DETERMINING RELATIONSHIPS BETWEEN IMPLEMENTATION OF MULTI-TIERED

SYSTEM OF SUPPORTS TO EDUCATORS' BELIEFS AND PERCEPTIONS

by

Debra Ann Johnson

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

The purpose of this study was to investigate how educators perceive their Multi-Tiered System of Support (MTSS) skills and their school's MTSS implementation; and to what extent their beliefs about MTSS predict their willingness to implement MTSS. Theory of planned behavior was used to develop a deeper understanding of the relationship between implementation of MTSS to educators' beliefs and perceptions. A predictive correlation research design was used to address the research question posed in this study. The participants for the study were drawn utilizing a convenience sample from the population of rural elementary educators that consisted of general education teachers, special education teachers, and members of the school-based leadership team. Online surveys, Self-Assessment of MTSS (SAM) Survey, RTI Beliefs Scale Survey, and Perception of Practices Survey were used in the data collection process. However, after the data was analyzed, a multiple regression analysis was untenable. Through the guiding of the variables, a bivariate linear regression was chosen, and a new research question was introduced. The consequences of this study suggested that there is no statistically significant predictive relationship between RTI/MTSS belief scores and the linear combination of the perception of practices scores for educators. Some future recommendations include replicating the research study that involves more educators from various schools and school districts; and use only educators that have fully implemented MTSS.

Keywords: Multi-tiered System of Supports, Response to Intervention, theory of planned behavior, educators' beliefs, educators' perception

Dedication

I dedicate this work to my parents and siblings who supported and encouraged me throughout this doctoral journey. I have always tried to be a positive role model for my nieces and nephews. Therefore, I hope that this academic milestone encourages them to set higher goals and know that hard work does pay off. I also dedicate this dissertation to my friends and co-workers who have cheered me on throughout this process. I sincerely thank everyone for believing in me.

Acknowledgments

There are so many people that I want to acknowledge for all the support and encouraging words on completing my dissertation. First and foremost, I would like to thank my Lord and Savior Jesus Christ for guiding and sustaining me throughout this process. The doctoral journey is a long process and I thank my parents, siblings, friends, and co-workers that continuously prayed and encouraged me along the way. I would like to thank my brother Dr. Robert Johnson for helping me with the doctoral process. I also want to thank my editor and newfound friend for always being there to take my call, pray for me, and work endlessly to edit my paper.

I would like to thank my committee, Dr. Hopkins and Dr. Bartlett, for guiding me through this process. I could not have asked for a better chairperson than Dr. Hopkins. I appreciate his guidance, encouragement, constructive feedback, quick responses in answering my questions in a timely manner. I am grateful for my acceptance into Liberty University's doctoral program.

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List of Abbreviations

Multi-tiered System of Supports (MTSS)

No Child Left Behind (NCLB)

Positive Behavior Intervention and Supports (PBIS)

Response to Intervention (RTI)

Self-Assessment of MTSS (SAM)

Theory of Planned Behavior (TPB)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of this quantitative, predictive correlational study is to determine how accurately can SAM's (Self-Assessment of MTSS) scores be predicted from a linear combination of educators' beliefs and educators' perceptions for teachers that have implemented MTSS; and to determine if a predictive relationship exists between the predictor variable (educators' perception about how MTSS practices are occurring in their school) and the criterion variable (educators' beliefs about MTSS). Chapter One provides a background for the topics of MTSS, educators' beliefs about MTSS and educators' perceptions on how MTSS is being implemented in their schools. The background includes an overview of the theoretical framework for this study. The problem statement examines the scope of the recent literature on this topic. The purpose of the study is followed by the significance of the current study. Finally, the research question is introduced, and definitions pertinent to this study are provided.

Background

There are numerous evidence-based interventions available to educators and multi-tiered system of support (MTSS) has been widely adopted as an intervention delivery framework (Sanetti & Luh, 2019). MTSS is a comprehensive framework focused on school improvement to ensure all students are learning and growing through data-based problem solving and research-based best practices (Liebfreund & Amendum, 2017). MTSS is best described as an umbrella term for a range of tiered supports such as response to intervention (RTI), positive behavioral intervention and supports (PBIS), and interconnected systems framework (Goodman-Scott et al., 2019). Preparing teachers to implement behavioral and instructional practices grounded in research while teaching general education curriculum and simultaneously meeting the individual

needs of an increasingly culturally and linguistically diverse student body is a complex undertaking (Nagro et al., 2019).

Many schools encounter common barriers to achieving full and sustained implementation of MTSS systems and practices (Coyne et al., 2018). Results of empirical research highlight challenges with MTSS implementation. Only 14% of respondents in a national survey of school psychologists indicated their MTSS problem-solving teams assess intervention fidelity "most of the time" (Cochrane et al., 2019). Additionally, only 12% of respondents indicated their MTSS team records would include a quantitative index of intervention fidelity (Cochrane et al., 2019). Data suggests that educators are implementing evidence-based interventions inconsistently, but MTSS teams are not aware of the poor levels of implementation due to the lack of intervention fidelity data (Cochrane et al., 2019). It is evident that implementation is necessary to the success of MTSS, but it is also one of the greatest challenges of MTSS (Cochrane et al., 2019).

Historical Overview

Initial support for MTSS began in 2000 through the U.S. Department of Education Office of Special Education Programs model demonstration grant (Goodman, 2017). Schools are increasingly adopting MTSS frameworks, often known as response to intervention (RTI), to provide intensive intervention supports to students experiencing academic difficulties (National Center on Response to Intervention, 2010; Samuels, 2011; Vaughn & Fuchs, 2003). More than a decade after the most recent reauthorization of the Education for all Handicapped Children Act (EHCA, 1975), commonly referred to as the Individuals with Disabilities Education Act (IDEA, 2004) that introduced Response to Intervention (RTI) language into the law; teachers are still unclear about the function of RTI (Castillo et al., 2016; Gersten et al., 2005; Spear-Swerling & Cheesman, 2012).

Practitioners are continuously challenged with implementing the MTSS framework to meet the needs of their students (Braun et al., 2020). It is an ongoing process for researchers to determine which MTSS components are actually being implemented in schools and to what degree or frequency they are being implemented (Dexter et al., 2008; Pierce & Mueller, 2018). Addressing implementation issues will allow educators to work more efficiently in an effort to provide all students the opportunity to reach their full potential (Pierce & Mueller, 2018).

Society-at-Large

Rural communities account for roughly one-quarter of all students in public schools (Gagnon, 2016). Educators who work and function within rural districts face numerous and unique challenges in meeting the academic and behavioral needs of all students in comparison to urban or suburban districts (Pierce & Mueller, 2018). Small or sparse populations, geographic isolation, and limited choices characterize all rural areas (Gagnon, 2016). Due to the large number of rural regions across the United States, it is imperative to explore the relationships between MTSS to educators' beliefs and perceptions in this region. Several researchers and practitioners have sought to establish parameters for defining MTSS in schools and districts, however, a continuous lack of clarity emerges on how these systems function in rural schools (Pierce & Mueller, 2018).

Theoretical Background

Theory of planned behavior (TPB). The concept inherent to this research is that human behavior is affected by their beliefs and perceptions. The theory of planned behavior (TPB) supports the concept that attitudes affect whether a behavior will be performed. Theory of planned behavior (Ajzen, 1991) is a conceptual framework for understanding social and intrapersonal influences on intention to perform specific behaviors (Francis et al., 2004) and can

serve as a useful platform for theory-driven research in education (Mercer et al., 2014; Volpe & Suldo, 2014). Conderman & Johnston-Rodriguez (2009) found that general education teachers felt pessimistic about their skills related to key components of RTI (assessment and progress monitoring). Similarly, teachers' concerns are related to their lack of knowledge regarding implementing interventions and appropriate instruction (Greenfield et al., 2010). Teachers' pessimistic feelings about their RTI skills and lack of knowledge regarding implementation and instruction are factors that may influence the degree to which MTSS/RTI will be implemented.

Today's schools face mounting challenges in responding to national and state initiatives, such as high stakes testing, accountability, increasing student diversity, and collaboration with families (Barrio & Combs, 2015). MTSS/RTI can be used as a tool to help meet these challenges. Hence, educators implementing MTSS should have adequate data-based decision-making skills as well as adequate preparation, knowledge, and resources on effective interventions (Sugai & Horner, 2009). In the past 10 years, extensive research on the implementation and effectiveness of RTI has been conducted (Fuchs & Vaughn, 2012). One consistent finding is that teacher preparation is key to effective implementation and positive student outcomes related to RTI (Compton et al., 2012; Denton, 2003; Fuchs et al. 2008; Gerber, 2005; Gersten et al., 2008). Teachers are the primary implementors of MTSS; therefore, their areas of concerns must be addressed to ensure successful implementation of MTSS.

Problem Statement

An MTSS framework is also known as response-to-intervention (RTI) and focuses on maximizing student academic achievement (Leonard et al., 2019; Scott et al., 2019). As schools have implemented tiered systems of support over the last two decades, it has become clear that

implementing MTSS within the infrastructure of school systems is very challenging (Arden et al., 2017; Coyne et al., 2018). Scott et al. (2019) conducted a study that examined whether MTSS training and the fidelity of implementation are related to student academic and behavioral outcomes. The results were mixed, but there was evidence of positive student outcomes associated with both the academic (RTI) and behavior (SWPBIS) components of MTSS. This study concluded that more research is needed to better understand the optimum schedule for assessing the fidelity of implementation, balancing efficiency and practicality with sufficient effect on continued buy-in, and consistency (Scott et al., 2019). Given the potential for improving student outcomes that result from effective early and targeted intervention promoted by the MTSS framework, the high level of implementation should be seen as a positive development in education (Lancaster & Hougen, 2017).

There is a need for guidance in developing a structure for the MTSS process to ensure successful implementation. Charlton et al. (2019) conducted a study where the purpose was to consider the evidence gathered from states and districts implementing MTSS alongside an evaluation framework, the Active Implementation Framework. The study found that state leaders that implemented MTSS experienced helpful and hindering incidents in implementing MTSS. Further research will be required to understand how to best address implementation of tiered frameworks at each level of the school system (Charlton et al., 2020). The success of MTSS implementation will depend on the degree to which one's theoretical understanding of implementation can translate into sustainable services that improve the lives of all children (Charlton et al., 2020). The problem is that educators are experiencing challenges implementing MTSS, and more research is needed to determine if there is a relationship between implementing MTSS to educators' beliefs and perceptions about MTSS.

Purpose Statement

The purpose of this quantitative, predictive correlational study is to determine how accurately can SAM's (Self-Assessment of MTSS) scores be predicted from a linear combination of educators' beliefs and educators' perceptions for teachers that have implemented MTSS; and to determine if a predictive relationship exists between the predictor variable (educators' perception about how MTSS practices are occurring in their school) and the criterion variable (educators' beliefs about MTSS). The criterion variable in the first research question is SAM's (Self-Assessment of MTSS) scores. SAM's (Self-Assessments of MTSS) scores are the ratings from the school-based leadership teams' assessment on the MTSS framework operating in their schools (Castillo et al., 2016). The SAM's scores are a continuous variable. The predictor variables in the study are educators' beliefs and educators' perception. For the second research question, the criterion variable is educators' beliefs about MTSS, and the predictive variable is educators' perception about how MTSS practices are occurring in their school. Educators' belief refers to educators' opinion about RTI/MTSS. and educators' perception refers to how educators perceive MTSS practices are occurring in their school (Castillo et al., 2016). Beliefs and perceptions about MTSS are addressed by educators' perceived feasibility and perceived effectiveness of educational practices. This includes screening to identify students with difficulties in content areas (e.g., reading, math, writing) and behavior/social emotional, progress monitoring of individual students to guide student instruction, and implementing evidence-based practices in the areas of academics and behavior/social emotional (Castillo et al., 2016).

Elementary teachers that work in a rural South Carolina area are the targeted population. Rural teachers often lack the resources needed to effectively implement or gain the necessary knowledge to effectively implement MTSS. Resources can mean, but are not limited to, funding,

professional development, or leadership support. The study will address the nature of the problem by increasing the scope of knowledge about the school-based leadership teams' view on how MTSS is being implemented in their schools; educators' beliefs about the MTSS model, and educators' perceptions of how MTSS practices are occurring in their schools.

Significance of the Study

The study is significant in the theoretical, practical, and empirical relevance to the existing body of literature regarding the relationship between implementation of MTSS to educators' beliefs and perceptions. This study is grounded in the theory of planned behavior (TPB). Theory of planned behavior will be used to develop a deeper understanding of the relationship between educators' beliefs about MTSS and perceptions of how MTSS practices are occurring in their schools.

The setting for the study is a school district that is predominately rural in the state of South Carolina. This district is at a disadvantage when it comes to funding and proper training for teachers to help the students succeed in their academic career. The area has a high poverty level index. In South Carolina, the implementation of statewide MTSS was informed by Act 213 and created in 2018 to be implemented in the 2019-2020 school year (South Carolina Department of Education, 2021). "During the 2018–19 school year, 45.3 percent of South Carolina students in grades 3–8 scored meet or exceeds expectations in reading on the annual SC READY assessment. While this is some improvement over previous years, these results still indicate that a majority of students are not currently on track to graduate college and career ready" (South Carolina Department of Education, 2021).

There is a need for strong multi-tiered systems of support (MTSS) in rural schools given that students living in rural areas experience poverty and transience (Werch & Runyons-Hiers,

(2020). Rural schools serve as the primary resource for addressing child academic, social, emotional, and behavioral problems (Werch & Runyons-Hiers, 2020). The challenges that hinder successful implementation of MTSS are limited access to high-quality evidence-based interventions, lack of structure and consistency in procedures, professional development opportunities, interventionists, recruitment and retention, and time to implement interventions (Pierce & Mueller, 2018; Werch & Runyons-Hiers, 2020). Key components essential to sustaining delivery of an effective MTSS are addressing changing rural community diverse demographics and associated school instruction challenges (Hoover et al., 2020). The study will provide reliable quantitative data for rural elementary school administrators operating under South Carolina's MTSS model to consider for creating a feasible and sustainable MTSS program tailored to meet the schools' and districts' needs. There is a need for a well-informed study that will offer the communities insight into barriers to the successful implementation of MTSS.

Research Questions

RQ1: How accurately can SAM's scores be predicted from a linear combination of educators' beliefs and educators' perceptions for teachers that have implemented MTSS?

RQ2: Can elementary educators' perception of how MTSS practices are occurring in their school predict their beliefs about MTSS?

Definitions

1. *Attitude* – person's favorable or unfavorable assessment regarding the behavior in question (Ajzen, 1991).

2. *Educators' Beliefs* – educators' belief refers to educators' opinion about RTI/MTSS (Castillo et al., 2016).

3. *Educators' Perception* – refers to how educators perceive RTIMTSS practices occurring in their school (Castillo et al., 2016).

4. *Implementation* – refers to operationalizing the MTSS model (Arden & Benz, 2018)

5. *Multi-Tiered System of Supports* – MTSS is a comprehensive framework focused on school improvement to ensure all students are learning and growing through data-based problem solving and research-based best practices (Liebfreund & Amendum, 2017).

6. *Perceived Behavioral Control* – refers to one's perception of the difficulty of and control over performing the behavior (Yan, 2014; Yan & Cheng, 2015).

7. *Positive Behavior Interventions and Supports* – a preventive framework that applies a three-tiered model of behavioral supports to improve the whole-school climate (Bastable et al., 2021).

8. *Response to Intervention* – A schoolwide multi-leveled initiative focused on providing more intensive instruction to students by continually assessing students and placing them into higher tiers of instruction if they fail to make progress and experience success at lower tiers, thus, providing students with more intensive supports as needed (Liebfreund & Amendum, 2017).

9. *Subjective Norm* – an individual's perception of whether others think the behavior should be performed (Ajzen, 1991; Steinmetz et al., 2016).

10. *Theory of Planned Behavior* – The TPB (Ajzen, 1991) is a conceptual framework for understanding social and intrapersonal influences on intention to perform specific behaviors (Francis et al., 2004).

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of this literature review is to present the essential components of the MTSS movement, to describe educators' beliefs about MTSS, educators' perception of MTSS implementation in their schools, and to review the relationship between Multi-Tiered System of Supports (MTSS) implementation and educators' beliefs and perceptions. The chapter opens with the theoretical framework. The study is grounded in Ajzen's (1991) theory of planned behavior (TPB) that emphasizes behavioral intent. A thorough review of the literature pertinent to MTSS, educators' beliefs about MTSS, and educators' perception of MTSS implementation in their schools completes the chapter which ends with a summary.

Theoretical Framework

Over the past few decades, the theory of planned behavior (TPB) has become a framework for explaining and predicting behavior (Fishbein & Ajzen, 2009). The theory of planned behavior (TPB) is an extension of Fishbein and Ajzen's (1975) theory of reasoned action (TRA), which is proposed for the prediction and understanding of distinct behaviors in specified contexts (Armitage & Conner, 2001; Ajzen, 1991). Measures of controlled belief and perceived behavior are not included in TRA but are included in TPB (Armitage & Conner, 2001). The theory of planned behavior (TPB) was proposed by Ajzen (1991). The theory is a rigorous conceptual framework for understanding social and intrapersonal influences on intention. It can serve as a useful platform for theory-driven research in education (Mercer et al., 2014; Volpe & Suldo, 2014). The model assumes that behavior is planned; hence, it predicts deliberate behavior (Ajzen, 1991).

Theory of planned behavior (TPB) has the potential to predict and explain teachers'

intentions to utilize and administer formative assessments in the classroom (Yan & Cheng,

2015). Relationships are outlined between attitude, subjective norms, perceived behavioral

control, intention, and practice of a particular behavior (Ruble et al., 2018; Steinmetz et al.,

2016). Theory of planned behavior (Figure 1) theorizes that a person's actual behavior is directly

influenced by his or her behavioral intention and, in turn, is jointly determined by his or her

attitude, subjective norms, and perceived behavioral controls toward performing the behavior

(Ruble, 2018; Steinmetz et al., 2016).

Attitude toward the behavior is defined as a person's favorable or unfavorable assessment

regarding the behavior in question (Ajzen, 1991). The more favorable the attitude and subjective

norm, with respect to behavioral control, the stronger should be an individual's intention to

perform the behavior under consideration (Ajzen, 1991). If one expects to gain the action, the

attitude toward the action is logically positive (Chai et al., 2020).

Subjective norm refers to perceived social pressure to perform, or not perform, the

behavior. It is usually defined as an individual's perception of whether important others think the

behavior should be performed (Ajzen, 1991; Steinmetz, 2016). Attitude and subjective norm are

theorized to affect intention directly and behavior indirectly through intention (Ruble, 2018).

Perceived behavioral control refers to one's perception of the difficulty of and control

over performing the behavior (Yan, 2014; Yan & Cheng, 2015). It influences both intention and

behavior. The rationale behind the addition of perceived behavioral control was that it would

allow the prediction of behaviors that were not under complete volitional control (Armitage &

Conner, 2001; Yan & Cheng, 2015). Perceived behavioral control is theorized to have a direct

impact (i.e., not mediated by intention) on both intention and actual behaviors (Ruble, 2018).

There may be situations where attitudes are strong or normative influences are powerful.

Figure 1

Theory of Planned Behavior Model (Ajzen, 1991)
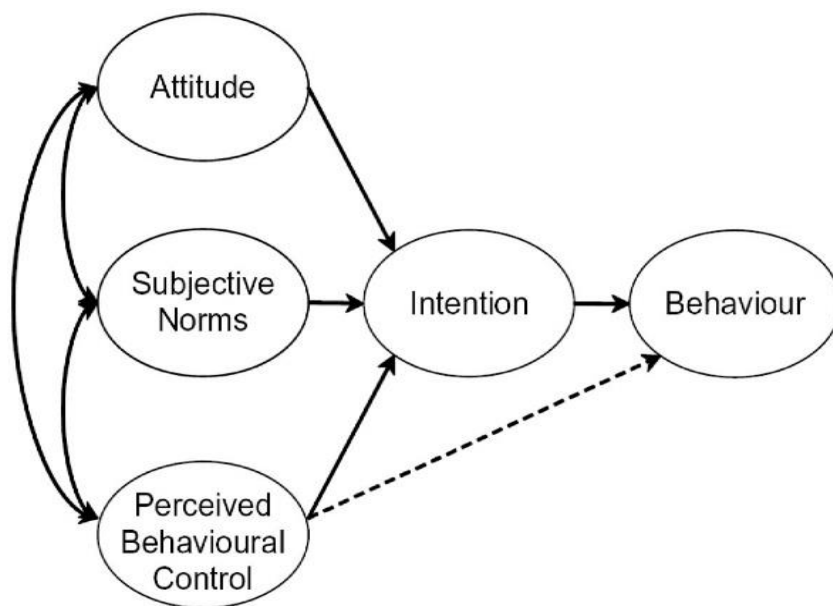
"Special Education Teachers' Perceptions and Intentions Toward Data Collection" is a

mixed-method study that examined the applied theory of planned behavior (TPB) to understand

the influences that promote or hinder early childhood special educators' intentions to collect data

for IEP goals and data collection behavior (Ruble et al., 2018). Data collection is a critical

feature of evidence-based educational practice (Ruble et al., 2018). The participants were 44

special education classroom teachers from one Midwestern state and one Southern state. They

were the case managers overseeing the IEPs of students with autism aged 3 to 8. The instruments

used were the Teacher Intention Toward Data Collection Efforts survey, Autism Self-Efficacy

Scale for Teachers survey, and an 11-item administrative support questionnaire.

The researchers (Ruble et al., 2018) assessed the three influences on behavioral intention

to collect data from TPB: attitude toward collecting data, social norms for collecting data, and

perceived behavioral control for collecting data. The three influences correlated positively with

teachers reported intention to collect data, however, only perceived behavioral control of barriers

correlated positively with collection data (Ruble et al., 2018). Additional measures of teacher

self-efficacy and administrative support correlated positively with the intention to collect data

but not with actual data collection behaviors (Ruble et al., 2018). Perceived behavior control

accounted for the variance in actual data collection behavior (Ruble et al., 2018).

Qualitative analyses identified that the majority of the teachers (48%) reported that the

reason to collect data is for progress of IEP goals and 14% of the teachers reported that the

reason for data collection is to meet the legal requirements for educating students with

disabilities (Ruble et al., 2018). The quantitative data suggest that administrators are uninvolved

in reviewing data which is unfortunate due to data was described as necessary for making

decisions about the extended school year and reporting general progress (Ruble et al., 2018). In

the study's findings, teachers reported that unclear measurement systems were the biggest barrier

to data collection.

Theory of Planned Behavior

The key determinant of behavior in the theory of planned behavior (TPB) is the intention

to perform the behavior in question (Steinmetz et al., 2016). Theory of planned behavior (TPB)

specifies the nature of relationships between beliefs and attitudes. Theory of planned behavior's

(TPB) relationship between educators' beliefs and perceptions as pertaining to the

implementation of MTSS will be reviewed and synthesized to ground the study in an accepted

conceptual framework.

Theory of Planned Behavior's Relationship to Educators' Beliefs and Perceptions

The relationship between effective implementation of MTSS and the application of TPB
(Ajzen, 1991) is focused on academic success for the students. Teaching is a highly personal
activity where teachers enact their educational philosophies and make sense of notions of
curriculum and assessment (Harrison, 2013). Beliefs and perceptions can determine the
educators' attitudes towards implementation of MTSS. If the perceived behavior control on the
behavior is high, intention to perform individual's behavior also increases (Ates, 2019).

Advancement of Theory of Planned Behavior (TPB)

Researchers have conducted notable studies using theory of planned behavior to assess
teachers' attitudes and practices regarding educational reform movements in the United States.
Theory of planned behavior (TPB) has also been used in other countries such as China. Zhao et
al. (2020) investigated teacher factors behind the successful implementation of a national
reformed mathematical curriculum instructional model, the Dao Jiang Ping (DJP) model, in
China. This instructional model is designed to address the requirements of the national
mathematical curriculum reform and meet local needs at the same time (Zhao et al., 2020). The
study is part of a longitudinal project (2012–2017) that reported the level of DJP implementation
and explored factors that influence teachers' implementation (Zhao et al., 2020). The project
consisted of two phases. Phase 1 reported successful implementation of the model and
questioned the pertinent teacher factors behind its success; and phase 2 explored the factors that
influence teachers' levels of DJP implementation (Zhao et al., 2020). The results of phase 2 were
reported as follows: the reviewed literature showed that the main factors related to teachers'
implementation of curriculum reforms can be grouped into individual factors including teacher

beliefs, attitudes and self-efficacy, and contextual factors, such as school culture, training support and resources (Zhao et al., 2020).

Continuous implementation of reform ideas has been proven to ensure the sustainability of reform implementation (Zhao et al., 2020). Several important aspects highlighted in the study showed the importance of getting teachers to implement reform ideas continuously. The aspects are as follows: teachers' pedagogical beliefs should align with reform ideas; school culture and support from school leaders are necessary to ensure the sustainability of teachers' implementation; and teachers should value students' long-term development (Zhao et al., 2020).

This study contributes to the theory of planned behavior (TPB) by offering empirical support for the feasibility of adding teachers' understanding of reform as an additional dimension to enhance its explanation of teachers' innovative behaviors in the context of curriculum reform (Zhao et al., 2020). Teachers instinctively evaluate a reform's value. Therefore, it is necessary to present evidence of the benefits to student learning while promoting it. Professional development programs should consider teachers' attitudes towards a reform and their interpretations of its ideas (Zhao et al., 2020).

Related Literature

Literature regarding educators' beliefs and perceptions about the Multi-Tiered System of Supports (MTSS) framework and its implementation, origin of MTSS, South Carolina's implementation of MTSS, and relevant case studies of implementation is directly related to this study on the relationship between educators' beliefs and perceptions of MTSS implementation (Barrett & Newman, 2018; Braun et al., 2020; Castro-Villarreal, 2016; Castillo et al., 2018; Coyne et al., 2018; Pierce & Mueller, 2018; Romer et al., 2018). By implementing this study, educational stakeholders will be able to potentially affect student achievement outcomes by

establishing the necessary environmental conditions for successful MTSS program implementation. The literature begins by discussing legislative influences that apply pressure on educators to implement the MTSS model.

Origin of MTSS

Tiered instruction found its way into educational praxis through the field of special education (Sailor et al., 2021). Its origins lay in the three-tiered public health strategy employed in the United States by the Federal Centers for Disease Control and Prevention (Sailor et al., 2021; Truckenmiller & Brehmer, 2020). One of the biggest MTSS influences is legislation related to the education of individuals with disabilities (Goodman-Scott et al., 2019). Federal mandates such as Individuals with Disabilities Education Improvement Act (2004) and No Child Left Behind Act (2001) require school systems to implement multi-tiered instructional models that will apply research-based practices and meet the needs of diverse learners (Swanson et al., 2017). Every Student Succeeds Act (2015) replaced No Child Left Behind but did not do away with the mandates for standardized testing. This change allows Every Student Succeeds Act (2015) and federal legislation Individuals With Disabilities Education Improvement Act (2004) to incorporate accountability and quality at their base (Ruble et al., 2018). The politics of special education have changed, especially regarding decisions about which students are eligible for special education services and how eligibility decisions are made (Castro-Villarreal et al., 2016; Ruble et al., 2018). This change is to help from over identifying students for special education.

A number of special education derived procedures are reflected in MTSS (Goodman-Scott et al., 2019). For example, the Individual Education Program planning (IEP) process which includes a number of MTSS related elements: planning must be team based; long term and short term objectives and goals must be based on current level of functioning and consideration of

disability; intervention decisions and instructional adjustments must be aligned with pre-determined goals and objectives and be evidence-based; and student progress and responsiveness to intervention must be monitored continuously (Goodman-Scott et al., 2019). Also, a requirement called "child find" established a routine and expectation for regular screening for students who may have a disability that affects their academic achievement (Goodman-Scott et al., 2019).

The Kansas State Department of Education was first to launch a statewide initiative to combine tiered intervention strategies under the newly coined term, Multi-Tiered System of Support (Sailor et al., 2021). A MTSS model, which is often referred to as the joining of Response to Intervention (RTI) and Positive Behavior Interventions and Supports, is widely considered to be an umbrella framework for a continuum of programs and services intended to help all students succeed (Gartland & Strosnider, 2020). RTI has taken on a specific connotation by many in the field as a means to provide progressively intensive intervention that also generates data to inform instruction and identify students who may require special education and related services (Gartland & Strosnider, 2020). Students' academic progress and behavioral performance are assessed in a timely manner to provide a systematic level-based teaching model tailored to different educational needs (Zhang et al., 2019). Fuchs & Fuchs (2005) were instrumental in creating a manuscript that outlined a blueprint for RTI implementation which included universal screenings for the general education student population, researched-based instructional practices that aligned content with curriculum standards in the general education classroom, and monitoring student responsiveness at each level of intervention.

MTSS Framework

Multi-tiered System of Support (MTSS) is a model of preventative and differentiated instruction that is designed to meet the needs of all learners (Burns et al., 2016; Wackerle-Hollman et al., 2021). MTSS offers an effective framework for matching students with the requisite instruction for mastery of academic (RTI) and social-emotional (Positive Behavioral Interventions and Supports) skills needed to succeed in school and to reduce special education services (Wackerle-Hollman et al., 2021). There are typically three instructional tiers in the MTSS framework. The tiers are as follows: Tier 1 represents the general curriculum offered to all children; Tier 2 includes strategic and targeted instruction to address identified areas of need; and Tier 3 involves intensive instruction to individualize approaches for children needing focused supports (Wackerle-Hollman et al., 2021). Special education services may serve as a fourth tier or may remain outside of the MTSS framework entirely; depending on the framework of the education agency (Nese et al., 2019).

With the recent adoption (2018) and implementation (2019-2020 school year) of the MTSS framework by the South Carolina Department of Education, the new reform is important to the proposed manuscript, "Determining Relationships Between Implementation of Multi-Tiered System of Supports to Educators' Beliefs and Perceptions". This may serve as a catalyst to unify MTSS efforts and ensure the implementation of MTSS is executed with integrity. The manuscript may also add to the previous research efforts of researchers (e.g., Braun et al., 2020; Castillo et al., 2018; Fuchs & Fuchs, 2017) to provide knowledge and insight that will build upon a foundation to enhance the success of students through identifying and addressing their needs.

Figure 2

Three-Tiered Instruction/Intervention Model (South Carolina Department of Education, 2021)
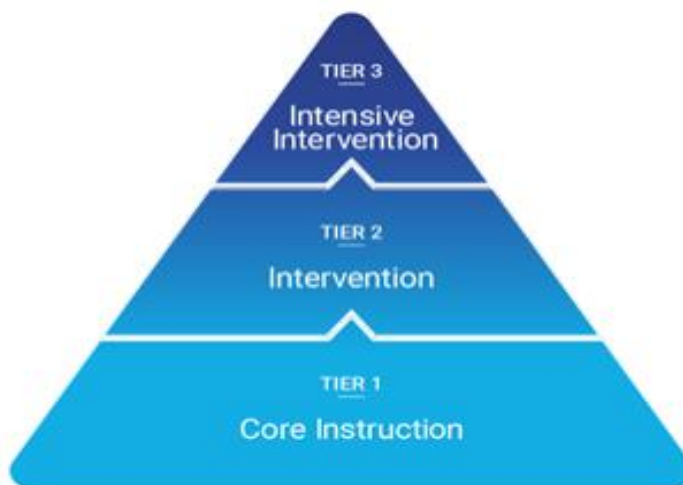
Tier 1

Tier 1 is the largest tier and the foundation for the multi-tiered systems of support (MTSS) framework. This tier focuses on high quality core classroom instruction and is provided for all students (Liebfreund & Amendum, 2017; Sailor et al., 2021). Classroom instruction in Tier 1 includes both whole-class and targeted small group (Leonard et al., 2019). When Tier 1 instruction is successful and meets the needs of a higher percentage of students, fewer students require services at the Tier 2 or Tier 3 level (Swanson et al., 2017). Identifying Tier 1 reading instruction that benefits most students is critical to the successful implementation of MTSS and meeting a diverse range of student learning needs (Swanson et al., 2017).

"Investigating a Tier 1 Intervention Focused on Proportional Reasoning: A Follow-Up Study" provided evidence of the effectiveness of Tier 1 intervention. Jitendra et al. (2017) conducted this randomized controlled study which investigated the efficacy of a Tier 1 intervention designed to help students with and without mathematics difficulties develop proportional reasoning. This study is a follow-up and extension of a study conducted by Jitendra

et al. (2015). The participants were from twenty seventh-grade teachers' classrooms. Participants included 373 seventh-grade students with 253 demonstrating math difficulties. A measure of proportional problem-solving was administered at pre- and post-testing and at 11 weeks following treatment, along with a general mathematical problem-solving measure at pre- and post-testing (Jitendra et al., 2017). For the full sample, post-test differences favoring the treatment group were statistically significant for all measures. For students with math difficulties, post-test differences favored the treatment group (students receiving schema-based instruction) for the proportional problem-solving posttest and proportional problem-solving delayed post-test but not for general problem-solving post-test (Jitendra et al., 2017).

In both the present study and the original Jitendra et al. (2015) study, students in schema-based instruction classrooms learned the content more effectively than control students (students who did not receive schema-based instruction but received instruction on the same topics and in the same period as the treatment group), which can be attributed to schema-based instruction practices such as using visual representations to highlight the underlying problem structure, engaging in problem-solving and metacognitive activities, and developing procedural flexibility (Jitendra et al., 2017). Findings from the current study and prior schema-based instruction studies provide strong evidence that the schema-based instruction curriculum can be used within the MTSS framework in a preventative fashion to meet the needs of all students, including students who struggle to develop mathematical proficiency (Jitendra et al., 2017). With the increased implementation of MTSS, there is a need for empirically validated interventions in mathematics, especially Tier 1 interventions, to meet the instructional needs of a range of learners (Jitendra et al., 2017).

Tier 2

Tier 2 is the secondary level in the MTSS model. This is where evidence-based interventions are provided to students who did not make adequate growth nor grade-level expectations based on universal screenings in Tier 1 (Preston et al., 2016; Wanzek et al., 2016). A lack of adequate growth and not met status of grade-level expectations based on the universal screenings in Tier 1 can be considered risk factors. As a way to prevent risk factors from becoming academic failure, school dropout, or juvenile justice involvement, school systems provide supplemental instruction (e.g., small group) and progress monitoring at Tier 2 (Truckenmiller & Behmer, 2020). Tier 2 type interventions may be a determinant in who will be referred for more intensive interventions and/or special education (Sharp et al., 2016; Wanzek et al., 2016). When describing successful MTSS stories, educators often said Tier 2 was most effective for students needing small group instruction or extra time targeting a specific deficit (Braun et al., 2020).

Truckenmiller & Behmer (2020) conducted a literature synthesis to aggregate the decisions made in effective Tier 2 reading interventions to help students improve their reading skills. These decisions include identifying which students would benefit most from specific interventions, how long to schedule intervention time, how to schedule staffing, the types of professional learning support needed, and decisions based on progress monitoring (Truckenmiller & Behmer, 2020). The search parameters in this review included peer-reviewed studies published in the United States between January 1, 2001, and April 4, 2019. Studies of populations outside of the scope of studies (e.g., postsecondary education) were excluded (Truckenmiller & Behmer, 2020). The initial search yielded 2,366 articles after the duplicates were removed.

The study concluded with a broad consensus in the decision that the lowest performing students in early elementary are most likely to benefit from Tier 2 intervention that focus on phonemic awareness, letter-sound correspondence, writing words, and reading connected text (Truckenmiller & Behmer, 2020). However, the precise process by which educators decide if students are making adequate progress during an effective Tier 2 intervention is unclear (Truckenmiller & Behmer, 2020). Professional judgement appears to play a significant role in progress monitoring decisions and further study is needed on the implications of using pre-specified progress monitoring rules versus professional judgment (Truckenmiller & Behmer, 2020).

Tier 3

Tier 3 is needed when students have not made adequate progress in Tier 2 and continue to perform below grade level. Tier 3 services consist of individual or small group instruction that extends beyond the time allocated for Tier 1 and Tier 2 supports (Wexler, 2018). Similar to Tier 2, Tier 3 academic supports are designed to supplement Tier 1 core instruction, providing additional instruction, more time to practice, and specific evidence-based interventions to target skill deficits (Wexler, 2018). If a student does not improve with the intensive individualized interventions, he or she may be referred for special education services; however, it is important to note that a student may be referred for a special education evaluation at any point and time if the school intervention team or parents feels that it is necessary (Sharp et al., 2016).

An example of Tier 3 in action is a research study conducted by Kaminski & Powell-Smith (2017). The purpose of their study was to evaluate the effectiveness of a focused individualized intervention on the development of phonemic awareness skills, specifically awareness of initial sounds, in preschool children eligible for Tier 3 support (Kaminski &

Powell-Smith, 2017). A multiple baseline design across subjects was used in the study. The participants were pre-school children who were eligible in age for kindergarten in the next school year. The single-case design allowed for the inclusion of children with diverse learning and speech and language abilities, as is typical among children who need Tier 3 support (Kaminski & Powell-Smith, 2017).

Individually the children received the Reading Ready Early Literacy Intervention for a period of 8 to 11 weeks. Trained interventionists conducted the 5-to-10-minute intervention activities three times in a designated area of the classroom during center time. Each child participated in at least 24 intervention sessions, and lesson repetitions occurred with all participating children. The number of repeated lessons ranged from three to nine. Overall, the effects of the Tier 3 early literacy intervention are positive although modest (Kaminski & Powell-Smith, 2017). Although all children showed skill gains in the intervention phase, the intervention was more effective for some children than others. The finding of considerable variability in RTI among the children who received Tier 3 support is not surprising given the diversity of skills and abilities among the group of children (Kaminski & Powell-Smith, 2017). Our findings indicate that it is difficult to know based on pretest scores alone which children would benefit the most from intervention (Kaminski & Powell-Smith, 2017). The results show gains in phonemic awareness for all children; however, the intervention was clearly more effective for some students than others (Kaminski & Powell-Smith, 2017).

South Carolina Department of Education's Adoption of a MTSS Framework

Figure 3

SCMTSS Core Principles (South Carolina Department of Education -SCMTSS Internal

Stakeholders Workgroup, 2021)

The implementation of multi-tiered systems of supports (MTSS) statewide in South

Carolina was created by state law, Act 213, in 2018 to be implemented in the 2019-2020 school

year. RTI was the previous intervention model used but the state chose to adopt MTSS to meet

the various needs of the students (academic and behavior/social-emotional). South Carolina

modeled their MTSS framework after the University of South Florida and Florida Department of

Education's 2015 Problem-Solving and Response to Intervention Project. The South Carolina

MTSS model proposes to deliver early intervention for every student who struggles to attain or

maintain grade-level performance by effectively utilizing best instructional practices within an

evidence-based instructional model (South Carolina Department of Education, 2021). South

Carolina's MTSS framework aligns with most of the elements that Fuchs &Fuchs (2005)

recommend such as implementing classroom instruction, universal screenings, and progress monitoring.

It is recommended that all students participate in a universal screening three times per year (South Carolina Department of Education, 2021). South Carolina's MTSS framework is proactive rather than reactive because it is a system that challenges educators and support professionals to be lifelong learners by analyzing current systems and making decisions that will improve instructional approaches (South Carolina Department of Education, 2021). South Carolina's MTSS (2021) is founded on six core principles that are essential for students and educators to succeed (Figure 3). The core principles are leadership, building capacity and infrastructure, communication and collaboration, data-based problem-solving, tiered instruction, and data evaluation. The following MTSS component definitions were created by the University of South Florida and Florida Department of Education (Problem-Solving and Response to Intervention Project, 2015):

Leadership

The building principal also supports the implementation of MTSS by communicating a vision and mission to school staff, providing resources for planning and implementing instruction and intervention, and ensuring that staff have the data needed for data-based problem-solving (South Carolina Department of Education, 2021). The building principal, assistant principal(s), and school leadership team are critical to implementing MTSS at the school level. They engage staff in ongoing professional development for implementing MTSS, plan strategically for MTSS implementation, and model a data-based problem-solving process for school improvement (South Carolina Department of Education, 2021).

Building the Capacity/Infrastructure for Implementation

School-wide capacity and infrastructure are required in order to implement and sustain MTSS. Building the Capacity/Infrastructure focuses on ongoing professional learning and coaching with an emphasis on improving Tier 1 instruction and data-based problem-solving (South Carolina Department of Education, 2021). This capacity and infrastructure usually include scheduling that allows staff to plan and implement instruction and intervention; and processes and procedures for engaging in data-based problem-solving (South Carolina Department of Education, 2021).

Communication and Collaboration

Ongoing communication and collaboration are essential for successful implementation of MTSS. Many innovations fail due to a lack of consensus, lack of feedback to implementers to support continuous improvement, and not involving stakeholders in planning (South Carolina Department of Education, 2021). In addition to including stakeholders in planning and providing continuous feedback, it is also important to build the infrastructure to communicate and work with families and other community partners (South Carolina Department of Education, 2021). These practices increase the likelihood that innovative practices will be implemented and sustained.

Data-Based Problem-Solving

The use of data-based problem-solving to make educational decisions is a critical element of MTSS implementation. This includes the use of data-based problem-solving for student outcomes across content areas, grade levels, and tiers, as well as the use of problem-solving to address barriers to school wide implementation of MTSS (South Carolina Department of Education, 2021). While several models for data-based problem-solving exist, the four-step

problem-solving approach evaluated in this instrument includes: defining the goals and objectives to be attained, identifying possible reasons why the desired goals are not being attained, developing a plan for and implementing evidence-based strategies to attain the goals, and evaluating the effectiveness of the plan (South Carolina Department of Education, 2021).

Tiered Instruction for Academics

Three-Tiered Instructional/Intervention Model: The three-tiered instructional/intervention model is another critical element of MTSS implementation (Figure 4). In a typical system, Tier 1 includes the instruction delivered to all students; Tier 2 includes supplemental instruction or intervention provided to students not meeting benchmarks; and Tier 3 includes intensive, small-group or individual interventions for students facing significant barriers to learning the skills required for school success (South Carolina Department of Education, 2021). It is important to consider academic, behavior, and social-emotional instruction and interventions when examining this domain.

Figure 4

SC Multi-Tiers of Instruction & Behavior Model (South Carolina Department of Education: Office of Special Education Services, 2018)
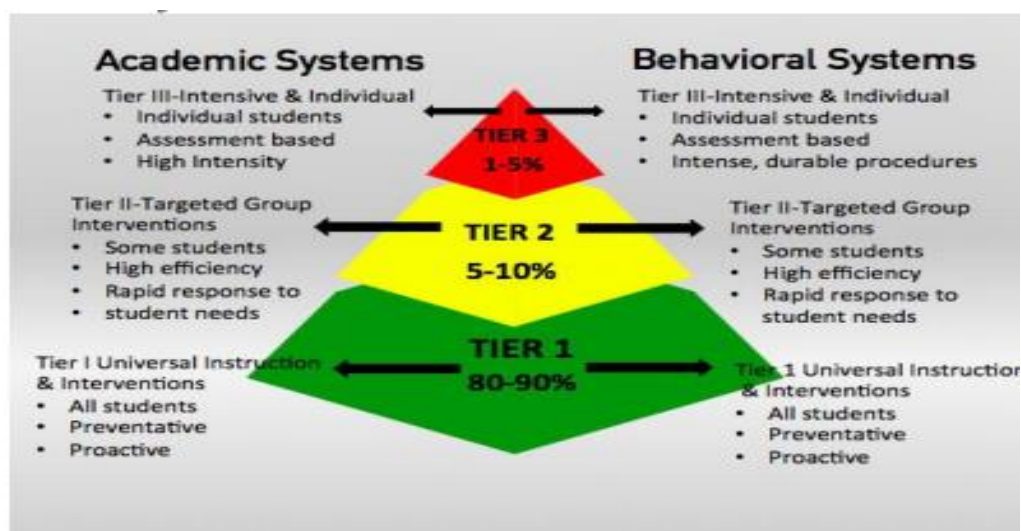
Tiered Instruction for Behavior and Social-Emotional Problems

A vast amount of attention has been paid to the use of multi-tiered systems specifically to identify students with specific learning disabilities (i.e., response to intervention). However, a shift has been made in recent years toward focusing on multi-tiered systems of support (MTSS) that integrate both academic and behavioral supports (Briesch et al., 2020; Naser et al., 2018). The state of South Carolina requires that teachers must be knowledgeable about teaching reading, writing, math, and social-emotional (positive behavior management) skills in all content areas (South Carolina Department of Education, 2021).

A tiered continuum of evidence-based intensive supports that is characteristic of a school-wide MTSS can be adapted to individual classrooms to advance school-wide approaches (Adamson et al., 2019). Strategies for successful implementation include foundational classroom behavior management at the universal level, the Good Behavior Game (used as a more intensive strategy for students who need additional instruction, practice, and reinforcement beyond the universal practices), and the use of student behavior contracts as an example of classroom-based individual level intervention (Adamson et al., 2019). The Social-Emotional MTSS: Pyramid Model is an example that schools may follow or modify to suit the population that they serve (Figure 5). The suggested implementation may strengthen the implementation of a school-wide support system.

Figure 5

Social-Emotional MTSS: Pyramid Model (The National Center for Pyramid Model Innovations, 2021).

Data Evaluation

Given the importance of data-based problem-solving within an MTSS model, the need for a data and evaluation system is clear. To perform effective databased problem-solving, school staff must understand and have access to data sources that align with the purposes of assessment (South Carolina Department of Education, 2021). Procedures and protocols for administering assessments and data use allow school staff to use student data to make educational decisions. In addition to student data, data on the fidelity of MTSS implementation allow school leadership to examine the current practices and make changes to increase implementation (South Carolina Department of Education, 2021).

The South Carolina MTSS Framework helps districts and schools personalize student learning plans through intensive academic and/or social emotional supports as well as identify at-risk students to provide the appropriate supports (South Carolina Department of Education, 2021). This framework includes a guidance document, which supports educators in making instructional decisions to help students to move between the tiers and receive interventions within the classroom (South Carolina Department of Education, 2021). The guidance document

can serve as a facilitator's guide to equip educators with the tools they need to address student needs and how to access more supports when a student requires those services (South Carolina Department of Education, 2021).

Summative Assessment Versus Formative Assessment

Summative assessment is the practice of collecting information with a view of summarizing what students have learned in the past (Ahmed et al., 2019). Ahmed et al. (2019) defined summative assessments as the process of recording the students' achievement to a given point, on a numerical scale, which aims to look back and assess how students have achieved the objectives (p. 111). The assessments are normally given at the end of the unit to allow a teacher to measure the student's understanding against some standard or benchmark. Summative assessments are not conducive to the MTSS Process.

Formative assessments are a foundation in the MTSS process. Formative assessment is assessing a student's progress regularly as learning and teaching are happening; and respond at once to the students' needs (Cotton, 2017). Identifying and responding to the students' needs involves monitoring, diagnosis, and action, and shapes students learning as well as informs teachers how to appropriately adjust their teachings (Ahmed et al., 2019).

Formative assessments are equally helpful in reflecting the achievement of students as well as teachers (Ahmed et al., 2019). Attempts have been made to build a basic understanding of teachers' attitudes, intentions, and practices regarding formative assessments (Ahmed et al., 2019; Cotton, 2017). Although the practice of formative assessments has been around for several years and research supports its impact, whether teachers use the practice is questionable (Cotton, 2017).

In support of formative assessments, Ahmed et al. (2019) conducted a mixed method study whose purpose was to investigate the synergy between summative and formative assessment. The study hypothesized that the teachers involved in the formative assessment of learners do better on the summative assessment as compared to those teachers who are unaware of learners' classroom performances; and formative assessment influences teachers in doing the summative assessment (Ahmed et al., 2019).

The study's finding concluded that the group of teachers who were familiar with students' classroom performances had higher means values (78.24) as compared to the group of teachers who were unfamiliar of the learners' classroom performances (Ahmed et al., 2019). On the other hand, the external examiners who were unfamiliar with classroom performances had lower mean values. The external examiners only made content analysis of the students' written papers. Therefore, they were limited in doing only the summative assessment. The difference in mean values reveals that summative assessment of students is clearer when it is seen in the light of formative assessment (Ahmed et al., 2019). It also highlights that there is a connection between both types of assessment. The data obtained through the qualitative portion of the study also supported the quantitative results. The interviewed teachers expressed that they find it easier to do summative assessments when they are aware of the formative assessments of students (Ahmed et al., 2019).

South Carolina Department of Education Intervention

Intervention is multifaceted and includes a process that involves universal screening and progress monitoring to individualize instruction and meet the needs of all students; targeted assistance and differentiated instruction at each tier that supports individual student achievement; and accelerated progress delivery by highly qualified expert certified teachers (South Carolina

Department of Education, 2021). The purpose of universal screening is to identify students likely

to experience poor academic outcomes if their instruction is limited only to classroom (Tier 1)

instruction (Fuchs & Fuchs, 2017). South Carolina State Department of Education uses universal

screening data to make educational decisions at the school level. The universal screeners

approved by the state department are Acadience Reading (formerly called DIEBELS),

aimswebPLUS, Amira, DIEBELS 6th and 8th Editions, easyCBM, FAST, iReady Diagnostic,

iSTEEP, MAP Reading Fluency, mCLASS with DIEBELS 8th Edition, STAR CBM, and STAR

Early Literacy if used with STAR CBM fluency tasks (South Carolina Department of Education,

2021). The screeners are brief and administered three times a year to ensure that students stay on

the trajectory for reading success and allows educators time to respond to the student's needs

earlier and accurately (South Carolina Department of Education, 2021).

  After the universal screening has been conducted, academic progress is then monitored

for the at-risk students. MTSS utilizes weekly or bi-weekly progress monitoring data for those

participating in Tier 2 and Tier 3 interventions to make decisions about the effectiveness of the

interventions (Wexler, 2018). To determine whether a student is making progress in response to

intervention, typically a six-week, or six data point rule is used (Wexler, 2018). Data should be

collected at regular intervals and graphed (Pentimonti et al., 2017). Data teams can ensure the

effectiveness of progress monitoring by implementing it consistently, and using the data to move

students between tiers, intensify instruction, or begin the problem-solving process for special

education placement (Pentimonti et al., 2017).

Reading Recovery

  Reading Recovery is a Tier 3 intervention used throughout the elementary schools within

the school district. Reading Recovery is an early intervention program designed to address the

literacy needs of students who are struggling to read (Agostino et al., 2017; Clay, 2016). Marie Clay developed Reading Recovery in the early 1970s. This initiative originated in New Zealand at the University of Auckland and was later adopted by schools throughout the country during the 1980s (Chapman & Tunmer, 2020). Other countries (Australia, Canada, New Zealand, the United Kingdom and the United States of America) implemented Reading Recovery and have trademarks that protect the quality of the delivery of a Reading Recovery Course (Clay, 2016).

A main objective of Reading Recovery intervention is to equip students with literacy strategies that can be applied in the regular classroom and allows them to continue developing as readers after the intervention has ended (Sirinides et al., 2018). To identify students for the intervention, first grade students are ranked in ordered terms of reading proficiency by their kindergarten teacher's assessment or sometimes their first-grade teacher's assessment (Agostino et al., 2017). Students who were retained in first grade are excluded from the identification process. Reading Recovery is specifically for students whose reading progress is in the lowest 20% of their class (Agostino et al., 2017; Chapman & Tunmer, 2020).

Reading Recovery entails pullout interventions that are provided during the regular day. The program model specifically states that the intervention may be provided at any time other than during regular classroom literacy instruction (Sirinides et al., 2018). The interventions consist of daily 30-minute one-to-one instructional sessions delivered by highly trained teachers (Sirinides et al., 2018). A student's Reading Recovery intervention typically lasts between 12 and 20 weeks. If a student reaches their target grade level in reading, they can complete the program successfully at any time within the 12-to-20-week period. The terminology used for the student's successful completion of the program is "discontinued" (Sirinides et al., 2018). Students who do not reach grade-level proficiency may exit the program without discontinuing.

The Reading Recovery model requires that all lessons cease after 20 weeks, whether or not a student reaches the target grade level (Clay, 2016; Sirinides et al., 2018).

School-Based Leadership Team

The school-based leadership teams in the school district consists of principals, grade level teachers (a lead teacher from each grade), school counselors, special education teachers, school psychologists, Reading Recovery teachers, and literacy coaches. A leadership team helps to implement and sustain the practices and organizational systems needed to ensure teacher effectiveness, MTSS fidelity, and positive outcomes (Goodman, 2017). The school-based leadership team's management of the MTSS process is crucial to successful implementation and consists of examining the aggregate school-wide screening and progress monitoring data and determining if the health of the school's system is intact (Arden & Pentimonti, 2017). The roles of each school-based leadership team member in the MTSS process is listed as follows:

Administrators' Role in MTSS

Administrators must build relationships with their leadership team and staff for successful problem solving and collaboration (Clark & Dockweiler, 2019). The speed and success in making inroads to achieve this often depends on the school climate, which is most often driven by the school principal (Clark & Dockweiler, 2019). A coordinated series of systemic supports are necessary for an effective and efficient school framework of implementation (Faggella-Luby & Bonfiglio, 2020). Change in educational practices will require the focused leadership of the school principal who can make decisions for the entire school staff and who can ensure change with guided enforcement and implementation of policies (Clark & Dockweiler, 2019). School leadership must be actively involved throughout the framework in

actively supporting the shared effort (Faggella-Luby & Bonfiglio, 2020). As the principal goes, so will this framework (Faggella-Luby & Bonfiglio, 2020).

Grade Level Teachers' Role in MTSS

Grade level teachers are representatives of their grade level (example: if they teach first grade, they represent the first-grade teachers). They are experienced educators who work with teachers, building administrators, parents, and community members. Grade level teachers work with new teachers to provide guidance and support to equip them with the necessary tools to become productive in their field. They also provide support to experienced teachers and act as liaison between teachers and building administrators.

Grade level teachers are members of the school-based leadership team and disseminate new information to teachers in their grade level meetings. Findings from a qualitative study conducted by Braun et al. (2020) found that the educators who were directly involved in the decision-making process as part of their school's MTSS team felt positive and explained their school's system in detail. The majority of the teachers are not a member of the MTSS team and expressed less comfort and more frustration with their minimal knowledge of the system (Braun et al., 2020). This is where the role of the grade level teacher comes in. They can conduct professional development meetings to train their colleagues on the components of MTSS.

School Counselors' Role in MTSS

The role of the school counselor has evolved over the years. A common misconception is that the primary role of school counselors is to provide direct supports to students outside the classroom text, for example, individual and small group counseling, grade and school transitions, college and career readiness, and attendance monitoring (Goodman-Scott et al., 2019). School Counselors no longer serve in the capacity of providing vocational guidance. They now base

their programs on the American School Counselor Association National Model for school counseling programs. Within the American School Counselor Association National Model framework, school counselors lead and contribute to schoolwide efforts aimed at supporting the academic, career, and social/emotional development and success of all students (American School Counselor Association, 2023).

School counselors are a member of the MTSS team. Within a MTSS approach, the actual roles and responsibilities of school counselors align and integrate well with the focus on prevention, educating and supporting all students, and supporting entire school communities (Goodman-Scott et al., 2019). Ziomek-Daigle et al. (2016) sought to demonstrate the overlap between MTSS and comprehensive school counseling programs. The specific similarities include leadership team and collaboration, coordinated services, school counselor roles, data collection, evidence-based practices, equity, cultural responsiveness, advocacy, prevention, positive school climate, and systematic change (Ziomek-Daigle et al., 2016).

Special Education Teachers' Role in MTSS

Special education teachers can hold various roles in a school setting. They are educators and oftentimes used as interventionists. Special education teachers should be included in the school-based leadership team. Arden & Pentimonti (2017) proposed to build a climate of data fluency and encourage collaboration, the school should build a team and special education teachers were listed as a team member. They are a logical choice because special education teachers are likely to have experience, knowledge, and skills in interpreting assessments (Braun et al., 2020).

School Psychologists' Role in MTSS

School psychologists work closely with teachers, school counselors, building administrators, and parents. They promote a healthy learning environment for the students. According to the National Association of School Psychologists Practice Model, school psychologists have a role in indirect system-level services (Werch & Runyons-Hiers, 2020). These services include creating, maintaining, and expanding school-wide practices such as MTSS to promote learning (Werch & Runyons-Hiers, 2020). School psychologists are also experts in data-based decision making as well as consultation and collaboration, which are essential skills to implementing MTSS practices and promoting school and district-wide change (Werch & Runyons-Hiers, 2020).

Literacy Coaches' Role in MTSS

Literacy coaching is an effective professional development strategy for early childhood teachers (Cutrer-Parraga et al., 2021). Literacy coaches are effective members of the school-based leadership team in the South Carolina school district. Their roles oftentimes call for them to serve as the MTSS coordinator. Literacy coaches help teachers address specific needs of struggling readers, including English learners and children from low social economic status and ethnic minority backgrounds (Amendum et al., 2017).

Speech-Language Pathologists' Role in MTSS

Speech-language pathologists are essential team members at the school building level because of their knowledge and training in why students may struggle to meet academic proficiency levels in reading despite intact reading ability, as it may be attributable to comprehension deficits (Powell, 2018). The role of the speech-language pathologist in the MTSS process is to promote literacy and provide assistance to general education teachers by sharing

their expertise in language development, the phonological system, vocabulary, sentence structure, and comprehension (Powell, 2018). Most speech-language services are provided at the Tier 3 level (Sylvan, 2018).

Educators' Beliefs about MTSS Implementation

At the center of the MTSS framework is the classroom teacher. The classroom teacher is responsible for implementing the tier levels in MTSS. A common misconception among teachers is that RTI/MTSS is a special education issue because the only mention of RTI is found in the Individual With Disabilities Education Improvement Act (2004) regarding student identification (Nagro et al., 2019). Preparing teachers to implement behavioral and instructional practices grounded in research while teaching general education curriculum and simultaneously meeting the individual needs of an increasingly culturally and linguistically diverse student body is a complex undertaking (Nagro et al., 2019). Clarity in the teachers' role in the MTSS process and promoting teacher buy-in can help with teachers' beliefs about MTSS implementation. When teachers find that their ideologies are consistent with a reform, they typically support and feel positive about the change (Briggs et al., 2018). However, when teachers do not feel that the reform aligns with their professional practice or the needs of their students, they may be less likely to buy in and more likely to have a negative response to the reform (Briggs et al., 2018).

Vekaria (2017) conducted interviews with building administrators and district-level personnel in an effort to understand the role of administrators in the implementation of MTSS in Chippewa Valley Schools and with a recent emphasis on systems-level change in elementary schools. District-level administrators reported that follow-through and consistent feedback were extremely important for school-based teams as well as the need for continued training and resources needed to ensure proper implementation (Vekaria, 2017). Building administrators

reported the importance of cultivating staff buy-in by forming strong relationships with teachers and encouraging shared leadership within their buildings (Vekaria, 2017). Also, building administrators reported that by encouraging and fostering a problem-solving environment they were able to move their school teams forward (Vekaria, 2017).

Educators' Perceptions of MTSS implementation

Educators implementing MTSS should have adequate skills in data-based decision making as well as adequate preparation, knowledge, and resources on effective interventions (Sugai & Horner, 2009). Braun et al. (2020) conducted a qualitative study, "Living in Tier 2: Educators' Perceptions of MTSS in Urban Schools", with the intent to learn from educators about the implementation of Tiers 2 and 3 in MTSS for academics in their schools. In particular, they were interested in how urban elementary educators perceived their school's MTSS process.

The participants in the study consisted of 19 teachers with considerable teaching experience, with almost half having taught at least 10 years (Braun et al., 2020). Teacher interviews were used to ascertain their perceptions of the MTSS process at their schools. Teachers discussed examples of successful and unsuccessful instances of Tier 2 or 3 interventions, as well as their perceptions of their school-wide decision-making process, and their overall understanding of the MTSS process (Braun et al., 2020). To understand the perceptions and teachers' experiences, the interview questions were designed using grounded theory (Braun et al., 2020). Researchers utilized purposive sampling to identify participants. Two major themes emerged when educators discussed implementing MTSS in urban settings. First, due to the higher attrition rate associated with school staffs in urban settings, teachers underscored a sense of confusion about the MTSS process because of frequent changes to schoolwide MTSS implementation (Braun et al., 2020). Second, educators expressed that the

Tier 2 interventions were effective for students needing limited assistance, but schools endeavor to intensify interventions for non-responders (Braun et al., 2020). As one participant described this theme, students' ultimate condition is "living in Tier 2" (Braun et al., 2020). With regard to this theme, teachers also mentioned the lack of resources and appropriate materials available to meet students' needs (Braun et al., 2020).

As is the result of several other studies, teacher approval and morale are important for a MTSS system to be successful, and those factors could be impacted by frequent changes to MTSS (Briggs et al., 2018; Nagro, 2019, 2019; Vekaria, 2017). When schoolwide MTSS systems are adjusted, it is important for leadership to directly inform practitioners. Communication and collaboration are tools for successful implementation.

Debates about the Value of MTSS

Due to the recent charged debates regarding the value of the academic component of MTSS (RTI), Lopuch (2018) conducted a study to determine the reasons behind RTI implementation issues. The debates emphasized in the study stemmed from a large-scaled assessment on the impact of RTI in elementary schools conducted by the Institute of Educational Science and funded by the United States Department of Education (Balu et al., 2015). The study's results indicated the practice of RTI screening did not significantly improve student achievement for students scoring just above and below the 40th percentile on an assessment of reading (Balu et al., 2015; Lopuch, 2018). In essence, Balu and colleagues stated that it negatively impacted student achievement for students who appeared to require academic support (Lopuch, 2018).

Lopuch's (2018) study deemed it necessary to discuss issues and trends related to the implementation of RTI for elementary-aged settings. The study examined RTI and direct

application of the framework with public-school educators. Critical components of the RTI

framework were defined and reviewed in the existing literature; the author compared and

contrasted personal, anecdotal observations with the exiting literature to explore gaps between

research and practice in implementing schools; and discussed the impact of the divide on

students with at-risk for learning disabilities.

The study posed two monumental questions. The first question asked, "RTI: flawed or

flawed implementation?" (Lopuch, 2018, p. 216). Lopuch (2018) concluded from the reviewed

literature that RTI has flawed implementation. It appears that practitioners have difficulty

implementing key RTI practices with fidelity due to the complexity of the current model (Fuchs

& Fuchs, 2017). A major problem exists if one or more of RTI practices are implemented poorly

because it may negatively impact outcomes (Lopuch, 2018). The consequential outcome is

delayed or weak interventions. The second question asked, "Can educators and school staff

implement RTI in its current form?" (Lopuch, 2018, p. 217). "The answer is a resounding no due

to teachers already having multiple responsibilities that overtax their classroom resources"

(Lopuch, 2018, p. 217). Another pressing problem is attempting to allocate scant resources

across three or more tiers of assessment and instruction creates another dilemma (Lopuch, 2018).

For all students to be successful, it is clear that the current RTI system is not working,

and change is needed (Lopuch, 2018). The simpler model proposed by Fuchs and Fuchs (2017)

may serve as a catalyst for research and practice. This model is two-tiered where general

education (Tier 1) is responsible for providing a strong core curriculum, supplemental instruction

and on-going progress monitoring (Fuchs & Fuchs, 2017). Students who are unresponsive to Tier

1 are referred to special education (Tier 2) for more individualized instruction and monitoring

(Fuchs & Fuchs, 2017). The proposed model may help practitioners streamline intervention processes.

Summary

This chapter outlines literature that serves as the conceptual framework upon which this study will be based, literature related to the topic in order to illustrate theoretical, and practical significance. More specifically, this study provides a credible argument and sufficient empirical evidence supporting the rationale for the implementation of the theoretical framework consisting of theory of planned behavior and recent MTSS practices to ground this study. Also, the literature that is related to perceptions about MTSS; relevant school-specific studies of MTSS program implementation; educators' beliefs about MTSS implementation and educators' perceptions of school implementations provides a synthesis illustrating their relationship. The existing body of literature is still emerging, mostly consisting of short-term quantitative studies (Braun et al., 2020; Nese et al., 2019; Romer et al., 2018; Ruble et al., 2018; Sharp et al, 2016) as elementary school leaders are beginning to initiate various comprehensive approaches to MTSS implementation.

CHAPTER THREE: METHODS

Overview

The purpose of this quantitative, predictive correlational study was to determine how accurately can SAM's (Self-Assessment of MTSS) scores be predicted from a linear combination of educators' beliefs and educators' perceptions for teachers that have implemented MTSS; and to determine if a predictive relationship exists between the predictor variable (educators' perception about how MTSS practices are occurring in their school) and the criterion variable (educators' beliefs about MTSS). This chapter begins by introducing the design of the study, including definitions of all variables. The research question and null hypothesis will follow. The participants and setting, instrumentation, procedures, and data analysis plans are presented.

Design

A predictive correlational research design was used to address the research questions posed in this study. The purpose of correlational research is to explore relationships between or amongst two or more variables without manipulating the variables as in an experiment (Creswell & Guetterman, 2019; Martella et al., 2013). The predictive correlational research design identifies variables that will predict an outcome or criterion (Creswell & Guetterman, 2019). This design will provide information concerning the degree of the relationship between the variables being studied (Gall et al., 2007). Correlational research designs are highly useful for studying problems in education and in the other social sciences (Gall et al., 2007). Correlational research can yield useful findings, but ultimately multiple lines of research and theory building are necessary to develop a full understanding of readability (Gall et al., 2007).

The predictive correlational research design was best suited for analyzing the data in this study to determine if a predictive relationship existed between SAM's scores (continuous

criterion variable) and educators' beliefs and educators' perceptions (predictor variables) that have implemented MTSS in their schools; and to determine if a predictive relationship exists between the predictor variable (educators' perception about how MTSS practices are occurring in their school) and the criterion variable (educators' beliefs about MTSS). The three types of information that the design provides are the extent to which a criterion behavior pattern can be predicted, data for developing a theory about the determinants of the criterion behavior pattern, and evidence about the predictive validity of the test or tests that were correlated with the criterion behavior pattern (Gall et al., 2007).

The criterion variable in the first research question was SAM's (Self-Assessment of MTSS) scores. SAM's (Self-Assessments of MTSS) scores are the ratings from the school-based leadership teams' assessment on the MTSS framework operating in their schools (Castillo et al., 2016). The SAM's scores are a continuous variable. The predictor variables in the study were educators' beliefs and educators' perceptions. For the second research question, the predictor variable is educators' perception about how MTSS practices are occurring in their school and the criterion variable is educators' beliefs about MTSS. Educators' belief refers to educators' opinion about RTI/MTSS and educators' perception refers to how educators perceive MTSS practices are occurring in their school (Castillo et al., 2016).

Research Questions

The following research questions were designed to determine if there was a predictive relationship between SAM's scores and the linear combination of educators' beliefs and educators' perceptions for teachers that have implemented MTSS in their schools.

RQ1: How accurately can Self-Assessment of MTSS' (SAM's) scores be predicted from a linear combination of educators' beliefs and educators' perceptions for teachers that have implemented MTSS?

RQ2: Can elementary educators' perception of how MTSS practices are occurring in their school predict their beliefs about MTSS?

Hypotheses

The null hypotheses for this study is:

$H_0$1: There will be no significant predictive relationship between the criterion variable (SAM's scores) and the linear combination of predictor variables (educators' beliefs and educators' perceptions) for teachers that have implemented MTSS.

$H_0$2: There is no significant predictive relationship between the criterion variable (educators' beliefs about MTSS) and the predictor variable (educators' perception of how MTSS practices are occurring in their school).

Participants and Setting

Population

The population for this study consisted of elementary public-school educators (general education teachers, special education teachers, Reading Recovery teachers, school psychologists, speech pathologists, literacy coaches, school counselors, and administrators) employed in the northeastern region of South Carolina. There are nine public elementary schools in this school district. The educators are certified and have implemented MTSS for a minimum of one year.

Participants

The participants for the study were drawn utilizing a convenience sample from the population of K-5 rural elementary educators. The participants consisted of general education

teachers, special education teachers, Reading Recovery teachers, school psychologists, speech pathologists, literacy coaches, school counselors, and administrators. The school-based leadership team consisted of administrators, grade-level teacher/lead teacher from each grade, school counselors, special education teachers, school psychologists, Reading Recovery teachers, and literacy coaches that have knowledge or experience of implementing the MTSS intervention framework. General education teachers, special education teachers, and the school-based leadership team members were administered the Beliefs Survey and the Perception of Practices Survey. The school-based leadership team members were also administered the Self-Assessment of MTSS (SAM). Participation in this study was voluntary. The criteria for participation included having had at least one year experience implementing MTSS.

For this study, the number of participants sampled totaled 68 elementary educators. According to Gall et al. (2007), "66 students is the required minimum for a medium effect size with a statistical power of .7 at the .05 alpha level" (p. 145). Quantitative research designs – including correlational studies – usually use large samples that have been attained through a precise process because the purpose of sampling in quantitative studies is to produce statistically representative data that permit the generalization of findings to the target population (Curtis et al., 2016). Of the participants, 64 were female, 2 were male, and 2 did not provide their gender information. These elementary educators included 35 general education teachers, 9 reading recovery/interventionists, 6 special education teachers, 5 school counselors, 4 principals, 3 school psychologists, 2 speech-language pathologists, 2 did not provide their occupation, 1 assistant principal, and 1 literacy coach.

Setting

The district selected for this study is located in the northeastern region of South Carolina near the North Carolina border. The school district offers multiple grade levels; elementary grades are pre-kindergarten through fifth grade; middle school includes sixth through eighth grade; and high school includes ninth through twelfth grade. The area's makeup is predominately rural. The educators work mainly with children and families that are at an economic disadvantage.

<div align="center">

Instrumentation

</div>

The data for the research study was obtained from the following three instruments: The instrument used to measure educators' beliefs relative to MTSS was the MTSS/RTI Beliefs Scale Survey. The staff perceptions of MTSS practices occurring in their schools was measured by the Perception of Practices Survey. Thirdly, the school-levels implementation of MTSS was measured by the Self-Assessment of MTSS (SAM survey). Permission was granted from the Florida Problem Solving Response to Intervention (PS/RtI) Project to use the three surveys (see Appendix A).

Beliefs Survey

In order to measure educators' beliefs, the Beliefs on RTI Scale survey was the instrument used in this study (See Appendix B). The Beliefs Survey is a self-report instrument designed to assess educators' beliefs about assessment practices, core (Tier 1) instruction, intervention, and special education eligibility determination (Castillo et al., 2016). This self-report scale is designed to examine consensus development and measure educators' beliefs about academic ability and performance of students with disabilities, data-based decision making, and the functions of core and supplemental instruction (Castillo et al., 2016).

The Beliefs Survey is an instrument developed by the Florida Problem-Solving/Response to Intervention (PS/RtI) Project. The project was a joint venture between the Florida Department of Education and the University of South Florida; and was initially created to provide professional development across the state on the PS/RtI model and systematically evaluate the impact of PS/RtI implementation in a limited number of demographic sites (Castillo et al., 2016). The project's focus has now shifted to providing training, technical assistance and support to Florida school districts; and systematically collaborating with Florida's Positive Behavior Support: Response to Intervention for Behavior Project to build the capacity of school districts to implement data-based problem-solving and multi-tiered instructional practices for the purpose of improving the academic, behavioral, and social-emotional outcomes of students (Castillo et al., 2016). The Beliefs Survey was used in various research studies (e.g., Castillo, 2018; Murray, 2020; Ramirez, 2019). Also, the North Carolina MTSS Beliefs Survey was adapted from the Beliefs on RtI Scale developed by the Florida Problem-Solving/Response to Intervention Project Team (NC Implementation Guide, n.d.).

The original version of the instrument was reviewed by the Educator Expert Validation Panel. The panel provided feedback on the representativeness of the beliefs covered by the instrument, clarity and quality of the individual items, and suggested modifications to items. Project staff analyzed panel member feedback and made revisions to the survey using a structured process described by Castillo et al. (2015). This process resulted in a 27-item version that was called the Beliefs Survey.

Evidence of construct validity was demonstrated via an exploratory common factor analytic procedure used to determine the underlying factor structure (Castillo, et al., 2016). Exploratory common factor analysis (EFA), single-level confirmatory factor analysis (CFA), and

multilevel confirmatory factor analysis (MCFA) were used to determine the underlying factor structure of the tool (Castillo et al., 2016). These procedures resulted in a 16-item scale with a three-factor solution at both the educator- and school-levels: beliefs regarding Academic Abilities and Performance of Students with Disabilities, Data-Based Decision Making, and Functions of Core and Supplemental Instruction (Castillo et al., 2016). Both fit indices from the final MCFA model and reliability indices provided evidence for the construct validity of the tool (Castillo et al., 2016).

Internal consistency reliability estimates (as measured by Cronbach's alpha) for each of the three factors (domains) at the educator-level were: Factor 1 (Academic Ability and Performance of Students with Disabilities): α = .70; Factor 2 (Data-Based Decision Making): α = .79; Factor 3 (Functions of Core and Supplemental Instruction): α = .55. School-level reliability estimates for each of the factors were: Factor 1 (Academic Ability and Performance of Students with Disabilities): α = .78; Factor 2 (Data-Based Decision Making): α = .73; Factor 3 (Functions of Core and Supplemental Instruction): α = .60. Reliability estimates at the educator- and school level for two of the factors (Academic Ability and Performance of Students with Disabilities and Data-Based Decision-Making) exceeded the typically accepted threshold of .70 (Castillo et al., 2015). The reliability estimates for the third factor (Functions of Core and Supplemental Instruction) did not meet this threshold. However, reliability estimates are influenced by a number of factors such as the number of items on a factor and the sample size at the educator and school levels (Castillo et al, 2016).

The Beliefs Survey has 30 questions. The first 3 questions are demographics (district, role/position, and grade level the educator teaches) and the next 27 questions consists of a total of 33 items. These items are composed of 5-point Likert-type scales that address educators'

beliefs about student learning, the role of data in decision making, and expectations for the

effectiveness of instruction and intervention. The Likert scale's responses range from Strongly

Agree to Strongly Disagree. The responses are as follows: *1 = Strongly Disagree, 2 = Disagree,*

3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The combined possible score on the Beliefs

Survey ranges from 33 points to 165 points. A score of 33 points is the lowest possible score

which the participants' beliefs strongly disagree with Problem Solving/Response to Intervention

and a score of 165 points is the highest possible score in which participants strongly agree with

Problem Solving/Response to Intervention.

The Florida PS/RtI Project primarily utilizes two techniques for analyzing scale

responses for evaluation purposes. First, the mean rating for each item can be calculated to

determine the average belief level reported by educators that completed the RtI Beliefs Scale

(Castillo et al., 2016). Second, the frequency of (i.e., frequency distribution) each response

option selected (e.g., Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree) can be

calculated for each item (Castillo et al., 2016). Calculating item means provides an overall

impression of the belief level of those individuals within a school, district, etc. Calculating

average beliefs can be done at the domain (i.e., factor) and/or individual item levels (Castillo et

al., 2016).

Prior to administration, it was recommended that the building principal explain the reason

why the Beliefs Survey is being administered and why the information is important to the school

and district (Castillo et al., 2016). An assigned member of the school-based leadership team from

each school served as the facilitator. The facilitator explained the instructions of the survey in

their staff meeting. All instructional staff and members of the school-based leadership team were

instructed to complete the Beliefs Survey individually. The Beliefs Survey was administered

electronically through SurveyMonkey. There was not an approximate time to complete the survey. The researcher used the Statistical Package for Social Sciences (SPSS) data analysis software to analyze the data from the survey.

Perception of Practices Survey

In order to measure educators' perception of how MTSS practices are occurring in their school, the Perception of Practices survey is the instrument used in this study (see Appendix C). The Perceptions of Practices Survey is a self-report measure that assesses the extent to which educators perceive how MTSS practices are occurring in their schools (Castillo et al., 2016). The purpose of the instrument is to assess staff perceptions of their practices to facilitate consensus-building and it can also be used as an indicator of implementation of PS/RtI practices (Castillo et al., 2016).

The Perception of Practices Survey is an instrument developed by the Florida Problem-Solving/Response to Intervention (PS/RtI) Project. The project was a joint venture between the Florida Department of Education and the University of South Florida; and was initially created to provide professional development across the state on the PS/RtI model and systematically evaluate the impact of PS/RtI implementation in a limited number of demographic sites (Castillo et al., 2016). The project's focus has now shifted to providing training, technical assistance, and support to Florida school districts; and systematically collaborating with Florida's Positive Behavior Support: Response to Intervention for Behavior Project to build the capacity of school districts to implement data-based problem-solving and multi-tiered instructional practices for the purpose of improving the academic, behavioral, and social-emotional outcomes of students (Castillo et al., 2016). The Perception of Practices Survey has been used in various studies (e.g., Makowski's, 2016; Ramirez, 2019; Aslan, 2018).

Construct-related validity evidence refers to the extent to which the individuals' scores derived from the instrument represent a meaningful measure of a domain or characteristic (Castillo et al., 2016). In the case of the Perceptions of Practices Survey, an exploratory factor analysis was conducted to assess the internal structure of the instrument and to develop evidence to support the validity of interpretations based on individuals' scores on the resultant factors (Castillo et al., 2016). Results of the factor analysis suggested that the Perceptions of Practices Survey measured two underlying practice domains or factors – academic content and perceptions of RTI practices applied to behavior content (Castillo et al., 2016).

Internal consistency reliability evidence is based on the degree of homogeneity of scores (i.e., the extent to which the scores cluster together) on items measuring the same domain (Castillo et al., 2016). In the context of the Perceptions of Practices Survey, an internal consistency reliability estimate provides a measure of the extent to which educators who responded one way to an item measuring a practice domain (or factor) tended to respond the same way to other items measuring the same domain (Castillo et al., 2016). Internal consistency reliability estimates (as measured by Cronbach's alpha) for each of the two factors (domains) yielded by the factor analysis are as follows: Factor 1 (Perceptions of RtI Practices Applied to Academic Content): $\alpha = .97$; Factor 2 (Perceptions of RtI Practices Applied to Behavior Content): $\alpha = .96$ (Castillo et al., 2016).

The Perceptions of Practices Survey has 17 questions which consists of a total of 25 items. These items are composed of a 5-point Likert-type scale. The scale responses are as follows: *1 = Never Occurred (NO); 2 = Rarely Occurred (RO); 3 = Sometimes Occurred (SO); 4 = Often Occurred 5=Always Occurred (AO); and Do Not Know (DK)*. The combined possible scores on the Perception of Practices range from 25 points to 125 points. A score of 17 points is

the lowest possible score which participants perceive Problem Solving/RTI practices never occur in their schools and a score of 85 points is the highest possible score that the participants perceive Problem Solving/RTI practices are always occurring in their schools.

There are two techniques that are primarily used for analyzing survey responses for evaluation purposes. First, the mean rating for each item can be calculated to determine the average level of perceived practices reported by educators (Castillo et al., 2016). Second, the frequency of (i.e., frequency distribution) each response option selected by educators can be calculated for each survey item (Castillo et al., 2016).

Prior to administration, it was recommended that the building principal explain the reason why the Perception of Practices Survey is being administered and why the information is important to the school and district (Castillo et al., 2016). An assigned member of the school-based leadership team from each school served as the facilitator. The facilitator explained the instructions of the survey in their staff meeting. All certified instructional staff and members of the school-based leadership team were instructed to complete the Perception of Practices Survey individually. The Perception of Practices Survey was administered electronically through SurveyMonkey. There was not an approximate time to complete the survey. The researcher used the Statistical Package for Social Sciences (SPSS) data analysis software to analyze the data from the survey.

Self-Assessment of MTSS Survey

In order to measure the SAM's scores, the Self-Assessment of MTSS survey was the instrument used in this study (see Appendix D). The SAM's scores is a continuous variable. The Self-Assessment of MTSS (SAM) is a needs assessment and progress-monitoring tool for implementation of a multi-tiered system of support (Stockslager et al., 2016). The purpose of the

instrument is to assess current implementation levels of a MTSS model to inform schools and districts regarding which areas require action planning (Stockslager et al., 2016). The SAM can assist educators in identifying areas of need in their MTSS and monitoring implementation progress (Stockslager et al., 2016).

The SAM is an instrument developed by the Florida Problem Solving/Response to Intervention (PS/RtI) Project. The initial pilot phase of the SAM began in 2013 (Stockslager et al., 2013). The instrument is still being used in the states of Florida and South Carolina to evaluate their MTSS program. North Carolina created the Facilitated Assessment of MTSS which maintains a similar structure to the SAM (NC Implementation Guide, n.d.). The instrument was also used in a research study (Hutchinson, 2018).

A large-scale national pilot study was conducted to address the construct validity and reliability of the SAM. Construct Validity Confirmatory factor analysis (CFA) procedures using a categorical model were used to examine the 6-factor structure of the SAM that was conceptualized from the literature (Stockslager et al., 2016). Data from SAMs was completed by 436 School-based leadership teams from 15 districts within eight states and were used to analyze the instrument. Comparative fit index (CFI) and root mean square error of approximation (RMSEA) were used to examine the fit for the model (Stockslager et al., 2016). Comparative fit values greater than or equal to .95 and root mean square error of approximation (RMSEA) less than or equal to .08 (Hu & Bentler, 1999) were considered to indicate acceptable levels of fit. The model estimated resulted in a good fit: CFI = .96, RMSEA = .05 (Stockslager et al., 2016).

Internal Consistency Reliability Internal consistency reliability estimates were computed for each of the six domains using Cronbach's alpha. Cronbach's alphas ranged from .79 to .91 indicating adequate to high levels of internal consistency (Stockslager et al., 2016). Specific

Cronbach's alpha coefficients for each of the factors were (Stockslager et al., 2016): Leadership: α = .84; Building Capacity/Infrastructure: α = .91; Communication and Collaboration: α = .79; Data-Based Problem-Solving: α = .89; Three-Tiered Instructional/Intervention: α = .90; Data and Evaluation: α = .90.

The SAM is comprised of 39 self-report items organized around six domains associated with implementation of a MTSS model. The items that comprise the six domains are as follows: Domain 1 (Leadership) Items 1-5; Domain 2 (Building Capacity/Infrastructure) Items 6-16; Domain 3 (Communication and Collaboration) Items 17-20; Domain 4 (Data-Based Problem Solving) Items 21-27; Domain 5 (Three-Tiered Instructional/Intervention Model) Items 28-33; and Domain 6 (Data and Evaluation) Items 34-39 (Stockslager, et al., 2016).

The instrument used a four-point Likert scale that ranged from Not Implementing to Optimizing. Each item within these domains is scored using a rubric with the following response options*: 0= Not Implementing 1= Emerging/Developing 2= Operationalizing 3= Optimizing*. The combined possible scores on the Sam range from 0 to 117. A score of 0 is the lowest possible score which participants are engaging in specific activities to facilitate MTSS implementation and a score of 117 is the highest possible score that the participants are engaging in specific activities to facilitate MTSS implementation.

The school-level personnel may chart the responses to identify needs and monitor progress over time (Stockslager et al., 2016). The district-level would likely need to aggregate results to make informative decisions about their MTSS implementation program (Stockslager et al., 2016). The two ways in which the data can be analyzed by personnel aggregating results from multiple schools are calculating the mean rating for each domain and item to determine the

average activity level evident across schools and calculating the frequency of each response

option selected for each item (Stockslager et al., 2016).

The domain score can be computed by calculating the sum of the ratings of the items that

comprise the domain and dividing by the total number of items within the domain (Stockslager et

al., 2016). The calculation of the mean rating for each item across schools allows stakeholders

the ability to identify the extent to which educators are engaging in specific activities to facilitate

MTSS implementation; but it does not provide detailed information regarding the variability

across schools for each activity (Stockslager et al., 2016). However, calculating the frequency of

schools reporting MTSS implementation activities (*Not Implementing, Emerging/Developing,*

and Optimizing) provides a range of information that will help to determine the percentage of

schools engaged in specific MTSS implementation activities (Stockslager et al., 2016).

An assigned member of the school-based leadership team for each school served as the

facilitator. The facilitator explained the instructions of the survey in their leadership meeting.

The SAM is completed in three steps (Stockslager et al., 2016): Step 1. The facilitator reviews

the SAM with the school-based leadership team to make sure their understanding of the purpose

of the SAM, what the instrument measures, how the information will be used, and how to

complete the SAM. Step 2. The facilitator provides each school-based team member a hard copy

of the SAM individually approximately one week prior to the meeting at which the team reaches

consensus on a single score for each item. Step 3. The facilitator guides discussion until the team

reaches consensus on a score for each item. The facilitator then records the final responses in the

SurveyMonkey link provided by the researcher. Group completion of the SAM typically takes

one to two hours, depending on the amount of discussion required to reach consensus on each

item. The researcher used the Statistical Package for Social Sciences (SPSS) data analysis software to analyze the data.

<div align="center">**Procedures**</div>

Standard procedures for proposed research studies were followed for this study. The Liberty University Institutional Review Board's (IRB) approval was secured before any element of the study began (see Appendix E). After the approval had been received, the researcher emailed a letter to the superintendent of the school district requesting permission to conduct the research in the school district with the elementary schools (see Appendix F) and included a copy of approval from the IRB in the email. Once the approval from the superintendent (see Appendix G) was received, the researcher gave a courtesy call to each elementary school administrator to inform them about the research. The researcher then emailed the school administrators the IRB approval, purpose of the study, the superintendent's letter of approval to conduct the research in the district, and recruitment letters.

The researcher was given a date and time to meet with the designated facilitators to conduct the training sessions. The researcher conducted professional development training with the facilitators about the purpose and instruction on how to complete the Beliefs Survey, Perception of Practices Survey, and the SAM Survey. The training was held in person. An estimated time for the training session was one hour. All training material was sent in an email to the facilitators before the training session. The participants were also given a hard copy of the training procedures guide (see Appendix H) and a hard copy of each survey (Beliefs Survey, Perception of Practices Survey, and SAM's Survey) as resources to follow along during the training session.

The school administrators distributed the researcher's first email to all certified instructional staff. The email contained the recruitment letter (see Appendix I) which informed the participants about the purpose of the study and the criteria to participate. The RTI Beliefs Survey and the Perception of Practices' survey links were embedded in the letter that directed them to the SurveyMonkey website. Upon entering the site, the first item made available to the participants was the Consent Form (see Appendix J). The Consent Form informed participants about the purpose of the study and timeline procedures. The benefits and risks were made available on the site. The site also informed participants that they could withdraw from participating at any time and their request to do so will be honored.

In addition to the first email, the school-based leadership team members were sent a separate email with the recruitment letter (see Appendix K) requesting their participation in the segment pertaining to school-based leadership team members only. The recruitment letter gave the purpose of the study and the criteria to participate. If any members of the school-based leadership team wished to participate, they were instructed to email the researcher and a Consent Form (see Appendix L) would be emailed to them. The school-based leadership team members that emailed the researcher were emailed the Consent Form and instructed to email the signed Consent Form back to the researcher. The participants emailed their Consent Form back to the researcher. The researcher then emailed the SurveyMonkey link to the Self-Assessment of MTSS (SAM) Survey to each facilitator.

Participants were given ten working days to complete the surveys. A follow-up letter via email was sent to remind all certified staff (see Appendix M) and school-based leadership team members (see Appendix N) that did not respond within the ten working days. The data received from the participants was collected and recorded in the online survey tool (SurveyMonkey). All

information received from participants is confidential and secured by the researcher. The

researcher secured the data by username and password protection.

Data Analysis

Multiple linear regression was the statistical analysis technique used for the first research

question. Multiple linear regression is used to determine the predictive correlation between a

continuous criterion variable and a combination of two or more predictor variables (Gall et al.,

2007). It is a widely used statistical technique in educational research due to its versatility and

the amount of information it yields about relationships among variables (Gall et al., 2007;

Warner, 2013). Multiple regression provides estimates of both the magnitude and statistical

significance of relationships between variables (Gall et al., 2007). This was an appropriate

statistical analysis to determine the predictive correlational relationship between the continuous

criterion variable (SAM's scores) and the linear combination of predictor variables (educators'

beliefs and educators' perceptions) for teachers that have implemented MTSS. However, after

the data was analyzed, a multiple regression analysis was untenable. Through the guiding of the

variables, a bivariate linear regression was chosen, and a new research question was introduced.

The new research question is: Can elementary educators' perception of how MTSS practices are

occurring in their school predict their beliefs about MTSS? The criterion variable is educators'

beliefs about MTSS, and the predictor variable is educators' perception of how MTSS practices

are occurring in their school.

In correlational research, the usual assumption is that the prediction or relationship being

studied is linear (Gall et al., 2007). In other words, we assume that a straight line (the line of best

fit) best describes the relationship between two variables (Gall et al., 2007). The line is displayed

in a scatterplot. A scatterplot is a graph used to observe and physically display the relationship between variables and is also useful in detecting outliers in research data (Gall et al., 2007).

When conducting the analysis, the following assumptions were tested: Assumption of a Linear Relationship Between Variables, Assumption of Independence of Observations, Assumption of No Significant Outliers, Assumption of Homoscedasticity of Residuals, and Assumption of Normal Distribution of Residuals. To test the Assumption of a Linear Relationship Between Variables, a matrix scatterplot was used to detect bivariate outliers between the predictor variable (educators' perceptions of how MTSS practices are occurring in their school) and criterion variable (educators' beliefs about MTSS). Assumption of Independence of Observations used the Durbin-Watson statistic to examine the independence of observations. Assumption of No Significant Outliers used Casewise Diagnostics to highlight any cases where that case's standardized residual is greater than ±3 standard deviations. Assumptions of Homoscedasticity was tested by a visual inspection of a plot of the standardized residuals against the predicted (fitted) standardized predicted values using a line of the best fit. Assumptions of Normal Distribution of Residuals was tested by using a Normal P-Plot. To determine if the points are normally distributed, the points will be aligned along the diagonal line. The results from linear regression provide information that includes an ANOVA table, a coefficient table, and a model summary table.

The Statistical Package for Social Sciences (SPSS) data analysis software was used to analyze the data from the two surveys. The data analysis was based upon the individual teachers' scores who completed the self-report measures. The data was sorted and scanned for inconsistencies on each variable. The population means, and standard deviations were unknown and were estimated by using the sample means and standard deviations. In the statistical analysis,

the statistical power was done by specifying a minimum power level of .7 with the alpha level of

.05 (α = .05). The alpha level, (α = .05), was chosen due to this is the probability level that

reflects the maximum risk the researcher was willing to take that any observed differences are

due to chance (Creswell & Guetterman, 2019). The model's effect size was determined by the

model summary. A test of statistical significance was done to determine whether the null

hypothesis can be rejected (Gall et al., 2007). The researcher sought to reduce the likelihood of a

Type I error in the statistical analysis. Type I errors occur when the null hypothesis is rejected by

the researcher when it is actually true (Creswell & Guetterman, 2019; Gall et al., 2007). A two-

tailed test of significance allows the researcher to test statistical significance regardless of the

direction of the relationship that is hypothesized, and the null hypothesis can be rejected at a

given alpha level (Gall et al., 2007).

CHAPTER FOUR: FINDINGS

Overview

A bivariate linear regression analysis was used to determine the predictive nature of the variables using SPSS. The data included 68 participant responses that completed the survey. The responses from the anonymous participants were analyzed and used to determine whether to accept or reject the null hypothesis. To establish the variables for the analysis for this research study. the questions were placed into two categories: beliefs and perceptions. These two categories examined the level of agreement or disagreement of beliefs about MTSS and perceptions of practices of MTSS) occurring in their school systems. The questions were placed into two categories to create a sum (VAR) of the overall ratings in the survey. The beliefs and perception averages were then used for the bivariate linear regression analysis using SPSS. The results section includes the research question, null hypothesis, data screening, descriptive statistics, assumption testing, and results.

Research Question

RQ1: Can elementary educators' perceptions of MTSS practices in their schools predict their beliefs about MTSS?

Null Hypothesis

H$_0$1: There is no significant predictive relationship between the criterion variable (educators' beliefs about MTSS) and the predictor variable (educators' Perception of how MTSS practices occur in their school).

Descriptive Statistics

The total number of participants involved in the research study was 68.

Table 1

Descriptive Statistics

	N	Range	Minimum	Maximum		Mean	Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Belief	68	1.67	3.33	5.00	4.04	0.05	0.41	0.17
Perception	68	3.73	1.27	5.00	3.96	0.11	0.87	0.76
Valid N (listwise)	68							

Elementary educators were surveyed to determine their perceptions and beliefs of MTSS for the 2021-2022 school year. The 68 participants' belief range score ranged from 0 to 1.67. These elementary educators averaged 4.04 with a standard deviation of 0.41. The belief standard error was 0.05, with a variance of 0.17. The 68 participants' perception range score ranged from 0 to 3.73. These elementary educators had an average of 3.96 with a standard deviation of 0.87. The perception standard error was 0.11, with a variance of 0.76.

Assumptions of Testing

Statistical tests rely upon assumptions; if these assumptions have been violated, the results will be unreliable. Several assumptions underlying the bivariate linear regression models must be satisfied. The bivariate linear regression is a statistical method we can use to understand the relationship between predictor and criterion variables. The predictor (i.e., perception) and

criterion (i.e., belief) variables were continuously measured. These variables were on the interval scale of measurements.

Assumption of a linear relationship between the variables

The data examined in this research study was sorted and scanned for inconsistencies in each variable. As a result, the researcher identified no data errors or inconsistencies based on the data results. The researcher used matrix scatter plots to detect bivariate outliers between predictor and criterion variables. The matrix scatter plots in Figure 6 produced no bivariate outliers. The matrix tells us about the correlation between different variables and whether they are positive or negative. The scatter plot assisted the researcher in determining if there was a correlation between multiple variables roughly. Linearity relationship: A linear relationship exists between each predictor variable and the response variable.

Figure 6

Matrix Scatter Plot
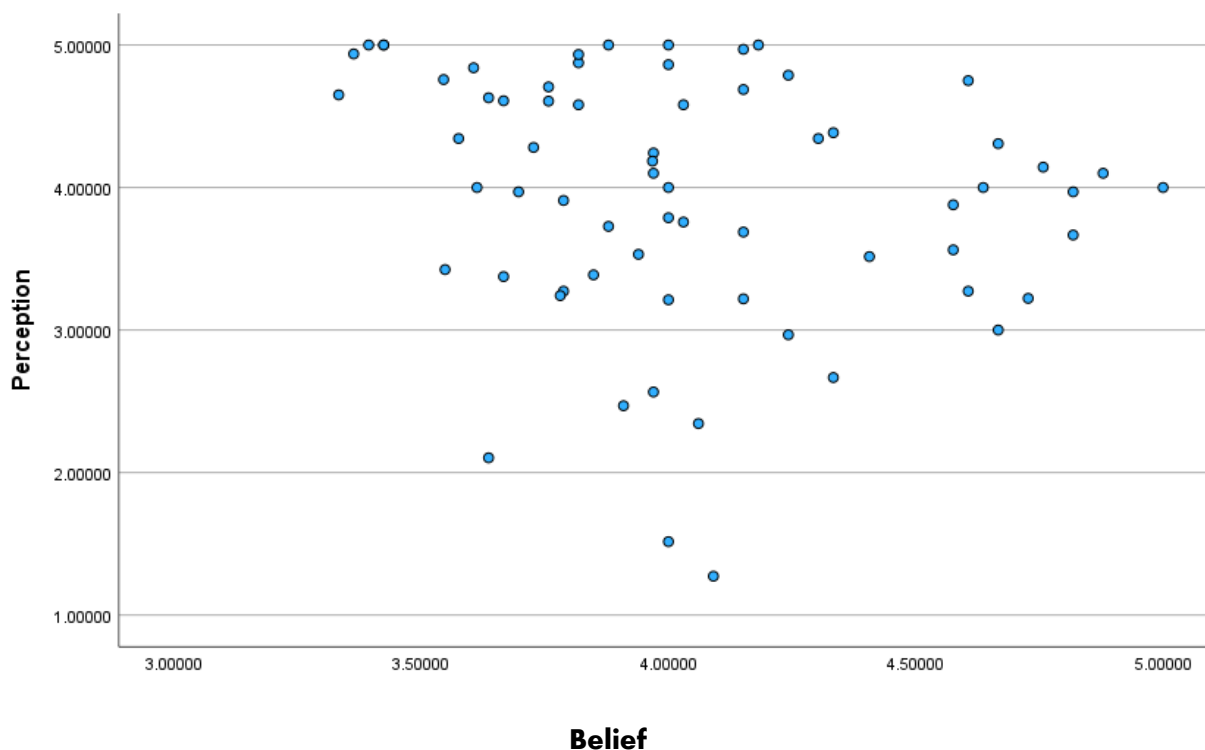
Assumption of Independence of Observation

The researcher used the Durbin-Watson statistic test to examine the

assumption of independence of observations regarding the data for this research study.

The Durbin-Watson statistic should range from 0 to 4. The results of the Durbin-

Watson statistic test yield a value of 2.131, indicating no correlation between residuals

(Table 2).

Table 2

Durbin-Watson Model Summary[b]

Model	R	R^2	Adjusted R^2	SE	Durbin-Watson
1	.209[a]	.044	.029	.40918296	2.131

a. Predictors: (Constant), Perception

b. Dependent Variable: Belief

Assumption of No Significant Outliers

The researcher used the Casewise Diagnostics statistic test to examine the data for the

assumption of no significant outliers. The Casewise Diagnostics statistic for standardized

residual should be greater than +- 3 standard deviations. The results of the Casewise Diagnostics

test yield a standardized residual of .40607126, indicating no significant outliers in the data

(Table 3).

Table 3
Casewise Diagnostics Standardized Residuals

|	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.9358532	4.3073535	4.0404549	.08694115	67
Residual	-.63740802	.96447593	.00000000	.40607126	67
Std. Predicted Value	-1.203	3.070	.000	1.000	67
Std. Residual	-1.558	2.357	.000	.992	67

a. Dependent Variable: Belief

Assumption of Homoscedasticity of Residuals

The researcher used the scatter plot and best line to examine the data's homoscedasticity

assumption. The test for homoscedasticity is a visual inspection of a plot of the standardized

residuals against the predicted (i.e., fitted) standardized predicted values using a line of best fit.

Based on the data in Figure 7, the data demonstrated a moderate level of homoscedasticity—the

best-fit line appears parallel with the regression standardized residual.

Figure 7

Scatterplot
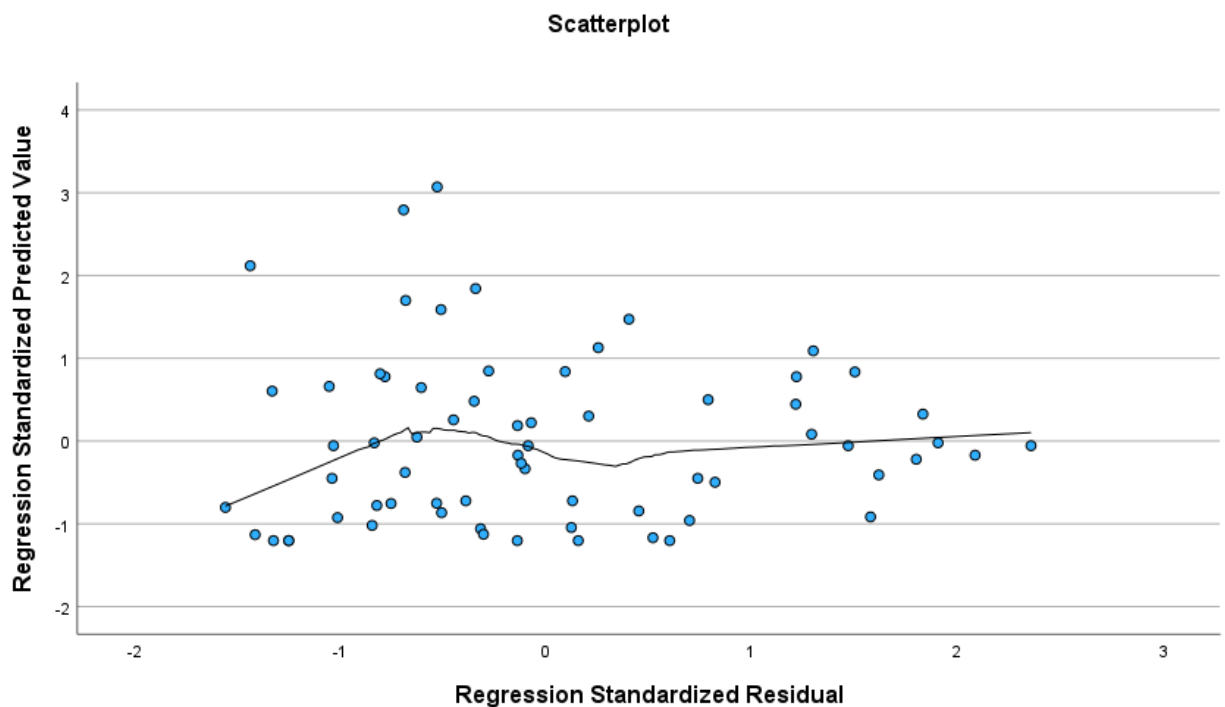
Assumption of Normal Distribution of Residual

The researcher used the Normal P-P Plot to examine the data for the assumption of

normal distribution of residuals. The points will be aligned along the diagonal line if the

residuals are normally distributed. Based on the results in Figure 8, the data is aligned along the

diagonal line, which means that the data used in this research study is normally distributed for this research study.

Figure 8

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Belief
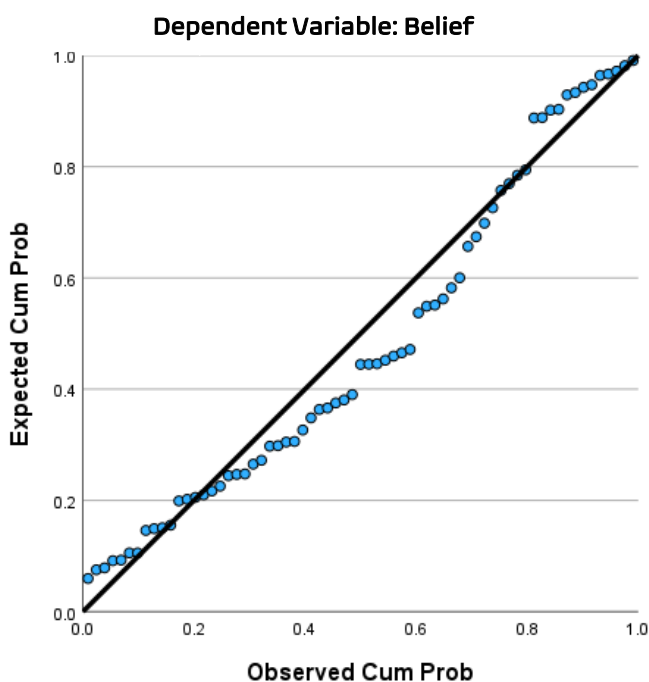
Results

Hypothesis

The null hypothesis for this study is:

H₀1: There is no significant predictive relationship between the criterion variable (educators' beliefs about MTSS) and the predictor variable (educators' Perception of how MTSS practices occur in their school).

The statistical test used to test this hypothesis was the bivariate linear regression analysis. This statistical test was run using the program SPSS. This test was "conducted to evaluate whether X is useful in predicting Y" (Green & Salkind, 2014, p. 249). For this analysis, the

fixed-effects model of assumptions was used and included the assumptions that "the dependent variable is normally distributed in the population for each level of the independent variable, the population variances of the dependent variable are the same for all levels of the independent variable, and the cases represent a random sample from the population in which scores are independent of each other from one individual to the next" (Green and Salkind, 2014, p. 249).

The bivariate linear regression analysis was conducted to determine the predictive correlation between the educators' beliefs about MTSS/RTI and educators' perceptions on how MTSS practices are occurring in their schools. This analysis was run with a 95% confidence interval. The Pearson Correlation (Pearson r) ranges from +1 to -1, with 0 being no linear association (Warner, 2013). The Pearson Correlation of the sum of the perception survey questions and the belief questions showed a slightly negative predictive correlation closer to having no linear association with the Pearson r of -.20 (Table 2).

Table 4

Pearson Correlations Coefficients

		Belief	Perception
Belief	Pearson Correlation	1.00	-.209
	Sig. (2-tailed)		.089
	N	67	67
Perception	Pearson Correlation	-.209	1.00
	Sig. (2-tailed)	.089	
	N	67	67

The p-value for this analysis was $p=0.05$. The significance level (2-tailed) for the analysis was 0.089. This indicated insufficient evidence in this sample to conclude that a non-zero correlation exists between the predictor and criterion variables. Meaning there is insufficient evidence in this

sample to reject the null hypothesis. The R is the correlation between the two variables (i.e.,

Perception and Belief) in the analysis (Table 3).

Table 5

Model Summary[b]

Model	R	R^2	Adjusted R^2	SE
1	.209a	.044	.029	.4091

a. Predictors: (Constant), Perception
b. Dependent Variable: Belief

The data analysis shows that R =0.209. The R^2 is the measure of model fit. For this

analysis, the R^2 = .044 shows little or no correlation between the variables. The ANOVA table

(Table 4) and the Coefficients table (Table 6) demonstrate no predictive relationship between the

two variables.

Table 6

ANOVA[a]

Model		SS	Df	MS	F	Sig.
1	Regression	.499	1	.499	2.980	.089b
	Residual	10.883	65	.167		
	Total	11.382	66			

a. Dependent Variable: Belief
b. Predictors: (Constant), Perception

Table 7

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	SE	B		
1	(Constant)	4.434	.234		18.988	<.001
	Perception	-.100	.058	-.209	-1.726	.089

a. Dependent Variable: Belief

The coefficients table further shows a significant relationship between the predicted and criterion variables at the $p < .001$ significant level. This is a considerable change to establish a predictive relationship between the two variables. The scatterplot demonstrates a visual model of the analyzed data. As shown in Figure 9, the scatterplot indicates that the two variables are linearly related, as shown by the scatterplot.

Figure 9

Matrix Scatter Plot
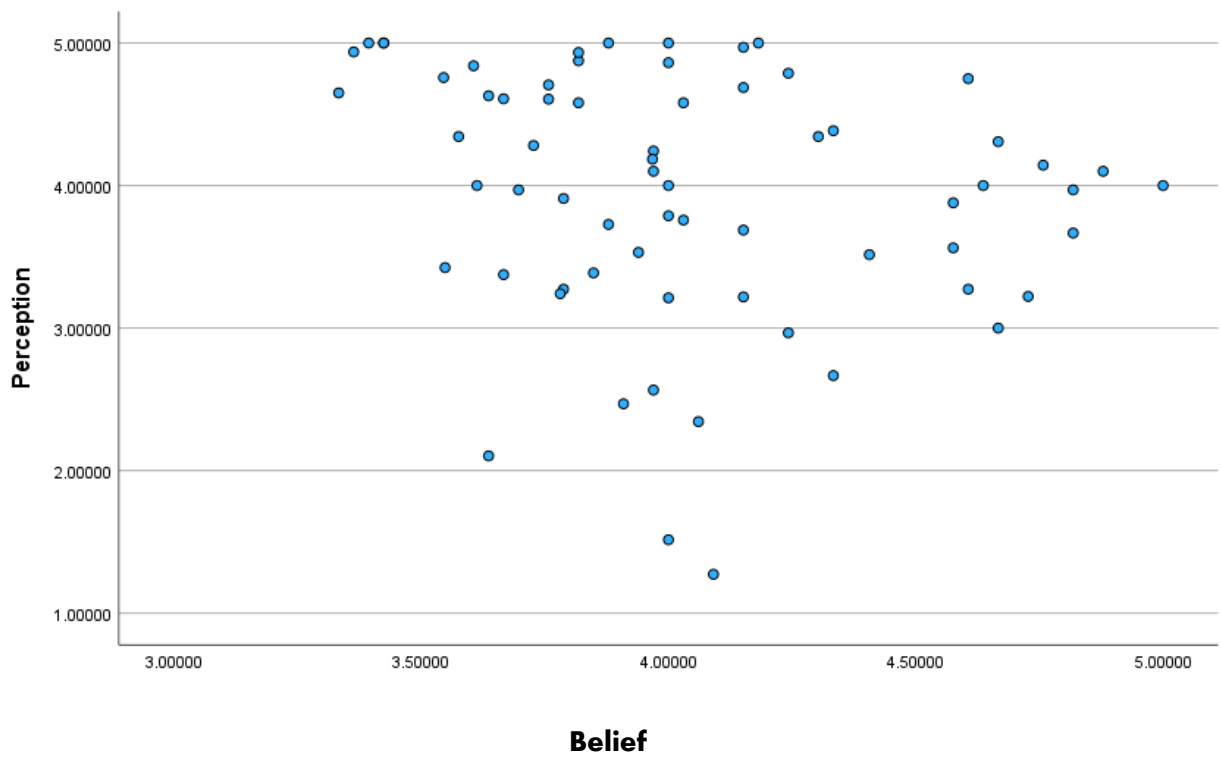
CHAPTER FIVE: CONCLUSIONS

Overview

A bivariate linear regression was conducted using the two variables of educators' beliefs about MTSS and educators' perception of how MTSS practices are occurring in their schools. This data was analyzed in the previous chapter. In this chapter, the results are discussed to include a discussion of the data, implications, limitations, and recommendations for future research.

Discussion

This quantitative, bivariate linear regression study aimed to determine if there was a relationship between the predicted variable (i.e., educators' perception of how MTSS practices are occurring in their schools) and the criterion variable (i.e., educators' belief about MTSS). There were 68 elementary educators that completed the surveys. The survey for educators' beliefs about MTSS is the RTI/MTSS Beliefs Scale Survey. The survey for educators' perceptions about how MTSS is occurring in their schools is the Perception of Practices Survey. In addition to the questions on the instruments, participants were asked demographic questions related to their gender, racial ethnicity, employment, and teaching experience. The survey contained validated and reliable instruments. The SPSS software was used to analyze the data. This research study examined one research question. The research question for this study asked: Can elementary educators' perceptions of MTSS practices in their schools predict their beliefs about MTSS?

The null hypothesis stated no significant relationship exists between the criterion variable (i.e., belief scores) and a linear combination of the predictor variable (i.e., perception) for educators. The researcher evaluated the null hypothesis using bivariate linear regression analysis. As a result, the researcher was able to retain the null hypothesis, $F(1.65) = 2.98$, p $= .089$, $R^2 =$

.044, and the consequences of this study suggested that there is no statistically significant predictive relationship between RTI/MTSS belief scores and the linear combination of the perception of practices scores for educators. These results were consistent with what was hypothesized but may be explained by the existing body of literature.

With MTSS being a new initiative in the state of South Carolina, teacher buy-in is imperative in this new reform. Buy-in is characterized by an alignment between teacher beliefs and the goals of a change or reform, as well as feelings of competence in implementation (Briggs et al., 2018). As is the result of several other studies, teacher approval and morale are essential for an MTSS/RTI system to be successful, and frequent changes to MTSS could impact those factors (Briggs et al., 2018; Nagro, 2019, 2019; Vekaria, 2017). When schoolwide MTSS/RTI systems are adjusted, leadership must inform practitioners directly. If schools have structures in place to support implementation, this may result in critical stakeholders holding more positive beliefs about the merit of the data and decisions being made.

One of the questions proposed in a research study conducted by Lopuch (2018) asked, "RTI: flawed or flawed implementation?". The research findings concluded from the reviewed literature that RTI has flawed implementation (Lopuch, 2018). It appears that practitioners have difficulty implementing key RTI practices with fidelity due to the complexity of the current model (Fuchs & Fuchs, 2017). A major problem exists if one or more of RTI practices are implemented poorly because it may negatively impact outcomes (Lopuch, 2018). The consequential outcome is delayed or weak interventions.

The study conducted by Zhao et al. (2020) had several vital aspects highlighted: teachers' pedagogical beliefs should align with reform ideas; school culture and support from school leaders are necessary to ensure the sustainability of teachers' implementation; and teachers

should value students' long-term development. There has been various research conducted on implementing RTI/MTSS and its effectiveness. One consistent finding is that teacher preparation is vital to effective implementation and positive student outcomes related to RTI (Compton et al., 2012; Denton, 2003; Fuchs et al., 2008; Gerber, 2005; Gersten et al., 2008).

Charlton et al. (2020) re-examined their findings from their previous study about state-education agencies MTSS scale-up projects using the active implementation framework to identify the linkages between the implementation framework developed based on implementation science and critical incidents in the scale-up of MTSS. Competency drivers were referred to as the collection of practices, structures, and supports within an organization that focuses on an individual interventionist or team's ability to implement a practice with fidelity (Charlton et al., 2020). These practices and supports were organized into the following three areas: selection, training, and coaching. The largest and most frequently referenced hindering incident was competing priorities, philosophies, or practices. At face value, this category of hindering incidents seems like it could be mitigated with stronger adaptive leadership (Charlton et al., 2020). If leaders have a clear vision and understanding of how MTSS can integrate and unify different philosophies or practices within a school, they might be less distracted by differing philosophies (Charlton et al., 2020). Or they may more readily acknowledge how differences in philosophy can help them avoid pitfalls or maximize the effectiveness of their support system. Further research will be required to understand how best to address implementation of tiered frameworks at each level of the school system (Charlton et al., 2020). Ultimately, the success of MTSS implementation will depend on the degree to which our theoretical understanding of implementation can translate into sustainable services that improve the lives of all children (Charlton et al., 2020). The challenges that hinder the successful

implementation of RTI/MTSS noted in other research studies are limited access to high-quality, evidence-based interventions, lack of structure and consistency in procedures, professional development opportunities, interventionists, recruitment and retention, and time to implement interventions (Pierce & Mueller, 2018; Werch & Runyons-Hiers, 2020).

Implications

This study sought to build upon the theoretical knowledge of educators' beliefs and perceptions about how MTSS practices are occurring at their schools. The study provided an exploration and explanation of educators' beliefs about MTSS/RTI and educators' perceptions on how MTSS/RTI practices occur in their schools. The sample size in the current study was nine elementary schools. More significant numbers of schools would provide more power to detect relationships between educators' beliefs about MTSS and educators' perceptions of how MTSS practices are occurring in their schools. A larger sample size also may have resulted in more considerable variability in the scores for each variable. Preparing teachers to implement behavioral and instructional practices grounded in research while teaching general education curriculum and simultaneously meeting the individual needs of an increasingly culturally and linguistically diverse student body is complex (Nagro et al., 2019). Addressing implementation issues will allow educators to work more efficiently to enable all students to reach their full potential (Pierce & Mueller, 2018).

Limitations

Although this study provides empirical evidence to build upon the theoretical knowledge of educators understanding the implementation of RTI/MTSS and their perceptions about the implementation, a limitation of this was the sample size. There were only 68 study participants from several schools, resulting in less ability to detect a correlational relationship. This study was

selected based on a convenience sample. Another limitation of the study was related to the fact that the implementation of RTI/MTSS has only been in effect in the state of South Carolina since the 2019-2020 school year. As a result, only a few schools in the state attempted to implement RTI/MTSS. It is paramount to note that most of those schools were less likely to complete full implementation despite the beliefs and perception scores.

Additionally, the focus of the current study was only on elementary educators. The results from this study may not be generalized to middle or high school settings. With MTSS being a new initiative in South Carolina, district and school leaders must address educators' beliefs about RTI/MTSS and perceptions of how practices occur in their schools. Another limitation is the removal of educators who fully implemented RTI/MTSS. A possible bias of educators who did not fully implement the RTI/MTSS program may be because they did not have enough experience to give accurate knowledge about implementing RTI/MTSS. Another limitation is that the researcher used bivariate linear regression to analyze the data. Bivariate Linear Regression statistics determine the relationship between criterion and predictive variables. However, this does not show causation and can be used to identify a causal relationship.

A multiple regression was originally introduced in Chapter Three to determine the predictive correlational relationship between the continuous criterion variable (SAM's scores) and the linear combination of predictor variables (educators' beliefs and educators' perceptions) for teachers that have implemented MTSS. However, after the data was analyzed, a multiple regression analysis was untenable. Through the guiding of the variables, a bivariate linear regression was chosen, and a new research question was introduced. There were not enough participants to include the SAM's survey in the research. Only seven of the nine elementary school-based leadership team members participated. The data from the SAM's Survey allows

stakeholders to identify the extent to which educators are engaging in specific activities to facilitate MTSS implementation (Stockslager et al., 2016). This information would have added insightful information as to how the actual school-based leadership team perceived they are implementing MTSS and identify specific activities that may need to be addressed systematically (through professional development, policies and procedures, etc.).

Recommendations for Future Research

After a review of the results of this study, the following recommendations are made for further research:

- Replication of the research study using qualitative research involving more educators from various schools and districts.

- Investigating the relationship between specific items on the instruments

- Establishing a criterion to indicate fidelity of implementation.

- Increase the sample size and increase the number of elementary schools surveyed. At the time of this study, specific research in elementary school settings was limited.

- Use only educators that have fully implemented MTSS/RTI at their schools.

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Appendix A

Permission Letter to use Surveys

[External] RE: Request Form

Tue 6/1/2021 10:51 AM

To: Johnson, Debra <DJOHNSON84@liberty.edu>

Hi Debra,

The Florida Problem Solving/Response to Intervention Project received your email dated 5/28/2021, requesting permission to reproduce the following:

- Beliefs on RtI Scale
- Perceptions of Practices
- Self-Assessment of MTSS Implementation (SAM)

Permission is granted by the copyright holder to print and use for educational purposes with the following conditions:

- An appropriate acknowledgment of the Florida Problem Solving/Response to Intervention Project (a collaborative project between the Department of Education and the University of South Florida) is included.
- The material is not used for commercial purposes.

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

Sincerely,
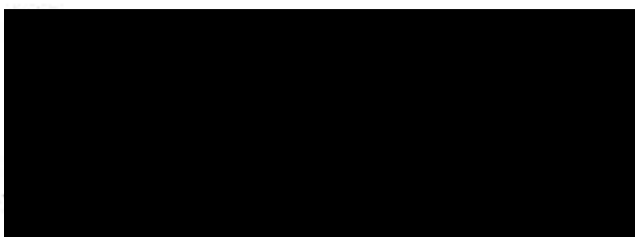
Florida's Problem Solving/
Response to Intervention Project
A Multi-Tiered System of Supports
floridarti.usf.edu

Appendix B

RTI Beliefs Scale Survey

Problem Solving/Response to Intervention   RtI Beliefs Scale – Revised 2018
Developed by the Florida PS/RtI Statewide Project — http://floridarti.usf.edu

RtI Beliefs Scale - Revised 2018

1. District: _____

2. Role:
   ___PS/RtI Coach   ___Teacher-General Education   ___Teacher-Special Education
   ___School Counselor   ___School Psychologist   ___School Social Worker
   ___Principal   ___Assistant Principal   ___Instructional/Content Coach
   Other (Please specify): _____

3. Grade levels you currently serve (check all that apply):
   ___Preschool   ___Elementary School   ___Middle School   ___High School
   Other (Please specify): _____

Directions: *Using the scale below, please indicate your level of agreement or disagreement with each of the following statements by shading in the circle that best represents your response.*

> ① = **Strongly Disagree (SD)**
> ② = **Disagree (D)**
> ③ = **Neutral (N)**
> ④ = **Agree (A)**
> ⑤ = **Strongly Agree (SA)**

	SD	D	N	A	SA
4. Multi-tiered systems of support (MTSS), when effectively implemented, is a framework that allows educators to meet the needs of all students for:					
a. Academics	①	②	③	④	⑤
b. Behavior	①	②	③	④	⑤
c. Social-Emotional	①	②	③	④	⑤
5. High school student outcomes (achievement levels, on-time graduation, post-secondary enrollment/career attainment) are related to student performance in elementary and middle school.	①	②	③	④	⑤
6. All students are capable of learning at high levels.	①	②	③	④	⑤
7. Core instruction should be effective enough to result in at least 80% of students achieving grade level standards/expectations.	①	②	③	④	⑤
8. I have a responsibility to ensure that all students learn at high levels OR meet grade-level standards/expectations.	①	②	③	④	⑤

1

Problem Solving/Response to Intervention
Developed by the Florida PS/RtI Statewide Project — http://floridarti.usf.edu

RtI Beliefs Scale – Revised 2018

	SD	D	N	A	SA
19. The severity of a student's behavioral problem is determined not by how inappropriate a student is in terms of his/her behavioral performance, but instead by how quickly the student responds to intervention.	①	②	③	④	⑤
20. Interventions should be provided with increasing intensity (time, group size, focus) based on student need.	①	②	③	④	⑤
21. Using ongoing student performance data to determine intervention effectiveness is the most accurate method (i.e., is more reliable and valid than educator judgment alone).	①	②	③	④	⑤
22. Evaluating a student's response to intervention(s) is a more effective way of determining what a student is capable of achieving than using scores from tests (e.g., IQ/Achievement test).	①	②	③	④	⑤
23. Additional time and resources should be allocated to students who are not reaching grade-level standards before significant time and resources are directed to students who are at or above standards/expectations.	①	②	③	④	⑤
24. Graphing student data makes it easier to make decisions about student performance and needed interventions.	①	②	③	④	⑤
25. Measuring intervention/instructional fidelity is important for making accurate instructional decisions.	①	②	③	④	⑤
26. Monitoring intervention outcome data at the aggregate (group) level provides information to determine effective use of resources in relation to student response.	①	②	③	④	⑤
27. The primary goal of assessment is to measure and inform effectiveness of instruction/intervention.	①	②	③	④	⑤
28. A student's parent (guardian) should be involved in the problem-solving process as soon as a teacher has a concern about the student.	①	②	③	④	⑤
29. Students respond better to interventions when their parent (guardian) is involved in the development and implementation of those interventions.	①	②	③	④	⑤
30. Parents (guardians) and community members should be involved in decisions about Tier 1 instructional strategies and curricular materials.	①	②	③	④	⑤

THANK YOU!

Appendix C

Perception of Practices Survey

Perceptions of Practices Survey

1. **Your PS/RtI Project ID:**

   Your PS/RtI Project ID was designed to assure confidentiality while also providing a method to match an individual's responses across instruments. In the space provided (first row), please write in the last four digits of your Social Security Number and the last two digits of the year you were born. Then, shade in the corresponding circles.

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 2007-08 school year. Please use the following response scale:*

- ① = **Never Occurred (NO)**
- ② = **Rarely Occurred (RO)**
- ③ = **Sometimes Occurred (SO)**
- ④ = **Often Occurred (OO)**
- ⑤ = **Always Occurred (AO)**
- ○ = **Do Not Know (DK)**

In my School:	NO	RO	SO	OO	AO	DK
2. Data (e.g., Curriculum-Based Measurement, DIBELS, FCAT, 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:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○
3. 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:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○

Florida's Problem Solving/Response to Intervention Project   Perceptions of Practices Survey
Developed by the Florida PS/RtI Statewide Project — http://floridarti.usf.edu

In my School:	NO	RO	SO	OO	AO	DK
4. 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:						
a. Academics	①	②	③	④	⑤	O
b. Behavior	①	②	③	④	⑤	O
5. The students identified as at-risk routinely received additional (i.e., supplemental) intervention(s) for:						
a. Academics	①	②	③	④	⑤	O
b. Behavior	①	②	③	④	⑤	O
6. Progress monitoring occurred for all students receiving supplemental and/or intensive interventions for:						
a. Academics	①	②	③	④	⑤	O
b. Behavior	①	②	③	④	⑤	O
7. 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:						
a. Academics	①	②	③	④	⑤	O
b. Behavior	①	②	③	④	⑤	O
8. 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:						
a. Academics	①	②	③	④	⑤	O
b. Behavior	①	②	③	④	⑤	O

Directions: *Items 9-18 refer to the typical Problem-Solving Team (i.e., Student Support Team, Intervention Assistance Team, School-Based Intervention Team, Child Study Team) meeting in your school last year (i.e., 2007-08) that included a student who had been referred for problem-solving or a special education evaluation. While addressing each item for academics (math and reading), think of a typical case in which a student was referred for an academic concern. While addressing each question for behavior, think of a typical case in which a student was referred for a behavioral concern. Then, please indicate how frequently each of the given practices occurred in your school using the same scale.*

Florida's Problem Solving/Response to Intervention Project   Perceptions of Practices Survey
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In my School:	NO	RO	SO	OO	AO	DK
9. The target behavior was routinely defined in terms of the <u>desired</u> behavior (e.g., Johnny will raise his hand to ask a question, Susie will read 90 correct words per minute) instead of the <u>problem</u> behavior (e.g., Johnny talks out of turn, Susie reads below grade-level) for:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○
10. 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:						
• Academics	①	②	③	④	⑤	○
• Behavior	①	②	③	④	⑤	○
b. identify the <u>desired</u> level of performance (i.e., the benchmark) in the area of concern for:						
• Academics	①	②	③	④	⑤	○
• Behavior	①	②	③	④	⑤	○
c. identify the current performance of same-age peers using the same data as the target student for:						
• Academics	①	②	③	④	⑤	○
• Behavior	①	②	③	④	⑤	○
11. The Problem-Solving Team routinely developed hypotheses (i.e., proposed reasons) explaining why the target student was not demonstrating the <u>desired</u> behavior for:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○
12. Data were collected to confirm the reasons that the student was not achieving the desired level of performance for:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○
13. Intervention plans were routinely developed based on the confirmed reasons that the student was not achieving the desired level of performance for:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○

Florida's Problem Solving/Response to Intervention Project
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Perceptions of Practices Survey

In my School:	NO	RO	SO	OO	AO	DK
14. 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:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○
15. Data were collected routinely to determine the degree to which the intervention plans were being implemented as intended for:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○
16. Data were graphed routinely to simplify interpretation of student performance for:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○
17. Progress monitoring data were used to determine						
a. the degree to which the target student's rate of progress had improved for:						
• Academics	①	②	③	④	⑤	○
• Behavior	①	②	③	④	⑤	○
b. whether the gap had decreased between the target student's current performance and the desired level of performance (i.e., benchmark) for:						
• Academics	①	②	③	④	⑤	○
• Behavior	①	②	③	④	⑤	○
c. whether the gap had decreased between the target student's current performance and the performance of same-age peers for:						
• Academics	①	②	③	④	⑤	○
• Behavior	①	②	③	④	⑤	○
18. 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:						
a. Academics	①	②	③	④	⑤	○
b. Behavior	①	②	③	④	⑤	○

THANK YOU!

Appendix D

Self-Assessment of MTSS Survey (SAM Survey)

Self-Assessment of MTSS Implementation (SAM)					
Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
1. Leadership Domain (Items 1-5)					
1. The principal is actively involved in and facilitates MTSS implementation	The principal does **not** actively support MTSS.	The principal communicates an urgent desire to implement MTSS, participates in professional development on MTSS, and is establishing an MTSS vision	**and** The principal actively supports the leadership team and staff to build capacity for implementation	**and** The Principal actively supports data-based problem-solving use at the school	
2. A leadership team is established that includes 6-8 members with cross-disciplinary representation (e.g., principal, general and special education teachers, content area experts, instructional support staff, student support personnel [1]) and is responsible for facilitating MTSS implementation [2]	**No** leadership team with explicit responsibility for leading MTSS implementation exists	A leadership team exists that includes cross-disciplinary representation,	**and** The leadership team has explicit expectations for facilitating MTSS implementation,	**and** The leadership team members have the beliefs, knowledge, and skills to lead implementation efforts	
3. The leadership team actively engages staff in ongoing professional development and coaching [3] necessary to support MTSS implementation	The leadership team does **not** have a needs-based plan to provide staff with professional development or coaching to support MTSS implementation	A needs assessment is conducted to gather information on beliefs, knowledge, and skills to develop a professional development plan to support MTSS implementation	**and** A professional development plan is created based on the needs assessment and used to engage staff in ongoing professional development and coaching	**and** Ongoing professional development activities are informed by data collected on the outcomes of professional development and coaching for continuous improvement	
4. A strategic plan for MTSS implementation is developed and aligned with the school improvement plan	**No** strategic plan for MTSS implementation exists	Leadership team is engaging district, family, and community partners to identify stakeholder needs, resources for, and barriers to MTSS implementation	**and** As part of the school improvement planning process a strategic plan is developed that specifies MTSS implementation [4]	**and** A strategic plan for MTSS implementation is updated as needed based on student outcome and implementation fidelity data as part of the school improvement planning process	
5. The leadership team is actively facilitating implementation of MTSS [5] as part of their school improvement planning process	The leadership team is **not** actively engaging in efforts to facilitate MTSS implementation	The leadership team engages in action planning and has created a strategic plan to facilitate implementation of the critical elements [6] of MTSS	**and** The leadership team provides support to educators implementing the critical elements of MTSS identified in the strategic plan	**and** The leadership team uses data on implementation fidelity of the critical elements of MTSS to engage in data-based problem-solving for the purpose of continuous school improvement	

Self-Assessment of MTSS Implementation (SAM)					
Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
2. Building the Capacity/Infrastructure for Implementation Domain (Items 6-16)					
6. The critical elements [6] of MTSS are defined and understood by school staff	**No** information on the critical elements of the school's MTSS is available	The critical elements of MTSS are being defined	**and** The critical elements of MTSS are defined and are communicated to school staff	**and** The curriculum, assessment, and instructional practices that define the school's critical elements of MTSS can be communicated by all school staff	
7. The leadership team facilitates professional development and coaching [7] for all staff members on assessments and data sources used to inform decisions	Initial professional development is **not** provided to all staff members	The staff engages in initial, job-embedded professional development focusing on: • Purpose and administration of assessment tools • Role of assessment/data sources in making instructional decisions • Review of current assessments/data sources being utilized and those being considered • Analyzing and using assessment results to improve instruction • Using various types of data to inform instructional practices to meet the needs of diverse learners • Communicating and partnering with families about data and assessment practices	**and** The staff engages in ongoing professional development and coaching related to the administration of assessments and interpretation of the data/data sources. Professional development includes: • Changes or updates to assessments/data sources • Changes to data collection, tracking, and analysis • Ongoing coaching on instructional practices and interpreting assessment results	**and** The leadership team analyzes feedback from staff as well as outcomes in order to identify professional development and coaching needs in the area of assessment/data sources in support of continuous improvement	

Self-Assessment of MTSS Implementation (SAM)					
Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
8. The leadership team facilitates professional development and coaching [7] for staff members on data-based problem-solving relative to their job roles/responsibilities	Professional development does *not* focus on data-based problem-solving	Initial professional development on data-based problem-solving is provided that includes the following elements: • Rationale for use of data-based problem-solving • Problem-solving steps to address school-wide, classroom, small-group, and individual student needs • Roles and responsibilities for team members engaging in data-based problem-solving	*and* Ongoing professional development and coaching on data-based problem-solving is delivered that includes the following elements: • Differentiation of professional development based on staff roles/responsibilities • Coaching • Modeling, practice, and collaborative feedback on problem-solving steps • Support for collaboration and teaming skills	*and* Data on use of problem-solving skills and application are used to inform continuous improvement of professional development and coaching efforts	
9. The leadership team facilitates professional development and coaching [7] for all staff on multi-tiered instruction and intervention relative to their job roles/responsibilities	*No* explicit connection to multi-tiered instruction and intervention is evident in professional development provided	Initial professional development on multi-tiered instruction and intervention is provided that includes the following elements: • Rationale for and modeling of instructional and intervention design and delivery (e.g., Common Core State Standards, instructional routine, Tier 1 Positive Behavior Supports, lesson planning for active student engagement) • Connections are made regarding how the practices are aligned with and integrated into MTSS • How data informs instruction and intervention design and delivery that reflects student diversity and results in learning opportunities for all students [8]	*and* Ongoing professional development and coaching on multi-tiered instruction and intervention is provided that includes the following elements: • Differentiation of professional development and coaching based on staff roles/responsibilities • Coaching • Modeling of, practice of, and collaborative feedback on, evidence-based practices	*and* The leadership team regularly uses data on student needs and fidelity of how evidence-based practices are implemented to continuously improve professional development and coaching efforts	

Self-Assessment of MTSS Implementation (SAM)					
Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
10. Coaching [7] is used to support MTSS implementation	*No* coaching is provided to build staff capacity to implement the critical elements of MTSS	Initial coaching is occurring that is focused primarily on facilitating or modeling the components of MTSS	*and* Coaching activities are expanded to include: • Opportunities to practice • Collaborative and performance feedback	*and* Data on professional development, implementation fidelity, and student outcomes are used to refine coaching activities	
11. Schedules provide adequate time for trainings and coaching support	Schedules do *not* include time allocated to professional development and coaching for MTSS	Schedules include time allocated for trainings	*and* Schedules include time for ongoing coaching support	*and* Schedules permit personnel to access additional training and coaching support that is differentiated based on their needs	
12. Schedules provide adequate time to administer academic, behavior and social-emotional assessments needed to make data-based decisions	Schedules do *not* include time allocated to administering assessments needed to make decisions across tiers	Schedules include time for academic, behavior and social-emotional assessments administered to all students (e.g., universal screening)	*and* Schedules include time to administer more frequent progress monitoring assessments to students receiving Tier 2 and 3 services as specified (e.g., weekly or monthly assessments)	*and* Schedules permit personnel to administer additional assessment (e.g., diagnostic assessments) across content areas and tiers needed to engage in data-based problem-solving	
13. Schedules provide adequate time for multiple tiers of evidence-based instruction and intervention to occur	The master schedule is developed *without* student data and does *not* include time for multi-tiered interventions	The master schedule is developed utilizing student data and includes time for multi-tiered interventions	*and* The master schedule facilitates effective implementation of multi-tiered interventions matched to student needs by content area and intensity (Tier 1, Tier 2, Tier 3)	*and* The master schedule allows for flexible student groupings	

Self-Assessment of MTSS Implementation (SAM)					
Item	**0 = Not Implementing**	**1 = Emerging/Developing**	**2 = Operationalizing**	**3 = Optimizing**	**Rating**
14. Schedules provide adequate time for staff to engage in collaborative, data-based problem-solving and decision-making	The master schedule does **not** provide opportunities for collaborative, data-based problem-solving and decision-making to occur	The master schedule provides opportunities to engage in collaborative, data-based problem-solving and decision-making to occur	**and** The master schedule provides sufficient time for the process to occur with fidelity	**and** The master schedule provides opportunities for collaborative, data-based problem-solving and decision-making to occur in settings such as: • Leadership team meetings • Grade-level meetings • Cross grade-level meetings • Cross-departmental meetings • Professional Learning Community meetings	
15. Processes, procedures, and decision-rules [9] are established for data-based problem-solving	**No** systematic processes, procedures, or decision-rules are established	Processes, procedures, and decision-rules needed to engage in data-based problem-solving are developed and existing structures and resources are incorporated	**and** The steps of problem-solving; procedures for accessing, submitting, and using data; and decision-rules needed to make reliable decisions are communicated to staff [10]	**and** Data-based problem-solving processes, procedures, and decision-rules are refined based on data and feedback from staff, schedule changes, and resource availability	
16. Resources [11] available to support MTSS implementation are identified and allocated	**No** process exists for mapping and allocating resources available to support MTSS implementation	Leadership team members are gathering information on the personnel, funding, materials, and other resources available to support MTSS implementation	**and** Resource inventories are established using the gathered information on the personnel, funding, materials, and other resources available to support MTSS implementation and plans for allocating the resources are established	**and** Existing resource maps and resource allocations are updated at least annually based on student need, available personnel, funding, materials, and other resources	

Self-Assessment of MTSS Implementation (SAM)					
Item	**0 = Not Implementing**	**1 = Emerging/Developing**	**2 = Operationalizing**	**3 = Optimizing**	**Rating**
3. Communication and Collaboration Domain (Items 17-20)					
17. Staff [12] have consensus and engage in MTSS Implementation [13]	Staff are **not** provided opportunities to gain understanding of the need for MTSS	Staff are provided opportunities to gain understanding of the need for MTSS	**and** Staff has opportunities to gain understanding of its relevance to their roles and responsibilities	**and** Staff has opportunities to provide input on how to implement MTSS	
18. Staff are provided data on MTSS implementation fidelity and student outcomes [14]	Staff are **not** provided any data regarding MTSS implementation fidelity **nor** student outcomes	Staff are rarely (**1x/year**) provided data regarding MTSS implementation fidelity **and** student outcomes	Staff are regularly (**2x/year**) provided data regarding MTSS implementation fidelity **and** student outcomes	Staff are frequently (**3x+/year**) provided data regarding MTSS implementation fidelity **and** student outcomes	
19. The infrastructure exists to support the school's goals for family and community engagement [15] in MTSS	Family and community engagement is: **not** defined and monitored with data; **not** linked to school goals in SIP/MTSS plan; **and** procedures for facilitating 2-way communication do **not** exist	Family and community engagement are **1 of the following 3**: • defined and monitored with data • linked to school goals in SIP/MTSS plan • supported by procedures for facilitating 2-way communication	Family and community engagement are **2 of the following 3**: • defined and monitored with data • linked to school goals in SIP/MTSS plan • supported by procedures for facilitating 2-way communication exists	Family and community engagement are **all of the following**: • defined and monitored with data • linked to school goals in SIP/MTSS plan • supported by procedures for facilitating 2-way communication exist	
20. Educators actively engage families in MTSS	Staff do **none of the following**: • actively engage families that represent the diverse population of the school • engage families in problem solving when their children need additional supports • provide intensive outreach to unresponsive families [16] • increase the skills of families to support their children's education	Staff do **1 of the following 4**: • actively engage families that represent the diverse population of the school • engage families in problem solving when their children need additional supports • provide intensive outreach to unresponsive families • increase the skills of families to support their children's education	Staff do **2 or 3 of the following 4**: • actively engage families that represent the diverse population of the school • engage families in problem solving when their children need additional supports • provide intensive outreach to unresponsive families • increase the skills of families to support their children's education	Staff do **all of the following**: • actively engage families that represent the diverse population of the school • engage families in problem solving when their children need additional supports • provide intensive outreach to unresponsive families • increase the skills of families to support their children's education	

Self-Assessment of MTSS Implementation (SAM)

Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
4. Data Based Problem Solving Domain (Items 21-27)					
21. Integrated data-based problem solving [17] for student academic, behavior and social-emotional outcomes occurs across content areas, grade levels, and tiers [18]	Data on academic, behavior, and social-emotional outcomes may be collected, *but* data-based problem-solving does *not occur across*: • academic, behavior and social-emotional content areas • any grade levels • any tier	Data-based problem solving occurs across *1 of the following 4*: • at least 2 content areas (e.g., reading, behavior, social-emotional) • at least 50% of grade levels • a single tier • only academic outcomes or only behavior and social-emotional outcomes	Data-based problem solving occurs across *2 of the following 3*: • at least 3 content areas • at least 75% of grade levels • at least two tiers	Data-based problem solving occurs across *all of the following*: • across all content areas • all grade levels • all tiers	
22. *Across all tiers*, data are used to identify the difference or "gap" between expected and current student outcomes relative to academic, behavior and social- emotional goals	The gap between expected and current student outcomes is *not* identified	The gap between expected and current outcomes is identified,	*and* The gap between expected and current outcomes is identified, and is associated with academic, behavior and social-emotional goals	*and* The gap between expected and current outcomes is identified relative to academic, behavior and social-emotional goals and is used to identify the appropriate level (tier) of instruction/intervention	
23. Academic, behavior and social- emotional data are used to identify and verify reasons why [19] students are not meeting expectations	Reasons why students are *not* meeting expectations are *not* identified	Reasons why students are not meeting expectations are identified	*and* Data are used to verify the reasons why students are not meeting expectations	*and* The reasons why students are not meeting expectations span multiple reasons related to instruction and the learning environment of why students struggle and are verified using a range of assessment methods	
24. Specific instructional/intervention plans are developed and implemented based on verified reasons why students are not meeting academic, behavior and social-emotional expectations	Instructional/ intervention plans are *not* developed	Instructional/intervention plans are developed	*and* Instruction/Intervention plans consistently specify what will be done, by who, when it will occur, and where with enough detail to be implemented [20]	*and* Instructional/intervention plans consistently are developed based on verified reasons students are not meeting expectations	

Self-Assessment of MTSS Implementation (SAM)

Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
25. Student progress specific to academic, behavior and social-emotional goals specified in intervention plans are monitored	Progress monitoring does *not* occur and student progress is *not* evaluated	Plans for monitoring progress toward expected student outcomes are developed	*and* In most cases data are collected to monitor student progress and intervention fidelity	*and* Changes are made to instruction/intervention based on student responses	
26. Data-based problem-solving informs how patterns of student performance across diverse groups (e.g., racial/ethnic, cultural, social-economic, language proficiency, disability status) are addressed	Patterns of student performance across diverse groups are *not* identified	Data on student outcomes are collected	*and* Patterns of student performance across diverse groups are identified	*and* Data on student outcomes informs how MTSS implementation efforts are impacting different groups of students	
27. Resources for and barriers [21] to the implementation of MTSS are addressed through a data-based problem solving process	Data-based problem solving of resources for and barriers to implementation of MTSS does *not* occur	School leadership discusses resources for and barriers to implementation of MTSS	School leadership discusses resources for and barriers to implementation of MTSS *and* does *one of the following*: • collects data to assess implementation levels • develops action plans to increase implementation	School leadership discusses resources for and barriers to implementation of MTSS *and* does *both of the following*: • collects data to assess implementation levels • develops action plans to increase implementation	

Self-Assessment of MTSS Implementation (SAM)					
Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
5. Three Tiered Instructional /Intervention Model Domain (Items 28-33) (Items in this section alternate between addressing academic, behavior and social-emotional practices.)					
28. Tier 1 (core) academic practices exist that clearly identify learning standards [22], school-wide expectations [23] for instruction that engages students, and school-wide assessments [24]	Tier 1 elements are **not** developed and/or clearly defined	Tier 1 elements incorporate *1 of the following 4*: • clearly defined learning standards • school-wide expectations for instruction and engagement • link to behavior and social-emotional content/instruction • assessments/data sources	Tier 1 elements incorporate *2 or 3 of the following 4*: • clearly defined learning standards • school-wide expectations for instruction and engagement • link to behavior and social-emotional content/instruction • assessments/data sources	Tier 1 elements incorporate *all of the following*: • clearly defined learning standards • school-wide expectations for instruction and engagement • link to behavior and social-emotional content/instruction • assessments/data sources	
29. Tier 1 (core) behavior and social-emotional practices exist that clearly identify school-wide expectations, social-emotional skills instruction, classroom management practices [25], and school-wide behavior and social-emotional data [26]	Tier 1 strategies are **not** developed and/or clearly defined	Tier 1 strategies incorporate *1 of the following 4*: • clearly defined school-wide expectations • classroom management practices • link to Tier 1 academic content/instruction • accessing school-wide behavior and social-emotional data sources	Tier 1 strategies incorporate *2 or 3 of the following 4*: • clearly defined school-wide expectations • classroom management practices • link to Tier 1 academic content/instruction • accessing school-wide behavior and social-emotional data	Tier 1 strategies incorporate *all of the following*: • clearly defined school-wide expectations • classroom management practices • link to Tier 1 academic content/instruction • accessing school-wide behavior and social-emotional data	
30. Tier 2 (supplemental) academic practices exist that include strategies addressing integrated common student needs, are linked to Tier 1 instruction [27], and are monitored using assessments/data sources tied directly to the academic, behavior and social-emotional skills taught	Tier 2 strategies are **not** developed and/or clearly defined	Tier 2 strategies incorporate *1 of the following 4*: • common student needs • link to Tier 1 instruction • link to behavior and social-emotional content/instruction • assessments/data sources link directly to the skills taught	Tier 2 strategies incorporate *2 or 3 of the following 4*: • common student needs • link to Tier 1 instruction • link to behavior and social-emotional content/instruction • assessments/data sources link directly to the skills taught	Tier 2 strategies incorporate *all of the following*: • common student needs, • link to Tier 1 instruction • link to behavior and social-emotional content/instruction • assessments/data sources link directly to the skills taught	

Self-Assessment of MTSS Implementation (SAM)					
Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
31. Tier 2 (supplemental) behavior and social-emotional practices exist that address integrated common student needs, are linked to Tier 1 instruction [28], and are monitored using assessments/data sources tied directly to the skills taught	Tier 2 strategies are **not** developed and/or clearly defined	Tier 2 strategies incorporate *1 of the following 4*: • common student needs • link to Tier 1 instruction • link to academic content/instruction • assessments/data sources link directly to the skills taught	Tier 2 strategies incorporate *2 or 3 of the following 4*: • common student needs • link to Tier 1 instruction • link to academic content/instruction • assessments/data sources link directly to the skills taught	Tier 2 strategies incorporate *all of the following*: • common student needs • link to Tier 1 instruction • link to academic content • assessments/data sources link directly to the skills taught	
32. Tier 3 (intensive) academic practices [29] exist that include integrated strategies that are developed based on students' needs, are aligned with Tier 1 and Tier 2 instructional goals and strategies, and are monitored using assessments/data sources that link directly to skills taught	Tier 3 strategies are **not** developed and/or clearly defined	Tier 3 strategies incorporate *1 of the following 4*: • developed based on students' needs across academic, behavior and social-emotional domains • aligned with Tier 1 and Tier 2 instruction • link to behavior and social-emotional content/instruction • assessments/data sources that link directly to the skills taught	Tier 3 strategies incorporate *2 or 3 of the following 4*: • developed based on students' needs across academic, behavior and social-emotional domains • aligned with Tier 1 and Tier 2 instruction • link to behavior and social-emotional content/instruction • assessments/data sources that link directly to the skills taught	Tier 3 strategies incorporate *all of the following*: • developed based on students' needs across academic, behavior and social-emotional domains • aligned with Tier 1 and Tier 2 instruction • linked to behavior and social-emotional content/instruction • monitored using assessments/data sources that link directly to the skills taught	
33. Tier 3 (intensive) behavior and social-emotional practices [30] include integrated strategies that are developed based on students' needs and strengths, are aligned with Tier 1 and Tier 2 instructional goals and strategies, and are monitored using assessments/data sources that link directly to skills taught	Tier 3 strategies are **not** developed and/or clearly defined	Tier 3 strategies incorporate *1 of the following 4*: • based on students' needs across academic, behavior and social-emotional domains • aligned with Tier 1 and Tier 2 instruction • link to academic content/instruction • assessments/data sources that link directly to the skills taught	Tier 3 strategies incorporate *2 or 3 of the following 4*: • based on students' needs across academic, behavior and social-emotional domains • aligned with Tier 1 and Tier 2 instruction • link to academic content/instruction • assessments/data sources that link directly to the skills taught	Tier 3 strategies incorporate *all of the following*: • based on students' needs across academic, behavior and social-emotional domains • aligned with Tier 1 and Tier 2 instruction • link to academic content/instruction • assessments/data sources that link directly to the skills taught	

Self-Assessment of MTSS Implementation (SAM)					
Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
6. Data-Evaluation Domain (Items 34-39)					
34. Staff understand and have access to academic, behavior and social-emotional data sources that address the following purposes of assessment: • identify students at-risk academically, socially, and/or emotionally • determine why student is at-risk • monitor student academic and social-emotional growth/ progress • inform academic and social-emotional instructional/intervention planning • determine student attainment of academic, behavior and social-emotional outcomes	Staff do **not** understand and have access to academic, behavior and social-emotional data sources or that address the purposes of assessment	Staff learn the purposes of *assessment* within MTSS and the leadership team selects measures for the purposes of assessment across academic, behavior and social-emotional areas that are reliable, valid, and accessible, as well as culturally, linguistically, and developmentally appropriate	**and** Staff engage in assessment with fidelity to: • answer predetermined guiding/critical questions regarding student functioning/outcomes • identify students who are at-risk at least 3-4 times/year • determine why a student is at-risk • monitor student growth/progress • inform instructional/intervention planning • determine student attainment of academic, behavior and social-emotional outcomes	**and** The leadership team and/or staff collaboratively and systematically evaluate and refine (as needed) critical guiding questions and adjust assessment practices to ensure availability of accurate and useful data to inform instruction; assessment tools are evaluated for continued value, usefulness, and cultural, linguistic, and developmental appropriateness	
35. Policies and procedures for decision-making are established for the administration of assessments, access to existing data sources, and use of data [31]	**No** policies and procedures are in place	The leadership team has policies and procedures for decision-making that include schedules for screening, use of diagnostic assessments, progress monitoring frequency, and criteria for determining tier(s) of support needed	**and** Staff consistently administer assessments, access data sources and make data-based decisions using the policies and procedures for decision-making with fidelity	**and** Adherence to and effectiveness of policies and procedures for decision-making are evaluated regularly for efficiency, usefulness, and relevance for students and staff, and data are used to make adjustments to the policies	

Self-Assessment of MTSS Implementation (SAM)					
Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
36. Effective data tools [31] are used appropriately and independently by staff	Staff do **not** have access to tools that efficiently provide data needed to answer problem solving questions for academic, behavior and social-emotional issues	The leadership team ensures availability of tools that can track and graphically display academic, behavior and social-emotional data, and staff are trained on the use of the tools and on their responsibilities for data collection, entry and management	**and** Staff use the data tools and are provided assistance as needed	**and** Data tools are periodically assessed and the necessary changes are made in order to improve functionality, efficiency, and usefulness, and staff is proficient and independent with data tools and easily support new staff members	
37. Data sources [31] are used to evaluate the implementation and impact of MTSS	**No** data sources to evaluate implementation of the critical elements of MTSS have been identified	The leadership team has identified data sources that will be used to evaluate implementation of the critical elements of MTSS [6]	**and** The leadership team uses data sources to evaluate implementation and to make systemic improvements to the critical elements of MTSS	**and** The Leadership team periodically conducts analyses to determine how implementation of critical elements of MTSS relate to positive student outcomes	
38. Available resources are allocated effectively	Resources are **not** allocated based on student need and the availability of time, available personnel, funding, and materials	Resources are allocated based on student need	**and** the relationship between the resources allocated and the outcomes of students is evaluated	**and** Processes and criteria for resource allocation are refined based on strategies that result in improved student outcomes.	
39. Data sources are monitored for consistency and accuracy in collection and entry procedures	Data sources are **not** monitored for accuracy or consistency	The leadership team ensures that staff understand the importance of accurate and consistent data collection practices and have provided professional development on policies and procedures for methods, types and frequency of data collection	**and** The leadership team uses a protocol (e.g. email notifications for failure to take attendance, etc.) to monitor data consistency and accuracy	**and** The leadership team periodically conducts analyses to determine consistency and accuracy of data	

Appendix E

IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

August 18, 2022

Debra Johnson
Treg Hopkins

Re: IRB Exemption - IRB-FY21-22-1215 DETERMINING RELATIONSHIPS BETWEEN IMPLEMENTATION OF MULTI-TIERED SYSTEM OF SUPPORTS TO EDUCATORS' BELIEFS AND PERCEPTIONS

Dear Debra Johnson, Treg Hopkins,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(iii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.
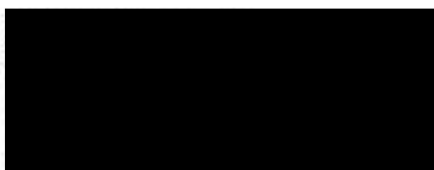
Sincerely,
G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

Appendix F

Request Letter to the Superintendent

August 19, 2022

███████████████████

████████████

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree. The title of my research project is *Determining Relationships Between Implementation of Multi-tiered System of Supports to Educators' Beliefs and Perceptions*. The purpose of my research is to determine how elementary educators measure school-level implementation of MTSS, educators' beliefs about MTSS and their perceptions of how frequently MTSS implementation practices are occurring in their schools in order to provide leadership with key insights and a practical implementation guide that may help support teachers throughout the MTSS process.

I am writing to request your permission to conduct my research at the elementary schools in the ████████████████████████ Participants will be asked to complete three surveys. The first two surveys (Perception of Practices Survey and RtI Beliefs Scale/Beliefs Survey) will be completed anonymously online. The educators that are members of the school-based leadership team will complete a hard copy of the Self-Assessment of Multi-Tiered System of Supports (SAM) Survey and meet in-person to reach a consensus for each answer. Group completion can take anywhere from one to two hours, depending on the amount of discussion required to reach consensus on each item. After this meeting, the designated school-based leadership member from each school will complete the SAM Survey on-line with their groups' responses. Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please provide a signed statement on official letterhead indicating your approval.
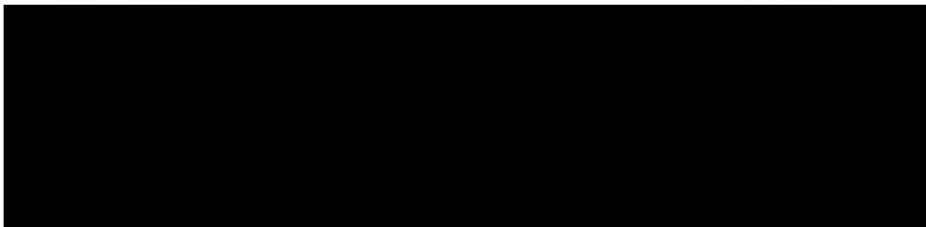
Sincerely,

Debra A. Johnson

Debra A. Johnson
Doctoral Candidate
Liberty University
djohnson84@liberty.edu

Appendix G

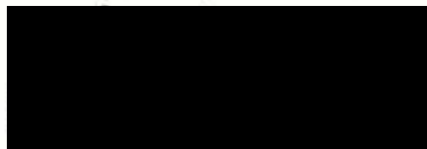Superintendent Approval Letter

August 26, 2022

Dear Ms. Johnson,

This letter is verification of approval for you to conduct a research study (DETERMINING RELATIONSHIPS BETWEEN IMPLEMENTATION OF MULTI-TIERED SYSTEM OF SUPPORTS TO EDUCATORS' BELIEFS AND PERCEPTIONS) in ███████████████████ as part of your fulfillment to receive your doctorate degree.

Educationally,

Appendix H

Training Procedures Guide

The study employs the following training procedures:

1. The researcher will conduct professional development training with the facilitators of the Beliefs Survey, Perception of Practices survey, and the SAM survey. A hard copy of survey and basic instructions will be given out at the training sessions. The reference for detailed instructions of the surveys will be provided and the facilitator can access this in the link provided. The training will be conducted in-person and scheduled to suit the participants' schedule.

2. The Beliefs Survey training (per Castillo et al., 2016) entails the following procedures:

    - Theoretical background on the relationship between beliefs and whether educators will adopt new practices

    - Description of the instrument including brief information on the items and how they relate to each other (e.g., domains of beliefs the items assess)

    - Administration procedures developed and/or adopted

    - Common issues that arise during administration such as frequently asked questions and how to facilitate better return rates from school settings

    - The link to the training manual is provided:
      https://floridarti.usf.edu/resources/program_evaluation/ta_manual_revised2016/ta_manual_revised2016.pdf

3. The Perception of Practices survey training (per Castillo et al., 2016) entails the following procedures:

- Description of the instrument including brief information on the items and how they relate to each other (e.g., domains of perceived practices the items assess) • Administration procedures developed and/or adopted

- Common issues that arise during administration such as questions asked and how to facilitate better return rates.

- The link to the training manual is provided:

  https://floridarti.usf.edu/resources/program_evaluation/ta_manual_revised2016/ta _manual_revised2016.pdf

4. Trainings on facilitating completion of the SAM will include the following components (Stockslager et al., 2016):

    - Explanation of the relationship between implementation integrity and desired outcomes, and the alignment between the SAM and critical features of implementing practices within an MTSS.

    - Review of each domain and item so that facilitators have a clear understanding of what is being measured.

    - Description of the SAM Endnotes and how team members can use endnotes to enhance understanding.

    - Overview of administration and scoring procedures.

    - Common issues that arise during administration, such as frequently asked questions and how to address disagreements among team members.

    - The link to the training manual is provided:

      https://floridarti.usf.edu/resources/program_evaluation/sam/sam_ta_manual2016. pdf

Appendix I

Recruitment Letter to Certified Elementary Educators

Dear Survey Participant,

As a graduate student in the School of Education, at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to determine how elementary educators measure school-level implementation of Multi-Tiered System of Supports (MTSS), beliefs about MTSS, and their perceptions of how frequently MTSS implementation practices are occurring in their schools in order to provide leadership with key insights and a practical implementation guide that may help support teachers throughout the MTSS process. I am writing to invite eligible participants to join my study.

Participants must be certified educators that have implemented MTSS and have 1 year of experience in the teaching field. Participants, if willing, will be asked to complete the Perceptions of Practices Survey and RtI Beliefs Scale/Beliefs Survey online. The estimated time to complete the surveys is 20 minutes total. Participation in the Perceptions of Practices Survey and RtI Beliefs Scale/Beliefs Survey will be completely anonymous, and no personal, identifying information will be collected.

To participate in the Perceptions of Practices Survey and RtI Beliefs Scale/Beliefs Survey, please click on the designated hyperlinks below to access the online surveys:
Perception of Practices Survey Link: https://www.surveymonkey.com/r/FQ58NYL

RtI Beliefs Scale/Beliefs Survey Link: https://www.surveymonkey.com/r/C6KSBZH

A consent document is provided as the first page of each survey. The consent document contains additional information about my research. After you have read the consent document form, please choose your response of Yes if you want to participate in the survey. Doing so will indicate that you have read the consent information and would like to take part in the survey. If you do not wish to participate, choose the response of No and hit the exit button to end the survey.

Sincerely,

Debra A. Johnson
Doctoral Candidate
Liberty University
djohnson84@liberty.edu

Appendix J

Certified Elementary Educators' Consent Form

Consent

Title of the Project: DETERMINING RELATIONSHIPS BETWEEN IMPLEMENTATION OF MULTI-TIERED SYSTEM OF SUPPORTS TO EDUCATORS' BELIEFS AND PERCEPTIONS

Principal Investigator: Debra Ann Johnson, Doctoral Candidate, School of Education, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be a certified educator that has implemented Multi-Tiered Systems of Supports (MTSS) and have at least 1 year of educational experience. Taking part in this research project is voluntary. Please take time to read this entire form and ask questions before deciding whether to take part in this research.

What is the study about and why is it being done?

The purpose of the study is to determine how elementary educators measure school-level implementation of MTSS, their beliefs about MTSS, and their perceptions of how frequently MTSS implementation practices are occurring in their schools. The data from this study may be used to provide leadership with key insights and a practical implementation guide that may help support teachers throughout the MTSS process.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following things:

1. Complete the Perception of Practices Survey and RtI Beliefs Scale and the Belief Survey online within ten working days. The surveys should take about 10 minutes each to complete.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

The benefit to society includes assisting teachers, administrators, and district officials understand what beliefs and perceptions may potentially affect the implementation and sustainability of a school-wide MTSS program.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be anonymous.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Debra Ann Johnson. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at djohnson84@liberty.edu. You may also contact the researcher's faculty sponsor, Dr. Treg Hopkins, at thopkins19@liberty.edu.

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. You can print a copy of the document for your records. If you have any questions about the study later, you can contact the researcher using the information provided above.

Appendix K

School-Based Leadership Team Recruitment Letter

Dear Survey Participant:

This follow-up email is being sent to remind you to complete the survey if you would like to participate and have not already done so. Your participation in this study is appreciated and must be received by 5:00pm on October 17, 2022.

Participants must be certified educators that have implemented MTSS, have 1 year of experience in the teaching field, and is a member of the school-based leadership team. The designated school-based leadership team member (facilitator) from each participating school will review the SAM Survey with the school-based leadership team members, the team reaches consensus on a score for each item and record the final responses in the SurveyMonkey link provided by the researcher. Group completion of the SAM Survey typically takes one to two hours, depending on the amount of discussion required to reach consensus on each item. Data collected from the survey will remain strictly confidential. There will not be any personal identifying information disclosed.

To participate in the Self-Assessment of Multi-Tiered System of Supports Survey (SAM), please contact me so I can assign a facilitator and schedule the discussion/meeting. A consent document will be emailed to you if you contact me to express interest. The consent document contains additional information about my research. If you choose to participate, you will need to sign the consent document and return it to me prior to the meeting/discussion.

Sincerely,

Debra A. Johnson
Doctoral Candidate
Liberty University
djohnson84@liberty.edu

Appendix L

School-Based Leadership Team Consent Form

Consent

Title of the Project: DETERMINING RELATIONSHIPS BETWEEN IMPLEMENTATION OF MULTI-TIERED SYSTEM OF SUPPORTS TO EDUCATORS' BELIEFS AND PERCEPTIONS

Principal Investigator: Debra Ann Johnson, Doctoral Candidate, School of Education, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be a certified educator that has implemented Multi-Tiered System of Supports (MTSS) and have at least 1 year of educational experience. You must also be a member of the school-based leadership team. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

What is the study about and why is it being done?

The purpose of the study is to determine how elementary educators measure school-level implementation of MTSS, their beliefs about MTSS, and their perceptions of how frequently MTSS implementation practices are occurring in their schools. The data from this study may be used to provide leadership with key insights and a practical implementation guide that may help support teachers throughout the MTSS process.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following things:
1. Review the Self-Assessment of MTSS Implementation (SAM) Survey with the other leaders and the facilitator.
2. Participate in a discussion about the survey responses. The facilitator will guide the discussion until the team reaches consensus on a score for each item; and the score for each item is recorded.
3. The facilitator will then complete the Self-Assessment of Multi-Tiered System of Supports Survey online within ten working days. The survey should take about fifteen minutes to complete.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. The benefit to society includes assisting teachers, administrators, and district officials in understanding what beliefs and perceptions may potentially affect the implementation and sustainability of a school-wide MTSS program.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept confidential through the use of pseudonyms. There will not be any personal, identifying information disclosed.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should you do if you decide to withdraw from the study?

You are welcome to withdraw from the discussion about the survey answers at any time prior to submitting the survey. It will not be possible to withdraw from the study once the facilitator has completed the survey and returned to the researcher.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Debra Ann Johnson. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at djohnson84@liberty.edu. You may also contact the researcher's faculty sponsor, Dr. Treg Hopkins, at thopkins19@liberty.edu.

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

Signature_____ Date_____

Liberty University
IRB-FY21-22-1215
Approved on 8-18-2022

Appendix M

Follow-Up Recruitment Letter to Certified Elementary Educators

Dear Survey Participant:

This follow-up email is being sent to remind you to complete the survey if you would like to participate and have not already done so. Your participation in this study is appreciated and must be received by 5:00pm on October 17, 2022.

To participate in the study, participants must be certified educators that have implemented MTSS and have 1 year of experience in the teaching field. The estimated time to complete the surveys is 20 minutes total. Participation in the Perceptions of Practices Survey and RtI Beliefs Scale/Beliefs Survey will be completely anonymous, and no personal, identifying information will be collected. Please click on the designated hyperlinks below to access the online surveys:
Perception of Practices Survey -   https://www.surveymonkey.com/r/FQ58NYL

RtI Beliefs Scale/Beliefs Survey -   https://www.surveymonkey.com/r/C6KSBZH

A consent document is provided as the first page of each survey. The consent document contains additional information about my research. After you have read the consent document, please click the designated link to proceed to the surveys. Doing so will indicate that you have read the consent information and would like to take part in the survey.

Sincerely,

Debra A. Johnson
Doctoral Candidate
Liberty University
djohnson84@liberty.edu

Appendix N

Follow-Up Recruitment Letter to School-Based Leadership Team

Dear Survey Participant:

This follow-up email is being sent to remind you to complete the survey if you would like to participate and have not already done so. Your participation in this study is appreciated and must be received by 5:00pm on October 17, 2022.

Participants must be certified educators that have implemented MTSS, have 1 year of experience in the teaching field, and is a member of the school-based leadership team. The designated school-based leadership team member (facilitator) from each participating school will review the SAM Survey with the school-based leadership team members, the team reaches consensus on a score for each item and record the final responses in the SurveyMonkey link provided by the researcher. Group completion of the SAM Survey typically takes one to two hours, depending on the amount of discussion required to reach consensus on each item. Data collected from the survey will remain strictly confidential. There will not be any personal identifying information disclosed.

To participate in the Self-Assessment of Multi-Tiered System of Supports Survey (SAM), please contact me so I can assign a facilitator and schedule the discussion/meeting. A consent document will be emailed to you if you contact me to express interest. The consent document contains additional information about my research. If you choose to participate, you will need to sign the consent document and return it to me prior to the meeting/discussion.

Sincerely,

Debra A. Johnson
Doctoral Candidate
Liberty University
djohnson84@liberty.edu