement, DIBELS, Office Discipline Referrals) to identify at-risk students in need of supplemental and/or intensive interventions for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, the students identified as at-risk routinely received additional (i.e., supplemental) intervention(s) for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, progress monitoring occurred for all students receiving supplemental and/or intensive interventions for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, progress monitoring data (e.g., Curriculum-Based Measurement, DIBELS, behavioral observations) were used to determine the percent of students who received supplemental and/or intensive interventions and achieved grade-level benchmarks for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, a standard protocol intervention (i.e., the same type of intervention used for similar problems) was used initially for all students who required supplemental instruction for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, the target behavior was routinely defined in terms of the desired behavior (e.g., Johnny will raise his hand to ask a question, Susie will read 90 correct words per minute)

instead of the problem behavior (e.g., Johnny talks out of turn, Susie reads below grade-level) for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, quantifiable data (e.g., reading fluency score, percent compliance, percent on-task behavior) were used to: a. identify the target student's current performance in the area of concern for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

---

b. identify the desired level of performance (i.e., the benchmark) in the area of concern for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academic	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

---

c. identify the current performance of same-age peers using the same data as the target student for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academic	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

- -

In my school, the Problem-Solving Team routinely developed hypotheses (i.e., proposed reasons) explaining why the target student was not demonstrating the desired behavior for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

- -

In my school, data were collected to confirm the reasons that the student was not achieving the desired level of performance for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

- -

In my school, intervention plans were routinely developed based on the confirmed reasons that the student was not achieving the desired level of performance for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, the teacher of a student referred for problem-solving routinely received staff support to implement the intervention plan developed by the Problem-Solving Team for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, data were collected routinely to determine the degree to which the intervention plans were being implemented as intended for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

In my school, data were graphed routinely to simplify interpretation of student performance for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

- -

In my school, progress monitoring data were used to determine: a. the degree to which the target student's rate of progress had improved for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

- -

b. whether the gap had decreased between the target student's current performance and the desired level of performance (i.e., benchmark) for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

- -

c. whether the gap had decreased between the target student's current performance and the performance of same-age peers for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

- -

In my school, a student's response-to-intervention data (e.g., rate of improvement) were used routinely to determine whether a student was simply behind and could learn new skills or whether the student's performance was due to a disability for:

	Never	Rarely	Sometimes	Often	Always	Do Not Know
Academics	○	○	○	○	○	○
Behavior	○	○	○	○	○	○

End of Block: Perceptions of Practices

The purpose of the following questionnaire is to determine what people who are using or thinking about using various programs are concerned about at various times during the adoption process.

The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about various programs to many years' experience using them. Therefore, many of the items on this questionnaire may appear to be of little relevance or irrelevant to you at this time. For the completely irrelevant items, please select "0" on the scale. Other items will represent those concerns you do have, in varying degrees of intensity, and should be marked higher on the scale.

0	1	2	3	4	5	6	7
Irrelevant	Not true of me now		Somewhat true of me now			Very true of me now	

For example:

This statement is very true of me at this time.   0 1 2 3 4 5 **6** 7
This statement is somewhat true of me now.   0 1 2 3 **4** 5 6 7
This statement is not at all true of me at this time. 0 **1** 2 3 4 5 6 7
This statement seems irrelevant to me.   **0** 1 2 3 4 5 6 7

Please respond to the items in terms of your present concerns, or how you feel about your involvement with this innovation (MTSS). We do not hold to any one definition of the innovation so please think of it in terms of your own perception of what it involves. Phrases such as "this approach" and "the new system" all refer to the same innovation. Remember to respond to each item in terms of your present concerns about your involvement or potential involvement with the innovation.

- -

	0	1	2	3	4	5	6	7
I am concerned about students' attitudes toward the innovation.	◯	◯	◯	◯	◯	◯	◯	◯
I now know of some other approaches that might work better.	◯	◯	◯	◯	◯	◯	◯	◯
I am more concerned about another innovation.	◯	◯	◯	◯	◯	◯	◯	◯
I am concerned about not having enough time to organize myself each day.	◯	◯	◯	◯	◯	◯	◯	◯
I would like to help other faculty in their use of the innovation.	◯	◯	◯	◯	◯	◯	◯	◯
I have a very limited knowledge of the innovation.	◯	◯	◯	◯	◯	◯	◯	◯
I would like to know the effect of reorganization on my professional status.	◯	◯	◯	◯	◯	◯	◯	◯
I am concerned about conflict between my	◯	◯	◯	◯	◯	◯	◯	◯

interest and my responsibilities.

I am concerned about revising my use of the innovation.

○　　○　　○　　○　　○　　○　　○　　○

I would like to develop working relations with both our faculty and outside faculty using this innovation.

○　　○　　○　　○　　○　　○　　○　　○

I am concerned about how the innovation affects students.

○　　○　　○　　○　　○　　○　　○　　○

I am not concerned about the innovation at this time.

○　　○　　○　　○　　○　　○　　○　　○

I would like to know who will make the decisions in the new system.

○　　○　　○　　○　　○　　○　　○　　○

I would like to discuss the possibility of using the innovation.

○　　○　　○　　○　　○　　○　　○　　○

I would like to know what resources are available if we decide to adopt the innovation.

○　　○　　○　　○　　○　　○　　○　　○

I am concerned

○　　○　　○　　○　　○　　○　　○　　○

about my ability to manage all that the innovation requires.								
I would like to know how my teaching or administration is supposed to change.	○	○	○	○	○	○	○	○
I would like to familiarize other departments of persons with the progress of this new approach.	○	○	○	○	○	○	○	○
I am concerned about evaluating my impact on students.	○	○	○	○	○	○	○	○
I would like to revise the innovation's approach.	○	○	○	○	○	○	○	○
I am preoccupied with things other than the innovation.	○	○	○	○	○	○	○	○
I would like to modify our use of the innovation based on the experiences of our students.	○	○	○	○	○	○	○	○
I spend little time thinking about the innovation.	○	○	○	○	○	○	○	○

I would like to excite my students about their part in this approach.	○	○	○	○	○	○	○	○
I am concerned about time spent working with nonacademic problems related to the innovation.	○	○	○	○	○	○	○	○
I would like to know what the use of the innovation will require in the immediate future.	○	○	○	○	○	○	○	○
I would like to coordinate my efforts with others to maximize the innovation's effects.	○	○	○	○	○	○	○	○
I would like to have more information on time and energy commitments required by the innovation.	○	○	○	○	○	○	○	○
I would like to know what other faculty are doing in this area.	○	○	○	○	○	○	○	○
Currently, other priorities prevent me from focusing my attention on	○	○	○	○	○	○	○	○

the innovation.	○	○	○	○	○	○	○	○
I would like to determine how to supplement, enhance, or replace the innovation.	○	○	○	○	○	○	○	○
I would like to use feedback from students to change the program.	○	○	○	○	○	○	○	○
I would like to know how my role will change when I am using the innovation.	○	○	○	○	○	○	○	○
Coordination of tasks and people is taking too much of my time.	○	○	○	○	○	○	○	○
I would like to know how the innovation is better than what we have now.	○	○	○	○	○	○	○	○

End of Block: Stages of Concern Questionnaire

APPENDIX B: RECRUITMENT LETTER

Dear Prospective Survey Participant,

I am a doctoral student at the University of North Carolina (UNC) at Chapel Hill and I am conducting a research study as part of my doctoral degree requirements. My study is entitled, *An Examination of Administrators', Teachers', and School Psychologists' Concerns about and Perceptions of the Implementation of Multi-Tiered System of Supports across North Carolina.* This is a letter of invitation to participate in this research study. The purpose of this study is to investigate how K-12 school personnel perceive Multi-Tiered System of Supports (MTSS) and how their perceptions predict their concerns regarding implementing MTSS practices. In accordance with these aims, I am conducting an electronic survey consist of three parts called the (1) Perceptions of Response to Intervention Skills Survey, (2) Perceptions of Practices Survey, and (3) Stages of Concern Questionnaire.

By agreeing to participate in the study, you will be giving your consent for the researcher or principal investigator to include your responses in her data analysis. Your participation in this study is strictly voluntary, and you may choose not to participate without fear of penalty or any negative consequences. You will be able to withdraw from the survey at any time by exiting your Internet browser and all survey responses will be deleted.

There will be no individually identifiable information, remarks, comments or other identification of you as an individual participant. All results will be presented as aggregate, summary data.

The survey will last no more than 25 minutes. Your participation will contribute to the current literature in the area of MTSS practices.

If you would like to know more information about this study, information can be obtained by sending a request to saslan@live.unc.edu.

If you would like to participate after reading this letter, you can access the survey form the link at

https://unc.az1.qualtrics.com/jfe/form/SV_8w8lDWoCovzK0nz

Thank you for your consideration,

Sevgi Aslan, MSEd
Doctoral Candidate, School Psychology
The University of North Carolina at Chapel Hill

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Hyde, Judith <judihyde@usf.edu>   Mon, Mar 27, 2017 at 3:14 PM
To: Sevgi Aslan <aslanxsevgi@gmail.com>

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The Florida Problem Solving/Response to Intervention Project received your email dated 3/27/17, requesting permission to reproduce the following materials for your dissertation:

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· Perceptions of RtI Skills Survey

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Thank you for your interest in these resources. Please contact me if you need further assistance.

Sincerely,

Judi

Judi Hyde, MA
Communications Coordinator
Florida's Problem Solving/Response to Intervention Project
judihyde@usf.edu

813-974-7448 ● 813-974-7647 (fax) ● EDU 381A (office)

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