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## **Building Structures and Beliefs for Effective Multi-Tiered Systems of Support at the Secondary Level**

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**Building Structures and Beliefs for Effective Multi-Tiered Systems of Support at the  
Secondary Level**

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Master of Arts in Education- Differentiated Instruction

DI 590: Conducting Research and Completing the Capstone, Cohort 381

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## DEDICATION

To Steve, Benjamin, Isla, and Elijah: Thank you for all the support over the last two years. Thank you for being flexible while I spent late nights and weekends completing work and for all the Wednesday night pork chop dinners enjoyed without me. I couldn't have done it without all of your love and support!

To my fellow educators: Thank you for inspiring me to be a better educator and for all the work you put into improving student outcomes.

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### **Abstract**

Multi-Tiered Systems of Support or MTSS has become a popular service delivery framework for responding to students' academic needs through Response to Intervention (RTI) or behavioral needs through Positive Behavior Interventions and Supports (PBIS). The tiered framework is designed to increase the intensity or frequency of interventions identified through universal screeners, progress monitoring, and teams using data to make decisions about student needs. This study sought to understand how the secondary level structure impacts the implementation of a MTSS framework and how those structures and beliefs impact interventions and supports for students in middle and high school. This study explored fifteen studies that identified the current challenges of implementing MTSS at the secondary level, how educator beliefs impact the MTSS system, the possible structures that would support MTSS implementation, and the need for professional development to implement and sustain a MTSS framework at the secondary level. The findings of this study encourage further research into secondary MTSS systems to improve fidelity of practice and increase positive student outcomes at the secondary level.

*Keywords:* Multi-Tiered Systems of Support (MTSS), Response to Intervention (RTI), Positive Behavior Interventions and Supports (PBIS), Evidence Based Practices (EBP)

## Building Structures and Beliefs for Effective Multi-Tiered Systems of Support at the Secondary Level

### **Chapter 1: Introduction**

The world is built around systems. The solar system, various ecosystems, the digestive system, computer operating systems, and political systems just to name a few. These systems exist to accomplish a goal or task. They are made up of various parts that serve a different role within the system. If any one part of the system is removed or changed, it will impact the entire system and force the system to adjust or be rebuilt to accommodate the change. A home for example has plumbing and electrical systems which are essential to live comfortably in the modern home. In the electrical system each part serves a specific role to allow for the electricity to flow and power appliances and allows the homeowner to keep their food cold or wash and dry their clothes. Circuits allow electricity to flow to switches around the home allowing the homeowner to turn lights on in a dark room and enjoy their favorite book at night. Electricity flows to the furnace to keep the homeowner warm on a frigid day in January.

Within all these different types of systems it is important to understand “a system is never the sum of its parts, it's the product of their interaction,” as stated by American organizational theorist Russel Ackoff. Every part of a system is essential for it to function. Having all these components of an electrical system but not connecting the wires correctly will leave an open circuit and there will be no power. Everything needs to be wired together properly with each part of the system performing its unique function while also interacting with each other for the system to produce power. Even though each home is unique and there are switches in different locations and a variety of appliances which need to be powered, having a framework and



understanding for how electrical systems work allows homeowners to use it to their needs and for electricians to fix, update, or change the existing system to make improvements.

Like all these systems, schools are built around many different systems that allow the school and classrooms to run smoothly. There are individual classroom systems, schoolwide systems, and the larger systems at the district level. All these will look, and function differently based on the people in them, but they must work together for the system to function. Schools are filled with students from different races, ethnicities, socioeconomic backgrounds, disabilities, learning styles, and interests. This can make teaching all students feel like an overwhelming or impossible task when taken upon the shoulders of individual educators, especially at the secondary level where 6-10 teachers may work with an individual student in a single day as they switch from class to class. However, if schools can build a system and a clear process for identifying and addressing student needs it can help both teachers and students get the support, they need to effectively teach all students.

### **Importance of Topic**

One system that has emerged and grown in popularity amongst schools over the last 20 years is the Multi-Tiered System of Support (MTSS) which typically includes Response to Intervention (RTI) and Positive Behavior Interventions and Supports (PBIS). Following the passing of legislation like Individuals with Disabilities Education and Improvement Act (IDEIA) in 1997, which introduced PBIS and RTI, to the No Child Left Behind Act (NCLB) in 2002 which was later replaced by the Every Student Succeeds Act (ESSA) in 2015, schools were encouraged to adopt a MTSS framework as a service delivery model to support student learning regardless of race, ethnicity, disability, or learning status and to ensure evidence-based practices (EBPs) and pedagogy were at the forefront of learning (Schaffer, 2023, p. 2). Since the passing

of these federal laws, “over 25,000 schools across the United States and beyond use the multitiered framework to design, implement, and evaluate discipline systems intended to create a positive school culture and improved learning environment for all students” (Scott et al., 2019, p. 308). As schools look at data surrounding student achievement and suspension data, “researchers have linked the implementation of PBIS to reductions in office discipline referrals and suspensions for students” and “supports that MTSS related interventions can positively impact high school students’ learning outcomes. (Bohanon et al., 2021, p. 230). This research should encourage schools to implement a MTSS system, but it is also important to recognize there is “limited research and models [that] exist regarding the implementation of RTI in secondary schools” (Bouck et al., 2019, p. 20). There are many studies on how MTSS at the elementary level supports behavior and academic achievement, but the limited research around secondary schools is a huge gap that needs to be addressed to ensure students are provided the appropriate opportunities to succeed in school and educators have the support they need to implement the system with fidelity.

### **Scope of Research**

This research examines qualitative, quantitative, quasi-experimental, mixed-methods, and case studies focused on the MTSS frameworks of RTI and PBIS at the secondary level (grades 6-12). The four overarching themes explored in this research are the challenges of MTSS, the beliefs and perceptions of secondary educators and students, the systems and structures needed for MTSS implementation, and the importance of professional development. Additionally, the research discusses key insights from the studies discussed, applications for educational practice, and ideas for future studies to support MTSS at the secondary level. The research investigated how MTSS is currently being implemented at the secondary level, ways to strengthen current

practices to support educators' perceptions and understanding of the core components of MTSS, and ways to adjust current practices with evidence-based practices to improve student outcomes using a MTSS framework. While some of the studies cited included K-12 or elementary level MTSS frameworks, the research for this study focused on the impact at the secondary level alone and used information from the elementary level for comparison purposes only.

### **Research Question**

In light of what is known about differentiated instruction, what systematic structures and common beliefs need to be in place for the MTSS framework to positively impact student achievement and effectively teach and support all students at the secondary school level? This research also works to answer the University of Concordia's Differentiated Instruction program's essential question, in light of what is known about differentiated instruction, how shall professional educators effectively teach every student? Differentiated instruction is often used as a buzzword by school administrators looking for ways to boost student achievement scores, but differentiation needs to be a systemwide belief system, deeply rooted in the culture of the school.

One way a school can build a successful framework for differentiation is through the development of a MTSS system. Like the practices of differentiation, the MTSS framework utilizes screeners to assess where students are and identify students who need something different from core instruction. For the system to be effective there must be a belief that all students can learn but may need different approaches or resources to access the information. Utilizing a MTSS structure like PBIS or RTI allows for teams of teachers, administrators, and support staff like counselors and school psychologists to effectively teach all students by providing them with the appropriate interventions they need. This system becomes even more important at the secondary level as students have multiple teachers throughout their school day.

One teacher may be a master at differentiating and effectively teaching all students, but if there is not a system in place prompting staff to work together to provide the appropriate interventions and instruction there is less likelihood of student achievement and social-emotional well-being.

### **Definition of Terms**

*Multi-Tiered Systems of Support (MTSS)* is a framework through which educators provide strong core instruction (i.e., Tier 1), identify early signs of academic and behavioral risk through screening, provide scientifically based interventions of increasing intensity in response to student needs (i.e., Tiers 2 and 3), and monitor students' progress (Barrett & Newman, 2018, p. 30).

*Positive Behavior Interventions and Supports (PBIS)* is a framework or approach comprised of intervention practices and organizational systems for establishing the social culture, learning and teaching environment, and individual behavior supports needed to achieve academic and social success for all students (Bohanon et al., 2016, p. 100).

*Response to Intervention (RTI)* is the practice of providing high-quality instruction and interventions matched to student need, monitoring progress frequently to make decisions about changes in instruction or goals and applying child response data to important educational decisions (Dulaney, 2012, p. 54).

*Evidence Based Practices (EBPs)* are interventions that have demonstrated effectiveness in experimental studies resulting in improved outcomes when they are implemented as designed (Thomas et al., 2020, p. 264).

### **Summary**

In summary, Chapter 1 introduced how a Multi-Tiered System of support framework for schools can be used to support student achievement and behaviors at the secondary level. It

covered why this is an important topic of research when considering how diverse schools are and the challenges of differentiating instruction and implementing interventions to effectively teach and support all students. This chapter summarized the scope of research and its use of qualitative, quantitative, quasi-experimental, mixed-methods, and case studies to support this topic and its specific focus on secondary educators and students. It provided the research question and how it connects to the study of differentiated instruction and the essential question of how to effectively teach all students. Finally, this chapter defined key terms used throughout the next chapter when discussing the fifteen studies researched to better understand the structures and beliefs needed to support an effective MTSS framework at the secondary level. The next chapter will review each of the studies and synthesize the research into four overarching themes related to how a well-crafted MTSS framework can support efforts to effectively teach and support all students.

## **Chapter 2: Literature Review**

Over the last two decades, school reform has been at the forefront of many states, districts, and schools. There has been a movement toward using data to measure student achievement, assess a school's ability to teach all students, and demonstrate proficiency primarily in reading and math. Through legislation like IDEIA, NCLB, and ESSA many schools have opted for MTSS frameworks like PBIS and RTI to create strong school climates and increase achievement for all students. At the elementary level, the MTSS framework is focused on early intervention by using universal screeners to identify students who need more intensive instruction academically or behaviorally. It would be wonderful if all students entered middle school and high school at grade level, but that is not the reality for many secondary schools. At the secondary level the use of MTSS moves from early intervention to providing remediation or

acceleration to help students succeed in their Tier 1 general education classroom. Having systems and strategies in place which are research-based are essential for schools to identify and impact students' academic achievement and create a positive school culture.

This literature review aimed to explore a variety of qualitative, quantitative, quasi-experimental, mixed-method, and case studies focused on best practices for implementing a MTSS framework at the secondary level. The research analyzed revealed four major themes in connection to the research question, what systematic structures and common beliefs need to be in place for the MTSS framework to positively impact student achievement and effectively teach and support all students at the secondary school level? The first theme was the challenges associated with successful implementation of a MTSS system at the secondary school level. The second theme was the importance of shared beliefs and collaboration for a successful MTSS framework. The third theme was the proposed systematic structures and supports for MTSS implementation in middle and high schools. The final theme was how professional development can support various components of the MTSS system.

The first theme involved seven studies, Bartholomew and De Jong (2017), Buock et al. (2019), Ciullo et al. (2016), Freeman et al. (2016), Lesh et al. (2021), Regan et al. (2015), and Savitz et al. (2021). These studies explored the impact of MTSS frameworks like PBIS and RIT in middle or high school and some also explored teachers' and administrators' perceptions of the MTSS framework for secondary school improvement. Each of these studies found there were unique challenges associated with implementing and sustaining a MTSS framework at the secondary level, including a lack of research when compared to the elementary level.

The second theme involved five studies, Bartholomew and De Jong (2017), Dulaney (2012), Lesh et al. (2021), Regan et al. (2015), and Thomas et al. (2020). All these studies

focused on understanding the experiences of teachers and administrators when implementing a MTSS framework. Each of these studies identified the importance of shared beliefs, collaboration, and how these perceptions impacted implementation. A subtheme focused on student perceptions was created based on the work of Tyre et al. (2024) to add student voice and choice to the discussion on MTSS at the secondary level.

The third theme involved five studies Dulaney (2012), Buock et al. (2021), Regan et al. (2015), Savitz et al. (2021), and Thomas et al. (2020). These studies focused on the implementation of MTSS frameworks including both PBIS and RTI in middle and high schools. Each of these studies identified the structures and pieces of a MTSS framework that would support its implementation at the secondary level and the ingenuity driven by the practice to research gap that currently exists. Two subthemes were created with additional studies used to focus on the importance of fidelity within the system found in Scott et al. (2019), Bohanon et al. (2021), Bradshaw et al. (2021), Freeman et al. (2016), and Elrod et al. (2021) and the use of EBPs at the secondary level to support students found in Buock et al. (2021), Ciullo et al. (2016), and King and Lemons (2021). All these studies combined support the larger theme of creating a sustainable system, with the best research available to improve academic achievement and support students with behavior needs.

The fourth and final theme involved six studies Bradshaw et al. (2021), Ciullo et al. (2016), Dulaney (2012), King and Lemons (2021), Lesh et al. (2021), and Regan et al. (2015). These studies observed schools who were implementing either PBIS or RTI at the middle or high school level and studies gathered information around the perceptions of MTSS from teachers and administrators. Each of these studies found the need for further professional development to support MTSS implementation by providing teachers and administrators with the foundational

understanding and tools to implement a MTSS framework with fidelity and evidence-based practices.

### **Challenges of MTSS Implementation**

Within the American educational system there is a divide between school age groups. The elementary level which in most, but not all, systems refer to students in grades Kindergarten through 5<sup>th</sup> grade, while secondary refers to students in grades 6<sup>th</sup> through 12<sup>th</sup>, often divided between middle and high school. Each of these groups has their own unique characteristics and challenges. When it comes to MTSS, the growing body of research has shown these differences create challenges for MTSS at the secondary level. Ciullo et al. (2016) performed an observational quantitative study of three different middle schools and 15 different educators who all taught some form of tiered reading intervention. Among the educators there were six special education teachers, one reading intervention teacher, and eight general English and Language Arts teachers who volunteered to be observed for the study. Researchers used a tool called the Writing and Reading Observational Tool (WROT) to gain insight into the types of evidence-based practices (EBPs) being utilized for tiered literacy intervention. The data was separated out between the Southwest (SW) school district and Midwest (MW) school district for comparison of practices. Researchers found between both districts, the activities observed most often were oral reading fluency, decoding and phonics, and discussing language structures and figurative language (Ciullo et al., 2016, p. 53). Regarding the evidence-based practices researchers were looking for, they found both the SW and MW districts minimally used the research-based strategies of summarizing, graphic organizers, or explicit comprehension instruction (Ciullo, 2016, p. 53). The use of the PALS program in the MW site was encouraging for its use of evidence-based practices like partner reading which increased fluency opportunities and peer



mediated learning which is associated with increased academic achievement for secondary students (Ciullo, 2016, p. 54). These findings showed a wide variability of what it looked like for students receiving literacy intervention in the study. Some limitations of the study included the lack of student outcome data to see the effect of the interventions observed, the limited number of observations performed (three per teacher), and finally the need to use two different observers which may have led to variations in data collection (Ciullo, 2016, p. 54). These observations were a great starting point for research into the status of secondary MTSS implementation, but the small sample size and the lack of data linked to student outcomes made it hard to know how impactful the strategies were or were not.

Another study focused specifically on middle school was a quasi-experimental nonequivalent group study conducted by Buock et al. (2019) of a single middle school. While the previous study researched the use of EBPs in middle school interventions, Buock et al. (2019) used observations, along with pre- and post-assessment data taken at the start and end of the year to measure the effectiveness of a middle school math lab. The math lab was an additional math class being used as a Tier 2 intervention for students who were identified as needing additional support. There were two math labs taught for seventh grade students by two different teachers. In total there were 139 students, with 16 of them receiving both Tier 1 and Tier 2 support. Researchers examined the data of the pre- and post-assessments along with 10 observations of each math lab for a total of 500 observation minutes. Following the post-assessment there was very little statistical growth difference between students who received just Tier 1 and those students who received both Tier 1 and Tier 2. Researchers determined the data could be interpreted in two ways. The first interpretation was that the math lab was a beneficial intervention for struggling students as a method of double dosing instruction and helping

students to increase their scores on the post-assessment. The second interpretation was the math lab failed to close the achievement gap, with students who received only Tier 1 still scoring higher on the post-assessment than students in the math lab. One major limitation for this study was the consent response rate which caused the sample size for the whole seventh grade group and math lab to be small. With an already small amount of research at the middle level for tiered interventions, studies with small sample sizes can make it challenging to make broader generalizations and decisions about MTSS implementation.

On a much larger scale a quasi-experimental study by Freeman et al. (2021) explored how the fidelity of Schoolwide PBIS (SWPBIS) impacted academic, behavioral, and attendance outcomes at the high school level. Freeman et al. (2021) sampled 883 schools across 37 states to examine data related to academic achievement, behavior referrals, and attendance both prior to implementing SWPBIS and after implementation. The study also measured fidelity using both the Benchmarks of Quality (BoQ) and School-wide Evaluation Tool (SET) to assess the fidelity of implementation of each school in the study. After seven years of gathering data, researchers found SWPBIS fidelity was not statistically significant for academic outcomes, but SWPBIS fidelity had a statistically significant positive impact on attendance and a reduction in office discipline referrals for schools approaching fidelity and at fidelity. These findings showed the possibilities of school improvement when utilizing SWPBIS with fidelity. One limitation of this study was the missing data due to reliance on state and school reporting and schools self-reporting on fidelity. This reliance on outside data made it challenging for researchers to draw conclusions about the impact of SWPBIS on both academic achievement and student behaviors.

Another study that used a national sample size was a quantitative study by Savitz et al. (2019) which gathered data from educators across the United States to gain feedback on the

variability of RTI implementation at the secondary level. Researchers sent a survey link to the following groups: International Literacy Association (ILA), National Council for Teachers of English (NCTE), and Council for Exceptional Children (CEC). From these groups researchers were put in touch with chapter leaders to have them send out the survey to members. Of the 150 leaders contacted 33 of the 150 (22%) said they would send the survey to members, but no total number of members contacted was shared with researchers (Savitz et al., 2019, p. 24). In total 209 secondary educators who were currently teaching at least one literacy intervention were surveyed. Based on the data gathered researchers found “many of the research-based recommendations for RTI implementation are being used in practice. However, significant regional differences exist in how RTI is being implemented.” (Savitz, 2019, p. 34). Some limitations of this study included the small sample size despite being a nationwide sample, lack of questions inquiring how data was used to inform interventions or its use in special education identification, and finally the forced-choice survey may have limited the scope of RTI implementation (Savitz, 2019, p. 38). A more targeted approach to gathering data for future studies could help to increase the sample size.

Building upon gaining feedback from educators on RTI, Regan et al. (2015) completed a mixed-methods study to gain insight into the perceptions of the challenges of implementing district wide RTI. Researchers selected a smaller school district in a Northeast state which had recently begun implementing RTI and due to its smaller size, there was less variability in implementation than larger school districts. Researchers completed the study in two phases, the first was a quantitative and qualitative survey. The quantitative survey used a Likert-scale to assess feasibility and effectiveness of educational practices, perceived knowledge, and preparedness of RTI, and perceived knowledge and preparedness for tiered instruction. The

qualitative survey asked open-ended questions about the advantages/disadvantages of RTI and school change. For phase two researchers contacted ten participants (6 of those were secondary teachers) who had volunteered to share their insights through an interview. Through both phases of the study researchers found a need for systematic and consistent professional development at all levels and a profound skepticism from high school educators about the effectiveness of RTI in the high school given the social stigma and the inflexible schedule (Regan et al., 2015, p. 244). Some limitations of this study were its focus on a single district, making it challenging to generalize for a broader understanding of RTI perceptions, as well as the limited return rate of only 42.85% (Regan et al., 2015, p. 245). Completing a similar study in more school districts of varying sizes in the future would strengthen the findings and allow for further generalizations across the secondary level.

Another study focused on educator perceptions by Lesh et al. (2021) was part of a larger mixed-methods study which sought to gain insight into the perceptions of administrators and teachers from an urban school district on MTSS and RTI. Researchers surveyed over 400 staff and administrators from an urban district in the southeastern United States that had been implementing a MTSS/RTI framework for four years (Lesh et al., 2021, p. 228). Participants answered a 22 question Likert-scale survey and would later participate in focus groups to triangulate the quantitative data gathered from this study. Through this study researchers found, especially at the secondary level, special education teachers and administrators felt stronger about their beliefs, skills, and perception of RTI than their general education colleagues, school counselors, and school psychologists (Lesh et al., 2021, p. 244). They also found while the years of experience showed an increase in perception of both academic and behavior skills, it did not show an increase in their beliefs around data-based decision making. (Lesh et al., 2021, p. 244).

One limitation of this study was it only surveyed one school district, and the findings may not apply to all districts or secondary staff perceptions of MTSS/RTI. This study provided a limited perspective on staff perceptions and could be biased based on the district's history with MTSS or the district's history of introducing new initiatives.

The last study discussed in relation to the theme of the challenges of MTSS implementation was a qualitative study by Bartholomew and De Jong (2017) that focused on the barriers of the RTI framework through interviews with secondary principals. The study interviewed nine principals from around the United States who ranged in years of experience from five years to 23 years. The interview included 15 questions that explored the participants knowledge of RTI, perceptions of RTI at the high school level, barriers at each tier, and what areas of RTI are currently being implemented. Through the study researchers identified eight themes including: high school principals are lacking the proper knowledge and training, use of small groups as a common Tier 1 intervention, interventions focused on reading and math, nonexistent Tier 3 interventions, teacher attitudes as one of the primary barriers to research-based instruction, stress over finding a strong universal screener, lack of progress monitoring, and the need to use important data to increase student achievement (Bartholomew & De Jong, 2017, p. 272-274). One limitation of this study was all of the findings are self-reported, and levels of implementation were not measured. This study provided insight into MTSS from an administrative perspective and the impact and challenges these principals saw in MTSS implementation at the secondary level, but with no measurable implementation or data, it does give a limited perspective and does not offer a full picture of the larger system and its impact.

While the purpose and method of each study varied, each study discussed above specifically identified some of the challenges secondary schools face when implementing a

MTSS framework of either RTI or PBIS. One of the first challenges identified by Ciullo et al. (2016), Buock et al. (2019), and Lesh et al. (2021) was the lack of research on MTSS frameworks at the secondary level. Research shows that since 1985 only six of the 21 studies analyzing reading instruction were focused on grades 6<sup>th</sup>-12<sup>th</sup> and “overall, there is a limited literature base to guide implementation of RTI in middle school literacy classrooms, and the need for further research is extensive.” (Ciullo et al. 2016, p. 45). With less than one-third of the studies aimed at the secondary level for literacy, knowing how to address students with reading struggles could be challenging. While Buock et al. (2019) found much of the research on Tier 2 math interventions was focused on the elementary level and shared a need for more research on effective Tier 2 strategies at the secondary level for math (p. 93). These findings are essential to understanding and examining the current beliefs of secondary educators and systems of many secondary schools currently implementing a MTSS framework. Due to the lack of research many schools base their implementation and practices on research focused on the elementary level. Lesh et al. (2021) observed “with scant research and little documented success to guide secondary schools, it falls to the secondary schools themselves to devise MTSS/RTI frameworks and implementation plans that best suit their needs” (p. 226). This lack of research may also lead to some of the lack of buy-in identified in some secondary educators (Bartholomew & De Jong, 2017, p. 273).

Along with a lack of research, there were other challenges associated with secondary schools that made implementation challenging compared to the elementary level. One of the main challenges of the secondary level was the structure and size of a middle school or high school compared to an elementary school. Freeman et al. (2021) noted “the larger size of most high schools can make the coordination and implementation of school-wide initiatives, data

collection, and monitoring procedures more cumbersome” (p. 42). While Buock et al. (2019) found it was challenging to find opportunities to pull students for short intervention periods like many elementary models do because of the differences in scheduling at the secondary level (p. 90) and these scheduling conflicts made it challenging to implement consistent interventions and gather progress monitoring data to inform instruction. Even with models like the Tier 2 math lab model observed by Buock et al. (2019) there was not as much fluidity as the elementary level, where students could be moved in and out of interventions without major changes in their schedules. Another systematic challenge at the secondary level is content specialization and Freeman et al. (2021) found since many secondary teachers are focused on their content area and meeting those specific standards, it made it hard to find time for social skills or other interventions (p. 42). This could make PBIS interventions and initiatives challenging to implement without schoolwide buy-in or fidelity.

This led to another challenge observed among many of the studies, the ability to screen and progress monitor students. In elementary school a teacher is typically responsible for a single class and often takes ownership over completing the school's chosen screener and progress monitoring throughout the year. There is also often more flexibility and opportunities throughout the day to complete those assessments. At the secondary level, as stated above, the schedules are often much more rigid with students moving between classes about every 45 minutes. In the qualitative study by Bartholomew and De Jong (2017) one principal stated, “the biggest barrier would be finding a screener that all students can take that would give us the data we need to help them be successful” (p. 270). While another principal in the same study shared, “we don’t currently progress monitor and I’m not sure we could. I can’t imagine the amount of time it takes to do it and give teachers the information they need to help students be successful”

(Bartholomew & De Jong, 2017, p. 271). Both of these observations pointed to one of the larger struggles facing secondary schools, gathering data. One of the major pillars of the MTSS framework is data-driven decision making. When it is difficult to find an appropriate screener and progress monitoring tool that provides educators with the information they need, it is hard to build a system capable of meeting unknown needs. With the shift from early intervention to a more remedial approach at the secondary level, the screeners used at the elementary level may not be appropriate or helpful for gathering data at the secondary level. This is a challenge that needs to be researched further to provide secondary schools implementing a MTSS framework with the appropriate screeners and monitoring tools.

Finally, one of the biggest challenges found across several studies was the teachers' beliefs and attitudes. These beliefs may be caused by external factors like experiences with new school initiatives or by internal factors based on beliefs about themselves and their ability as an educator. As stated above many secondary teachers are focused on the content they were trained to teach, and studies have shown, "general educators often have low self-efficacy around working with students that struggle with reading" (Savitz, 2021, p. 34). This low self-efficacy may be the barrier keeping a teacher from attempting to differentiate instruction for struggling readers because they aren't sure where to begin or what EBPs would be the most beneficial for those struggling students. Another principal from Bartholomew and De Jong's study shared one of the biggest barriers to using data was negative teacher attitudes due to fears of what the data says, not knowing how to solve the issue, or having to change how they teach (Bartholomew & De Jong, 2017, p. 272). These views are not unique to secondary schools, but it is important to address how negative attitudes impact the ability to effectively teach all secondary level students.



For MTSS to be impactful there must be shared beliefs and common understanding of the system. Due to the current structures of American secondary schools focused on grouping teachers based on content area, teachers may become siloed making it challenging to develop shared beliefs. Lesh et al. (2021) stated one way to combat this challenge is for secondary administrators to provide pathways for interrelating content by dismantling current departmental and position silos (p. 246). Departmentalization is a challenge unique to the secondary level, but bringing teachers together is an essential part of creating a strong school and system that has student achievement at the center and creates a culture where students feel safe and supported.

While researchers identified several challenges related to MTSS implementation at the secondary level including the lack of research around MTSS specifically at the secondary level, finding screeners that provide useful data, having clear systems for progress monitoring, and encountering negative teacher perceptions, the research also provided suggestions for the beliefs, structures, and supports schools can build to implement a successful MTSS framework at the secondary level.

### **Shared Beliefs and Collaboration**

As mentioned above, one of the challenges of MTSS implementation at the secondary level cited by researchers was negative teacher perceptions and the silos created by departmentalization. Along with departmentalization and the focus on individual content areas the size of secondary schools can make it challenging to find opportunities to build a shared vision and create opportunities for teachers to work in teams and collaborate around student achievement or behaviors. Researchers found having shared beliefs and collaboration could help to combat some of the challenges facing MTSS implementation. One study that explored teacher perceptions was a qualitative study by Thomas et al. (2020) which used focus groups to

interview 15 consenting teachers, seven from two Southwest (SW) middle schools and eight from one Midwest (MW) middle school. All the teachers were teaching some form of Tier 2 or 3 reading intervention. Two of the teachers were Tier 3 special education teachers, one Tier 2 reading intervention teacher, and 12 were general education teachers. Researchers met with the focus groups once in the fall and once in the spring for an hour-long interview with open-ended questions. Through these focus groups researchers identified the following cross-cutting themes: teacher leadership, changing of personnel roles to build capacity, and high quality and sustained professional development (Thomas et al., 2020, p. 274-275). These themes all connected to participants' perception of the MTSS system, how it impacts student achievement, and what may impact teacher buy-in. Some limitations of this study were the limited sample size by only gathering data from 15 participants from three different schools, variation in how the questions may have been asked by multiple researchers, and finally the researchers' connections to middle school RTI may have caused subjectivity or bias (Thomas et al., 2020, p. 275-276). Using a smaller sample size makes it challenging to generalize these findings to all middle school teachers who engage in tiered interventions, but it did provide insight and the opportunity to find patterns that may apply to other schools.

Another researcher who was focused on the middle school and RTI was a qualitative case study by Dulaney (2012) who followed a middle school on its journey implementing a RTI framework. At the time of the study, the idea of utilizing RTI at the secondary level was an innovative idea and the use of the case study method has “proven particularly useful for studying educational innovations, for evaluating programs, and for informing policy” (Dulaney, 2012, p. 58). The case study method allowed the researcher to observe a school putting theory into practice. Crestview Middle School (pseudonym) was established in 2005-2006 with a student

population of around 950 students and served as the second middle school in the district. The school administrators along with the Student Success Team (SST) made the decision to move forward with RTI implementation planning during the 2007-2008 school year. Dulaney utilized field notes, focus groups, and individual interviews with administrators, teachers from the SST, and a parent from the school's community council over the course of the school year (Dulaney, 2012, p. 60). Through the study Dulaney came to four major findings: the need to build consensus and capacity among staff, allocation of resources to support RTI initiatives, systems for identifying and placing students into interventions, and finally implementation of institutional practices and the professional development needed to support implementation (Dulaney, 2012, p. 62-69). These findings showed the process from start to finish of one middle school, the challenges they faced, and how all the participants involved felt about the process. One limitation of this study was the case study model that provided observations and insights of only one school.

As stated above in the previous theme, the size and departmentalization of secondary schools was found to be one of the challenges of MTSS implementation for the middle and high schools studied. One of the impacts of this challenge was the ability to create a shared vision, provide opportunities for teachers to build their own capacity and efficacy in MTSS implementation, and time for teachers to collaborate and make data-based decisions. Dulaney stated, "many school system leaders fail to understand the critical nature of building a shared vision. School leaders underestimate the power that comes from strengthening the knowledge and dispositions of individuals responsible for facilitating practices within the system so that capacity is built and school improvement can be realized," but "school administrators at CMS recognized that they would need the combined efforts of their staff to fully implement RTI—that

RTI had to become part of the school's vision and mission, not an administrative mandate" (Dulaney, 2012, p. 63). The realization of the importance of beginning with creating this vision allowed members of the SST to remain focused on their goal as they continued working through the organization of the system. Since the SST was made up of staff members from different grade levels, various content areas, support staff, and a parent it allowed the vision to be shared across the school. In their mixed-methods study Regan et al. (2015) determined "buy-in is critical for any sustainable and high-quality implementation and one way to create buy-in is to provide practitioners with opportunities to be part of the process and provide them with professional development to build their self-efficacy when implementing interventions (p. 245). Whether a teacher is teaching a pull-out tiered intervention or creating tiered instruction within their classroom, having buy-in and being part of a larger vision could help teachers to feel more confident in trying to implement a new instructional practice.

In an interview with one secondary principal, it was stated "one barrier is having the right staff. Many teachers are resistant to research and don't buy into any changes when they have to change the way they teach" (Bartholomew & De Jong, 2017, p. 269). This statement recognized the importance of having staff buy-in to make changes to instructional practices. This may be remedied through hiring teachers who share this belief, or through providing consistent and systematic professional development that brings these staff members into the conversation. Another finding from Bartholomew and De Jong was implementation of RTI requires administrators to work with the whole teaching staff to build community and a positive school culture where all students can succeed (2017, p. 276). Building this belief with the staff creates an environment where teachers are willing to implement new teaching practices such as data-driven instruction, differentiation, cross-curricular collaboration, and teaming.

Along with a shared vision and belief in teaching all students, collaboration and working in teams was another theme found among several studies. Like involving teachers in creating a shared vision Thomas et al. found when comparing the different teachers' involvement in leadership and RTI decisions, providing teachers with opportunities to contribute to and lead the data-based decisions empowers them and can lead to improved student outcomes (2020, p. 275). This example demonstrated how collaboration and involvement in the MTSS process increased teacher buy-in. Teachers need to collaborate with their colleagues to effectively teach all students. One of the areas impacted by the silos created at the secondary level is the communication between general education teachers and special education teachers. Lesh et al. (2021) found the general education teachers often believe they are responsible for teaching their content and are not required to remediate instruction and special education teachers are frequently left out of the discussions around curriculum or how curriculum could be differentiated for all students (p. 227). Both general education teachers and special education teachers have unique perspectives and skill sets, and if there are opportunities or expectations for collaboration there could be increased student achievement. Bartholomew and De Jong (2017) found through conversations with secondary principals that successful collaboration in a systematic plan like MTSS requires collaborative teams working together to improve student achievement (p. 275).

Dulaney took this belief a step further by providing a possible framework for building collaboration through the school's student success team (SST). Team members encouraged self-awareness, shared inquiry, and promoted data-driven decision making and problem-solving methods to help ensure the academic success of all students (2012, p. 55). Creating a system where administrators, teachers, support staff, and even families work together is a key

component to the success of MTSS. This may require administrators and SSTs to be creative with scheduling and professional development to push educators out of their silos to increase collaboration and teaming practices when it comes to implementing interventions and differentiated learning.

### *Student Voice*

Researchers have shown teacher beliefs and collaboration impact the success of MTSS implementation, but few studies included student voice when it comes to MTSS implementation. One unique mixed-methods study by Tyre et al. (2024) surveyed middle and high school students to understand their preferences in relation to PBIS acknowledgements. Researchers selected three middle schools, and four high schools located in Washington and California to complete the StPBD (Student Perceptions of Behavior and Discipline) survey with 26 Likert-Scale items and additional open-ended questions (Tyre et al., 2024, p. 141). Researchers focused their analysis on the survey question, “What would help you feel valued for your hard work? Please check all that you like” to understand student preferences regarding acknowledgements as part of SWPBIS (School-wide PBIS). Researchers found of the 1,656 surveys completed over half of the students said they would like a note sent home, while only 16.1% of students wanted to be acknowledged publicly (Tyre et al., 2024, p. 143). For privileges they could earn, 52.8% of students selected earning free time or a fun activity and for a tangible acknowledgement earning a snack was the most selected choice with over half of students selecting it (Tyre et al., 2024, p. 144). These findings could be used by secondary schools when planning feasible offerings to provide students at the universal level. Some limitations of this study were the limited geographic area of California and Washington and the use of a preset menu of items for students to choose from which may have missed some common responses.

While the findings of student preferences were interesting and insightful, for this research, the use of student voice in PBIS implementation was the most striking. As stated above researchers found a major barrier to MTSS was staff buy-in. It could be argued that another barrier, especially at the secondary level as students begin to crave more autonomy, is the lack of student buy-in to PBIS and RTI interventions. The study by Tyre et al. (2024) was a great first step in showing how schools could survey students using tools like the StPBD which is a free online tool to gain insight into how students like to be acknowledged. Researchers also noted they can use surveys to act, by using the findings of student surveys to involve students and make changes. Surveys like this empower students and provide agency to make changes and increase student engagement in the school PBIS system (Tyre et al., 2024, p. 147). Collaborating with students to gain insight into their preferences and building leadership opportunities could increase student engagement and involvement in the PBIS system and potentially impact how schools' approach RTI as well. Including student voice can enrich the system and help educators to build a system centered around students.

### **Systemic Structures and Supports**

To address the challenges and build a collaborative environment with shared beliefs and vision, secondary schools must be very intentional about the systems in place for MTSS to be an effective framework to teach all students. This may be challenging because as stated by Dulaney, “the processes and procedures involved in RTI implementation at the secondary level are currently innovative,” and because so much of the research has been focused on the elementary level “there is no specific template, outline, or roadmap for secondary schools to follow as they design and carry out a process to implement RTI—only the theories and research supporting its

implementation” (2012, p. 73). Due to this gap, there are several popular structures that have emerged for providing interventions.

Some of the models for providing interventions include alternative classes, double-dosing, co-teaching, or small group intervention. In their study Buock et al. (2019) stated there is little to no research to support an alternative math class and it goes against the spirit of RTI where all students should have access to Tier 1 instruction in the least restrictive environment (p. 90). Instead, researchers found “success with double dosing in mathematics when schools use the additional mathematics class to build precursor missing skills, implement varied instructional practices (e.g., cooperative groups), and bring in pedagogical approaches that focus on open-ended questions” (Buock et al., 2019, p. 94). Alternative courses may fit the master schedule better for students struggling in reading or math, but the research and MTSS pedagogy do not support this as a best practice and encouraged schools to rethink how to provide interventions to students without removing their access to Tier 1 instruction.

When considering best practice for RTI and PBIS it may require educators to rethink business as usual while also considering how the elementary MTSS framework may need to be reimaged to better suit the secondary level. Since research is still limited around best practices for MTSS implementation some researchers have suggested using a different model for the secondary level due to challenges like the master schedule not being able to accommodate the time required by certain interventions (Regan et al., 2015, p. 242 and 245). One of the middle schools observed set aside 30 to 45 minutes for intervention each day that varied in time of day by grade level and students were placed into a specific instructional group (Regan et al., 2015, p. 242). This model allowed the school to provide structured interventions and extension for students. However, it failed to solve the fluidity required from RTI which would allow students



to move in and out of interventions and could present challenges like students feeling singled out especially as they enter adolescence.

Another consideration as Savitz et al. (2021) noted in their study was, “students who are struggling readers in the secondary grades have been struggling for years, so there is a shift from preventing learning problems to remediating ongoing learning problems with more intensive, compensatory supports (p. 19). This is a shift from the elementary model where MTSS is intended to serve as early intervention for struggling learners. So along with creative scheduling and thinking about the best practices for providing interventions that works with the teacher contracts and student schedules, it is important to keep in mind the social aspect of supporting struggling learners at the secondary level.

While scheduling presents one hurdle, group size and targeted instruction add another layer of complexity to secondary MTSS. When beginning to consider the systematic structures for a secondary MTSS framework, it is important to consider what an appropriate group size and instructional time would be for interventions. Thomas et al. (2020) found most middle school studies had intervention groups of 10-15 students but recommended smaller groups that would be able to meet more focused instruction (p. 262). Researchers acknowledged the recommendation for secondary implementation would require creative approaches to scheduling and supporting students with learning deficits who may have lost motivation but saw growth with smaller group sizes and intensifying instruction (Thomas et al., 2020, p. 262).

For any of these systems to be successful it is critical for schools to be strategic about implementing the core components of MTSS: screening, progress monitoring, data-based decisions, and using evidence-based practices. After observing Crestview Middle School (pseudonym) administrators worked with the SST to plan and implement RTI, Dulaney

identified that “critical to implementing RTI is the practice of systematically screening and assessing student performance so that necessary and appropriate interventions can be implemented based on individual student need. (2010, p. 66) and “leaders must identify available resources, both human and capital, to build and sustain the RTI infrastructure, and they must schedule the necessary time to collaborate and implement RTI processes to support this infrastructure. (Dulaney, 2012, p. 62). Any secondary school looking to either implement a MTSS framework for the first time or reassess an existing framework needs to ensure they have a clear understanding of how students will be screened, what the process will be for using the data to inform interventions in the classroom and if appropriate receive additional instruction, as well as, being very intentional about which staff are needed to begin and maintain implementation, and maybe most importantly how these initiatives will be funded. If schools want to provide tiered interventions there needs to be a clear vision, time to build capacity, and there needs to be ongoing training and resources (Savitz et al., 2017, p. 38). MTSS implementation cannot be done well without a sharp vision and the subthemes below discuss how important fidelity is to a successful system and using evidence-based practices (EBPs) to support MTSS at the secondary level.

### ***Fidelity***

As stated above for MTSS implementation and tiered instruction to be successful there needs to be a clear vision, opportunities for collaboration, and plans for screening, monitoring, and providing interventions. For implementation to positively impact students it is important for these practices to be done with fidelity, meaning the critical components of MTSS are done to a certain degree of exactness and consistency throughout the system. In a quantitative study Scott et al. (2021) examined the relationship between MTSS fidelity and student outcomes. For the

study researchers gathered data from 2013-2016 from 1,171 public schools in a southeastern state. All schools had access to state Tier 1 resources, but only the 29 schools selected had training in Tier 2 and 3 strategies with the ongoing coaching. The study had mixed results with Reading RTI showing increased math and language mechanics scores, math RTI showing increased language mechanics, and SWPBIS resulted in 30% fewer suspension incidents and 5% fewer referrals (Scott et al., 2021, p. 314). Some limitations of this study included the intervention schools were each trained separately, and the student outcomes were reported by the state. These limitations could lead to a lack of fidelity in how schools were trained in MTSS interventions and variations in how schools completed the assessments used to report student outcomes.

Another study focused on the fidelity of PBIS, school climate, and school discipline was a quantitative study by Elrod et al. (2021). The study looked at three years of data from 284 middle and high schools from a southeastern state. The data collected included school profile (school level and years of PBIS implementation), implementation fidelity score, school climate ratings, and student discipline information (Elrod et al., 2021, p. 381). The fidelity check used was the Benchmarks of Quality-Revised for School-wide Positive Behavioral Support (BoQ) which members of the school leadership team completed individually to create an overall rating score from zero to 100. Researchers found schools with previous PBIS experience and those with none prior to the study saw a decrease in referrals and an increase in school climate as fidelity of PBIS implementation increased (Elrod et al., 2021, p. 387). Researchers also found “when climate was measured in earlier years it had a positive correlation with fidelity measured in later years. This suggested climate may have a positive impact on the ability to implement PBIS with fidelity” (Elrod et al., 2021, p. 390). Some limitations of the study included researchers focus on

overall fidelity score without looking to see if the sub strands impacted findings and researchers used a one-factor scale to measure school climate when research shows it is a multi-dimensional construct (Elrod et al., 2021, p. 392). Limiting the scales helped keep the research focused but may have missed variations in fidelity which could impact school climate while also not being able to analyze the impact PBIS has on school climate among the other dimensions of school safety, school engagement, and interpersonal relationships.

Additionally, a quantitative study by Bohanon et al. (2021) focused on the role school improvement played in the implementation of secondary MTSS. Researchers mailed surveys to ten high schools and received responses from five of them. The Tiered Inventory of Effective Resources in Schools (TIERS) tool was created to measure school-improvement-by-design implementation and components of MTSS (Bohanon et al., 2021, p. 234). The survey revealed most of the schools reported having a school improvement team, the teams included administrators, teachers, and support staff. Members of the team took on specific roles related to school improvement, and there were strong correlations between a low score on the TIERS tool and a low score on the school improvement scorecard (Bohanon et al., 2021, p. 236-238). Limitations of this study were the small sample size and the broad connection between MTSS and school improvement. These limitations make it challenging to connect school improvement to the MTSS framework and generalize to secondary schools.

Finally, a quantitative study by Bradshaw et al. (2021) examined how using a MTSS framework to improve classroom management could prevent EBD (emotional behavior disorder) identifications. This study included 58 high schools from 12 different districts in Maryland as part of the MDS3 Project (Maryland Safe and Supportive Schools) which aimed to implement the full three-tiered PBIS (sometimes referred to as MTSS-B) framework with EBPs. The MDS3

School Climate Survey System was used over four years to compare 31 randomly selected schools who received ongoing training and coaching on all three tiers with the remaining 27 schools who only had access to the state provided Tier 1 resources (Bradshaw et al., 2021, p. 46-47). Researchers trained assessors to use the SET/ISSET tools to measure PBIS implementation at each of the 58 schools. The results from the study indicated “that intervention schools demonstrated improved implementation fidelity and classroom management practices over the course of the study, and initial school-wide fidelity was predictive of improved teacher practice (Bradshaw et al., 2021, p. 54). This study showed how coaching, and fidelity of school-wide MTSS-B had a positive impact on classroom management and improved teacher practice. While all schools improved on their fidelity of implementation, none of the schools met the 80% score demonstrating full fidelity. These results correlated with research stating it takes 3 to 7 years for systemic change to occur, so this study was right at the tipping point (Bradshaw et al., 2021, p. 57). One major limitation of this study was the anonymity made it difficult to identify how MTSS-B and classroom management impacted EBD students and other students with disabilities. While the study indicated positive improvements for all students, further research would be needed to specifically identify the impact on students with special needs.

Systems work best when all the parts are working together and there is consistency. The above research showed how fidelity with MTSS practices supported the overall structure and created alignment among teachers, students, administrators, and families. In their study, Freeman et al. (2016) found “implementation of SWPBIS with fidelity was associated with reductions in ODR (office discipline reports) rates and increases in attendance rates” (p. 47). This supported findings from Scott et al. (2019) which found schools who implemented SWPBIS with fidelity often see a reduction in suspensions (p. 308). For many schools who are working on school

improvement plans and using data outside of standardized testing to measure school climate and impact, reductions in suspensions and referrals and increased student attendance ideally means increased instructional minutes for students.

As Elrod et al. (2021) explained, “it is important that educators understand the interconnected relationship between fidelity, school climate, and discipline. With this insight, schools can work to strengthen all key areas of school improvement as they work to increase positive outcomes for students” (p. 393). Understanding how the system works together can help teams identify which areas may need to be addressed, and fidelity checks are one tool that would allow schools to monitor their progress. Bradshaw et al. (2021) found the schools that received additional coaching showed a greater increase in fidelity and classroom management practices, and after the initial year this was also indicative of improved teacher practice throughout the study (p. 42). Fidelity provides consistency and predictability for students and staff and helps to foster an environment where teachers feel supported in their classroom management practices. Additionally, there is evidence from both Bradshaw et al. (2021) and Scott et al. (2021) supporting the use of MTSS coaching for efficient and formative feedback on implementation fidelity.

Finally, it is important to remember that with any system it is important to test the system before for implementation. There are many moving parts to consider when implementing a MTSS framework like RTI or PBIS. Research is always evolving and too often schools are eager to jump on the latest trend. Bohanon et al. (2021) suggested “the fidelity of implementing school-wide initiatives might be enhanced if school improvement teams were encouraged not to implement practices until they had the systems in place to support their efforts” and in the study found “encouraging participants to test interventions before large-scale deployment can create

short-term wins for staff. These wins can help leadership teams scale up the initiative for the rest of the school” (p. 237). These small wins allow administrators to share evidence of successes with staff and demonstrate how it could improve their own classrooms and student outcomes. The cycle of fidelity can help schools “create safer and more supportive environments and incorporate preventative behavior management strategies, faculty and staff can more consistently implement PBIS principles” (Elrod et al., 2021, p. 393). As fidelity creates better student outcomes, teachers gain confidence in the system, and teachers increase fidelity with intervention practices, so it is important for schools to be attuned to the fidelity of a MTSS framework.

### ***Evidence Based Practices***

As secondary schools begin to implement structures and systems to make it possible to provide interventions for students, it is also important to examine the instructional practices being used for interventions. Along with data-based decision making, the use of research-based instruction is a core component of the MTSS framework. In the quantitative study by King and Lemons (2014), researchers surveyed 609 randomly selected Pennsylvania educators at both the elementary and secondary levels to gain insight into RTI practices. Researchers found elementary teachers were more familiar with RTI and had more professional development than their secondary counterparts (Lemons & King, 2014, p. 193). Researchers also found involvement of general education teachers in the RTI process were higher at the elementary level compared to secondary respondents (Lemons & King, 2014, p. 194). Some limitations were the limited geographical area and there was no corroboration between survey claims and actual practice.

As mentioned above, there is limited research on MTSS implementation at the secondary level, but that does not mean there is no research to support effective EBPs. In studies by Ciullo

et al. (2012) and Buock et al. (2019) researchers observed minimal evidence of EBPs being utilized in both reading and math interventions. Specifically, related to reading intervention the authors observed minimal use of graphic organizers or explicit vocabulary instruction despite the evidence supporting the use of these comprehension and content strategies (Ciullo et al., 2012, p. 53). These strategies are not limited to or unique to the elementary level, so the research behind their use could be carried over to the secondary level. If interventions are not using evidence-based practices, their effectiveness may be compromised. Buock et al. (2019) suggested when analyzing the impact of a Tier 2 math lab model at the middle school level that a potential cause for the lack of gap reduction may have been the lack of evidence-based practices for mathematics for intensive interventions in the Tier 2 math lab (p. 93). The use of evidence-based practices is critical to closing the instructional gap and equipping students with the tools they need to be successful in their Tier 1 courses. The lack of EBPs could be due to lack of access to curricular resources that are evidence-based and designed for secondary students and/or a lack of professional development training regarding EBPs for reading or math intervention and instruction. King and Lemons (2014) also found secondary survey respondents reported not using progress monitoring or research-based interventions for reading, along with adapting RTI implementation for content area (p. 196). This shift away from the traditional RTI model may be due to the innovations being made at the secondary level around RTI implementation without research to guide best practices.

As mentioned above there are additional challenges to screening and progress monitoring at the secondary level that could cause schools to have less fidelity with monitoring students. King and Lemons (2014) believe “secondary schools would benefit from comprehensive, evidence-based approaches to remediation and behavior management” (p. 196). Providing



secondary teachers with access to EBPs and comprehensive training on using these strategies with students would be a great step forward for MTSS implementation at the secondary level. The EBPs at the secondary level need to be focused on meeting students where they are rather than focusing on early intervention as seen at the elementary level. Without EBPs, the other systems and structures will not have the same impact or close the gaps effectively.

### **Professional Development**

Shared beliefs, collaboration, clear systems, and the use of evidence-based practices being done with fidelity are all necessary parts of successfully implementing a MTSS framework at the secondary level. However, without consistent and comprehensive professional development the system will not be sustainable. Through their research many of the researchers in the studies reviewed above identified professional development as a key component to the success of any MTSS framework. Given the gap of understanding around RTI between levels, King and Lemons (2014) reported 54% of elementary educators reported having access to professional development more frequently than secondary educators at only 31% (p.193). It is important for professional development to be provided to secondary educators to increase understanding of the core components of a MTSS framework.

There are several ways professional development could support the implementation of MTSS and improve fidelity of interventions at the secondary level. First, professional development could help by providing staff with background and foundational knowledge of a MTSS framework like RTI or PBIS. In their mixed-methods study using a survey to gather information on teacher perceptions of RTI, Regan et al. (2015) cited “educators also expressed a lack of training, guidance, and support [on RTI] that often resulted in staff feeling confused, stressed, and/or frustrated” (p. 239). If this study reflects the broader perception of educators, it

is important for schools to be strategic in how MTSS is introduced along with support and training through implementation and beyond. Teachers are the boots on the ground who are putting theory into practice, so it is important for teachers to feel confident when making data-based decisions, providing interventions, or differentiating instruction within the Tier 1 coursework. Researchers provided several suggestions for how to begin to provide professional development that would impact educators understanding and belief in utilizing a MTSS framework. One suggestion was to demystify RTI and MTSS by focusing less on the theory and more on the practice by answering the “w” questions like: “Who does it?” “What do they do—specifically?” “Where does it happen?” “When does it happen and for how long?” and “How should decisions be made within the process?” (Regan et al., 2015, p. 245). By moving away from the theoretical and focusing on the system and interventions teachers leave the training with actionable next steps. It also provides clarity for each educators' role in the system, who to reach out to with student concerns, and allows educators to begin collaborating and teaming.

Another suggestion from Bradshaw et al. (2021) in the study based on schoolwide PBIS, was to begin with coaching around in the implementation of Tier 1 and provide coaching around using data for data-based decision making, before moving the focus to Tier 2 and 3 (p. 47). Utilizing instructional coaching could benefit educators by continuing the support beyond just a one and done meeting. Focusing on Tier 1 also allows most staff to see themselves as part of the system and would allow time for universal interventions to be implemented while working towards Tier 2 and 3 interventions and how those might work within each school or system.

Finally, researchers suggested another way to introduce and sustain professional development around MTSS was to encourage universities, school districts, and educational service centers to provide sustained professional development strategies in RTI to reduce the

research to practice gap (Ciullo et al., 2016, p. 54). Utilizing outside resources like universities and educational service centers could bring fresh insights to the staff and provide them with the most up to date research and practices. Providing on-going professional development from trusted institutions would bring credibility to the initiative and allow educators to ask questions as they arise during implementation and practice.

Along with building background and supporting teachers through the implementation process, professional development focused on team building and collaboration would help to support implementation and improve teacher buy-in. Lesh et al. believed it would be important for secondary staff to participate in professional development focused on team building and collaboration before any changes were made to the system (2021, p. 246). Providing opportunities for a large and often siloed staff to get to know one another and become a team could help to build working relationships and promote continued collaboration when making data-based decisions and implementing tiered instruction or behavioral interventions. Lesh et al. also recommended using modeling by special education teachers directly in classrooms as a means of providing professional development rather than “sit and get” or train the trainer” (2021, p. 245). This method would expose general education teachers to intervention practices, while also bringing teachers together to collaborate right away. Finally, Bradshaw et al. (2021) saw the positive impact instructional coaches could have on not only supporting the use of evidence-based practices at all tiers, but also supporting and coaching through the “teaming process and use of data to inform decision making” (p. 47). Collaboration and teaming are integral parts of implementing a MTSS framework, and due to the size and structure of secondary schools compared to many elementary schools, it is important for professional development to focus on

and support collaboration between the different groups including general education teachers, special education teachers, support staff, and administrators.

Finally, as staff gain a better understanding of what MTSS is, their role within the system, and how they should work together in collaborative teams, it is essential for teachers to receive professional development on evidence-based practices and using progress monitoring to inform instruction. Ciullo et al. (2016) shared how many of the teachers implementing literacy intervention felt insufficient professional development was a factor in their lack of awareness to evidence-based practices like peer-mediated learning (p. 53). Many teachers do not have time to keep up to date on the latest research and may be using outdated strategies. Providing professional development on the most recent EBPs to all teachers, but especially those providing interventions is essential to the success of the interventions.

Since the use of EBPs is a core component of a strong MTSS system, “professional development that clarifies not only what qualifies as an evidence-based practice but also guidance as to how to implement the practice would be helpful to teachers at the classroom level” (Regan et al., 2015, p. 245). Providing training on which practices are evidence-based to all teachers provides consistency between subject areas and strengthens the interventions beyond just English, math, and intervention classes. It also allows all staff to share the responsibility for effectively teaching all students regardless of status of being a general education student, multi-language learner, or special education student.

One of the key EBPs teachers need to be trained in, given its critical role in RTI, is progress monitoring. Since many teachers at the secondary level have reported not feeling proficient at progress monitoring, secondary educators would benefit from “further research into progress monitoring at the secondary level and subsequent professional development

emphasizing the effective use of emergent progress monitoring tools (King and Lemons, 2014, p.195). Progress monitoring, along with the use of formative assessments, allows teachers to track progress and adjust instruction based on data. Finding the appropriate progress monitoring tools and training staff in how to give and analyze the data would help teams to make data-based decisions. As Dulaney (2012) stated, “teachers must be prepared through ongoing professional development to use best practices and differentiate instruction so that the majority of students can progress within the general education classroom setting” (p. 62). Without consistent and comprehensive professional development, the implementation and sustainability of MTSS at the secondary level would be challenging. Professional development when done well strengthens the beliefs and structures of the MTSS system and supports efforts to effectively teach and support all students at the secondary level.

### **Review of Proposed Problem**

In light of what is known about differentiated instruction, what systematic structures and common beliefs need to be in place for the MTSS framework to positively impact student achievement and effectively teach and support all students at the secondary school level? The above research highlighted four themes to guide implementing a MTSS framework at the secondary level. The first theme identified the challenges of MTSS implementation at the secondary level. The second theme identified the importance of shared beliefs and collaboration for building the system and promoting staff buy-in. The third theme looked specifically at the possible systemic structures for a secondary MTSS framework including evidence-based practices and fidelity within the system. The final theme explored the importance of consistent and comprehensive professional development. These four themes together identify the key areas

of importance for a MTSS framework to positively impact student achievement to effectively teach and support all students.

### **Review of Importance of Topic**

As schools continue to work on improving student outcomes, one popular framework that has emerged from legislation and research over the last 20 years is the multi-tiered system of support or MTSS. Schools all over the United States are using this framework to increase student achievement, improve the school climate, and decrease student office referrals and suspensions. Over the last 20 years most of the research on RTI and PBIS has focused on the elementary level while secondary schools are creating and innovating to make MTSS work around the secondary model. The research on secondary MTSS needs to be evaluated to build systems and beliefs designed for secondary staff and students, while also highlighting a need for more research at the secondary level.

### **Summary of Findings**

In the research studies by Bartholomew and De Jong (2017), Buock et al. (2019), Ciullo et al. (2016), Freeman et al. (2016), Lesh et al. (2021), Regan et al. (2015), and Savitz et al. (2021), the authors expressed some of the challenges of implementing a MTSS framework including: the lack of research surrounding secondary MTSS implementation, the availability of screeners and progress monitoring tools designed for secondary students, and the negative perceptions of secondary staff members on the MTSS framework. Despite these challenges, researchers agreed that based on the research that existed and by adding to the growing body of research the challenges could be overcome.

In the studies by Bartholomew and De Jong (2017), Dulaney (2012), Lesh et al. (2021), Regan et al. (2015), and Thomas et al. (2020), researchers identified the impact of shared beliefs

and collaboration when implementing and sustaining a MTSS framework. The studies researched educator perceptions and identified how the size and departmentalization of secondary schools could be barrier for collaboration, but by including teachers in the vision and promoting a collaborative culture educators could come together to impact student outcomes and increase buy-in. Additionally, a subtheme by Tyre et al. (2024) explored student voice within the PBIS framework. This study was unique and highlighted the importance of student voice at the secondary level to increase buy-in within the MTSS framework.

In the studies conducted by Dulaney (2012), Buock et al. (2021), Regan et al. (2015), Savitz et al. (2021), and Thomas et al. (2020), researchers identified the importance of including the core components of the MTSS framework at the secondary level. Researchers discussed models for intervention and how innovation is filling the research gap. One subtheme with research by Scott et al. (2019), Bohanon et al. (2021), Bradshaw et al. (2021), Freeman et al. (2016), and Elrod et al. (2021) identified the importance of fidelity when implementing MTSS and the time it takes to see evidence of the system working. The second subtheme discussed studies by Buock et al. (2021), Ciullo et al. (2016), and King and Lemons (2021) which emphasized the need for EBPs at the secondary level and the positive impact EBPs would have on the effectiveness of interventions. Through fidelity, the use of evidence-based practices, and systems built around student needs the MTSS framework can support effective instruction and practices to teach and support all students.

In the studies completed by Bradshaw et al. (2021), Ciullo et al. (2016), Dulaney (2012), King and Lemons (2021), Lesh et al. (2021), and Regan et al. (2015), researchers cited the importance of professional development to support teachers understanding of what MTSS is, their role in the system, team building and collaboration, and the use of EBPs and progress

monitoring. Studies supported consistent, comprehensive, and targeted professional development to strengthen the MTSS systems and beliefs amongst staff. Studies also supported using less traditional approaches for professional development with the goal of a more sustainable implementation and increased impact on student achievement.

## **Conclusion**

The above research explored what current research says about the use of MTSS frameworks at the secondary level. The research highlighted the challenges of secondary MTSS implementation, the impact of shared beliefs and collaboration, the necessary systems and supports for MTSS at the secondary level, and finally how to utilize professional development to support and sustain MTSS implementation. The following chapter will discuss the insights gained from research and applications for educational practice. The next chapter will also discuss suggestions for future research to close the research to practice gap that currently exists at the secondary level for MTSS.

## **Chapter 3: Discussion, Application, and Future Studies**

This chapter will discuss the insights gained from the research analyzed in the literature review on secondary MTSS systems and beliefs. This chapter will also provide suggestions for how schools could apply findings to improve current MTSS practices or considerations when introducing a MTSS framework at the middle or high school level. Finally, this chapter will discuss suggestions for future studies that would build upon the limited research available concerning secondary MTSS.

### **Insights Gained from Research**

The topic of MTSS implementation is a large and complex topic. Each individual school has its own unique needs, and each system will look and function differently. However, some



key insights can be gleaned from the research and be used to inform practice. The first key insight was the research to practice gap at the secondary level. Due to the research being primarily focused on the elementary level, there is a lack of research to support practices at the secondary level. This gap of research has caused schools to innovate and take what is known about MTSS frameworks like RTI and PBIS and adjust to fit the needs and structures of the secondary level. However, without research schools may not be using research-based strategies that would have the most impact on student outcomes. This gap in research to practice can also make it challenging to gain staff buy-in as the innovations may feel disorganized and without research to back the practice, interventions may not achieve what the school is setting out to accomplish. It is important for researchers to continue building on the current studies to provide secondary schools with more data to support the implementation of a MTSS framework.

As stated above, the research to practice gap may contribute to the negative perceptions around MTSS because teachers sense the lack of research behind the latest initiative. This leads to the next insight, the importance of a shared vision around MTSS to create a culture that supports using the framework to effectively identify needs and teach all students. A shared vision may help to overcome some of the challenges currently facing secondary schools. Utilizing teacher and student voice when building the vision provides the opportunity for all voices to be heard and will hopefully increase buy-in from those who traditionally may have challenged the system. For a MTSS framework to be effective staff must also understand what their role is, how it contributes to student outcomes, but even more importantly they need to understand why. Without this shared vision it will be difficult to implement the core components of the MTSS framework and improve student outcomes. The shared vision also provides the foundation for collaboration and provides a space for staff to take risks and try new strategies.

Finally, it is important to recognize even with more research no one size fits all. While this research sought to find answers to what structures best support MTSS at the secondary level to impact student achievement and behaviors, it is important to recognize how each system may look different based on the school's needs. Similar to educators differentiating and utilizing RTI and PBIS to adjust and effectively teach all students, each school system will have to adjust the MTSS system based on staffing, student population, funding, and other factors. While secondary schools may have similar challenges and overall features, even as more research continues to emerge around best practices no system will be just like the other. Like the electrician wiring a new home, the core components should be in place, but how the system is structured will look different from one house to another. Similarly, it is important for schools to include the core components of MTSS, share a common vision, and provide professional development, but each school and district will implement these concepts in their own way. Learning from others' successes and failures will help to strengthen understanding around best practices for MTSS at the secondary level.

### **Application for Educational Practice**

One of the first applications for educational practice is to provide professional development for general education teachers and include them in the MTSS framework. Involving general education teachers on leadership teams who are part of making decisions about MTSS implementation can provide a voice for those teachers and help build shared belief among staff. Given the impact of negative perceptions and lack of professional development on MTSS implementation, it is important to include general education teachers in the conversations and provide them with professional development to build a collaborative culture. Understanding how the system works and everyone's role within the system is essential to meeting the needs of all

students. Staff need to work together and should not rely on intervention or special education teachers to support struggling students.

Building upon including general education teachers in the MTSS process, another way to improve practice is the use of EBPs across all content areas. The foundation of the MTSS framework is a strong Tier 1 meeting the needs of 80% of students. If only 40% of students are demonstrating proficiency, that would indicate an issue with Tier 1 instruction. Training staff in EBPs that could be used across content areas would improve Tier 1 instruction and provide teachers with strategies they can use when differentiating within their classroom. Using evidence-based practices can positively impact student outcomes and create common language and familiar strategies across contents. Since secondary level students may see eight different teachers in a single day, it is important for teachers to be aligned and trained on EBPs to improve instruction across the tiers and content areas.

Finally, as mentioned above, a research to practice gap exists when it comes to secondary MTSS, and it is important for educators to advocate and push for more research focused on middle and high schools. Since much of the research comes from colleges and universities which may not be directly connected to middle and high schools, it is critical for educators to find opportunities to advocate for and invite more research to be conducted. Schools should continue to innovate and find ways to best implement MTSS frameworks based on the known research, but advocating for more research focused specifically on the secondary level will help to close the research to practice gap and provide schools with more insights into best practices and strategies for creating systems that allow for the flexibility and strategies needed to address student concerns through tiered interventions.

## **Future Studies**

Due to the low amount of research available on secondary MTSS, the possibilities for future studies are wide open. One suggestion for a future study that would support schools beginning to implement or schools looking to make changes to their current systems, would be more research into the models for providing interventions. Beginning with Tier 2 interventions, a mixed-methods study comparing the following models: pull-out interventions, a reading or math lab model, and a co-teaching model. Gathering data from both pre and post assessments along with interviewing students and staff would help gain insight into which models had the greatest impact on student achievement and growth. This would also provide schools with data to support their choices for implementing tiered interventions at the secondary level.

Another future study that would provide insight for secondary schools would be a quantitative study focused on identifying the impact of different EBPs for reading and math specifically at the secondary level. There have been studies that identified the effectiveness of different strategies, but it would be powerful for teachers to see these studies focused specifically on middle and high school students within a RTI or PBIS framework. More research supporting best practices at the secondary level may help to move the needle for teachers who are hesitant to adopt new strategies and would also provide more guidance for what interventions should focus on. With the move from early intervention to more of a remediation model, finding the right EBPs for secondary instruction is critical.

Finally, since one of the barriers identified by secondary principals and staff was the buy-in and negative perceptions of teachers, developing a study that could tie teacher collaboration or teacher collective efficacy to the impact on the effectiveness of a MTSS framework could help to change the way schools address teachers. The research above noted secondary staff tend to be

siloed, and this can impact their connection to the MTSS framework but can also limit their opportunities to collaborate. Hattie's (2018) meta-analysis ranked 252 influences and the effect size on student achievement. In this study the number one influence was collective teacher efficiency. Taking this research and applying it to the impact it has on MTSS implementation could help to guide schools in future professional development efforts and begin to look at how current structures at the secondary level may be impacting the collective teacher efficacy.

By addressing these three areas in future studies researchers could help add to the growing body of research on secondary MTSS and help to close the research to practice gap. Focusing on these areas would also guide schools in best practices for instruction and interventions while focusing on how to make improvements to the overall structures and systems at the secondary level.

## **Conclusion**

The world is built around systems. Each system is made up of individual parts that perform a unique job. If part of the system stops working the entire system will struggle to accomplish its intended goal. This could leave a house without power or plants struggling to grow. The educational system and the systems within the larger framework are bound to this same understanding of the importance of functional systems. However, if the systems built to effectively teach all students are not performing correctly it can have detrimental impacts on future generations. According to The National Assessment of Educational Progress (NAEP) in 2019 results indicated only 34% of eighth-grade students were proficient or above in reading (National Center for Education Statistics [NCES], 2019). This statistic highlights how critical a service delivery system like MTSS is for identifying, intervening, and monitoring students at the secondary level. This statistic also highlights the importance of the key insights from the

research above that all educators within the system play a role in supporting the success of the MTSS framework through strong Tier 1 instruction while also identifying students who need additional targeted and tiered instruction or support.

As district leaders, administrators, and leadership teams dive into student data and begin to identify barriers and areas for growth, it is important to remember “a system is never the sum of its parts, it's the product of their interaction,” as stated by American organizational theorist Russel Ackoff. A school can adopt a new curriculum, purchase new screening and progress monitoring tools, hire more special education and intervention staff, and claim to be “doing MTSS”, but if all the parts of the system are not interacting and working together the system will likely not have the impact on student achievement or behaviors that is possible when the system is working under a shared belief in the system and structures in place.

If schools want to ensure the MTSS framework positively impacts student achievement and supports all students, there are four areas they need to focus on to allow the system to achieve its intended goal. First, schools need to take time to develop a vision for collaboration and understanding of everyone's role within the system. Next, begin to rethink how services would best be delivered under the current secondary schedule or if it needs to be rethought and restructured based on what is known about how students learn best. Third, schools need to provide comprehensive and targeted professional development to support understanding of the core components of a MTSS framework and the evidence-based practices that should drive instruction at all three tiers. Finally, schools need to continue to reach out to universities and educational experts with their questions and areas of frustration they encounter when trying to implement and innovate a MTSS framework at the secondary level. Struggling students do not stop struggling after 5<sup>th</sup> grade, and there needs to be more research focused on the secondary

level. By seeking information and highlighting the gap hopefully it will push researchers to put more effort into exploring the unique challenges of MTSS at the secondary level and begin to provide research-based answers to those challenges.

In conclusion, even without large amounts of research secondary schools can feel empowered to use what is known about MTSS and secondary schools to impact student achievement and support all students. If schools can focus on building systems centered around collaboration, continue to innovate and be flexible with the structures and systems in place, and foster a belief that every educator has the power to impact student achievement through the core components of the MTSS framework, schools will be able to positively impact student achievement and effectively teach and support all students at the secondary school level.

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## Appendix

| <b>Articles:<br/>Author(s) name<br/>and year of<br/>publication</b> | <b>Method</b>             | <b>Theme 1:<br/>Challenges</b> | <b>Theme 2:<br/>Shared Beliefs<br/>and<br/>Collaboration</b> | <b>Theme 3:<br/>Systematic<br/>Structures and<br/>Supports</b> | <b>Theme 4:<br/>Professional<br/>Development</b> |
|---|---------------------------|--------------------------------|--|--|--|
| Bartholomew<br>and De Jong<br>(2017)                                | Qualitative               | X                              | X  |  |  |
| Bohanon, et<br>al. (2021)   | Quantitative              |                                | X  |  |  |
| Bradshaw et<br>al. (2021)   | Quantitative              |                                |  | X  | X  |
| Buock et al.<br>(2019)  | Quantitative              | X                              |  | X  | X  |
| Ciullo et al.<br>(2016)   | Quantitative              | X                              |  | X  | X  |
| Dulaney<br>(2012)   | Qualitative<br>Case Study |                                | X  | X  | X  |
| Elrod et al.<br>(2021)  | Quantitative              |                                |  | X  |  |
| Freeman et al.<br>(2016)  | Quasi-<br>Experimental    | X                              |  | X  |  |
| King and<br>Lemons<br>(2014)  | Quantitative              |                                |  | X  | X  |
| Lesh, et al.<br>(2021)  | Mixed-<br>Methods         | X                              |  | X  | X  |
| Regan et al.<br>(2015)  | Mixed-<br>Methods         | X                              | X  | X  | X  |
| Savitz et al.<br>(2021)   | Quantitative              | X                              | X  |  |  |
| Scott et al.<br>(2019)  | Quantitative              |                                |  | X  |  |
| Thomas et al.<br>(2022)   | Qualitative               |                                | X  | X  |  |
| Tyre et al.<br>(2024)   | Mixed-<br>Methods         |                                | X  |  |  |