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MTSS Implementation in High Schools: Expert and Stakeholder Perspectives

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MTSS Implementation in High Schools: Expert and Stakeholder Perspectives

by

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Dedication

To Ron Daye, the best cheerleader and supporter over the many years of my educational path and passion. To Patricia Neiva, who makes many valuable things possible. To Paula Ashcraft, my first example and mentor of how to support youth in schools. To Ellie Young and Melissa Heath for mentorship and friendship during and beyond graduate school. To Jessica Daye for her courage. To Kristofer Daye for his strength. To Abraham Daye for his sacrifice and assistance in my work. To Brittany Daye for her steadiness.

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Abstract

This dissertation addresses the perspectives of experts and school-level stakeholders on MTSS implementation in high schools. Despite evidence of MTSS implementation effectiveness in elementary and middle school settings, MTSS implementation still lags in high schools. In reviewing the literature on high school MTSS implementation, those who have worked to implement MTSS do not all do so with the same priorities and/or emphases. I collected and examined qualitative data that reflects the perspectives of experts and school-level stakeholders. Specifically, I also reviewed articles or book chapters written by some high school MTSS experts and interviewed them. I interviewed stakeholders working in high school in order to gain perspectives from individuals who are directly involved in the implementation process. I used the Generic Qualitative design in my research, and analyzed the interview data and documents by using the Inductive Analysis method. Experts and stakeholders identified essential elements that they perceived would influence high schools' abilities to implement MTSS and impact student outcomes. They specified components that relate to the high school system and the ecology of a high school that impact MTSS implementation: components like parent involvement, the community, and the high school culture. All participants shared perspectives on high school students' roles in the MTSS process, such as student support team involvement, providing ideas regarding interventions, and assistance with peer tutoring. Overall, experts and stakeholders agreed on many of the basic principles and components of high school MTSS (leadership, collaboration, professional development, alignment, data, decision rules); however, they emphasized different approaches for application to a high school setting, and displayed

varying opinions on best practices. Some of the foci included reading interventions, behavioral supports, Tier-1 foundational instruction, and graduation goals. Implications for practice may be pulled from the perspectives shared, particularly those regarding context-specific professional development, student involvement, and the urgency of providing supports in time for high school graduation.

Chapter One: Introduction

Most educators would likely agree that there is a need for improvement in school systems that support academic achievement of students. Multi-Tiered Systems of Support (MTSS)[1] is a school-wide, systems-level approach that provides schools with a framework for accomplishing this goal (Bianco, 2010; Burns, Appleton, & Sehouwer, 2005; Canter, Klotz, & Cowan, 2008; NASDSE, 2011). MTSS involves multiple tiers (typically three) of instruction and intervention matched to student need based on data (Fletcher & Vaughn, 2009). Some MTSS models emphasize the use of a problem-solving process to facilitate decision-making at each tier (Batsche, et al., 2005). Despite the different models, all MTSS approaches involve providing a continuum of services for all students that are flexibly designed to meet their individual needs (Batsche et. al., 2005).

Although many similarities exist, the literature on MTSS implementation at the elementary and secondary levels differs in several ways. MTSS in elementary schools often focuses on reading ability and identifying students that are not reaching benchmarks. Educators work to identify these students early in order to close the gap between benchmarks and current achievement before the gap widens and becomes more difficult to close (Batsche, Kavale, & Kovaleski, 2006; Gresham, VanDerHeyden, & Witt, 2005). Researchers and educators have experienced significant improvements in student outcomes as they implement MTSS with

[1] The term RtI has existed longer than MTSS and research done on RtI prior to the use of the term MTSS is usually fully applicable. In this paper, except for instances where RtI and MTSS are explicitly contrasted, they will be considered interchangeable.

fidelity at the elementary level (Burns et al., 2005; Hughes & Dexter, 2011; Sansosti, Telzrow, & Noltemeyer, 2010). Hughes & Dexter (2011) conducted a review of 16 studies on the effectiveness of RtI on student outcomes. Of these 16 studies, the majority of them were conducted in an elementary setting. The authors reported that "all of the studies examining the impact of an RtI program on academic achievement or performance resulted in some level of improvement," (p. 9) particularly for reading. Other studies and reports have indicated similar findings, with schools and districts that implemented MTSS with higher levels of fidelity obtaining greater improvement in student academic outcomes (Bianco, 2010; Burns et al., 2005; Mellard, Frey, & Woods, 2012; Reedy & Lacireno-Paquet, 2015).

Although a growing body of evidence for the effectiveness of MTSS exists at the elementary level, limited research exists on student outcome improvement in secondary settings. Research that provides evidence of improvement in student outcomes at the secondary level primarily involves case studies (Brown, Reumann-Moore, Christman, & Riffer, 2008; Duffy & Scala, 2012; Dufour, DuFour, Eaker, & Karhanek, 2010; Epler, 2015; Koselak, 2011). One likely reason for the lack of research on secondary MTSS implementation involves differences between elementary and secondary education. Many assumptions that are made for MTSS implementation in elementary school settings may not be appropriate in secondary school settings (Fuchs, Fuchs, & Compton, 2010). According to Mellard and Johnson (2008), there are three primary purposes for MTSS in elementary schools: "Screening and prevention, early intervention, and disability determination" (p. 6). However, Johnson, Smith, and Harris (2009) explain that the primary purposes of MTSS in secondary schools are (a) "to build the capacity of the school to meet the increasing demands for a diverse student population to meet rigorous standards for graduation", (b) "to ensure appropriate instruction and intervention is provided to

all students", and (c) "to provide a system that will support continuous school improvement to improve outcomes for all students" (p. 4).

A growing literature base has begun to explore differences between MTSS implementation at the elementary and secondary levels. First, the prevention and identification of Specific Learning Disability (SLD) is no longer the primary focus in secondary schools as it is in elementary school MTSS implementation (King, Lemons, & Hill, 2012). Another difference in secondary MTSS implementation when compared to elementary schools is that evidence-based interventions will look very different (Brozo, 2009; Fisher & Frey, 2011; King & Lemons 2014; Sansosti, Noltemeyeer, & Goss, 2010; Sansosti, Telzrow, & Noltemeyer, 2010). Secondary schools still have limited evidence to support interventions, and experts recommend that secondary schools use single case design research and data to support best practices (Sansosti, Noltemeyeer, & Goss 2010). Additionally, because of the complexities of secondary infrastructure and MTSS implementation purposes, a problem solving approach rather than a protocol approach to the intervention selection and implementation process is better suited for a secondary setting (Johnson et al., 2009). Another key difference noted in the literature involves data used as part of the problem-solving process. In an elementary school that is using an MTSS framework, the data source that is used to identify students that need extra supports is typically Curriculum Based Measures (e.g., AIMSweb, DIBELS). However, these type of data are not really suitable for the purposes of MTSS in middle school and high school. In high school, students all share the common goal of graduation, and so data collected from Early Warning Systems (EWS) is a better match to the purposes of MTSS in middle schools and high schools (Johnson et al., 2009; Koselak, 2011).

In addition to differences between elementary and secondary MTSS, the literature includes information on barriers to implementation at the secondary level. Barriers to secondary MTSS implementation that were identified by King et al. (2012) include the lack of research currently conducted in this area, the way that secondary schools are structured (e.g., scheduling), and the culture of the secondary setting. Sansosti, Telzrow, and Noltemeyer (2010) described many barriers that are specific to high schools and placed these barriers into five categories: (1) systems characteristics, (2) systems structures, (3) evidence-based practices, (4) professional development needs, and (5) some overall concerns expressed by the authors. Systems characteristics that are identified as barriers are related to the departmentalization of content areas among the staff, differences and complexity in student needs compared to their elementary-aged counterparts, teachers that are accustomed to expecting independence from their students, the approach being seen as a low priority for most administrators, and the high demands of secondary school psychologists (making it difficult for them to devote adequate time toward implementation). Barriers related to systems structures also included the lack of inclusion of school psychologists on the MTSS implementation team (despite school psychologists' training and expertise in the area), incomplete implementation of the problem-solving process; and other items such as scheduling, credit accumulation needs, and lack of availability of teachers. Additionally, Sansosti, Telzrow, and Noltemeyer (2010) point out that in regards to evidence-based practices, high school educators are not particularly clear on which interventions to use and progress monitoring is very different in a high school setting when compared to an elementary school setting; yet practitioners are still trying to use the same methods as what are used in elementary schools. Finally, the authors explain that most secondary educators are not

very familiar with MTSS and are not receiving sufficient professional development to support these deficits.

Despite barriers to MTSS implementation in high schools, emerging research indicates possibilities in overcoming these barriers. One approach that helps in overcoming barriers according to researchers includes the idea of initially using existing interventions within a school and realigning the infrastructures to fit the MTSS framework (Canter et al., 2008). The authors indicate that such an approach can result in a more gradual and palatable change process rather than engaging a complete overhaul of an MTSS approach. Other possibilities in overcoming barriers include methods for providing interventions despite the demands of high school scheduling issues. Some schools provide school-wide instruction on study skills, classroom accommodations, differentiated instruction, and school-wide interventions. These school-wide interventions include a literacy lab that can be taken in place of an elective (Johnson & Smith, 2008) and English or math classes targeted for ninth grade at-risk students (Windram, Scierka, & Silbergilitt, 2007). Additionally, with most secondary teachers currently knowing much less about MTSS than their elementary counterparts, some schools and districts provide targeted professional development to address the knowledge and skill gaps in their educators (King & Lemons, 2014). As Kosalek (2011), points out "…the future of RtI is much brighter for high schools embarking on the journey today compared to those that dabbled with this reform five to ten years ago. Response to Intervention is naturally suited to dove tail into existing and emerging reform movements" (p. 149).

Rationale for the Study

Despite the evidence for MTSS, the problems with moving forward with MTSS implementation in high schools are two-fold: (1) There is limited research specifically devoted to

MTSS implementation in high schools, and (2) there are relatively few examples of successful high school MTSS implementation. Research on high school implementation and models of successful implementation are needed. In order to move forward in MTSS implementation in secondary settings, researchers should seek out educators' perspectives (Regan, Berkeley, Hughes, & Brady, 2015; Sarason, 1996; Wilcox, Murakami-Ramalho, & Urick, 2013). Given that implementation of MTSS in high schools is still at the emergent stage, it would be helpful to hear from stakeholders about their perspectives on MTSS and the implementation process in order to provide information that can inform the systems change in high schools (King et al., 2012). Schools differ in their priorities, resources, organization, and in their student needs, among other variables (Koselak, 2011). Thus, rather than relying solely on implementing highly controlled studies using methods that may not be educationally or contextually relevant for schools, researchers need to partner with educators to see what districts and schools are doing and how they are conceptualizing the implementation of MTSS in a secondary setting in order to provide meaningful research that guides practice.

In addition to school-level stakeholders' perspectives on MTSS in high schools, it is important to understand researchers' (experts) perspectives. There is not only a need for more research on MTSS implementation in high schools, but there is also a need to bridge the gap between researcher and practitioner in order to increase high school MTSS implementation (King, Lemons, & Hill, 2012). King et al. (2012, p. 17) state that "in the problem-solving framework of Secondary RtI, it is essential that researchers have a high level of input from, access to, and collaboration with real-world practitioners." The idea being that both technical expertise, and the perspectives of secondary educators are needed to facilitate successful implementation. However, one assumption underlying this notion of researchers and

practitioners collaborating to research and implement MTSS in high schools is that they have similar concepts of and goals for implementation of the model. Currently, it is unclear how similarly researchers and practitioners conceptualize MTSS implementation in high schools.

Purpose of the Study

The overarching purpose of this study was to understand how experts and stakeholders conceptualize MTSS implementation in high schools. According to the literature, not all experts and stakeholders are approaching secondary MTSS implementation in the same way. Because of the dominant objective of improvement in reading and language arts that exists in elementary school MTSS implementation, some stakeholders and experts carry over this same focus in secondary school MTSS implementation (Brozo, 2009; Ciullo, Lembki, Carlisle, Thomas, Goodwin, & Judd, 2016; Fagella-Luby & Wardwell, 2011; Johnson et al., 2009; Prewett, Mellard, Deshler, Allen, Alexander, & Stern, 2012; Vaughn et al., 2010; Windram et al., 2007). Some focus on math remediation when implementing MTSS in secondary settings (Johnson & Smith, 2008; Prewett et al., 2012; Windram et al., 2007). One study found that "all middle school administrators stated [the] purpose for RtI was to close achievement gaps by providing remediation for students struggling with reading and mathematics basics" (Prewett et al., 2012, p. 139). Some experts disagree on the relevance and use of problem-solving approaches or protocol approaches in secondary settings (Johnson & Smith, 2008; King et al., 2012). Given these different approaches, my goal was to engage in a more in-depth exploration of the perspectives of both experts and stakeholders on MTSS implementation in a high school in order to better understand (a) how secondary MTSS implementation is being conceptualized, (b) similarities and differences between the perspectives of experts and stakeholders, and (c) what guidance and supports stakeholders report being available.

Research Questions

The following questions were explored in the proposed study:

1. How do experts and school-level stakeholders define MTSS?
2. What do experts and school-level stakeholders view as the focus and goals of high school MTSS when compared with elementary or middle school implementation?
3. How do experts and school-level stakeholders describe a highly functioning MTSS high school?
4. What is the level of support stakeholders receive from their district regarding an MTSS model and implementation?

When analyzing MTSS implementation in a high school it is important to understand the relationship between school level implementation fidelity and district level supports that are in place. Research indicates that the level of district leadership, training supports, accountability, and resource availability create a significant difference for schools that are trying to implement MTSS (Freeman, Miller, & Newcomer, 2015; NASDSE [District Level], 2008; O'Connor & Freeman, 2012). School districts' commitment to MTSS creates conditions that can help facilitate (e.g., policy that creates expectations and supports for MTSS implementation, professional learning focused on MTSS, resources allocated consistent with data-based needs) or hinder (e.g., inconsistent policies, lack of professional learning opportunities, insufficient resources allocated) school-level implementation. For this reason, including a question about perspectives of district support in my research questions provides meaningful context for the data that are provided by the stakeholders.

Definition of Terms

Multi-Tiered Systems of Support (MTSS). A Multi-Tiered System of Supports is a term used to describe an evidence-based model that uses data-based problem-solving to integrate academic and behavioral instruction and intervention. The integrated instruction and intervention is delivered to students in varying intensities (multiple tiers) based on student need. Different multi-tiered models for academics and behavior exist in the literature; however, in this paper, I will be using the term MTSS as is stated by Samuels (2016, p. s9), MTSS is "used as an umbrella term that encompasses both response to intervention and positive behavioral interventions and supports." She states "schools implementing MTSS are usually trying to tackle both behavioral and academic concerns at the same time, recognizing that they often go hand in hand." In other words, MTSS in this study will focus on multi-tiered assessment, instruction and intervention for academics and behavior.

High School MTSS Experts. I use this term to include persons who have a comprehensive knowledge of or skill in high school MTSS implementation, and/or persons who carry out academic and scientific research in the area of high school MTSS implementation.

High School MTSS Stakeholders. I use this term to mean persons with a shared or vested interest in the high school organization and that are actively engaged in MTSS implementation in their high school. This team of stakeholders included at least one administrator, a counselor, the school psychologist, achievement or systems coaches, a special education staff representative, and one general education teacher representative. The high school implementation team and I collaborated to identify who their MTSS stakeholders were for the purpose of this study.

Chapter Two: Literature Review

This literature review begins with an overview of the current academic, behavioral, and social-emotional state of secondary students in the United States, followed by a discussion of how MTSS can address many of the needs of high school students in particular. Next, I will provide a summary of research on MTSS and a more detailed review of research on MTSS in secondary settings. Then I will provide a synthesis of some of the literature on systems change and how it pertains to MTSS in high schools. Finally, this review will conclude with literature that supports the need to learn from the perspectives of both experts and stakeholders regarding the implementation of MTSS in high schools.

Current Outcomes for High School Students

High school student success in the United States is sometimes difficult to define. Deciding on what data to use in order to measure success and attempting to analyze the differing methods that states, districts and schools use to report high school data can sometimes be like hitting a moving target (National Research Council and National Academy of Education, 2011). However, there are reports on the current state of high school student outcomes on which most researchers agree. According to a special report from the 2017 Building a Grad Nation Report released on May 3, 2017, the national graduation rate is at 84.1 percent, reported to be at an all-time high. This same report also explains that in order to reach a graduation rate of 90% by 2020, high schools throughout the United States will need to double their current rate of growth. Despite increasing graduation rates and overall Grade Point Averages (GPA) for high school students in the United States, there are other high school student statistics that remain a concern,

and raise questions regarding the use of graduation rates and GPAs in determining high school student success (Chingos & Blagg, 2016; National Research Council and National Academy of Education, 2011: Toppo, 2017).

According to Hurwitz and Lee (2018), nearly half of the graduating class of 2016 was all A students. Yet of those students, the average Scholastic Aptitude Test (SAT) score fell from 1026 to 1002 out of 1600 points possible (Toppo, 2017). Additionally, in looking at the results of the Programme for International Student Assessment (PISA) most recently administered in 2015, the United States was in 38th place out of 71 countries (Desilver, 2017). How college and career ready are high school students that graduate with dropping SAT scores and with mid-range PISA scores in comparison to students from other countries? Although graduation rates clearly are increasing in a positive direction, a need still exists to address the effectiveness of academic instruction. Chingos & Blagg (2016) succinctly stated that "All of the available data provide a wake-up call for researchers and policymakers to renew their commitment to these students and ensure that the academic gains that elementary and middle schools have produced are not squandered."

Another concern for high school students today is the state of their mental health, which can impact their academic success. In our efforts to assist the youth of today to succeed, we must acknowledge and understand the complexity of developing individuals. "Youth develop as an integrated whole with behavioral, biophysical, cognitive, psychological, and sociological variables operating together to contribute to individual functioning" (Maggin, Wehby, Farmer, and Brooks, 2016, p. 1). The current mental health concerns among high school adolescents range from serious diagnoses that are a threat to their personal safety to milder diagnoses that may not be as severe, but can still significantly interfere with their academic performance.

"Studies suggest that more than 30% of youth experience a diagnostic and statistical manual of mental disorders (DSM) level difficulty during childhood or adolescence" (Maggin et al., 2016, p. 1). The American Psychological Association report of 2017 state that "Teen suicide is a growing health concern. It is the second-leading cause of death for young people ages 15 to 24, surpassed only by accidents" (p. 1). A recent study reported that there has been an increase in major depressive episodes (MDEs) among adolescents as well. In 2005, 8.7% of the adolescent population was reported to be experiencing MDEs within that year, and in 2014 there was a climb to 11.3% of the adolescent population (Mojtabai, Offson, & Han, 2018).

In comparison, Attention-Deficit/Hyperactivity Disorder (ADHD), though a relatively mild diagnosis may still have a significant impact on academic performance for high school students. ADHD is a disorder that is an impairment of the executive functioning portion of the brain in the frontal lobe and causes struggles with the organization of time, tasks, and materials (Guare, Dawson, & Guare, 2013). This particular population of high school students is often unable to make sufficient academic progress without some supports within the school. Of youth ages twelve to seventeen, 11.8% have been diagnosed with ADHD (Pastor, 2015). Barkley (2013, p. 94-95), an authority on ADHD, provides the following statistics:

- 21% of teens with ADHD skip school repeatedly
- 35% of teens with ADHD eventually drop out of school
- 45% of teens with ADHD have been suspended
- 30% of teens with ADHD have failed or had to repeat a year of school
- Of special needs students who report bullying, the majority of those who are victimized are students diagnosed with mild Autism Spectrum Disorder and students with ADHD.

- Youth with ADHD are more likely to bully others

MTSS as a Model for Addressing Student Needs

Sometimes, in an effort to support students, educators direct their attention to internal student qualities such as intelligence, achievement, motivation, skills, behavior, and social/emotional factors. However, in doing so there are other neglected ecological aspects of education that also impact their progress: instructional methods, personalities and relationships with teachers and peers, family dynamics, and classroom settings, to name a few (Mash & Barkley, 2003; Peirson et al., 2011; Ysseldyke, Burns, Scholin, & Parker, 2010). Developmentally speaking, Mash & Barkley (2003), emphasized the importance of context and the influence of multiple and interacting events and processes in shaping child and adolescent development. For the student, both the home and the school environment can have an influence on a student's learning and behavior (Conroy, Sutherland, Haydon, Stormont, & Harmon, 2008).

Given the numerous internal and external variables that impact the outcomes of children and youth, the traditional model for providing students with supports in the school system has been found to be insufficient (Burns, Jimerson, VanDerheyden, & Deno, 2016). Prior to the use of an MTSS model, students were identified for needing academic assistance usually because they failed in some academic area. Then, they were referred to members of a multi-disciplinary team to determine whether they were eligible for a particular special education classification. Once a student was identified with a disability, the student could then receive special education services designed to address their internal deficits. Although well intended, studies of special education have demonstrated that this model was ineffective for many students with disabilities and that it did little to facilitate intervention for students when difficulties were first observed in the general education environment (Donovan & Cross, 2002).

MTSS, however, addresses the ecological influences on the student in order to provide the supports necessary for academic, behavioral, and social-emotional success. Through collaborative data-based decision-making that informs instruction and intervention, educators can provide support that matches student needs in order to help the student progress. Rather than waiting for weaknesses to present themselves through academic failure or behavioral difficulties, an MTSS systemic approach uses routine school wide data analysis and problem-solving in order to identify students that are in need of assistance (Duffy, 2007; Hughes & Dexter, 2011; Prewett et al., 2012). Instructional, curricular, environmental, and learning factors are examined to determine reasons why students are struggling, and to identify interventions that remove barriers to success (Tilly, 2006). Furthermore, in a school using MTSS with fidelity, students are regularly monitored for progress following the implementation of interventions in order to ensure the effectiveness of instruction and intervention for all students. What follows is a more in-depth review of traditional approaches to serving students who are at-risk for school failure followed by more specific information on the origins of MTSS and the critical elements of the model.

Traditional Service Delivery

In 1975, the *Education for All Handicapped Children Act (Public Law 94-142*) was passed, which meant that public schools could not exclude students with disabilities, and SLD was included as a classification for special education services. This law took effect in 1977 and ensured a free and appropriate public education (FAPE), and that students with disabilities would be provided services in the Least Restrictive Environment (LRE). The U.S. Department of Education determined that an SLD classification would require a discrepancy between a student's I.Q. and their achievement score. States were then left to individually define how

much of a discrepancy would be required for a student to receive special education services under the classification of SLD.

Not all educators have agreed on the usefulness of the discrepancy model as a method for identifying SLD. For example, with the use of the discrepancy model, many students labeled with SLD went unidentified until later in elementary school. It stands to reason that the earlier SLD is identified, the greater the chance of helping a student to catch up to peers' reading abilities. By identifying SLD in later grades such as third, fourth, or fifth grade, the achievement gap between a student's reading level and targeted reading level grows wider each year, making it increasingly difficult to close the gap (Batsche et al., 2006; Fletcher, Coulter, Reschly, & Vaughn, 2004; Fuchs et al., 2003). In fact, by 2003 there had been a 200% increase in the referral and identification of SLD since 1977 (Vaughn & Fuchs, 2003). A report from the National Center for Learning Disabilities (2014) stated that secondary students with learning disabilities receive significantly lower scores on math and reading assessments compared to the general population. Additionally, these students received lower academic scores, lower grades, and higher course failure. One-third of students with learning disabilities have been held back at least one grade in school. This report further stated that one in two students with learning disabilities face school disciplinary actions that lead to suspensions or expulsions.

Concerns regarding the rise in referrals and poor outcomes for students receiving special education services spurred investigations of alternative approaches in meeting the needs of students at-risk for or identified with disabilities. Moreover, concerns existed regarding the validity of the discrepancy model. A rarely mentioned fact regarding the discrepancy method for SLD identification is that Samuel Kirk, who is credited with developing the discrepancy model, was not completely satisfied with this process of diagnosis and saw it as "arbitrary and perhaps

not valid" (Vaughn & Fuchs, 2006, p. 58).

In addition to voicing concerns regarding the validity of the approach, researchers suggested that the model delays services to students: before students' learning deficits are identified, the students must be far enough behind to have a significant discrepancy between their intelligence and achievement scores (Fuchs & Fuchs, 2007; Vaughn & Fuchs, 2003). This process of recognizing low achievement in students and referring them for special education testing typically occurs during the fifth grade (Fuchs & Fuchs, 2007, p. 14). The assessment process for determining if there is a significant discrepancy between the students' cognitive ability scores and their academic achievement scores is intense and time-consuming. For these reasons, the traditional approach is often called the "wait-to-fail" model (Batsche et al., 2006; Fuchs & Fuchs, 2007; Vaughn & Fuchs, 2006). If students qualify for special education services, they are classified with a SLD classification and offered special education services in their schools. For students who do not qualify, no special education services are offered, even to students that struggle academically (Batsche et al., 2006; Fletcher et al., 2004; Fuchs et al., 2003). This is especially problematic for secondary students because more time has passed for their achievement gap to grow significantly wider. Additionally, the timeline for high school graduation is now drawing closer and the need for appropriate interventions is now urgent.

MTSS Origins

Given growing concerns about the traditional model of identifying and servicing students at-risk for school failure, The President's Commission on Excellence in Special Education (PCESE) was established. The PCESE was established to summarize the state of special education services and to provide recommendations for improvement. The findings of the President's Commission on Excellence in Special Education provided a basis for three major

recommendations: 1) focus on the student outcomes rather than on the process, litigation, and confrontation; 2) create a system that identifies early and quickly intervenes and that uses evidenced-based instruction and teaching methods; and 3) general education and special education systems should work together and with flexibility of educational funds (USOE, 2002). In other words, eligibility and separate services should no longer be the focus, but rather an integrated system that focuses on improving instruction and intervention for all students was needed to improve the outcomes of students with disabilities as well as students without disabilities.

In response to the PCESE, the 2004 reauthorization of the Individuals with Disabilities in Education Act (IDEA) established that a student's response to scientifically based instruction and intervention could be used to determine eligibility for special education under the category of SLD. For the first time, local education agencies (LEAs) could choose to utilize a process in which students at-risk for being identified with a SLD are provided with evidence-based intervention and their progress is monitored for response to intervention (RtI). This new method for identifying SLD and providing services for students was an important transition for helping all students. Students no longer had to qualify for special education services in order to receive interventions and improve student outcomes. The reauthorization of IDEA reinforced the need for schools and districts to serve any student in need of extra assistance and at different levels depending on the individual need of each student.

RtI has been defined as: "the practice of 1) providing high quality instruction and interventions that match students' needs and 2) using students' learning rate over time and level of performance to make important educational decisions" (p. 14). (Buffum et al., 2009). As of March 2012, there were 14 states that mandated RtI for identification of SLD, but

with differing levels of requirements. Eight states required only the RtI model be used in SLD identification and intervention. Three states also required the RtI model, but with an option to test (e.g., cognitive and achievement assessments) when the struggles are severe. Finally, three states mandated RtI as a blended approach with the discrepancy model. The remaining states at that time permitted districts to make their own decisions regarding RtI approaches (Zirkel, 2012). Additionally, from a state website review that I conducted, as of April 2017, all but two of the state education departments had either a website, handbook, or PowerPoint presentation as a resource on RtI for each state. One of the states that did not have readily available any RtI resources had an RtI website that was down for maintenance. I was unable to locate a website or handbook for the one remaining state at the time of my review. Therefore, whether mandated or not, there is some level of support for RtI in nearly every state.

Despite the focus on individual student eligibility for special education services in federal and state policy, RtI quickly came to be viewed as a three-tiered approach of instruction and intervention services informed by a data-driven problem-solving process for all students (Batsche et al., 2005, Fletcher & Vaughn, 2009). Students' response to instruction and intervention determines the intensity, or tier of interventions provided (Gresham, 2007). Thus, although RtI was initially defined in IDEA as a way to identify students who may be eligible for special education, it is now typically viewed as a way to deliver a continuum of instruction and interventions to all students based on level of need determined by data.

In addition to multi-tiered approaches to addressing academic issues, systems approaches for behavioral interventions have also been developing over the last few decades. Concerns regarding student behavior management and methods for addressing the emotional needs of children drew the attention of some early researchers in the field of student behavior. These

researchers recognized a need to not only address individual needs of students, but to also improve systemic identification, implementation, and documentation of behavioral disorders (Sugai & Horner, 1999; Walker et al., 1996).

Recognizing a need to address student behavior, the reauthorization of the Individuals with Disabilities Act of 1997 included requirements for functional behavior assessments and interventions to be provided to students as part of the eligibility requirements for the Behavior Disorder (BD) category. In response to this requirement, the Office of Special Education Programs provided a grant to develop a Positive Behavioral Interventions and Supports (PBIS) Technical Assistance Center that could offer technical assistance to schools on evidence-based interventions to support students with BDs. The original center was a partnership of researchers and implementers from Universities of Oregon, Kansas, Kentucky, Missouri, and South Florida (Sugai & Simonsen, 2012). Over time, and in response to the need for a systems approach to address the needs of all students, the PBIS center shifted their focus from evidence-based behavioral interventions for students with BD to a school-wide behavior framework for all students and with different levels of intensity. PBIS scholars evolved in their description of PBIS to include multiple tiers of support for behavior informed by evidence-based practices and data-based decision making, similar to RtI (Sugai & Horner, 2009).

Although RtI and PBIS developed separately, researchers began to describe multi-tiered models as one MTSS (Erchul & Ward, 2016; Sugai & Horner, 2009). With both academic and behavioral interventions evolving toward a systems approach, both types of experts saw an opportunity to look at their systems in a similar fashion. Some states created a representative pyramid diagram with a line down the middle to represent academic supports on one side and behavioral supports on the other side (See Figure 1). The problem-solving process can help

practitioners to recognize and define what students need and to develop instruction and intervention plans to address those needs. In other words, both academic and behavior data sources can be used to inform an integrated approach to providing multi-tiered instruction and intervention through problem-solving (Coolong-Chaffin & McComas, 2016; Erchul & Ward, 2016; Mitchell, Bruhn, & Lewis, 2016).

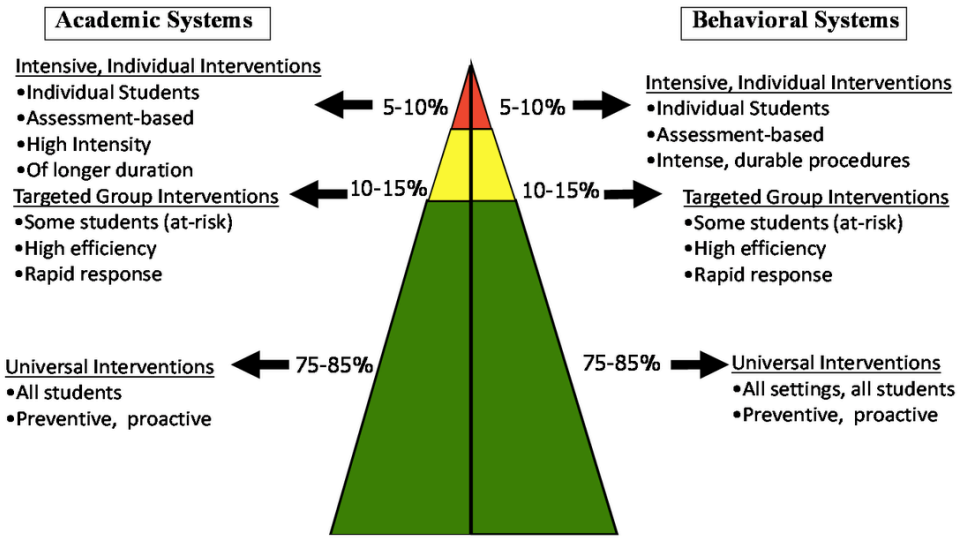

Figure 1. RtI and PBIS Pyramid

MTSS Described

MTSS is a systems approach to education that is intended to help all students. The service delivery model of MTSS provides interventions for students at varying intensities (multiple tiers) based on student need. Barnes and Harlacher (2008) identified the five unchanging principles of RtI that also apply to recent conceptualizations of MTSS. These principles include (a) a proactive and preventative approach to education, (b) ensuring an instructional match between student skills, curriculum, and instruction, (c) a problem-solving orientation with data-based decision making, (d) the use of effective practices, and (e) a systems

level approach. Howell, Patton, and Deiotte (2008) provided eight core principles to RtI, which include: (a) belief that all children can be effectively taught, (b) early interventions for struggling learners, (c) a multi-tier service delivery model, (d) a problem-solving method to make decisions in a team setting, (e) research-based instruction and interventions that are also scientifically validated, (f) monitoring student progress in order to inform instruction, (g) the use of data to make decisions, and (h) the use of assessments for three different purposes (screening, diagnostics, and progress monitoring).

One central attribute of the MTSS model is that it is a model of service-delivery that is self-correcting (Tilly, 2006). Because of the ongoing collection of data at the Tier-1 level and the ongoing progress monitoring that takes place for students that are receiving interventions, educators can determine the success or failure of each part of the system and then use the problem-solving model to address and resolve the issue(s). In defining MTSS, Jimerson, Burns, and VanDerHeyden (2016) stated that MTSS is "an integrated streamlined system of supports, which encompasses all of the critical components of RtI and PBIS" (p.74). Stoiber and Gettinger (2016) further explained that MTSS emphasizes "the importance of optimizing system-level and organization support through a combined focus on academic and social-behavioral performance indicators" (p. 123). Each state with an MTSS initiative provides their own specific definition of MTSS, however, most states include the following essential components in their definitions: shared leadership; data-based problem solving and decision making; tiered continuum of supports with different levels of intensity; evidence-based instruction, intervention, and assessments; universal screening and progress monitoring; and statements that the model is intended to help all students. There is also agreement among most states that MTSS includes the alignment of system-wide initiatives, supports, and resources (e.g., RtI and PBIS systems).

Despite the slight differences in principles described and components of the model, most models coalesce around multiple tiers of instruction and intervention, assessment that informs instruction and intervention, and data-based problem-solving to make decisions. The tiers of instruction and intervention are typically divided into three tiers that increase with intensity at each level (see Figure 2). Tier-1 includes all students (approximately 85%), Tier-2 includes some students (approximately 10%), and Tier-3 includes few students with the most intensive needs (approximately 5%). If a student is not making adequate progress at Tier-1, they are provided interventions at tier-2. If the student is still not making adequate progress, they will have a third more intense level of interventions added to the interventions they are already receiving (Batsche et al., 2005).

In order to determine the level of instruction and intervention needed, data are used. At Tier-1, universal screeners are used to provide quick information to determine which students may be in need of interventions at Tier-2. They also can provide an indication of whether Tier-1 instruction is effective for the majority of students. At Tier-2, practitioners use progress monitoring measures to compare student progress to expected progress in order to determine whether to continue supports at Tier-2, add extra supports at Tier-3, or return a student to Tier-1 classroom instruction without added interventions. Progress monitoring also occurs at the Tier-3 level. The frequency of progress monitoring increases, as students require more intensive interventions (Fuchs & Fuchs, 2007).

When practitioners review the data in order to make these decisions regarding levels of intervention, they use a problem-solving process (see Figure 3). The ratios of students at the various tiers are an indication of the how well the MTSS systems model is working in a school. For example, if 50% of the students in a school are not making adequate progress, then the

problem-solving process is used in order to resolve instructional issues and supports in the classroom for all students. In other words, the problem-solving process is used in order to determine which students are in need of services, the level of intensity and type of services the student(s) need, and to determine how long the student(s) will be provided the services. It is a data-driven decision-making framework based on the scientific method and composed of the following four major steps or stages (Batsche et al., 2005):

1) *Define* the goal or problem in objective and measurable terms (Problem/Goal Identification).
2) *Identify* reasons why the desired goal is not being attained (Problem Analysis).
3) *Develop and implement* a well-supported plan involving evidence-based strategies (Intervention Development and Implementation).
4) *Evaluate* the effectiveness of the plan in relation to stated goals after the plan has been carried out (Program Evaluation/RtI).

To observe the problem-solving process in action, one would note that it is more than just a step-by-step process. The problem-solving process becomes a way of thinking, behaving, and conceptualizing throughout the school/district that is functioning as an MTSS system.

Elementary-Focused MTSS Research

There have been a number of studies focused at the elementary level. For the purpose of this literature review, I will focus on research reviews and meta-analyses of RtI and PBIS as the evolution of MTSS is a recent phenomenon. Specifically, I will discuss research reviews and meta-analyses primarily regarding research at the elementary level.

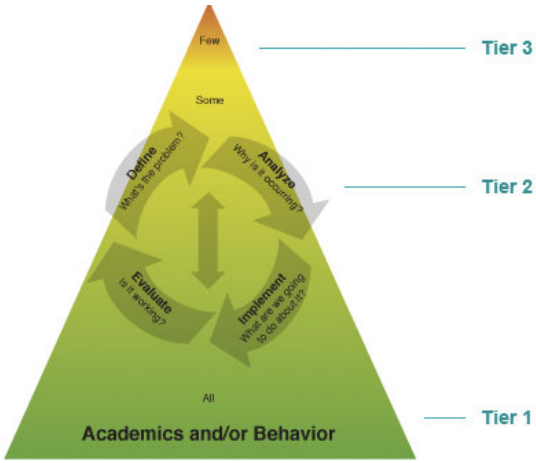

Figure 2. MTSS Three-Tiered Framework

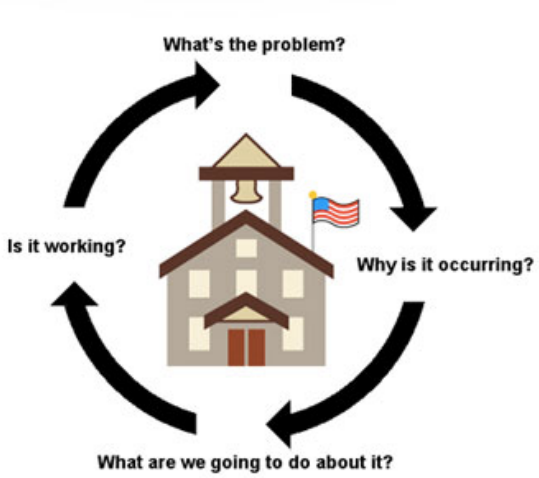

Figure 3. The Problem-Solving Process

Hughes and Dexter (2011) conducted a research-based summary on RtI. The authors reviewed literature in order to describe major agreed upon components of RtI best practices and to investigate their effectiveness. The authors used 13 published field studies of RtI in their summary. All of the 13 studies were conducted at the elementary school level. Despite four of

the studies including through grades eight and above, the investigation into the results of RtI did not include any of the data from the middle schools or high schools (p. 9). The summary identified four major components of RtI in the field studies reviewed (p. 5):

a) Scientifically-based core curriculum

b) Universal screening

c) Progress Monitoring

d) Decisions about adequate progress in subsequent tiers

According to the authors, the scientifically based core curriculum in the schools studies related primarily to the five components of effective reading, which was provided by the National Reading Panel (NRP, 2000) report (Grades K-3): phonemic awareness, phonics, fluency, vocabulary, and text comprehension. Universal screening for elementary school was conducted three times a year in reading with CBM measures, and most measures were research based for reading at the elementary school level. Progress monitoring was the method used for determining adequate progress for students at all intervention levels. Hughes and Dexter (2011) noted that all of the field studies reviewed for this summary reported "some level of improvement" (p. 9) which related primarily to students' reading and math skills. These field studies included a variety of research design methods: single-case, historical control, quasi-experimental with no baseline equivalency, and a descriptive method. It should be pointed out that none of these field studies included control for threat to internal or external validity as part of their research design (p. 9).

Burns et al. (2005) completed a meta-analytic review of RtI research. The meta-analysis was conducted in order to determine the effectiveness of large-scale RtI models. The authors addressed how different RtI models compared to current research on RtI. They investigated

impact on systemic and student outcomes, and determined how the models related to an average percentage of the student population that was identified with a disability. There were 21 articles that were found to meet the inclusion criteria at the time of the study. Burns et al. (2005) found "consistently strong effects of RtI implementations in practice (field-based)" (p. 388), and sites from the study implementing RtI had improved systemic and student outcomes. Student outcomes that were measured included academic skill assessments, estimates of growth in a particular skill, and time on task and task completion in relation to academic interventions. The following systemic outcome variables were measured: referrals/placements in special education, student time spent in special education services, and number of students retained. With these measures and variables, a total of 25 effect sizes ranged from 0.18 to 3.04, with a mean ES of 1.27 (*SD*=.94), and a median ES of 1.02. Also, they found that less than 2% of the population was identified SLD with a previous finding of 5% of the population before RtI was implemented.

One meta-analysis and one large-scale study were also conducted in the area of school-wide behavioral strategies and outcomes. Both the research of Pas and Bradshaw (2012) and that of Solomon, Klein, Hintze, Cressey, and Peller (2012) provided favorable data on student outcomes and school-wide positive behavior supports. Though secondary schools were included in the research, the results of these studies primarily include elementary school data. PBIS, much like RtI, provides a systemic way of providing supports in a tiered level of interventions in order to ensure success in school. However, rather than providing supports and interventions that focus on academics, PBIS provides supports and interventions that focus on behavior. According to the official PBIS website,

> PBIS is a framework or approach for assisting school personnel in adopting and organizing evidence-based behavioral interventions into an integrated continuum that

enhances academic and social behavior outcomes for all students. PBIS IS NOT a packaged curriculum, scripted intervention, or manualized strategy. PBIS IS a prevention-oriented way for school personnel to (a) organize evidence-based practices, (b) improve their implementation of those practices, and (c) maximize academic and social behavior PBIS supports the success of ALL students.

Solomon et al. (2012) conducted a meta-analysis that examined 20 single-case design studies on school-wide PBIS implementation. Eighteen of the studies were published in peer-reviewed journals, and two of the studies were published dissertations. In terms of outcome variables, their research indicated that PBIS is "effective at multiple tiers of service in reducing undesirable student behavior" (p. 116). In the meta-analysis, only two of the studies were from high school, and the authors recommend further research on the effectiveness of PBIS in settings beyond elementary school.

The study by Pas and Bradshaw (2012) was a large-scale study on the relationship of PBIS implementation fidelity and student outcomes. It was conducted in the state of Maryland where data came from a statewide scale-up effort and included 269 elementary schools, 140 middle schools, and 12 K-8 schools. There were no data collected from high schools. According to the Implementation Phases Inventory (IPI) and using a Structural Equation Model (SEM), the level of implementation fidelity had a significantly favorable impact on math achievement, reading achievement, and truancy rates. Though these results were from only one of the measures used in this study and the study was done in only one state, the results hold some promise for high school implementation in other states as well.

Secondary-Focused MTSS Research

It is sometimes unclear for stakeholders what MTSS in a secondary setting should look like (Duffy, 2007). Educators are "hesitant to simply replicate the components of effective Elementary [MTSS] models" from elementary school settings (King et al., 2012, p. 8). MTSS in secondary settings is lagging significantly in both practice and research (Duffy, 2007; Prewett et al., 2012; Shinn, Windram, & Bollman, 2016). Because of the lag in research in secondary studies, I will describe models for secondary MTSS implementation in the following sections.

Theoretical Differences Between Elementary and Secondary MTSS Implementation. Despite the commonality of both elementary and secondary schools focusing on prevention and early intervention driven by systematic screening (Shinn et al., 2016), there are basic differences between elementary and secondary settings that will impact many of the essentials of MTSS implementation (Fuchs et al., 2010; Vaughn & Fletcher, 2010). Although other differences may exist, the following issues will be discussed in detail given their prevalence in the literature: contextual factors, distinct purposes for MTSS implementation, SLD determination, interventions, intervention models, and data sources.

Contextuel factors. Duffy et al. (2012), discussed the contextual factors that are unique to high schools and that can have an impact on MTSS implementation. Some of these factors include culture, instructional organization, staff roles, graduation requirements, implementation and alignment of instruction, and assessment resources. In terms of culture, the researchers observed that high school teachers can sometimes perceive RtI or MTSS as an initiative meant specifically for elementary schools. Also, the focus of the MTSS framework is at times misperceived as primarily for special education reporting. Instructional organization refers to the scheduling differences between elementary school and high school. High schools need to be

creative in finding ways to provide interventions to students without losing other valuable instruction time or credit accumulation required for graduation. One of the schools in the study provided an extra period in the day for a variety of purposes, including an opportunity for registering for an extra class in order to receive additional needed instruction. Another school provided a "semi-block" schedule that allowed for some teachers and students to meet for two class periods in order to address literacy needs. Duffy et al. (2012) found that high schools did better with systems change when principals shared the responsibilities and distributed leadership with a team. This eased the burden from one individual and they saw a marked difference in successful implementation where high school principals did this. Elementary schools and middle schools have no concern for graduation requirements and credit accumulation. Graduation, as a typical priority for high school students, creates an entirely different dynamic for stakeholders that are trying to implement systems change. In terms of implementation and alignment of instruction, the authors found that they "heard repeatedly that Tier-1 and Tier-2 interventions need to be adaptable to the high school context" (p.14). The authors point out that there are not yet as many curriculum-based assessments that are designed specifically for high school students as there are for elementary school students; as a result of this, stakeholders use other types of data for making intervention and progress monitoring decisions regarding individual students as well as school-wide and district-wide systems.

MTSS implementation purposes. In elementary school the purposes of MTSS are described by Mellard and Johnson (2008) as threefold: (a) screening and prevention of academic skill deficits primarily related to reading and mathematics, (b) early identification and intervention of students at risk for developing learning problems, and (c) learning disability determination. These purposes represent a primary goal of early identification and intervention

of deficits in foundational academic skills. However, as Johnson, et al. (2009) explained "The primary purpose of [MTSS] at the secondary level is to build the capacity of the school to meet the increasing demands for a diverse student population to meet rigorous standards for graduation." (p. 3). They stated that the second purpose in a secondary education setting was "to ensure appropriate instruction and intervention is provided to all students" (p. 3). They also describe that a final purpose would be "to provide a system that will support continuous school improvement to improve outcomes for all students" (p. 3). Despite varied long-term goals of high school students, they all share the common short-term goal of graduation (Johnson, et al., 2009).

Shinn et al. (2016) point out that "without a clear MTSS purpose, it is easy to extend elementary MTSS practices to secondary schools without considering the developmental education needs of older students and the culture, climate, and training of secondary teachers" (p. 564). In high school, instead of focusing on reading advancement, educators should be preventing further failure and dropout. When it comes to identifying and providing interventions for struggling learners, educators should ask themselves what the alternatives are (Ehren & Whitmire, 2009; Shinn et al., 2016). Shinn et al. (2016) offered four "research-to-practice" gap examples and then provides suggested methods of how an MTSS approach can resolve this problem. First, they provided an example of a science teacher that prepared a well-intentioned long list of content-specific vocabulary words with lengthy definitions that his students were required to memorize. By using Tier-1 instructional supports, the MTSS team was able to give this teacher staff development and assistance. They provided him with evidence-based instructional techniques, mainly including vocabulary-teaching methods to help students lacking motivation, skills, or strategies. Their second example addressed reading deficits by providing

regular reading courses with increased intensity and evidence-based practices for students that were identified. The school in their example made use of the REWARDS intervention (Archer & Gleason, 2001) and *Read to Achieve Narrative* or *Read to Achieve Content* (Marchand-Martella & Martella, 2010). The third example focused on improvement in the quality of existing special education services. At the time that this research was published, the authors reported that over the previous 20 years "little has changed in terms of providing instructionally aligned interventions to secondary special education students, echoing concerns over the 'tutoring trap'" (p. 570). They recommend that through an MTSS framework special education teachers could expand evidence-based practices in order to increase student achievement. And finally, they provided an example of a school with extreme behavioral concerns, where the implementation of systems-level approaches like START On Time (Sprick, 2006) led to improvement in both tardiness issues and Office Discipline Referrals (ODRs). These four examples illustrate the importance of addressing a broader spectrum of issues and needs than what might be encountered in an elementary school when considering the nature of MTSS in high schools.

Consistent with Shinn et al. (2016), Fuchs et al. (2010) provided insights on assumptions made for MTSS implementation in elementary school settings that are no longer appropriate in secondary school settings. The assumptions they address included: (1) children should be screened to determine risk status prior to serious academic deficits, (2) children must demonstrate a lack of responsiveness to less intensive levels of prevention in order to determine who needs more intensive services, and (3) remediation approaches shown effective for younger learners will also work the same for adolescents. In elementary school, regular screening is done in order to identify potential academic deficits, however in middle school and high school

"academic deficits are well established" (p. 24). It then follows that using resources for this purpose would be imprudent. Fuchs et al. (2010) recommended that schools instead use teacher referral and other available data in order to identify students that are at risk. Other experts have also recommended that the available data be used in order to identify at-risk students, and specifically recommend the use of Early Warning System data. Previous research indicates that small-group tutoring can change academic development (Vaughn, 2010). However, Fuchs et al. (2010) pointed out that middle school and high school age students have often experienced serious academic problems for years and frequently feel lower motivation and lower academic self-confidence (p. 25). Because of these long-term struggles, secondary students would best benefit from tutoring in groups of two to five and with Tier-3 level supports applied promptly. They have typically already experienced academic failure year after year, and for educators to provide the same gradual levels of intensity as are found in elementary school would only postpone time-sensitive assistance. For example, in elementary school, reading interventions are set to address a typical array of reading problems with evidenced-based targeted methods that work well for younger children. On the other hand, adolescents with reading difficulties face a broader spectrum of potential reading struggles that is complicated by multiple deficits in vocabulary, information, and knowledge, and therefore require a different approach than is used in elementary schools. Additionally, delivery models need to be contextualized in order to be both motivating and engaging to their age group. Adolescents are unlikely to respond positively to curricula or interventions that have been designed for elementary-age children. For instance, an evidence-based reading sample written for child audiences may hold the interest of a student in third grade but would be neither palatable nor motivating for a ninth-grader.

SLD determination. King et al. (2012) described how differences between elementary and secondary MTSS implementation include recognition that goals for prevention and identification of SLD will no longer be the primary focus at the secondary level. Rather than focusing on reading and SLD identification, secondary schools will need to shift their focus toward analyzing the entire school system in order to determine effectiveness of multiple Tier-1 groups, in addition to using school wide data to identify students that are at-risk of losing ground toward graduation. Pyle and Vaughn (2012) point out that rather than focusing on SLD determination, high schools would focus on "remediation, supplemental support, and content recovery, with the outcomes being to pass core courses/examinations and to graduate" (p. 275).

Interventions. Just as SLD determination is no longer the focus in secondary settings, interventions and progress monitoring will no longer be the same as they are in an elementary school setting. In providing interventions in high school, it will be important to consider the variety of facilitators and barriers that will make interventions possible in a secondary setting. In considering available time and locations, as well as the need for intervention fluidity, some experts and stakeholders have found viable solutions. Some of these solutions include methods for strengthening tier-1 supports, creating a school-wide time for all students to access accommodations, and also providing a student support center for tier-2 interventions (Duffy, 2007; Duffy & Scala, 2012; Ellspermann, 2014; Koselek, 2011). More details on these high school interventions will be discussed later in this chapter.

Intervention models. King et al. (2012) have several recommendations on providing the best systems framework that would support secondary students, most particularly for those needing help with reading difficulties. First, they recommend that secondary schools should establish a mission and provide the necessary resources for a systems framework with

established infrastructures. They encouraged administrators to provide supplemental support to instruction by using special education instructors in a more blended approach of intervention rather than the previously divided approach to instruction. Co-teaching with both general education instructors and special education instructors in a classroom together provides one approach to this recommended method of a blended process. King et al. (2012) also suggest the use of evidenced-based practices where MTSS processes provide intense literacy instruction in all core areas rather than in only English Language Arts classes. And finally, they also explain that a problem-solving model is better suited to a secondary school than a standard-protocol model of decision-making methods.

Data sources. Some researchers have focused primarily on data sources that should be used in secondary settings within an MTSS functioning school, and how the data sources can be used to make school wide decisions as well as make decisions for individual students (Fisher et al., 2011; Johnson & Christensen, 2008; King & Lemons, 2014; Vaughn et al., 2010). In high school, specifically, practitioners are interested in both short-term and long-term outcomes in order to help students succeed (Johnson et al., 2009). Early Warning Systems (EWS) is an Excel-based tool developed by the National High School Center in 2008 which looks at short-term outcomes, or *indicators,* that correlate with the long-term outcome of high school graduation. This tool uses indicators that are predictive of whether students are on-track for high school graduation and can be used to predict student outcomes years in advance (Jenkins & Johnson, 2008). Based on research, the following indicators are intended to be measured during the first 20-30 days of the school year, and then again after every grading period: course failures, GPA, credit accumulation, and behavioral incidents. These indicators are also known as Engagement Factors in much of the literature and indicate strong relationships to high school

completion (Jerald, 2006). By identifying which students are not on track for high school graduation, interventions can be put into place for these students and their progress toward graduation can be monitored (Blumenthal, 2016). As of 2013, 31 schools in the United States were using EWS as a data source in identifying at-risk students and improving graduation rates (Data Quality Campaign, 2013).

In addition to EWS, there are also recommendations to use other screeners that look more closely at short-term indicators in literacy and mathematics. Some of the potential screeners that can be used for literacy include: NWEA MAP, AIMSweb, Florida Center for Reading Research Probes, DIBELS, and STAR reading. Recommended screeners for mathematics include: NWEA MAP, Project AAIMS, Yearly Progress Pro, and Accelerated Math (Johnson et al., 2009, p. 64).

MTSS Implementation and Outcomes in High Schools. High school MTSS implementation research is limited, yet there are a few studies that indicate improvements in student outcomes after implementing an MTSS approach. According to a joint report by the National High School Center (NHSC), National Center on Response to Intervention (NCRTI), and Center on Instruction (COI) on MTSS, there are many researchers that support and recommend the implementation of MTSS in high schools given its potential to improve student outcomes (King et al., 2012). Despite the limited research on MTSS implementation in high schools, there are a few case studies where there has been some level of MTSS implemented in high school settings. These studies indicated improvements in grades, test scores, and graduation rates, as well as decreased referrals for special education testing (Ellspermann, 2014; Fisher & Frey, 2011; Kosalek, 2011; RtIActionNetwork, 2010).

In 1977, the National Center for Learning Disabilities (NCLD) was founded for the purpose of helping people with learning disabilities by providing direction and resources that promote research and improvement in practices. In 2008, NCLD launched the RtI Action Network, which is an online collection of resources intended to support the improvement of outcomes for all students. One of those resources is an example of high school MTSS in Tigard, OR. Tigard High School implemented PBIS and RtI, and reported on changes that occurred. The school developed a process of providing interventions that had some fluidity to student schedules, which created time for interventions without losing classroom credit accumulation (RtI Action Network, 2010). They built their master schedules according to the needs of the students and used data to inform those decisions. Some classes were held daily and some were held every other day, depending on the needs of the students. They also incorporated weekly data review as part of their new infrastructure. Educators reported overall grade and achievement improvement, but did not include any quantitative data. One qualitative outcome reported by educators of Tigard High School was increased engagement in the classroom.

Jayne Ellspermann was the principal at West Port High School in Florida. Most high schools experience difficulty when implementing MTSS because of scheduling issues and making time for necessary interventions. To address this issue, Jayne and her staff developed a new schedule for the high school that included an expanded lunch period in order to provide the time necessary for interventions (Ellspermann, 2014). They called the scheduling change *Power Hour*. Power Hour meant that after teachers had their regular time for lunch "they would hold office hours during the other half hour when they could offer tutoring, sponsor clubs, create learning opportunities, provide make up sessions or anything else that would enhance a positive school culture for our school" (Ellsermann, 2014, p. 26). After one year of the implementation

of Power Hour failing grades dropped from 37% to 3.8%. Student participation in extracurricular activities rose from 10% to over 60%. Student disciplinary referrals were reduced by 50%. After three years of the implementation of Power Hour failing grades had reduced even more to below 3%, overall school attendance had increased, and discipline referrals "were so low that teachers new to our school ask whether the students are really that good" (Ellspermann, 2014, p. 28).

Fisher and Frey (2011) spent two years using quantitative and qualitative research methods, and documented implementation of RtI in one high school, providing a case study on the implementation process, components, and some of the outcomes. The researchers collected relevant data by administering observations, conducting interviews, and collecting student achievement data. They used quantitative data analysis for interpreting student achievement data, which included student GPA, student attendance, special education referral rate, and state test scores. Regarding the qualitative components, the interview and observation data were coded and analyzed, creating theoretical constructs through a constant-comparative method. In the data gathered from observations and interviews, they were specifically trying to identify "teachers' construction of RtI and how the school addressed the need for change" (p. 102). It should be noted that the key components of RtI implementation that emerged from these data included: 1) focusing on quality core instruction, 2) using course competencies to monitor progress, 3) scheduling intervention to supplement, not supplant, core instruction, 4) dedicating resources to support intervention efforts, and 5) adopting a school-wide approach to RtI to maximize intervention impact. According to their research, after two years of RtI implementation, the high school from this study outperformed the "state-identified similar schools by 11%" (p. 109). Also, compared to baseline performance on achievement tests,

students increased their overall achievement by 4%. Special education referrals reduced from 17% to 3% over the two-year period of the study. Also, by the end of the two-year period special education teachers in that school were spending much of their time implementing interventions in general education classrooms and general education teachers had learned to also help with struggling students more, rather than referring the students for special education services as much as they used to do.

Koselek (2011) shared his experiences in implementing RtI in one urban high school in Colorado Springs, CO. In Kosalek's role as both stakeholder and expert, he described his efforts with others to implement RtI, and how they responded to the need to "flexibly deliver interventions to help all students" (p. 109) by setting up a Student Support Center at the high school. The Student Support Center, which he calls the "hub of flexible intervention delivery" (p. 109), was primarily set up to focus on prevention for at-risk students in 9th grade during a study hall class period, and the Center increased its focus later to include 10th grade as well. The Student Support Center provided content-level supports for both credit accumulation and remediation skills. The difficulties inherent in providing flexible intervention in a secondary school setting were alleviated considerably by the provision of a physical location from which to coordinate efforts. The Student Support Center at the high school in Colorado Springs more than adequately met these needs. The author recommended that the Student Support Center be a quiet and nonthreatening environment with two separate areas, one area is devoted to language arts and the other to math. The physical location provided a sign-in location, small group-work tables in areas, white boards, computer workstations, a bookkeeping area for peer coaches, a pass-writing station, a data processing station, and an area for supplies. In a school with between 800 and 1400 freshmen and sophomores, two full-time teachers would typically be assigned to

run the center. One teacher was a math teacher and one was a language arts/reading teacher. Both teachers had additional training in special education and the RtI problem-solving process. Additionally, for each class period there were two to three upper classmen that were appropriately trained to serve as peer coaches for the students. The author provided complete and specific details on running this center in his book (pp. 109-129). Some of the student outcomes of the implementation of RtI in this high school (which included the development of the Student Support Center) included: a reduction in at-risk scores in ninth grade students completing the intervention by the end of their ninth grade year. Almost all ninth grade students accumulated enough credits to move forward to tenth grade without a need for credit recovery. Additionally, there was a "marked increase" (p. 129) in standardized assessment scores for students receiving interventions.

These few examples illustrate the potential for improved outcomes for high school students that attend a high school where MTSS has been implemented. In these schools, the system is set up in a way for educators to use data to identify students that are at-risk of failure and to provide appropriate supports for all students. These examples also show how MTSS could lead to improved outcomes for students. Despite preliminary evidence of success, the case studies exemplify how the MTSS model in a secondary school cannot be applied exactly as it is in elementary school. There are some systems level modifications and changes in infrastructures that need to take place in order to implement MTSS in a high school. The next section addresses barriers to implementing MTSS at the secondary level and recommendations for implementation.

High School MTSS Implementation Barriers and Recommendations. There are many potential barriers to MTSS implementation in high schools. Experts and stakeholders have both offered a few recommendations for overcoming those barriers in order to move forward

with the implementation process in hopes of improving student outcomes. A few of these barriers related to MTSS implementation in high schools will be discussed as follows: scheduling issues, teacher caseload, differences in goals and objectives in high school, teacher attitudes, and a deficit in evidence-based Tier-2 interventions specific to high school.

Scheduling issues. One of the foundational principles of MTSS is the provision of interventions in order to supplement the core curriculum (Fuchs & Fuchs, 2007). NHSC et al. (2010), explain that according to the twenty high schools they studied, some of the common issues with MTSS implementation included struggles with scheduling time for interventions. Scheduling time for interventions without disrupting credit accumulation for graduation seems to be one of the most common barriers to MTSS implementation in high schools. With traditional class schedules, it is often difficult for high school stakeholders to see beyond the day-to-day status quo and creatively find a solution to scheduling issues. How do they then provide the extra interventions without losing ground in the classes that students are already attending? A few high schools have found a variety of intervention implementation structures that have worked well (Epler, 2015; Johnson & Smith, 2008; Koselak, 2011).

Some schools have created a hybrid schedule in order to allow for flexibility of intervention changes within a semester without losing credit accumulation, as was done at Tigard High School in Tigard, Oregon (RtI Action Network, 2010). Others have found success through creative approaches that include an extra period in the day for either intervention time or enrichment time (Dufour, Dufour, Eaker, & Karhanek, 2010; Ellspermann, 2014). There are multiple other ways to create space for MTSS interventions in a high school, depending on the current structure and culture of the school. One common approach for scheduling issues is to start MTSS implementation with the use of existing interventions that the high school is already

using in order to ease into the process and not make scheduling changes during the initial phase of the systems change process (Johnson et al., 2009). In other words, high schools may incorporate programs already in place with some adaptation for best practices (Ehren & Whitmire, 2009) in order to begin the MTSS implementation process. Another response to struggles with scheduling issues is to reduce the need for separate reading interventions by focusing on evidence-based Tier-1 instruction in reading (NHSC et al., 2010). For students that have lost ground in literacy in previous years, they can rely on the alignment of instruction with state standards, and find ways to integrate and assess literacy strategies across content areas. Sarlo (2013) sees the use of an intervention/enrichment period as the best option for providing time for interventions. Moreover, in her work she provides resources to help with the details that address MTSS implementation that are specific to high schools and she identifies the School Scheduling Associates website (http://www.schoolschedulingassociates.com) that can be useful in building master schedules that accommodate intervention time in a high school. And finally, co-teaching in a high school is a way to provide content specific interventions without disrupting the schedule or disrupting credit accumulation (Cook & Friend, 1995).

Teacher caseloads. The typical caseload of a high school teacher is three to five times the caseload to their elementary teacher counterparts. This innate structure makes the typical problem-solving consultation process difficult to maintain for high school staff, not allowing enough time for teachers to recognize and address specific needs for each of their students. Sarlo (2013) recommended that high schools should have an effectively functioning school-based leadership team that meets regularly to analyze and discuss large-scale (e.g., school- or content-wide) educational issues. These teams can analyze EWS data according to large school groups and multiple tier levels rather than focusing on individual students. Then, another level of school

teams can address individual students not responding to group-level interventions, and the structure of these teams will depend on the structure and existing infrastructures of the high school.

High school goals and objectives. "At the secondary level, the focus of Tier-2 instruction shifts… in addition to the short-term outcome of helping students pass core courses/exams, it has the long-term goal of promoting their graduation" (Stoiber & Gettinger, 2016, p. 128). With high school goals and objectives differing from elementary school, then the MTSS implementation goals and objectives will also somewhat vary from elementary school to high school MTSS implementation. Though reading and math skill development is still important in high school, the goal of a high school diploma in now a goal of equal or greater importance (Johnson et al., 2009). If a school team tries to implement MTSS methods that are intended for elementary MTSS implementation and without keeping high school goals in mind, there may be students with better reading scores that are dropping out or unable to earn sufficient credits toward high school graduation.

Research by Allensworth (2005) offer perspective on this paradigm shift in MTSS implementation in high schools. In using EWS as a method for addressing high school MTSS implementation they pointed out that the most powerful indicators of determining which students are at-risk of dropout are student attendance rates. Allensworth (2005) informed us that missing more than 10% of instructional time is cause for concern and that these data can be checked within the first twenty days of school and again at each quarter. Also, other important data include the tracking of overall student performance in progress toward graduation. Teams can look at course performance by watching for failed courses during the first year of high school. In working toward improving high school graduation rates, these indicators will be a part of the

shift in goals and objectives that apply specifically to high schools. Allensworth (2005) also pointed out that EWS indicators should be developed at a district level because local context matters and it is important to recognize pathways to dropout that are unique to each district.

Teacher attitudes. According to Sansosti et al. (2011) teachers' attitudes is one possible barrier to MTSS implementation due to their singular interest in how the students are doing in their respective subject areas alone. In a similar manner, high school teachers sometimes maintain the perspective that when students come to high school they are on their way to adulthood and in preparation for this transition they should receive little to no assistance or intervention. Both of these attitudes may prevent buy-in from teachers regarding the need for and potential success of MTSS. One method for increasing buy-in was described by Amanda VanDerHeyden during a conference for school psychologists in Utah in 2010. She recommended selecting a few teachers that are informal leaders in the school and inviting them to participate in implementation. In this way, other teachers can observe successes and be more eager to implement change when they can see the results. Another method for increasing buy-in among teachers includes integrating MTSS into Professional Learning Communities (PLCs) (Helman & Rosheim, 2016). Also, Guy, Fields, and Edwards (2016) stated that, "active participation of school administrators and leadership teams, a quality data management system, team planning time and networking across school sites, and publicly celebrating success" (p. 694) increases buy-in of teachers.

When seeking to increase buy-in at the high school level, it should be noted that in elementary school MTSS implementation stakeholders are typically advised to build consensus, then build infrastructure, and then implement (Sarlo, 2013). So, in order to increase the likelihood of buy-in, Sarlo explains that though in elementary school settings it is recommended

that consensus is sought before implementation; in secondary settings she has found that "consensus is built through implementation" (p. 3). One method for accomplishing this task would be to implement changes on a small scale within a system incrementally, which can be a "powerful tool for building consensus" (p. 3). Sarlo (2003) then continued with basic systems change advice that is also applicable to elementary school settings and suggests that secondary schools should

> …begin with commitment to achieving the school's mission, vision and student outcome goal; working collaboratively to continually improving systems, practices, and outcomes; utilizing a data-based planning and problem solving process to guide improvement efforts; and providing students with multi-tiered instruction matched to student needs (p. 15).

Lack of evidence-based Tier-2 interventions specific to high school. A key component to MTSS implementation is the idea of evidence-based interventions. There are very few evidence-based interventions that have been used and analyzed specifically for high schools (Sansosti et al., 2010). According to a recent presentation at the National Association of School Psychologists Annual Convention, the research team could only identify one reading intervention with evidence for successful use specifically for adolescents in a high school setting (Wright, McCargo, Bates, & Schrieber, 2018). Some district leaders with little experience or knowledge of high school systems and research continue to recommend evidence-based interventions despite the availability of them. A reasonable recommendation for overcoming this barrier is to use single case design studies in order to determine validity of interventions that are being tried and used in a high school setting (Sansosti et al., 2010). King et al. (2012) recommended that

secondary schools partner with researchers in order to overcome this barrier, and also suggests that, "neither group can manage without the other" (p. 17).

Systems Change and MTSS Implementation

Systems change experts offer a variety of factors to consider in understanding the implementation of change in any system that can be useful in understanding implementation of MTSS in secondary settings. I will discuss the phenomenon of systems change by using the principles provided by Hall and Hord (2016). The 12 principles of systems change that they identify include (1) change is learning, (2) change is a process, (3) the school is the primary organizational unit for change, (4) organizations adopt change, (5) interventions reduce resistance to change, (6) appropriate interventions reduce resistance to change, (7) district- and school- based leadership is essential to long-term change success, (8) facilitating change is a team effort, (9) mandates can work, (10) both internal and external factors greatly influence implementation success, (11) adopting, implementing, and sustaining are different phases of the change process, and (12) focus! focus! focus! I provide an overview of each of these principles and how they may intersect with MTSS implementation in a high school setting below.

Change is Learning. Hall and Hord (2016) pointed out that *change* and *learning* have a cyclical pattern and that they are interdependent in moving a system forward. They also included *improvement* as part of the cycle of change in a system: learning, change, improvement, learning, change, improvement, etc. Because MTSS implementation standards and best practices are still emerging in high school settings, an understanding of these learning dynamics is valuable to those that are in the process of the MTSS implementation. Most MTSS research is more specific to elementary settings and best practices specific to high school implementation

are still in the emergent stage. Thus, in order to learn more, school teams will need to begin by making changes using estimations of best practice, and learn from the change process.

Change is a Process, Not an Event. All too often, practitioners in leadership roles want a change to take place and so they hold a single professional training event and provide supportive materials, curriculum, or technology, and expect an unrealistic outcome to follow. However, most educational changes take three to five years (Hall & Hord, 2016). Understanding the process mentality versus the event mentality would help stakeholders to set realistic expectations for initiatives. With the goal of high school MTSS shifting more towards graduation than reading and math competencies, it will take time for stakeholders to see the outcomes of changes in their high school systems. Not only are high schools learning about how to improve practice as part of the change process itself, but the systems change process will also take time for educators to implement the practices with fidelity and to see improvements in outcomes.

The School is the Primary Organizational Unit for Change. The message of this concept from Hall and Hord (2016) is not to describe the school as an island in the change process, but rather to explain the differing rates of change that will take place in the implementation process. Internal and external supports play an integral part in the reform process, but the complexity and interrelation of various factors and individuals will impact each school in a district or state differently. The same supports or trainings will not bring about the same results for all schools. This principle is especially meaningful to understand when applying and understanding the change process in a high school. Elementary schools are certainly unique from each other, but they typically have more in common with each other than high schools do. Flannery, Fenning, Kato, and McIntosh (2013) pointed out some of the variables in high schools

that highlight the complexity of the system: the size of high schools, the number of administrators and faculty compared to alternative school settings, the organizing of faculty into departments, and the content focus of each of the faculty. The higher number of variables found in high schools brings increased variety. Ergo, the level of difference between two high schools is typically greater than what would usually be seen in elementary schools.

Organizations Adopt Change, Individuals Implement Change. Although an organization, like a school or district, can adopt change, it is the individuals within that organization that implement that change. Because individuals adopt change at varying rates, Hall & Hord (2016) indicate that "one implication of the principle is that leaders of organizational change processes need to devise ways to anticipate and facilitate change at the individual level" (p. 12). This principle alone may indicate the reasons for a slower pace of implementation in high schools in comparison to elementary schools. The number of employees in a typical high school is approximately three to four times as many in a typical elementary school. With more stakeholders required to implement change, there is increased variability in implementation, and increased differing levels of buy-in and commitment to change.

Interventions Reduce Resistance to Change. Typically, when we discuss interventions in terms of MTSS, we speak of student interventions. However, just as important as interventions with students, effective systems change requires interventions at other levels within the organization as well. Hall and Hord (2016) pointed out three potential reasons for resistance to change, and also explain that it is important to provide interventions for educators in response to each type of resistance. School leaders' first priority should be to identify the reason for the resistance in order to select appropriate interventions. The first of three potential reasons for resistance that Hall and Hord (2016) described is that what can appear to be resistance may in

reality simply be signs of coping with the losses that accompany change. The second form of resistance involves stakeholders being unsure whether the change would bring any effective improvement. And finally, the third reason for resistance that the authors point out refers to change simply being painful. With limited research on MTSS implementation in high school settings, this principle is especially significant in terms of identifying interventions for teachers and other school personnel. Hall and Hord (2016) further described in detail what they call the *Six Functions of Interventions* (p. 30), which they considered to be the "job description" of change facilitators. These six functions are listed as follows (p. 31):

1. Developing, articulating, and communication a shared vision of the intended change
2. Planning and providing resources
3. Investing in professional learning
4. Checking progress
5. Providing continuous assistance
6. Creating a context supportive of change

Familiarity with each of these functions is key in selecting appropriate interventions to respond to varying forms of resistance to systems change.

District- and School- Based Leadership is Essential to Long-Term Change Success. Despite the fact that faculty or employees are capable of developing and implementing successful practices without the "ongoing and active" (p. 16) support of decision makers, those practices will not be sustained by the organization. Evidence in the literature supports a strong connection between effective school-based leadership and effective MTSS implementation (NHSC, 2010). When a school is working to implement MTSS without a district model, training, and resources, the success of implementation and sustainability of the systemic model

will be reduced (Feuerborn, Sarin, & Tyre, 2011). In accordance with these same recommendations on district level support, findings from a qualitative study conducted by Dulaney, Hallam, and Wall (2013) on superintendent's perceptions of MTSS, "suggest that to realize sustainable improvement districts must (1) develop a common language and framework for implementation, (2) work collaboratively within the PLC structure to meet the needs of all students, and (3) purposefully build capacity within the district organization" (p. 42-43).

O'Connor and Freeman (2012) identified three district level factors that impact the promoting and sustaining of MTSS: leadership knowledge, leadership structures, and organizational framework. There is a strong correlation between the extent of district level support and training for MTSS implementation, and the implementation of MTSS in all schools within the district; elementary, middle, or high school implementation (Freeman et al., 2015; NASDSE [District Level], 2008; O'Connor & Freeman, 2012). Thus, if the district leaders that are involved in the MTSS implementation process have little or no understanding of high school systems and MTSS research specific to high schools, then the prospect of successful high school MTSS implementation will be significantly jeopardized. Not only will district leaders provide inappropriate training and support, but also they will likely lose credibility and trust for future training and/or coaching.

Facilitating Change is a Team Effort. Despite the importance of leadership and other various roles in the systems change process, all stakeholders are needed in order for change to move forward. Not only is it important that all stakeholders participate, but the collaboration and communication among them also plays a vital role in the success or failure of the change process (Hall & Hord, 2016). High schools have multiple departments and many teachers, and high school stakeholders may wish to consider establishing communication infrastructures among and

between departments. Additionally, any effort made toward modeling and fostering a collaborative culture will be even more vital in a larger high school system. Researchers agree that strong collaboration and communication are key components when establishing school-wide systems change efforts in secondary settings (Halawah, 2006; Sansosti et al., 2010; Sansosti et al., 2011).

Mandates Can Work. Hall and Hord (2016) pointed out that although we typically attribute a negative connotation to the word *mandate* when considering systems change, this is because mandates in isolation are not effective. When mandates are followed by long-term supports like professional development, communication, and time allowing for systems change, then mandates can work. When a mandate is communicated without the follow up supports it is ineffective. In considering how secondary schools continue to lag in MTSS implementation, despite predominant mandates, it is significant to keep in mind the necessary long-term supports that sustain and maintain mandates. There also may be a lack of accountability in place to monitor the required policies and procedures and to identify needed supports.

Both Internal and External Factors Greatly Influence Implementation Success. Examining both the internal and external factors that can influence implementation success are useful in fostering MTSS implementation. Internal factors that influence implementation success are identified within two groups: physical factors (e.g., setting, size, resources, spaces, technology, and schedules) and personal factors (e.g., beliefs, attitudes, values, perceptions, and expertise). External factors that impact implementation success include policies and procedures, and other characteristics of the surrounding community and families. By examining both sets of factors, stakeholders of high school MTSS implementation can more easily identify what factors are hindering the process. One method of examining these factors includes looking at the history

of systems change efforts in the context of the current desired innovation. The authors argued that some features can be seen as either a support or a hindrance, depending on the factor. For example, if schedules facilitate collaboration, then there will be more teamwork. Also, in order to understand the impact of external factors it is important to not only examine external factors from the point of view of the change facilitator, but more importantly from the point of view of the staff and how they interpret the external factors. Additionally, in order to provide a tool for understanding some of these factors, Hall and Hord (2016) wrote a Stages of Concern Questionnaire (SoCQ) that helps to identify the concerns of those that are being asked to implement change.

Adopting, implementing, and Sustaining are Different Phases of the Change Process. Hall and Hord (2016) refer to this process as a Bridge of Implementation and that this principle is linked to the second principle of change being a process. For those that are working to make change on a state, district, or school level it is difficult to appreciate "the length of time it takes for most stakeholders to move across the bridge" (p. 19). To complete this type of a task and see it through requires patience, tenacity, persistent goal orientation, grit, and vision. In moving forward with MTSS implementation at a high school level in particular, often stakeholders want to have all infrastructures in place before beginning implementation. However, it is recommended that simply beginning implementation is often the best way to discover what changes still need to be made rather than postponing efforts, and that the implementation process will frequently reveal the areas of infrastructure that need to be addressed (Sarlo, 2013).

Focus! Focus! Focus! Hall and Hord (2016) illustrated the need for focus in systems change by comparing this process to the story of the tortoise and the hare. They intimated that

just as the tortoise required "consistent, enduring, and uninterrupted attention to the goal(s)" (p. 19), the same is required with the slow and multi-faceted, multi-layered process of systems change efforts in secondary schools. The increased complexity of middle school and high school systems would logically require increased focus on facilitating and supporting all students to graduate and be prepared for college or career.

Perspectives of Experts and Stakeholders. In accordance with current educational reform and efforts made by experts and stakeholders to impact success for all students, it makes sense that high schools should be implementing MTSS with flexibility and adaptations that are unique for each high school setting. Despite efforts and successes in high school MTSS implementation, there are still reports that most implementation efforts take place in elementary schools, some within middle schools, and significantly less implementation in high school settings.

Although MTSS has had extensive research, practice, and success in elementary schools, there is a lack of sufficient research on high school MTSS. There is a significant lag in MTSS implementation in high schools and according to experts on high school MTSS, implementation needs to be different than in elementary schools. Some successful adaptations have been reported in the form of case studies; however, high school MTSS implementation has encountered barriers, and only a sparse few recommendations for overcoming these barriers have come to light. Given the current state of the literature as I have reviewed it, there is a clear need to expand the current research base on secondary MTSS implementation.

Most of the MTSS literature pertaining to implementation in high school comes from research experts, not stakeholders. There are two sources that I was able to find where the author of the book or article was also the practitioner that implemented the MTSS approach in high

school. Ellspermann (2014) is the principal that implemented *Power Hour* as a scheduling change in her own school and then reported out on it as part of the reason for success in the transformation of her high school. Koselak (2011) authored a book on his part in the transformation of a high school, particularly in changing the infrastructures and developing a center for interventions in that high school. Much remains unknown about what precisely is essential in guaranteeing successful implementation of MTSS in a high school.

Experts are calling out for feedback from stakeholders in order to learn about their perspectives regarding implementation in high schools (Brozo, 2009; Fisher & Frey, 2011; King & Lemons 2014; Sansosti et al., 2010a; Sansosti et al., 2010b). Many scholars and experts in systems change and initiative implementation practices see a need to bridge the gap between expert and stakeholder. Some offer ideas on techniques for experts and stakeholders to function as a team when it comes to implementation. In order to develop hypotheses and overcome barriers to systems change efforts in MTSS implementation in high schools, it will be essential to learn about the perspectives of both parties. Analyzing the similarities and differences in their perspectives will enable both experts and stakeholders to identify best practices in implementation.

The changes required for secondary MTSS implementation require partnerships between experts and stakeholders in order to study the adaptations, challenges, and successes. In my personal conversation with one of the authors of *How RtI Works in Secondary Schools* (Johnson et al., 2009), she pointed out the value of partnering with practitioners (especially principals) in order to strengthen my future research in secondary MTSS. Since we typically hear from experts, Hubbard, Mehan, & Stein (2006) provided some overall insights in terms of systems change and the relationship between experts and stakeholders. They stated that stakeholders

want the day-to-day tasks explained, while experts spend considerable effort developing theory around practice. These are not necessarily mutually exclusive priorities, yet they can impede collaborations because each somewhat differently shapes the way their goals are accomplished.

With this in mind, there is a need to better understand how the experts and stakeholders each currently define MTSS in a high school and how it differs from elementary school implementation. Although there is literature from experts on the subject of high school MTSS, there is not a qualitative work in which stakeholders and experts are asked the same questions with an opportunity to answer in an open-ended format. Stakeholders' perspectives are heard less frequently than those of experts. Experts typically have a goal of publishing their work and would therefore, perhaps, have some thoughts on the subject that are not necessarily expressed in their publications.

According to Shinn, Windram, and Bollman (2016, p. 564), there is a "confused or unclear purpose" that seems to be the "biggest single barrier to secondary MTSS implementation." These same authors explain that there is a "clear research-to-practice gap" that impedes progress in the area of secondary MTSS implementation. In reviewing *Implementation Research: A Synthesis of the Literature* (Fixsen et al., 2005), the authors recommended that research be done in a manner that "solicit[s] feedback and listen[s] to the early adopters and implementers of well-defined programs and practices" (p. 81).

The purpose of this literature review is to help the reader understand the development of MTSS and the potential for student outcomes with MTSS implementation in high schools. Regarding the lag in research and high school MTSS implementation, the literature has pointed toward a need in understanding and unifying stakeholder and expert perspectives. It is important

to conduct qualitative research in this area in order to clarify the purpose of MTSS in high schools and best practices for its implementation.

Chapter Three: Method

High school stakeholders need to receive relevant research regarding MTSS implementation in high schools in order to inform their practice. It is helpful to understand perspectives of those that have gone through the process or have attempted to go through the process of implementation in order to understand what is delaying implementation of MTSS in high schools. Under the Newman, Ridenour, Newman, and DeMarco (2009) *Typology of Research Purposes*, this type of research would be considered "Understanding Complex Phenomena" and requires open-ended and qualitative responses in order to access perceptions and perspectives of experts and stakeholders of high school MTSS implementation. A qualitative study was the most appropriate method of research because my research questions are exploratory in nature, and because there is little prior research that addresses the perspectives of stakeholders and experts on MTSS implementation in high schools.

Research Design and Theoretical Orientation

The generic qualitative approach was the most suitable for learning about the perspectives of experts and stakeholders regarding MTSS implementation in high school settings given my research questions. Generic qualitative research is a type of qualitative research that includes partial or complete "characteristics of qualitative endeavor but rather than focusing the study through the lens of known methodology they seek to do one of two things: either they combine several methodologies or approaches, or claim no particular methodological viewpoint at all" (Caelli, Ray, & Mill, 2003, p. 4-5). Percy, Kostere, and Kostere (2015) have explained the reasoning for using generic qualitative inquiry by comparing it to other qualitative

approaches (e.g. ethnography, case studies, grounded theory, phenomenology). These authors explained that in deciding when it is appropriate to use generic qualitative inquiry it can be most difficult to make a distinction between the appropriateness of a phenomenological study and the use of generic qualitative inquiry. They explained that phenomenology is an interest in the "internal subjective structure of the *experiencing* itself" (p. 77), whereas the generic qualitative approach is best used when the researcher is interested in "actual outer-world content" (p. 78). This includes wanting to know "people's attitudes, opinions, or beliefs about a particular issue or experience" (p.77). The generic qualitative inquiry was the most appropriate approach for my study because I was more interested in participants' perspectives on MTSS implementation in high schools and how it can be applied in general, than I would be in their experiences with the implementation process.

An interpretivist paradigm is the theoretical framework I used to understand participants' perspectives for this dissertation. An interpretivist paradigm is described as relative and dependent on multiple ways of constructing reality (Schwandt, 1994). Interpretivists are open to multiple views. Additionally, interpretivists believe "that reality is socially constructed and therefore, the dynamic interaction between researcher and participant is central to capturing and describing the 'lived experience'" (Schwandt, 1994, p. 131). I looked to Guba and Lincoln (1994), and their three questions that serve as major foci to determine the methodological paradigm of a study in deciding on my approach: (1) the ontological question (the nature of reality), (2) the epistemological question (the nature of the relationship between the participant and the researcher), and (3) the methodological question (the method of research).

Although I believe there are principles, barriers and facilitators to MTSS implementation that are universally applicable in all school settings, I hypothesized that stakeholders and experts

possess varying perspectives on what these principles are. The National Association of State Directors of Special Education provided a summary of important principles in MTSS implementation which included, "the practice of (1) providing high quality instruction and interventions matched to student need, (2) monitoring progress frequently to make decisions about changes in instruction or goals, and (3) applying student response data to important educational decisions" (NASDSE, 2008, p. 3). Some barriers to MTSS implementation in a high school setting might include scheduling issues, cultural and traditional expectations, teacher caseloads, the shift of academic systems change goals in secondary settings as compared to elementary school, misunderstandings regarding types of data used in secondary settings compared to elementary, and inadequate available research to support evidence-based interventions (King, Lemons, & Hill, 2012; Sansosti, Telzrow, & Noltemeyer, 2010; Windram et al., 2007). Some of the facilitators that have been identified to work through the MTSS implementation process in a high school include strong district- and school-wide leadership, the coordinated efforts of literacy strategies across content areas (NHSC, 2010), as well as the use of Early Warning Systems data to identify students at-risk more than the Curriculum Based Measures that are typically used in elementary school MTSS models (Johnson et al., 2009; Koselak, 2011).

In understanding how participants construct MTSS implementation in a high school setting, facilitators of and barriers to implementing the model, and how different issues relate to each other, participants will likely have some varying views on MTSS. It was my goal to discover the perspectives of the participants and allow for their interpretation of the interview questions so that I could interpret the constructs as they view them. As the interviewer, I relied on the dynamics of our interactions to make meaning of reality as the participants see it. Finally,

within generic qualitative inquiry there are methodological options that are most suitable to an interpretivist paradigm. I included semi-structured interviews with the use of a thematic inductive analysis, thus allowing the participants to tell their perspectives as they see them. For the experts, I also included a document analysis of book chapters or journal articles that they each authored. I intended to include a document analysis of any type of MTSS documentation that was provided by the district that was specific to high schools. Unfortunately, the district from which I interviewed stakeholders was in the process of creating a handbook for their district, but it was not yet completed when I conducted my research with them.

Researcher Reflexivity

Mays and Hope (2000) described reflexivity as "sensitivity to the ways the researcher and the research process have shaped the collection of data, including the role of prior assumptions and experience" (p. 51). As the researcher and interviewer, I am the instrument in the data collection process and it is important to understand how my knowledge, experiences, and perspectives play a role in my approach to this study. Because a researcher is part of the meaning-making process in qualitative research, a qualitative researcher provides a reflexivity statement for the reader to consider when interpreting data outcomes. Malterud (2001) stated, "a researcher's background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions" (pp. 483-484). Additionally, Reinharz (1992) provided further insight on the reflexivity statement, explaining that "researchers who self-disclose are reformulating the researcher's role in a way that maximizes engagement of the self but also increases the researcher's vulnerability to criticism, both for what is revealed and for the very act of self-disclosure" (p.34).

I have selected attributes of my reflexivity statement that are most pertinent to the topic, method, and the nature of my research. The following points are related to my use of interviews as one of my data collection methods in conducting research on high school MTSS implementation. I am a parent of grown children that experienced high schools with incomplete systems approaches and as I have learned about systems level frameworks, I can see in hindsight how my children would have benefitted significantly by these supports. My research, life experiences, and observations have led me to be a proponent of the MTSS process and I believe it can make a difference in the lives of many high school students. As a former and again recent school psychologist in a high school, I saw a need for a systems approach in high schools and I recognized how the MTSS framework could have impacted a greater number of students than the traditional method does. With the traditional method, we relied on referrals of students that happened to be noticed because of their multiple failures (e.g., poor performance in courses). These referred students are then offered needed assistance according to this process, but typically assistance is offered after a student has fallen behind in terms of meeting grade level expectations. Alternatively, with a MTSS process that is run with fidelity, the use of data identifies students in need of supports earlier in the process and can also be used to monitor progress in order to ensure appropriateness of interventions. Fewer students that are in need of interventions will be missed when using data rather than relying on a referral process.

As my research addresses the relationship between expert and stakeholder, I am inclined to share that I currently walk a line between researcher and practitioner. Having worked as a school psychologist in a high school and also having gained experience as a researcher, I see myself as a researching practitioner and a practicing researcher. This perspective will likely have an influence on my work during this project. I am currently completing my employment as

a school psychologist in a high school and district that is in the emerging stages of MTSS implementation. Because of my research focus, I am sometimes seen as a resource for ideas on implementation fidelity and ideas on what has been done in other high schools. My current experiences influence my approach in my interviews and in my data analyses. My approach to the interviews came with follow-up questions that are related to the perspectives of a stakeholder and with my own experiences in high school MTSS implementation. I tried to use caution to not lead the participant in ways that relate to my own experiences and to allow for their unique perspectives to come through during the interviews.

Setting

In terms of the interviews with the stakeholders, it is important to consider that "participants might feel uncomfortable speaking freely about some issues in places where other people are present and might overhear the conversation" (Elwood & Martin, 2000, p. 651). With this in mind, and for the convenience of the participants, I prioritized to first meet with them in a location of their choice. If they were unable to meet in person, then the second option was to meet virtually through an online method and camera. If in person or online interviews were not possible, then the final option was to conduct the interviews over the phone. If the interview was on the phone, it was recorded over a conference call system. If the interview was an online virtual interview or in person, I recorded the interview on two electronic devices in order to provide a backup in the case that one of the devices had a malfunction. All experts were interviewed by video or phone, and all stakeholders were interviewed in person.

Participants

Sansosti et al. (2010) recommend research with feedback from a wider variety of educators rather than just the school psychologists as was done in their study of MTSS

implementation in high schools. I had two types of participants for my study: experts and stakeholders. I used purposeful sampling and chain sampling to gather data from both the expert and stakeholder participants in my study. Purposeful sampling involves selecting participants based on predetermined criteria according to "the most productive sample to answer the research question" (Marshall, 1996, p. 523). Patton (1990) stated, "The logic of purposeful sampling lies in selecting information-rich cases for an in depth study. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research" (p. 190). Chain sampling is a type of sampling where participants refer the researcher to additional participants. Patton (1990) explained, "By asking a number of people who else to talk with, the snowball gets bigger and bigger as you accumulate new information-rich cases. In most programs or systems, a few key names or incidents are mentioned repeatedly" (p. 176).

My criteria for selecting the stakeholder participants for my study was to purposefully select them from high schools that are in the process of implementing MTSS. Because the state of Utah currently has an MTSS department within the Utah State Board of Education and the state is supportive of the MTSS process, and because the implementation of MTSS in high schools is still in the emergent phase in Utah, the data provided by the stakeholders was necessary to understand stakeholders that are working through the process of MTSS implementation. The schools for my study consisted of high school age students only (either ninth grade through twelfth grade, or tenth grade through twelfth grade). I did not impose my definition of MTSS when determining whether the stakeholders are implementing it or not, because my study is designed to understand their perspectives on MTSS implementation in high schools.

I started by contacting principals of schools that were recommended to me by colleagues that have worked at various levels of the MTSS implementation process (school, district, and state). I asked for referrals from those principals as well. I interviewed some representatives from the leadership teams (those that are key stakeholders which are involved in the MTSS implementation for the high school) from three high schools in the state of Utah. In order to implement MTSS in any school there are typically a representative group of school leaders that are involved in overseeing the process of MTSS implementation. The National Association of State Directors of Special Education (2008), tell us that those that implement RtI (the precursor to MTSS) should "involve representatives of all key stakeholder groups" (p. 12), and that "the leadership team should include people who are seen as leaders in the building and who others will follow" (p. 14). Because high school MTSS teams will vary among schools, the principals of the high schools used for my study assisted in identifying all appropriate participants. If any other stakeholders seemed to have a key role in the implementation process, I requested an interview with them as well. Some of these additional stakeholders included school psychologists, administrators, social workers, and counselors. Although MTSS implementation is a shared responsibility by all staff, my purpose was to interview those that are likely the most informed on MTSS implementation in the school. All of the high schools in my study came from the same school district and where the principles of MTSS have been taught, but some of the other school leaders have not yet been provided any instruction on implementation that is specific to their settings in high schools. Information regarding both the expert and stakeholder participants can be found in Table 1 below.

Table 1
Participant Demographics

Experts				
U.S. Region	**Participant ID**	**Current Role**	**Gender Identity**	**Areas of Expertise**
Midwestern State	Expert 1	Consultant	Female	Special Education/ High School RtI
Western State	Expert 2	University Faculty	Female	High School SWPBIS
Western State	Expert 3	School District RtI & PLC Coordinator	Male	High School RtI and PLCs
Stakeholders				
Schools in a Western State	**Participant ID**	**School Position**	**Gender Identity**	**Years Of Experience**
School I	Stakeholder 1	Principal	Male	11
School I	Stakeholder 2	School Psychologist	Female	6
School I	Stakeholder 3	Assistant Principal	Male	7
School II	Stakeholder 4	Principal	Female	6
School II	Stakeholder 5	School Psychologist	Female	1
School II	Stakeholder 6	Social Worker	Male	6
School III	Stakeholder 7	Principal	Male	18
School III	Stakeholder 8	Counselor	Female	7

For the expert sampling process, I also used the chain sampling method. I defined experts as researchers that have written at least one article or book on high school MTSS implementation or on the subject of secondary MTSS implementation. Each individual was also recommended by at least two peers as an expert or authority on the topic. I interviewed three experts for this study (Table 1).

The number of participants for my study depended on when the data reached saturation. Fusch and Ness (2015, p. 1408) provided an excellent synthesized definition of saturation, coming from multiple sources; “Data saturation is reached when there is enough information to

replicate the study, when the ability to obtain additional new information is attained, and when further coding is no longer feasible." Morse (2015) described lack of saturation as "too few examples in each category to identify the characteristics of concepts, to develop concepts, and to develop theory" and she describes enough saturation as "the resulting theory is complete with comprehensive descriptions for each concept and with pertinent examples" (p. 588). With these definitions of saturation, I found that 3 expert and 8 stakeholder interviews were sufficient for my study.

As I conducted the interviews I found that many of the stakeholders typically provided about half of the data that the experts did, and that they were more particularly informed on their own unique assignment or area of expertise within the MTSS process. Also, it should be noted that during the interview process, I learned that the distinction between experts and stakeholders can be a blurred line. All of the three experts are currently assisting schools and districts in the implementation process in a variety of roles. Also, though none of the stakeholders have yet published an article or chapter on the topic, one is completing a dissertation on a potential evidence-based intervention for high schools and another has attended multiple MTSS conferences for the span of several years. Just as I stated in my reflexivity statement, that I identify with both experts and stakeholders, many of my participants identify with both roles as well.

Data Collection

Interview Data. I conducted semi-structured interviews with experts of high school MTSS implementation and high school stakeholders. The interviews lasted between approximately twenty minutes and one hour, depending on the breadth and depth of the responses from the participants. The interviews addressed the participants' general perspectives

on the definition of MTSS in a high school setting, a comparison of MTSS in a high school versus in an elementary school, the ideal MTSS system applied to a high school setting, and the prevalence of MTSS in high schools today (see *Appendix A* for a copy of the interview protocol). The following fourteen steps from Jacob and Furgerson (2012, pp. 2-6) were used in developing the interview protocol:

1. Pick a topic that is interesting to you
2. Research should guide your questions
3. Use a script for the beginning and end of your interview
4. Questions should be open ended
5. Start with the basics (start with basic background information to build trust)
6. Begin with easy to answer questions and move towards ones that are more difficult or controversial
7. The phrase "tell me about…" is a great way to start a question
8. Write big, expansive questions (meaning questions that allow participants to expound on an answer rather than only provide specific answers)
9. Use prompts (directly under big expansive questions the researcher should place points as reminders of items that may enrich the data).
10. Be willing to make "on the spot" revisions to your interview protocol ("sometimes the 'ah-ha' question that makes a great project comes to you in the moment" [p. 5])
11. Don't make the interview too long
12. Practice with a friend (I practiced with a professional colleague)
13. Make sure that you have set up a second shorter interview to help you clarify or ask any questions you missed after you have transcribed the interview

14. If needed, clear your project with your school's Institutional Research Board (IRB)

I employed a list of commonly used interview probes identified by Johnson and Christensen (2008; see *Appendix B*) during my interviews. Interviews were transcribed verbatim.

Trustworthiness and Credibility. In quantitative research**,** researchers will report on the reliability and validity of their study in order to assure the reader of the value of the study. However, in qualitative research, we use other methods to demonstrate the value of the research. Guba and Lincoln (1994) explained that trustworthiness in a study is used in qualitative research in order to evaluate its worth. They further explained that trustworthiness involves establishing credibility instead of internal validity. Credibility is established through various techniques, including triangulation.

Triangulation. In addition to analyzing interview data, for the purpose of triangulation, other data was also analyzed for this study. Lather (1986) reminded us that "there is no neutral research" (p. 67), and that triangulation is one way to "guard against research biases distorting the logic of evidence within openly ideological research" (p. 67). Triangulation in qualitative research means using more than one method of data collection in order to improve the credibility of a study (Fusch & Ness, 2015). As part of this triangulation process that is intended to improve the credibility of my study, I conducted a content analysis of written material on the subject of MTSS by the experts. I planned to review any written material on high school MTSS provided by the district or school from which I interviewed the stakeholders as part of my study if there were any materials available. The content analysis from the experts was conducted by using either one article that represents the most possible answers to my research questions or instead included one chapter from a book that does the same. The author of the article or book chapter

provided me with which data set is most representative of their expertise in high school MTSS implementation. The content analysis from the school or district would have come from a written handbook, policies, or professional development slides provided by either the district or school that I studied. However, the district has not yet completed a document for me to review. I specifically analyzed written content that applies to high school MTSS implementation.

Data Analysis

Interview Data Analysis. I analyzed the interview data using an Inductive Analysis (IA) approach, as outlined by Percy et al. (2015). According to Percy, et al., IA is "data driven and does not attempt to fit the data into any preexisting categories" (p. 7). The data in IA are analyzed and coded separately and after all of the data are analyzed, the researcher synthesizes repeating patterns and themes from all of the data in order to create a composite synthesis. This composite synthesis was used to interpret meaning from the data. This IA approach to the generic qualitative research method was provided in the following summarization of steps (p. 80-81):

1. Review and intuitively highlight passages
2. Review highlighted data and use research questions to find related data
3. Eliminate unrelated data but store for possible use later
4. Code each data item with something
5. Cluster the data to identify patterns
6. Identify items that correspond to patterns
7. Use patterns to identify overarching themes
8. Arrange data in a matrix
9. Write abstract analysis of each theme

10. Complete process for each participant of study

11. Combine data across participants

12. Synthesize all data

These steps of IA described above started with a broad review, which was then brought into specific codes. Specific codes were categorized into patterns and themes, which were then again synthesized into broad descriptions of the overall data. As the researcher, I began by immersing myself in the data in order to familiarize myself with it all. Sometimes, for a qualitative researcher to be immersed in a particular topic, it might mean becoming part of the group they are studying and become a part of the culture over a period of time. In some aspects, my recent work as a school psychologist, working in a high school to help with the MTSS implementation process satisfies this requirement. However, when I speak of immersing myself in the data I refer to my involvement in the initial interview process, keeping an ongoing field journal with my analytic insight as I collected and analyzed data. Additionally, I immersed myself in the data during the coding process and while I was building a conceptual framework from the data. The three themes that emerged from the data came about as I immersed myself in the data. I conducted the interviews, and for the expert interviews I transcribed them myself. I coded all of the interviews and permanent products myself as well. In spending time with the patterns that emerged I was able to see the three themes as they relate to all of the patterns and codes regarding expert and stakeholder perspectives of high school MTSS implementation.

My original intent was to follow up with member checking interviews with each participant, in order to make sure that interviewers' interpretations were justified and that transcripts were accurate (Stake, 1995). Given that I did not find anything ambiguous or unclear during my review of the transcripts, I offered a follow-up interview with participants to allow

them to clarify any points that they felt were not represented well in the transcripts. However, all participants preferred that I email them the transcripts for review rather than take the time for another interview. All participants found the transcripts to be accurate and acceptable. Though the participants preferred to proofread the transcripts, their review of the data still provides some additional credibility to my study.

Immersion in the data facilitated my coding process. A code is a "word or a short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (Saldaña, 2009, p. 3). Saldaña (2009) also explained that coding is more than labeling, but is used as part of the analysis process to make connections and meaning to the data. Using this process, I coded all data and created clusters of items that are related or connected. Next, I highlighted all electronically documented data that appeared meaningful in any way. Once I highlighted the meaningful material, I reviewed the highlighted data to determine what parts of that data were related to my research questions, and then only used those data for my analysis. If needed, I then assigned a second level code, depending on the number of codes that were developed. As patterns developed, I identified items of data that corresponded to the patterns. I then analyzed the patterns to identify overarching themes. All of these codes, patterns, and themes were then arranged in a matrix. This process was completed for each participant, and then synthesized into one composite analysis (Percy et al, 2015). In order to address the research questions that seek to understand the perspectives of both experts and stakeholders, the synthesis of codes, patterns, and themes were reported separately between the experts and stakeholders.

Content Data Analysis. Hsieh and Shannon (2005) described three approaches to qualitative content analysis: (1) conventional, (2) directed, and (3) summative. Because the

directed approach is intended for research that is based on existing theory and the summative approach is an approach that is intended to quantify by counting the usage of particular terms and/or ideas (Hsieh & Shannon, 2003), neither of these approaches were appropriate for my study. Conventional content analysis is "usually appropriate when existing theory or research literature on a phenomenon is limited" (Hsieh & Shannon, 2005). Although there is extensive research on the topic of MTSS, there is limited research on MTSS implementation in high schools. The conventional approach to content analysis is "generally used with a study design whose aim is to describe a phenomenon" (Hsieh & Shannon, 2005, p. 1279). With the conventional content analysis, codes are defined during data analysis rather than defined beforehand, and the codes are derived from data rather than from theory or relevant research findings (Hsieh & Shannon, 2005).

I followed the same steps used to analyze my interview data to also analyze the content data from both the experts and stakeholders. The data from these analyses were synthesized by codes, patterns and themes similarly to the same manner as the interviews, but were synthesized separately. There were four groups of analyses: stakeholder interviews, expert interviews, stakeholder content analysis, and expert content analysis. Thus, we had distinct "socially constructed" realities and "the dynamic interaction between researcher and participant" (Schwandt, 1994, p. 131), which I described earlier from the perspective of an interpretivist framework. These distinctive realities of what MTSS is in high school and how it should be implemented were used to provide some insight into next steps for research, implementation, and professional development for experts and stakeholders.

Ethical Considerations

Before beginning this study, I completed the IRB requirements for the University of South Florida and also the IRB requirements for the school district in which I conducted my study. In order to prepare participants for this study, I provided them with the consent form (see *Appendix C*). All information that is shared in this study was de-identified by assigning participants with numbers (e.g. Expert 1, Expert 2, Stakeholder 1, Stakeholder 2). Additionally, I maintained the privacy of the participants' identity by keeping consent forms in a combination lock box. The research data was kept in a secure location and electronic data were password protected. As the researcher, I was the only one to have access to the original data. At the conclusion of the study, all identifying information was removed and the data was kept in a locked cabinet or office. All recordings were deleted at the end of the study, but transcripts will be kept for five years and then deleted and/or destroyed.

Chapter Four: Results

In the results section I have developed the data into three themes. Each of the themes was created by the patterns that I found in the word codes as I reviewed the transcripts of the participants (see Table 2). I will discuss the results of the analysis of data for both experts and stakeholders in terms of themes and patterns. Definitions of the word codes that I used to create patterns can be found in *Appendix D*. As I discuss themes and patterns, I will be using the terms *participants, experts,* or *stakeholders* to include data gathered from both interviews and permanent products as well. As I summarize expert data and provide quotes from the experts, I will not always differentiate whether the data came from the interview or from the written documents, with the goal of maintaining anonymity as much as possible. I estimate that there is roughly equal representation from interviews and written documents.

It should be noted here that there are significantly more quotes from experts than stakeholders. Although qualitative research does not measure quality of data in terms of numbers of quotes independently or by pattern or theme, it is important for the reader to be made aware of this matter. Hannah & Lautch (2011) state that "many qualitative researchers are highly skeptical of the usefulness of counting (p. 15). Furthermore, in addressing the idea of counting in qualitative research, Hannah & Lautch (2011) point out that "qualitative researchers therefore find themselves in a dilemma when it comes to counting, because choices over counting are likely to satisfy some audience members while alienating others" (p. 15). Though the number of quotes represented by the experts may appear to bring an imbalance to the data, it is important to understand that the experts in my study also represent stakeholders to some

degree as each of them were also involved in high school MTSS implementation in schools. Additionally, I only analyzed documents from the experts and my quotes from them are not distinguished by whether the quote came from our interview or from the document. Moreover, my interviews with the experts produced data that more directly related to my research questions and the interviews were longer than the stakeholder interviews. Therefore, I believe that experts are represented more in quotes due to the amount of data that were collected relevant to my research questions. I wanted to address this issue prior to reviewing the findings to inform the reader as they form opinions from the data in this paper.

Themes and Patterns

After identifying the patterns of code words, I found that they naturally fell into three themes which are named in Table 2. Note that the three themes that I identified were (a) Essential elements of MTSS, (b) Ecological perspectives of MTSS, and (c) Focus on students. The data provided by the participants will be described in terms of these themes and patterns that emerged within them below.

Essential Elements of MTSS. Through the data that I analyzed from both interviews and published book chapters or articles, the expert and stakeholder participants shared a variety of ideas regarding element**s** that are essential to high school MTSS implementation. As participants provided answers about MTSS in high schools in response to my interview questions, many of the responses centered on what is needed to implement MTSS, and they described key factors that drive the implementation process in high schools. Some of the responses described elements that are essential to MTSS implementation in any setting, and other elements that were provided were specific to MTSS implementation in a high school. The patterns that I identified from the data as essential elements of MTSS in high school MTSS

Table 2

Themes, Patterns, and Word Codes

Themes:	Essential Elements of MTSS	Ecological Perspectives of MTSS	Focus on Students
Patterns:	Leadership	Principles vs. Context	All Students
	Collaboration	More than three tiers	At-Risk Typically Undetected
	Professional Development/Teacher Training	Integrated Supports	Student Involvement
	Alignment	Special Education and General Education Roles	Student Gap and Urgency
	Data	Cultural Responsiveness	Students' Needs Met
	Decision Rules		
Word Codes:		Infrastructure Leadership Resources Identification Data Professional Development Special Education & General Education Roles Participant Emotion Definition Lagging in Implementation Special Education Differences in High School High School MTSS Barriers Other Approaches The Goals Highly Functioning in High School Literacy Teachers At-risk Students Community Parent Involvement Students	

included the following: *leadership, collaboration, professional development, alignment, data,* and *decision rules.*

Leadership. Participants unanimously spoke about the importance of strong leadership in the implementation process; seeing individual leaders as models with vision, and the leadership teams acting as a "steering team" to "launch" the MTSS process. They saw the leaders as needing to be experts in the MTSS process and to be seen as leaders by their stakeholders, not simply leaders because of their employment titles. As Experts 1 and 2 discussed the role of leadership as an essential element in high school MTSS implementation, they pointed out the importance of leadership that comes from the high school principal and also the leadership that comes from other individuals. Additionally, they addressed the building leadership team as a whole. In terms of the school principal, Expert 1 said that, "It would be nice to have a principal that understood RtI and understood it well." Expert 1 further explains, "I think the most important person is that principal or curriculum director or whoever's going to be ultimately responsible, not only to explain to the staff how to do RtI but also follows through with it," recognizing that any leader that takes on the role of MTSS specialist in the school is able to train with sustainability in mind. Expert 1 also indicated that this leader should have a data background, be an individual that can train teachers, and would even be "willing to come in and model."

Expert 2 also spoke of the importance of **"**really good training for problem-solving teams" and that "building leadership teams is essential." Expert 2 sees the importance of both principals and leadership teams "getting better at strategic planning," and that "this gets at the bigger picture for MTSS about implementation science." Expert 2 pointed out how leadership can impact staff buy-in, the delivery of professional development, and other essential elements in

high school MTSS implementation. Some of the leadership attributes Expert 2 recommended as necessary for the implementation process were "shared but focused" leadership and the ability to provide "clear expectations, monitoring of implementation, and follow-through."

According to Stakeholder 3, leadership starts with relationships, "You've got to have a good relationship with the teachers to help them see how providing opportunities for students to be successful is helpful." Then Stakeholder 3, more particularly pointed out how the purpose of the "relationship with teachers [is] to help them with their buy-in because that makes extra work for teachers. They saw it as extra work." Likewise, Stakeholder 6 talked about "reaching out to the teachers because teachers are the front line… they're kind of the eyes and ears of the school." Thus, Stakeholders 3 and 6 share the view that positive relationships between school leaders and teachers fosters buy-in; teachers more readily accept what may otherwise be seen as pointless "extra work."

Collaboration. Collaboration developed as a pattern for an essential element of implementation for a few reasons. One reason pertained to the size of most high schools. Since in high schools there are significantly more individuals involved in serving students, communication among stakeholders increases in importance. Another reason for the increased need for collaboration in high schools developed out of students' time now shared with a variety of teachers and the impact that it has on relationship development. In other words, because students have less time with each individual teacher, the teachers' ability to know their students intimately is different in a high school. Participants agreed that making time to collaborate was essential in implementing MTSS in high schools. Although collaboration is an important element to MTSS implementation in all settings, it is noted as an especially high priority in high

school settings. Stakeholder 8 remarked, "I think that communication is really important and also sharing information with teachers."

Experts discussed how teachers in high school are mostly aware of student performance and behaviors only in their own content area. Expert 1 said that "they just have to have time to collaborate" and that MTSS "just demands a more collaborative process at the core." Expert 2 told us that there should be "high levels of collaboration and communication" and then also described the importance of the collaboration method by indicating a need for "really good training for problem-solving teams." Some of the stakeholders also highlighted the importance of PLCs in collaboration, and that if the school was a "true PLC," that

> It didn't matter whether you went to Mrs. Jones math class or Mr. Johnson's math class; they are in the same place. If you transfer your classes, you're going to be taught the same way; the tests are going to be the same and they would give the same care and concern no matter who's in their class (Stakeholder 3).

Professional development/teacher training. All experts and many stakeholders interviewed for my study recognized that professional development is an integral part of high school MTSS implementation. Participants discussed the need for ongoing professional development in addition to education received prior to working in schools. They saw a need for the ongoing training in order to ensure sustainability, and they identified the need for training that is specific to the context of the high school. Stakeholders, in particular, were eager to receive assistance to apply strategies to their specific high school settings. In reviewing the data from the participants regarding professional development, their perspectives can be organized into the following five areas: why, what, who (who is trained and who provides training), how, and when. Although some of these perspectives can also apply to elementary or middle school

level environments as well, they point out the importance of these ideas on professional development as it is applied specifically to high school MTSS. Stakeholder 8 reported that "One thing I know and I have learned about MTSS is that there must be professional development as you go along."

Why. In high school-level MTSS, some experts observed that one of the barriers in implementation is that some stakeholders may not see a reason for MTSS implementation. This can be an obstacle in trying to foster buy-in from stakeholders in order to implement MTSS. Expert 3 explained the importance of understanding the "why" in implementation, "But some of that part about why we're doing this is getting schools to understand that they have a problem. So, in high schools, because like the advanced placement teachers may never see problem behaviors." Expert 1 pointed out research that was conducted by Bartholomew and De Jong (2017) of nine interviews with principals. The group of principals interviewed consisted of some that had no training in systems-level approaches and therefore did not see it as a viable approach in high schools. All of the principals interviewed for the study by Bartholomew and De Jong (2017) "understood that a research-based intervention needed to be used at each tier but that they had only heard of these interventions being used at the elementary level." These principals "could not name the essential components of the RtI service delivery model nor explain how to establish it in their individual [schools]." So, we learn here that part of the professional development process needs to include data and evidence of the need for the professional development. Additionally, in order for learning to take place, individuals need the motivation and understanding of the viability of MTSS in a high school setting. If stakeholders do not know why they need to know something they will likely not be invested in the learning process.

What. The participants reported a variety of areas in which high school stakeholders would need training. Some of these areas of training built on best practices in the classroom, while others focused more on explicit training that should be taught for system change and system level approaches. The participants provided ideas on the following areas of training that impact classroom instruction and teacher training: general teaching strategies, literacy and reading intervention strategies, and behavioral or social-emotional training for the classroom. Participants also recognized a need for training in the systems change process and skills that directly apply to the MTSS systems approach. These skills that were identified by the participants were strategic planning, systems level skills and trainings specific to high school, and the use of data in the MTSS process.

The participants felt that in order for MTSS to function in a high school setting that teachers need some specific training in teaching strategies. One perspective of Expert 1 was that high school general education teachers receive very little training in teaching strategies and that most of their training is related to the content area of their expertise. Expert 1 sees alternative teaching strategies that can be used to help struggling learners as a skill that is typically taught more to special educators than to general educators, and that in order for MTSS to function in a high school all educators will need these skills developed. Expert 1 mentioned that all teachers "need to be taught different ways to show the same content; so different instructional strategies," and that professional development should be provided to teach "high-quality instruction and to enhance implementation of scientifically based practices." Stakeholder 4 also saw the importance of teaching the teachers different teaching strategies, and stated that training should be provided in the "most effective instructional practices," in addition to where they should be

used. Expert 2 saw instructional strategies and the training of teachers as the "bedrock" of MTSS.

Both Experts 1 and 2 also recognized the need for high school specific training in literacy and reading strategies. Since additional reading instruction is not a need that is as common in high school as it is in elementary school, there are fewer teachers that are trained in this area. Additionally, high school teachers do not always see their role as providing assistance with literacy or reading interventions, despite the needs that do exist for students. Expert 1 shared that "providing all teachers with continuous professional development that demonstrates reading intervention strategies is essential in making the RtI service delivery model successful for all stakeholders." Both Experts 1 and 2 described the importance of professional development for all teachers in reading strategies in order help all students to succeed.

In addition to general teaching strategies in all subject areas, and literacy or reading strategy training, participants recognized a need for training teachers in Social-Emotional Learning (SEL). This is topic that is commonly taught by elementary school teachers in a regular classroom setting. High school teachers do not usually see themselves in this role of SEL instructors. In order to address social-emotional needs at a Tier-1 level, Expert 3 explains that mental health professionals are not the only practitioners that should be trained in SEL and describes the need for SEL training for high school teachers as follows,

> High school teachers are trained in their content and the pedagogy for that content, with less emphasis on the social behavior of students, often not seeing the development of social behaviors as a component of a teacher's job. Another difference is that high school staff also are more likely to accept a heavily exclusionary or zero-tolerance approach to addressing student problem behavior as the mainstay of the discipline system.

The participants also had recommendations for training in the MTSS process. On the topic of strategic planning, participants were referring to high school leaders creating a plan for changing the system. In explaining this notion, Expert 2 said that "this gets at the bigger picture for MTSS about implementation science: strategic planning, identifying initiatives and integrating those together, implementation benchmarks, and adult learning theory." Expert 2 said that is important for "principals and building leadership teams to get better at strategic planning." The participants saw strategic planning as an essential element to the MTSS process and that it would require training for high school leadership teams in order to make these systems level changes.

In the overall MTSS process and the training that is essential, Stakeholder 1 shared that district level professional development should focus on "best practices and some of the best structured models as it relates to each of the three different tiers, and formally spend quality time on that." In providing this systems level training to building leadership teams, Expert 2 explained that some of the important training elements should have the "introduction to the Response to Intervention model, assessment processes, intervention strategies and effective teaching strategies, best practices for monitoring student progress, interpreting a range of assessment data, and using the data to inform instructional interventions."

Some participants saw systems level training content to include more than how-to put MTSS into effect, but also saw leadership level training that relates to school-wide behaviors. Expert 2 discussed the importance of social justice and equity training in high school MTSS implementation. Stakeholder 7 indicated a need for training that is specific to high school, and that in their district most of the training provides examples that are geared toward elementary

and middle school settings, by stating "I just wish it could be more relevant to high schools, and to our kids, and how to work with older kids, and systems that work with older kids."

And finally, the participants recognized the importance of training in the use of data for high school leaders, especially high school specific data. Expert 2 said there is a need for "guidance on how we have conversations around data." Expert 3 agreed "it's really about getting the staff on board, making sure they understand the data and what the issues are." Expert 2 described this importance of understanding data, and that it is to "get all teachers deeply engaged with data in a manner that can have significant impact." Additionally, Stakeholder 4 viewed the need for training on how to identify "the topmost common issues that you're dealing with," and to assist stakeholders to develop "a plan for how to intervene, how to gather the data, and how to analyze the data," as well as training in record keeping in all of these areas as well. Expert 2 saw this effort as a cultural shift for high schools and how the proper use of data is one of the greater obstacles to MTSS implementation.

Who. The topic of *who,* refers to who needs to receive PD and also who needs to provide the PD. The experts saw a need for training for a wide variety of stakeholders. They experts described who they thought should be receiving training aside from the teachers: principals, PLC teams, coaches, and paraprofessionals. Expert 2 said that principals and building leadership should receive training in problem solving. Expert 2 talked about the importance of training for PLC teams to ensure that "they are doing good in-class interventions." Expert 3 endorsed the importance of training for those providing the training, and that coaches also need PD in order to provide "credible high school representation." Additionally, Expert 1 points out that training on the MTSS principles should be taught to paraprofessionals and that if they also receive the training, it will impact their work with the students. Thus, the experts perceived a need for many

high school stakeholders to receive training in order to implement MTSS well in a high school setting.

When participants talked about who should provide the PD their ideas were dependent on the purpose of the trainings. When referring to an initial overall systems change effort and general professional development, Expert 1 recommended, "Ideally it would be nice to have a consultant come in, I mean a national consultant. Somebody, like from the RtI Network come in." When Expert 1 shared ideas about helping teachers to learn reading strategies they envisioned an embedded approach from a reading specialist, with the recommendation of "a reading specialist to co-teach and serve as an interventionist to help…assist teachers with the RtI model." Stakeholders 1 and 2 saw the particular need for the district to provide ongoing MTSS training for high school teachers, and Stakeholder 4 said that the job-embedded training is especially needed in high school settings since the contexts are each unique, and that "Basically an MTSS coach would be fantastic." Finally, Expert 3 had an opinion on who should not provide PD in a high school setting. Expert 3 described what happens when an MTSS specialist that is only familiar with elementary settings provides PD in a high school setting,

> It has to be someone who understands high schools. So, what often happens is we're not going to do it at the high schools and we're going to ask an elementary coach to now do it at the high school. They're dead. No one's going to pay any attention to them, they have no example. They can't talk the language…really bad plan, but happens all the time. They just kind of pick somebody you know and high schools are not forgiving contexts. And that person soon is asking for a job change or embraces it. But has lost a whole year of fumbling around while we try and get them up and running. So, getting coaching and getting the right coaching, to me, is critical.

How. In addition to participant perspectives on the need for PD, what PD should include, who should receive PD, and who should provide PD, the participants also discussed a few points on how professional development should be given for high schools. The methods of PD that the participants shared comprised of ongoing coaching, PD with an emphasis on the stakeholders, individual consultation to suit the context of the school, and by providing opportunities for high school leadership to learn from each other. Rather than a one-time all day PD on MTSS in high schools, participants saw need for more than that. Despite the previous discussion on having a professional come to "kick-start" the MTSS implementation process, it was not necessarily seen as mutually exclusive to making sure that high schools receive ongoing embedded PD in order to support the learning and foster sustainability. As Expert 2 describes, it should be "goal-oriented, highly focused, ongoing, and continuous." The stakeholders interviewed were particularly in agreement regarding the need for ongoing coaching in order to apply the principles of MTSS that they have learned in professional development sessions.

Expert 2 highlighted the importance of the stakeholders in MTSS PD and the need to emphasize the adults in the building. Expert 2 indicated that "We usually start with interventions and fixing the kids, rather than starting with the adults. It has to start with the adults. I think the research is pretty clear on that." Expert 2 further expresses this perspective with tiered supports that "are not just for students but with our schools, and should guide professional development, and professional learning opportunities for adults." In addition to ongoing coaching within the school, one stakeholder also experienced frustration with experts coming in to provide an all-day PD for school leadership, which made it difficult to apply the training to the context of their own setting. In particular, Stakeholder 4 talked about the district training they have had on interventions focused on improving attendance,

> We've gone through a ton of training about attendance but then they just give you a packet and say you need to develop an attendance plan. How about we schedule, instead of me sitting and listening to some lecture about what you can do at the attendance. How about instead you send that expert into my school and you tell us what data to gather ahead of time, I present that data to you and I have access to that expert and I can say, 'these are the things that we have tried they has not resulted in any change. What would you recommend?' Then they work as like an actual consultant that helps me develop that plan. Then when they come back, instead of me sitting through another eight-hour training, they actually helped me analyze my data and helped me see where I need to make a change.

Finally, Expert 3 brought up a method for PD, especially given the current state of MTSS implementation in most high schools. Because relatively few high schools are implementing MTSS, it is useful to have a way for school principals and leaders to collaborate with colleagues to discuss with one another things that are working well and to help one another in the implementation process. Some recommend grouping high schools together at a district level, but Expert 3 said,

> High schools are very competitive. So, even if you have two high schools in a district they may not want to talk to each other about it because they're going to compete because high schools are all about competition. So, ways to find out regionally to pull high schools together has helped implementation because they have an opportunity to interact with each other in a non-competitive way that isn't just my district or your district.

When. Lastly, the experts discussed when professional development should be offered to stakeholders in order to cultivate optimum results in the MTSS implementation process in high

school. Expert 1 said, "I think it needs to start a year beforehand. And I think it needs to be constantly ongoing." Expert 3 also talked about the need for high schools, in particular, to prepare before the beginning of the school year,

> So, doing some professional development for the staff so that they're ready to roll out the following Fall. It's also very hard for high schools to implement something other than at semester or at the beginning of the year. So, you aren't ready to roll out in the Fall you're not doing anything until semester. Whereas, elementary schools will implement it whenever.

Expert 1 also explained that "Professional development is a continuous requirement if the RtI service delivery model is to be successful at the secondary education level." In terms of the need for ongoing coaching, Expert 2 shared this,

> And coaching; it is the same conversation perhaps ten thousand times, and we can't let up because new staff come in just like the core instruction. I don't think administrators and leadership teams can let up on that instructional framework piece. I think they have to keep coming at it over and over and over again.

Expert 1 observed that MTSS training is an essential part of both teacher-training programs at the college or university, and essential to ongoing training throughout the career of a teacher. Expert 2 mentioned the same perspective by commenting on the need for "pre-service and in-service professional development" that is "frequent, durable, [and] intense to build skills."

Alignment. In relation to essential elements of high school MTSS implementation, participants discussed a variety of aspects that relate to the alignment of interventions, initiatives, and resources. One stakeholder emphasized the importance of alignment across districts, states, and experts as well. In discussing the need for alignment of resources and systems in a larger

setting, like most high schools, Expert 3 indicated that "the relatively large number of staff and departmental structure of many high schools results in a type of isolation in which many staff members…are unaware of the interventions and supports already available in the school." In remarking on the need for alignment in high schools, Stakeholder 8 stated "I think sometimes things can be fragmented… I think when we can collaborate and align as a school faculty as well as teachers, then this whole system works so much better, and then the kids are getting what they need." But in bringing the systems to all work together for the benefit of the students, Expert 2 described MTSS as "the unifying initiative within the school." As Stakeholder 2 stated "it just comes down to organizing it just like the model, like identifying what's going to go in what tiers and how to choose appropriate things for each one and who fits in there and stuff like that." Stakeholder 4 described the need for alignment and decisions regarding the alignment, "It's almost like I feel like we're in *50 First Dates*, the movie where it's like we're just starting over again." This stakeholder in particular recognized a need for alignment of initiatives and interventions, and a protocol that includes decision rules, in order to be able to manage the caseload level that exists in high school settings.

In order to implement the unifying systems approach of MTSS in a high school, some of the participants discuss the need for resources required to make that happen. Realigning available resources within a school, or from district and state levels, can be a challenge. Expert 3 explained that "Academically, I see schools putting resources at the elementary and middle [school] for literacy coaches or to implement Multi-Tiered Systems of Supports. I don't see that same commitment at the high school levels." Expert 3 also specified that "Schools are very much strapped for money nowadays. They have to use what they can." Expert 1 identified other systemic challenges,

> Identifying appropriate intervention models that work across subjects can also be a challenge. Students at the secondary education level are reading for content mastery and comprehension. Finding interventions or modifications that are not only age appropriate but also developmentally suitable can be a dilemma.

Experts 1 and 2 provided ideas on overcoming challenges associated with providing interventions for a high school setting. Expert 1 advised that "scheduling challenges must be addressed, and students may have to eliminate taking elective classes and take an additional study hall to practice their reading abilities instead," then also continued "I like the idea of having the extra study hall idea. I think that works very well and the students succeeded…in having different people help the students." Similarly, Expert 2 described a study hall concept,

> We created that embedded tutoring center model leveraged by peer tutors...A guided academic study hall structure that's embedded in the academic school day. So, rather than kids to show up after school or during lunch or for Saturday school, it was embedded in the day.

Stakeholder 4 discussed the difficulties involved with the volume of students when aligning interventions, and the need for improved communication between teams and teachers, stating "Sometimes they feel like the kid's just falling off the face of the earth. It's like, 'No, you don't understand. We're doing 8,000 things with this kid."

Expert 3 tied together some of the ideas expressed above when stating "For me, the purpose is to be able to deliver appropriate interventions or supports to students in order for them to be successful in a way that's efficient and effective in the organization." Expert 2 expressed that despite disagreement among researchers regarding length, duration, or intensity of interventions in MTSS, there are some overall agreed-upon elements that define it across

settings. Elements such as evidence-based instruction, early preventive interventions that are tiered, data-based decision-making, and ongoing assessment. Expert 2 added that in order to be successful, there needs to be a problem-solving model that has "multidisciplinary" leadership teams that "engage a wide variety of stakeholders," and has general education teachers that "take a lead role" in the process.

Stakeholder 7 articulated the need for alignment across settings, and especially among experts, and that implementation is now more consistent in districts and schools since the language is becoming more consistent with the various experts. Stakeholder 7 observed this process,

> I feel like when I first started this process, I went to a couple of national conferences and we talked about it, but I didn't hear much about it in Utah. Then it hit Utah a little bit. I also know that this happens through networking; meaning that you go to a Solution Tree, and you might hear one version of Multi-Tiered System of Supports. You go to Kansas, and Florida, and Michigan, you might hear some different versions and data and how to organize it and how to start it. But I think all that's coming together now I guess is my point. People are starting to use and overlap the same research and that kind of thing. I remember one experience going down to Little America to the RtI conference and listening to some professors down there and feeling like I didn't know what they were talking about. Their vocabulary and version and the way they approached it was so different than what I knew. I was like, 'What are you talking about?' But now they're all starting to use the same language.

Data. Participants identified different aspects of data as an essential element to high school MTSS. In using data at the high school level, Expert 3 pointed out "High schools are

used to tracking outcomes; they operate on credit accrual, and graduation rates and standardized test results." Expert 3 continued that "in high schools, the strong focus on academic achievement requires that school teams expand the focus of their data that are used to monitor outcomes and in ongoing decision-making." In both interviews and permanent products, the experts all highlighted the importance of data use and the need for stakeholders to learn how to interpret and use it, the purposes of data use, and the types of data to use in high school MTSS. Expert 3 explained "We have to use data for decision-making. And so we have to know what we're trying to do and how we're going to collect the data to know if it's working or not."

Experts 1 and 2 discussed the value of data use in high school MTSS. Expert 2 explained both the struggle with looking at and understanding the data, as well as the importance of it,

> Herein lies the greatest challenge of RtI at the high school level, it forces schools to "look under the hood" at general classroom instruction. Through the use of data-based decision-making and an intense focus on what is working for students, the entire practice of instruction is forced to become more transparent.

Expert 1 shared a similar perspective,

> I hate to go here, but you know if you implement RtI correctly you're going to see changes in those test scores. The kids not doing well hopefully will now be doing well. So, I think looking, again, at the data, the data is very important. Looking up at that data and showing it to Miss Smith, like when you helped Johnny do this, his scores came up here. You didn't help George and he's still down or he's falling further behind. So, I think holding teachers accountable through the data is one way that you could keep it going.

Expert 2 also described the importance of using data as part of the building leadership structure, rather than department chairs "going through the motions and talking about department chair things." Furthermore, in describing the importance of the use of data in high school MTSS, Expert 2 discussed how when teachers become "deeply engaged with data" that it can significantly impact instruction.

Participants did not all agree on the best sources of data while implementing MTSS in high school. Some participants saw a need for collecting data similar to what is used in elementary MTSS, such as some form of Curriculum Based Measure (CBM), others discussed EWS. Expert 3 clarified that at the high school level there is a "need for a data system that aligns with critical outcomes in high school: attendance, behavior, and course performance" and a data system that "will need to efficiently collect, organize and evaluate data." Consistent with this perspective, many participants recognized the importance of using EWS data as a better alternative in a high school setting. Expert 2 described this use of EWS data in high school as needing to be more "holistic" than before, and then to "use that data to target interventions that reduce risk factors." These risk factors that Expert 2 mentioned were in alignment with EWS data and should be related to graduating on time, GPA, attendance, behavior, and "yes a degree of mastery of the standards in terms of state-level tests and things like that."

In participants' discussions on data, many of them saw a need for stakeholders to receive training in using and understanding data. Expert 1 explained that teachers lack knowledge in utilizing, analyzing, and interpreting the data to make decisions regarding interventions. Also, from the perspective of Expert 1 "most of our school administrators on a secondary level are… previous content teachers," and "when it comes to actually looking at data and how to interpret and how to collect it, common instructional strategies, they lack in that area." Stakeholder 4

shared that "The biggest piece we've been missing is we always get hung up on how we are going to gather the data… we need a person that can help us create some down and dirty ways in which we can gather that data that doesn't overwhelm all of the parties." Expert 2 said stakeholders need **"**guidance on how to have the conversation around that student data. Otherwise they just get lost in the data." In summary, the experts reported that school leaders and teachers in high schools need to know how to collect the data and how often to do so, and how to use and interpret the data. Despite the importance of the use of data in high school MTSS implementation, the experts point out that there is a need to know how to interpret it and use it appropriately and that many stakeholders typically lack confidence in their abilities with data use.

Decision rules. Participants also talked about the purposes of data use in terms of decision rules. Despite not all participants knowing the jargon, they described decision rules as an important purpose for collecting and tracking data. Stakeholder 4 explained, "There's almost trigger points, the student is Tier-1 then trigger, now, it's Tier-2, then you're upping that level of support as you go." Similarly, Expert 1 also talked about the importance of developing a "school-wide plan for entry and exit from the tiers," for consistency. The perspective of Expert 1 regarding decision rules in high school included the use of both the "problem-solving model or standardized intervention protocol to provide struggling students with early, effective instruction and to present a valid means of assessing their learning needs." Expert 2 spoke of the use of Early Warning Systems as the data format for decision rules, and how with Early Warning System data we can "target interventions that reduce risk factors."

Ecological perspectives of MTSS. As I reviewed the patterns, it was evident that many of them related to the school system when implementing MTSS. The participants talked about

the uniqueness of the high school setting in general and also the unique qualities of each individual high school. They also talked about the infrastructures of high school systems and the role of special educators in a fully implemented high school MTSS. In addition to the system of the high school, they also addressed the community system. Some of the codes and patterns that naturally fall within this theme were *principles vs. context, integrated supports, special educators and general educators' roles,* and *cultural responsiveness.*

Principles vs. context. Expert 2 specifically stated the terms *principle* and *context*, and provided the phrasing for this pattern. When the participants discussed the differences between elementary, middle school, and high school for implementing MTSS, the consensus was that the basic principles of implementation are the same for all settings but that the context is different. Stakeholder 2 said that "the same things are important, but it would probably look different." Some of the contextual factors that participants described which make high school settings different were comprised of how structure and logistics are different, how high schools cannot be treated like elementary schools, how the additional human resources were viewed as a strength in a high school setting, and how behavioral approaches differ between settings. Additionally, one Expert talked about some views on other alternate systems level approaches in high school.

Structure and logistics differences. One of the more obvious differences would be how high schools are structured differently from elementary schools, and some of the participants brought up factors related to these differences. Stakeholder 3 said, "I don't know. Just because there's so many different complexities of high school that it's hard to say what it would look like ideally." Also, in describing the context of the distinct high school communities, Stakeholder 4 said, "I know what it theoretically should look like. I think the biggest concern that I have is the

logistics of actually rolling it out with especially a highly impacted school and how difficult that can be."

Experts also discussed how the context would impact the application of MTSS in high schools. Generally speaking, Expert 1 said that high schools "still lag behind the elementary schools." Expert 2 explained "It takes a lot more coordination at the high school level to pull off and do well" the implementation of MTSS. Expert 1 related some of the contextual factors that impact the academic side of MTSS implementation in a high school setting. One of the reasons for differences included that

> there are more readily available diagnostic tools at the elementary education level to assist in identifying academic difficulties than there are at the secondary level … The skills and strategies that a middle and high school pupil needs to succeed are significantly different from those of an elementary school student

which impacts the outcomes of high school students. Also, in discussing the differences in contexts at a high school level, Expert 1 shares the following,

> Another discrepancy between the implementation of RtI in the primary schools and secondary schools has to do with the structural and organizational differences that pose limitations when implementing RtI at higher grade levels. The essential components of RtI may be the same, regardless of grade level or context, but how they are translated into effective practice and integrated into a high school's processes may differ from elementary school models.

Treated different from elementary. Participants indicated that features of the MTSS model cannot simply be transplanted from an elementary model, and that success in an elementary setting is not equal to success in a high school. Although principles are standard,

they will need to be applied differently. As Expert 3 explained, "how it gets implemented is what ends up different. So, you would still have identified [essential] features as critical to MTSS. Those…features will still be present in high school," and that they "haven't found anything that doesn't match a feature, it just looks different." In describing this idea further, Expert 3 states, "I don't think the features change, I think how it looks will change." Expert 1 also offers the following insight,

> Educators must remember that the RtI service delivery model was used initially in the elementary educational environment and cannot simply be transplanted into a middle or high school setting. The educational learning environments at the middle and high school levels differ greatly from the elementary school setting, and the RtI service delivery model needs to reflect those changes…secondary schools should not simply adopt an elementary education level RtI service delivery model because secondary schools are focused on learning content in various subject areas, as opposed to elementary schools, which are focused on learning foundation skills.

Expert 3 said that "I think multi-tiered systems of supports started in elementary schools," and that high school stakeholders "will walk out of the room because 'it's not about us' and 'we can't do that at the high school." Expert 3 added, "It's slower to implement in high school than it is at the lower grades. And so as a result they may not be as willing to take it on." Finally, Expert 3 shared,

> What's important is that high schools see themselves different. They perceive themselves as not the same as. And you need to acknowledge that. You may not believe it, but they believe it and so coming in and saying "middle schools do this" will not work.

More human resources. A few participants mentioned the increased number of human resources available in a high school. Expert 3 shared "I think that the difference in the high schools is that there are a lot of resources there. They're just having to align them to the tiered system." Though many participants talked about the challenges of the high school context, Stakeholder 5 brought up a strength in high school MTSS implementation,

> In the elementary school, you have the children with one teacher…To me then you would have more persons, bringing different perspectives. You would have a wider view of interventions, rather than just one person like in the elementary school….all these people bring their knowledge to the group.

Stakeholder 6, from the same school, had a similar experience, and said that in a high school setting, "the main difference is that there's just more support here" whereas in elementary school, "it was me, just me, and we had a school psych there every other day, I was there every other day."

Behavioral. In terms of behavioral elements in a MTSS model, Stakeholder 7 discussed the differences in contexts by stating, "behavioral in high school can be easier than behavioral in an elementary or even in middle school because you can actually sit down and reason with the kid or just finding the time to do that." The behavioral side of the MTSS implementation in high school was also described in terms of the principles and context of the implementation process. Expert 3 told us that the features of the School Wide Positive Behavior Intervention Supports (SWPBIS) framework are the same in high school as in elementary or middle school, but that "the high school context has strong implications for how that implementation occurs." Expert 3 further explained that "three interconnected contextual influences that seem to be particularly

important to consider…in high schools are the size, organizational culture, and the developmental level of the students." Expert 3 then provided the following example,

> Teaching expectations is a feature of a multi-tiered systems of support for PBIS at the universal level. Well that might... that would still be present. It's just how it got taught would be different. It would be taught by students, it wouldn't be bringing kids in the cafeteria and having them practice walking up and down the hall learning how to be respectful and responsible.

Other systems level approaches. As part of my interviews with the experts, I asked them about alternate systems level approaches to MTSS. Expert 2 shared some ecological perspectives that contribute to the discussion on high school context. Expert 2 saw the "game of school" as it is today to need the MTSS approach in order to improve student outcomes. And that high school is currently "about getting credits and it's about passing state tests. But it's not all engaging as an experience for students." Expert 2 has not seen enough "project-based learning, or models that say 'we really want to help you as an individual and give you more choice and voice in the educational process." Expert 2 shared that high schools would do better to **"**get to more standards-based competency-based grading structures," which would impact Tier-1 instruction. Expert 2 described the frustration of the current Carnegie Units and grading systems by stating that "People really want to cling to traditional grading practices. Even after thirty years of research they don't want to address it. They don't want to because it's work." Expert 2 continued the discussion on this frustration,

> And there's nothing inherently MTSS that would cause you to look at like a redesign of schools. To me it's like oh, I wouldn't say it's quite this harsh but it's almost like rearranging chairs on a Titanic right? It's almost got that feel. Because I've worked too

> long in intervention, and I think there's jammin' and crammin' through Carnegie units because people 110 years ago said we should do it that way. We haven't seen that model shift systematically. Obviously, there's pockets of greatness around us. Suddenly MTSS isn't quite as needed, I don't know, maybe it's just more probably to support those schools more effectively I think.

More than three tiers. Though all experts agreed that there can be some flexibility with the number of tiers in an MTSS approach in high schools, most of them discussed the tiers as 3 tiers. However, Expert 3 repeatedly talked about the importance of many tiers in a high school MTSS approach. Expert 3 summarized some thoughts on this,

> It is not three tiers. So, in the High School that's really important, because if we only broke student supports into three tiers we would have a large number of students in some of the upper tiers and that would be very expensive and hard to manage. So, by thinking of it really as a multi-tiered system, we would have to have multiple tiers that provide supports to students. So, I believe that there are services that, support what students need, that many people wouldn't consider universal, but yet they don't have a rigor or screener and ongoing monitoring that targeted interventions have. And so because it's kind of between green and yellow I call lime green.

Expert 3 reported that the number of students in a high school have multiple levels of needs and how meeting those needs with just three tiers could be a drain on resources, and that if "they look and saw that seven or eight of those students were getting similar supports designed at Tier-1, and at what I call lime green support," which would be delivered "more efficiently than [for] eight individual kids… so as a result, to me, that would be a lime green."

Additionally, there was a description of an orange tier, "And there's another that's kind of an orange. So, an example might be the high school tutoring programs for academics," and that the orange tier is "universal in the sense that they're open to everyone." By using multiple and many tiers in a high school, Expert 3 saw high school students' needs as being varied and thereby the needs being met by a continuum of many services.

Stakeholder 7 also saw a need for more than the traditional three tiers, but in a different way. Stakeholder 7, stated that "Whenever you have a building full of individuals, you have a building full of different levels of support." Stakeholder 7 talked about how they responded to the needs of their school and community and the multiple needs within a high school,

> We have branches to our triangles, triangles on triangles, so I have my two counselors and my VP, and they're over their part of the alphabet, and they have their own Multi-Tiered System of Supports. I have four administrators, so that divides that Tier-2 group up into four components. It divides the Tier-3 group up into four components in a more manageable sense. Instead of just having one team, I need five teams. Then each one of those teams can report to what we call the care team.

Stakeholder 6 said that there should be "a fourth tier of the family intervention." The reason this stakeholder gave for perceived necessity matches my other pattern of *Cultural Responsiveness* and will be reviewed in that section.

Integrated supports. To think of implementing MTSS in a high school and considering the data needed, the infrastructures that need to be in place, the evidence-based interventions, and trainings can be a daunting task. However, as many participants indicated, most high schools already have some of those elements in place that can be used in a MTSS model. Experts 2 and 3 specified how the implementation of MTSS in high schools could initially be

accomplished by using interventions and systems that are already in place in each high school and aligning them to work within the MTSS structure. In terms of things that are already in place in the high school, Expert 3 recommended "looking at those in relationship and who they're serving. And could they be done more efficiently? Do we have data on them?" Expert 3 explained that "moving those into alignment oftentimes puts a whole lot of supports and resources in place for kids that can still be managed by whoever managed them before, but might be checked on by the PBIS team." Expert 2 identified some of the systems that may already be in place in a high school that would encompass a variety of academic supports and mentoring. In particular, Expert 2 started a tutoring center as a way of implementing Tier-2 supports in his school; a center that provides assistance in math and reading from staff and also from student mentors. Expert 2 also recognized that restorative practices as a method for addressing the social-emotional and behavioral needs of students

Integrating supports could also be a way to describe how stakeholders can implement interventions in a way that is efficient and by using resources wisely. Participants talked about this integration more specifically with behavioral and social-emotional supports. Expert 2 talked about how MTSS is "in combination with behavioral and social-emotional support" and that "the infusion of more social-emotional learning has been also, I think, really essential." Moreover, Expert 2 explained that high school MTSS is a "more comprehensive way of supporting student learning and looking at the whole child."

Stakeholders talked about how supports can be integrated by grouping students together that have similar issues and that this can help the high school system to run more effectively. Stakeholder 4 explained that instead of "now we're going to give you ten different things that you're tracking," we "can pull in those teachers of those ten kids, and provide them with those

coaching supports and help." Stakeholder 7 provided interventions by what he called "chunking",

> ELL students, emerging language students have similar problems; we can chunk those things together. Poverty has similar issues. We can chunk those together. Mental issues have similar issues, we can chunk those together, but I will say that it is more individual. You can't solve mental trauma associated issues in large groups like you can a classroom. I can teach everyone to do this math problem, well, I can't call 40 families in and fix their individual mental, that takes counselors, and social workers, and individual time, and of time, and more resources. The resources might be similar, but I can't chunk all that together.

Special education and general education roles. It can be difficult to determine the delineation of roles between special educators and general educators in a MTSS systems approach. The roles are fairly clear in the traditional setting, and have been defined pretty well in an elementary MTSS structure as well. However, there will likely need to be some clarification for high schools regarding this division of responsibilities and resources. Experts 1 and 2 both described their perspectives regarding the differences that naturally exist between special educators and general educators, and also the differences that should exist between them in their roles when implementing MTSS in a high school. Expert 1 noted that general education teachers "get frustrated" with the "long process to get from when you first initially identify [and then] qualify for special education services." Expert 2 indicated that RtI became a mandate in the special education process or part of the special education eligibility and believed that this "clouded the work right at the gate, and it made it really difficult to… unhitch the RtI wagon." Expert 2 also said,

> It originally came out under the tent and it was misconstrued as a special education initiative: it was front-loaded as special education, it was seen as special education, it was a mandate by special education, it was built into all these special education laws. So, we've had to do a lot of work separating that part out.

In the implementation process, Expert 1 thought that "special education and MTSS are two separate entities," and was emphatic in this perspective and stated, "I feel very strongly, number one, that it should not under any circumstances involve the special educator unless it's in a consultant type of capacity." Expert 2 supported this perspective and stated, "I think we would be wise... I don't know how to say it... to divorce ourselves a little bit as RtI as an instrument for special education. I think that's part of the problem." In terms of the role of special education teachers in MTSS in high school, Expert 1 continued "I have absolutely no qualms with the special education and the general education teacher consulting… but do have issues with them actually being the person that use the intervention in any of the tiers."

Delivery of instruction and intervention also was impacted by teachers' expertise in literacy. Expert 1 commented that secondary teachers must teach state-mandated content standards, but are "not well versed or trained in teaching content literacy strategies." Teaching literacy strategies as part of the MTSS approach in high school was seen as a priority by Expert 1 and further stated, "you know our high school teachers, the content folks especially; our language arts, science, social studies, they will tell you they are not reading teachers." In order to implement MTSS in a high school, both Experts 1 and 2 saw a need for teachers to make changes. Expert 1 said that "traditional roles of teachers will have to change." Expert 2 shared the following insight,

> High school teachers traditionally have been expertly prepared to primarily deliver content; the support piece has been left to special educators who have been trained to support learning. To get all teachers deeply engaged with data in a manner that can have significant impact upon instruction represents the major obstacle for RtI in high schools. This type of deliberate, meaningful change demands a fundamental shift in school culture driven by focused leadership.

Then in discussing the implementation process and what is involved for high schools, Expert 1 further stated, "Understanding that the traditional teaching roles of the regular and special education teachers will change adds another layer of complexity."

Despite the views provided by experts regarding the separate roles of the educators, not all stakeholders agreed. Stakeholder 4 discussed that all students belong to all teachers consistent with some literature on implementing MTSS. Stakeholder 4 stated,

> That's right… 'Oh, you have Special Ed. students.' They see them as almost these separate entities rather than these are all of our students and they have differing needs and there's probably a lot of interventions that you could utilize across the board that would deal with a lot of those issues. They see them all as these individual entities, and so it's overwhelming to them. I think another piece of it is helping them feel like it's manageable.

Cultural responsiveness. Expert 3 described school culture as "the shared meanings and values of the members of the organization about how the organization should function and why it exists." Many experts agreed that being culturally responsive is an important aspect of MTSS in high schools. Expert 1 supported this notion and said that stakeholders should "design RtI practices that are culturally responsive to the populations being served and…the RtI model

should relate to the cultural differences of each student, as well." As participants reported the need for cultural responsiveness they addressed the uniqueness of high school culture as compared to other settings, the importance of responding to each unique cultural difference of students through parent involvement, and the value of including the community in order to foster the improvement of student outcomes.

High school culture. Experts from my study recognized the importance of responding to high school culture and commented on the uniqueness of it as well. They saw that part of the systems change process included the understanding of typical high school culture and shifts or changes in the culture that needed to be addressed in order implement MTSS. Regarding this need for change in high school culture, Expert 2 said that "implementation and maintenance require a cultural change for many high schools." Stakeholder 1 discussed the need for a culture change to take place in most high schools in order to implement MTSS by stating,

> If you don't have a culture built in, then it's not going to work and that takes devoted time and devoted leadership to ensuring that that's going to take place. Because you're coming into a school and you're changing the culture of the school and that is a huge undertaking. In describing the difference between high school culture and other settings.

Expert 2 described these difference at both the school level and regarding adolescents in general,

> High schools move beyond skills into application, beyond supportive learning and direct instruction into independent learning across multiple contents, with an expectation of self-monitoring and motivation. Non-school responsibilities: Teenagers are working, dating, driving, and are more distracted than elementary school students.

When discussing the changes required in a high school setting in order to implement MTSS, Stakeholder 2 said that "At a high school level, I think some schools might be a little resistant

because it may seem or feel too [much] younger something." Expert 3 echoed this aspect of high school response to MTSS implementation by sharing that "they don't want to hear what the elementary kids have to say," and "It's an elementary thing,' 'it's the middle school thing.' 'We can't do that at the high school."

Another cultural norm that participants discussed involved typical high school teacher expectations, and how they are seen as an important issue when high school leaders want to implement MTSS. Most agreed that teachers tend to expect students in high school to be independent in their studies, to require less assistance, and to no longer require behavioral or social-emotional instruction. These common beliefs would need to be addressed in order for teachers to buy-in to some of the essential elements of MTSS, where interventions are an integral part of the systems approach.

Parent involvement. Some participants described cultural responsiveness by including parents and families in the process. They discussed how working with parents in a high school setting is different than when students were younger. Expert 2 believed that "promoting parental involvement is crucial", and that "in order for the RTI model to be effective, schools at the secondary level must reach out and elicit more parental participation in all aspects of the RtI model so that the students can reach their academic potential." Expert 1 recommended that MTSS be "culturally responsive to the populations being served and involve parents and families in the RtI process," then also continued that "parents are an integral part of the RtI service delivery model since they can provide support at home for what is happening at school." Stakeholder 6 saw the use of a fourth tier as a parent training intervention and described the school and parent partnership as "both ends… working really well" by teaching "skills that might be helpful."

In identifying the difference in working with parents at a high school setting, Expert 1 addressed how parents' level of support for their students varies and that at the secondary level, parents tend to be more "hands-off" in the academics of their adolescent. Stakeholder 7 continued a similar perspective,

> I think how we work with parents is different in high school may be too. Again, the system isn't different. It's not that no one else works with parents, but how we work with those parents, giving them options of different schools to go to and how to earn credit. High school kids can be very destructive. We can't just allow them to run the halls because they are older, freer, and bigger. I can let an elementary student maybe walk the hall a little bit and not bug anyone, but I can't let that high school student do that. I can't let the high school student hang out in the bathroom because if they do, they're getting three other kids to hang out in the bathroom with them, and pretty soon, they're vaping and they're smoking pot, so I can't do that. Getting parents to commit to not giving up on their own kids and having structure at home and doing that.

Community. There were participants that extended cultural responsiveness to parents to also include the community. Expert 2 also discussed the importance of involvement from the community as a way to be responsive to the culture of that community, and that "schools should promote high levels of family and community involvement." Expert 2 also described it as "tapping into the wraparound support services and community/parent partnerships to aid with interventions." Furthermore, Expert 2 talked about positive experiences from working with the community and stated,

> I want them at the table and helping to design, and helping us think about our interventions, especially attendance. With communities to make material more engaging

for them. Like if I want partnerships between core on communities so that our kids can get some authentic experiences off-campus as an example. So, I think that is that some of that interventions side.

Stakeholder 7 saw how the community culture effected the number of students receiving interventions at different tier levels, and also saw how specific populations in the community would effect what types of interventions would be needed in the high school in that community. Stakeholder 7 spoke about the impact that the community culture would have on MTSS implementation by stating that the "level of poverty and dysfunction seems to drive how many kids you're going to have in those different supports." Stakeholder 7 also referred to refugees in the school that come from different countries and that "their system doesn't align with our system, and they need a lot of credit recovery…they don't speak English." while also referencing their mental state, language skills, and reading skills, and pointing out the importance of responding to these unique needs. As outlined by Stakeholder 7, in order to implement MTSS in a high school, it is essential to respond to the community culture.

Focus on Students. The final theme centered around the underlying purpose of MTSS in high schools. All of the participants agreed that the purpose of MTSS in high schools was in order to reach and support all students. The importance of identifying student in need of assistance without missing any, using methods to identify the most appropriate intervention for a higher rate of success, and implementing the intervention while monitoring how well the students responds. This systems approach of MTSS is intended to focus on the students. Although there were themes that developed around essential elements and ecological perspectives, these themes are meaningless if the emphasis is not on the students. The participants discussed problems with detecting those that are at-risk and said that by the time a

student is in high school, time is now limited in meeting their needs in order for them to graduate. The patterns that make up this theme included *all students, at-risk typically undetected, student involvement, student gap and urgency,* and *students' needs met.*

All students. The participants in my study recognized the importance of the foundational practices in an MTSS approach and how educational best practices for all students is an essential element of MTSS in high schools. As Stakeholder 4 stated "The purpose of MTSS, in my mind, is to make sure that we're serving the needs of basically every single student … They might need food at home. It might be physical support or shelter or something like that." Stakeholder 4 then spoke of the importance of identifying the students in a systematic way in order to help them be successful. Stakeholder 7 remarked that "They write books on this, but it really is much more basic than books: volumes and volumes of books. But for us, it's every student needs the support and time variableness to be able to succeed."

Participants also discussed a strong Tier-1 preventative system that is aligned with high expectations that meet state standards, is evidence-based, and includes differentiated instruction in all classrooms. Expert 2 explained,

> In addition to good use of data and problem-solving structures, and screening tools and things like that, as well as quality Tier-1 instruction that's differentiated. That keeps coming back to us as the leading point in all of our systems. I'll just point that out because I think it's part of the essential nature of MTSS that gets neglected often, is how important it is to have a really robust instructional framework at the core of it. That way you're not relying so much on tiered system of supports because you haven't addressed good Tier-1 instruction.

Both Expert 2 and Expert 3 point out that at least 80% of students on Tier-1 should be

achieving adequate progress toward graduation. Expert 3 explained,

> A whole-school approach requires that leadership and faculty examine and adjust the supports being offered to all students on a day-to-day basis. This whole-school approach is implemented, monitored, and adjusted so that at least 80% of the students can meet academic and social-behavioral expectations through a standard curriculum and support.

Expert 3 further explained "With this strong foundational tier, the number of students who need additional support is reduced and therefore becomes more manageable."

Even with the strong foundation of Tier-1 supports, some of the stakeholders voice frustration about knowing the principles of MTSS but not being able to yet implement them in a high school. Stakeholder 4 expressed, "I don't like feeling ineffective and right now in this MTSS, I feel very ineffective. I feel like I'm letting kids slip through the cracks. I feel like I'm not providing enough support to the teachers and I don't like feeling that way at all." However, in response to this frustration of trying to reach every student, Stakeholders 3 and 2 described the importance of teachers building relationships with their students as an important part of high school MTSS. Stakeholder 3 stated that "The relationship piece is a huge piece of the MTSS," and that "Our most successful teachers are those that are able to garner the best relationships with students." Additionally, Stakeholder 4 shares

> There's a cultural mindset that has to happen where teachers keep thinking "I teach content," and they need to remember that they teach students and that's the most important thing. That they won't get through any of their content if they don't build rapport with the student.

At-risk typically undetected. It should be noted that Experts 2 and 3 see that without an MTSS structure in place, at-risk students in high school are typically undetected and therefore

will not receive the necessary interventions for improved outcomes and assistance toward the overarching goal of graduation. Because high school students have multiple classes and each teacher can have as many as 200 students overall, it can be difficult for teachers in high school to be aware of the needs of each individual student the way that a middle school and especially an elementary school teacher would. Academically speaking, Expert 2 explained that "High school offers more content specializations and less individual attention, so at-risk students go undetected more easily." In referring to at-risk behaviors, Expert 3 said that "the advanced placement teachers may never see problem behaviors," because of the higher level of performance of the typical student registered for their classes.

Student involvement. Participants talked about their perspectives on the importance of involving high school students in the MTSS process. Experts 2 and 3 discussed more of the specifics on the importance of including the students in the process and ways that they should accomplish that. These participants reviewed how students could assist in the MTSS process by acting as representative of other students in leadership meetings or by aiding with the application of some interventions. They also reported that by the time students are in high school they are likely more interested in being involved in the MTSS process.

Expert 2 said that "students can take an active role in intervention selection and progress monitoring," and also that "students at the table, I think is more important than ever." Also, Expert 2 described how students can even play a part in leadership or student support meetings, "So, then the other side of that is that ideally having a student at the table for those kid-talks, where it makes sense to have them as a partner with the work." Expert 2 participated in the development of a tutoring center in a high school and commented on expected and unexpected successes and impacts of that center. This expert described it as "having peers work with peers,

especially cross-age tutoring where a slightly older kid was working with a younger one." Expert 2 continued, "by putting peer tutors to work, it gave us an outsize reach and it was a timely intervention. It was based on real time standards the kids were experiencing." Furthermore, Expert 2 said that "it also brought in mentoring and a social-emotional learning component that we completely underestimated at the beginning." Describing how all students benefited by the tutoring center, Expert 2 said, **"**We found that by building in the mentoring component, that kept both sets of kids hooked into the game longer. So, both tutor and the tutee benefited by that dynamic."

In addition to how students could or should be involved in the process, Expert 3 talked about why they should be involved. Generally speaking, Expert 3 pointed out "They're adolescents and they're not going to tolerate being done to. So, you better have them somehow involved actively." And academically speaking, Expert 3 said that **"**high school students are young adults and want to play a role in systems that impact them. Therefore, lesson plans need to be developed in a way that is age-appropriate." While also including thoughts about involvement on the behavioral part of MTSS, Expert 3 stated that

> It is also important to consider the voice of students in the SWPBIS leadership system at the high school level. The developmental stage of high school students will result in them wanting active participation in the planning and implementation of practices.

Another interesting point that Expert 3 brought up on the importance of student involvement made reference to buy-in. Frequently when teachers see that students have bought in, then that will also increase buy-in for teachers as well.

Student gap and urgency. A common theme among participants comprised of the time a student is in high school, and the gap between benchmarks in their education and current

achievement, which has had time to widen since earlier grades. Moreover, by the time students are in high school, there is now greater urgency to assist them. The focus of this urgency has shifted from skills development alone to the overarching goal of graduation. Not only is the time limited from ninth grade to twelfth grade, but the day-to-day scheduling is also limited, and so planning with that balance of the two goals in mind is necessary. The urgency for graduation will also impact the approaches that are required for identification of students with needs and the implementation of interventions.

Commenting on the specifics of this theme, Expert 1 noted, "We're developing a plan to assist the student to make them successful and graduate. The ultimate goal is to graduate you know along with your peers or closely with their peers." Expert 1 also pointed out some ways in which a high school setting is different from other school settings and how that can create even more demands on students' time, which will also impact the urgency for helping high school students quickly and efficiently,

> It's kind of a hard thing to do. I mean you know, a lot of these students, and understandably so, a lot of these students play sports, as they should. They should do extracurricular activities. We need to have them do that as well. So, keeping them after school, and our schools here, the one in my hometown they start at like 7:15 in the morning. So, having students come early it's probably not a good idea either. So, how do you get or give them extra time that they need? Especially those first two years, the freshman and sophomore years their pretty much schedules are laid out for them. There's very little wiggle room, if you will. Could you make it an elective? But then does that elective count towards their graduation requirements? They have so many elective classes

they have to do. So, I think that that's also really important. How do we do that? That's something that I think high schools struggle with.

Another perspective on high school MTSS and student needs was voiced by Expert 1 by indicating that **"**many middle and high school students did not meet the discrepancy requirements between achievement and intellectual quotient when in elementary school," in order to qualify for special education services. In high school "these students still struggle with literacy skills and strategies, which impacts all academic content areas." Stakeholder 4 described how extreme the gaps can be come by the time a student reaches high school, "It seems like, if a kid falls behind in reading, it's two years, maybe. If they're behind in reading at a high school, they could be six or seven years behind." This same stakeholder went on to point out how this wider gap creates difficulty in the classroom where teachers are trying to differentiate the learning in the classroom, "How do I differentiate that? How do I scaffold that? That becomes very difficult."

Expert 3 talked about how difficult it can be to make time for interventions in high schools,

> I think the high schools have a lot of initiatives thrown at them. They are the last stop. And so if you weren't career and college ready then, now they're supposed to be doing career and technical education, they're supposed to be doing citizenship. There's just a lot of stuff.

Stakeholder 7 noticed the same struggle, remarking that

> The reality is when I provide a support for you, you're losing Tier-1 support every time I provide you Tier-2 support…You're losing even Tier-2 and Tier-1 support when I'm

> providing you Tier-3 support because Tier-1 kids are moving on, and so I'm continually backpedaling.

As the participants addressed the urgency of providing assistance to high school students that are at risk, Expert 1 indicated, "They must meet those criteria in order to graduate, I mean there's no way around that. We don't have a lot of flexibility." Expert 1 also quoted Duffy (2007) by saying, "Students who arrive in high school with a previously undiagnosed learning disability do not have much time to respond to the sort of interventions that might help them catch up to their peers" (p. 3). Expert 2 said that because deficits for high school students are likely well established by the time they are in high school that "I'm not waiting around" to wait to give them the additional needed supports. Moreover, Expert 2 gave this perspective on the urgency of providing assistance to high school students,

> Because special education will say you have to have so many interventions at the Tier-1 level before you can go to 2 or 3. And that, to me, is not a good model for high school. To me, we already know their deficits. They are already well established. I want to throw the kitchen sink at them right out of the gate, academically and emotionally; engagement-wise. I can't wait for them to struggle to give them intervention. Because I don't know… I'm not really interested in proving whether they have a disability or not, I'm trying to reduce their risk and build on their strengths. So, that would be, I think, a fundamental. I think it is a fundamental difference between elementary and secondary models.

Students' needs met. Participants agreed that meeting students' needs was a vital part of the high school MTSS process. They described how it fits into the purpose of MTSS in the high school setting, how the system should be set up to meet student needs, and the inclusion of the

students in the assistance process. Stakeholder 1 noted that "I always try to keep the best interest of the kids at heart." As Stakeholder 2 observed "It always boils down to helping students." Stakeholder 3 also described high school MTSS as "Just a way to motivate students in school to be successful; identifying students who need extra supports, whether it's instruction or extended time or other accommodations, whatever it is… to support students in whatever way they need."

Experts provided a similar perspective. According to Expert 1, the purpose of MTSS **"**is a way for us to identify students who are in need of extra academic support," and that it **"**is a way to get these students who needed the extra academic assistance so that they will be successful." Expert 1 also saw it as "a way to help all students succeed" with "the ultimate goal is to graduate you know along with your peers or closely with your peers."

Some participants also discussed the relationship between the system and student needs, and how both should affect each other. Expert 2 indicated that "early, preventive interventions are tiered to best deliver support at increasing levels of intensity based on student needs (usually three or four tiers)." Expert 1 also explained that in meeting student needs, students need to meet "graduation requirements, students have to have so many classes." Addressing the needs of the students within the MTSS approach, Expert 1 stated, "once you get out of that Tier-1 everything is specialized to that particular student. What it is that this student needs in order to be successful so we individualize that plan." In order to ensure educators are serving the needs of the students, Expert 3 shared that,

> High school personnel must be efficient, effective, and cost-effective as they install systems to ensure all students are successful in meeting expected high school outcomes…this whole school approach is implemented, monitored and adjusted so that at

least 80% of the students can meet academic and social-behavioral expectations through a standard curriculum and support.

In the MTSS process in high school, Expert 3 reminds us that it is important to include the students as part of the MTSS process in order to meet their needs,

> It is also important to consider the voice of students in the (SWPBIS) leadership system at the high school level. The developmental stage of high school students will result in them wanting active participation in the planning and implementation of practices…No matter how a high school organizes the inclusion of students, the selection in membership should ensure representation across the many different groups of students within the building.

Expert 1 said that when an elementary student needs additional support "everybody is kind of accepting of that," while in high school level "if you have to get extra help because you can't read or whatever the case may be... that stigma is there."

Expert 1 spoke extensively on the importance of literacy training from all classes in order to meet the needs of students as part of the MTSS process in high school. Also, Expert 1 indicated that "Reading is in every subject," and discussed further the stigma in receiving reading assistance if there is attention brought to them in the process. Expert 1 then continued that **"**having a reading specialist to co-teach and serve as an interventionist to help in developing strategies for the struggling students can assist teachers with the RtI model," and that "students at the secondary education level are reading for content mastery and comprehension. Finding intervention or modifications that are not only age appropriate but also developmentally suitable can be a dilemma."

Finally, Experts 1 and 3 specified that understanding high school students is important in meeting their needs. Expert 1 shared that when we pull a student from their regular high school classroom for an intervention **"**that's just not cool." Expert 1 then further advised that,

> We should not embarrass any of our students…Our intent is to help them, but just by simply pulling them, you know as soon as you go to talk to a high school kid individually everybody thinks he's in trouble. So, that stigma definitely is more prominent up on the high school/middle school level than down in the elementary level.

Expert 3 reminded us that high school students are

> at a time in their development when they want increased autonomy from adults and have greater dependence on peers; don't understand the consequences of their actions; believe they have figured it all out and that they should be part of the decision-making process.

Some of the stakeholders discussed the importance of relationships in meeting students' needs. Stakeholder 2 explained that "I think teachers could play a major role. Sometimes some kids connect really well with a teacher and just like feeling some success in their lives and having an adult showing that they care." Also, Stakeholder 3 said that a "big part of the MTSS is making sure that students know that… no matter what classroom they're going in, they feel like they can go into any teacher's class and be successful and get the help that they need." Stakeholder 4 also described the importance of relationships in meeting the students' needs,

> I think one of the priorities is, if I could get kids to build really good relationships with even half of the adults that they interact with, I'm going to improve the attendance which is going to improve their academic performances. It's all connected together. I have to get on here initially to try to build those relationships. Some of them have already developed these habits of non-attendance in middle school. I feel like everything stems

> from building that relationship with the student. If I can't get my teachers and my counselors and my admin and my secretaries and everyone that interacts with the student to be positive and to be helpful and to be that "We are here for you." That is the whole goal at the school. Nothing else will happen. When we try to get teachers stand at your door and greet your kid, don't just stand at your door, greet student by name, ask them something.

Stakeholder 6 summed up this pattern by stating, "we are here to help kids. What are we going to do to do that? This is what we do."

Summary of Findings

In my own struggles with writing this summary of findings for qualitative research, I came across the following from J. Amos Hatch (2002), "I think qualitative findings are the hardest sections to write up." He also said, "while the findings of qualitative studies report the outcomes of analyses, they are seldom straightforward…" This resonated with my experiences for this chapter, and more particularly with the summary. Though this summary may not be straightforward, I hope the reader will see that all experts and stakeholders provided valuable data for those that wish to learn something more about various perspectives on high school MTSS implementation. The participants reported on the essential elements of MTSS implementation in a high school, important ecological perspectives on the process, and perspectives on the role of students.

Essential Elements. According to participant discussions regarding elements that are essential to the MTSS implementation in high schools, ideas around leadership stood out as an element that the participants saw to be vital in a highly functioning MTSS approach in a high school setting. Participants talked about the role that strong leadership plays in MTSS

implementation and having a principal that really understands MTSS. Strong leaders can influence the success of MTSS implementation when they have an in-depth understanding of the use of data and train others in how to collect, interpret, and make decisions based on that data. The participants also shared perspectives on how strong leaders will take responsibility with the follow through of MTSS components and decisions. The relationships that are fostered by good leaders have an impact on systems change efforts in a large high school system. Several participants reiterated the importance of the relationships that school leaders have with the teachers and how this impacts buy-in. Participants emphasized the importance of the high school leaders' knowledge, ability to train, and ability to build strong relationships.

High school leaders have many responsibilities pertaining to the essential elements of MTSS implementation. Finding ways to bring other stakeholders along in the process can also be a challenge. As buy-in is developed, collaboration was one of the elements identified, which contribute to sustainability of an MTSS approach in high school. With regard to collaboration, the participants reported this element of especial importance in a high school setting. With more individuals that have distinct schedules, collaboration was identified as both more difficult and more necessary in a high school setting. Participants talked about the importance of making time to communicate and collaborate. One participant indicated that these efforts would be made evident when school leaders find teachers of the same subject to all be on the same page in their teaching.

Collaboration can be helpful in unifying teachers, but it is also essential that they receive ongoing guidance and training to that end. PD was another essential element that participants identified as necessary for bringing a high school system along into a system that uses multiple tiers of supports for students. In a high school setting, one participant pointed out how in order

for effective PD to take place, the stakeholders would first need to see what problems exist in their setting in order to be motivated to learn about how MTSS would be the likely solution to those problems. The participants' ideas on what should be taught in these PD opportunities could be categorized into five areas: (a) instructional practices, (b) reading strategies, (c) social/emotional strategies, (d) systems training, and (e) data training. An overarching theme among participants' perspectives on who they thought should be providing the trainings was simply that the individual should have a clear understanding of high school systems. To support this notion, they shared perspectives on how the PD should be provided. The stakeholders were especially insistent that the training be done in a way that would help them apply the training to their context. They would prefer to have MTSS coaches in the school; and again to have them have a strong understanding of high schools. Rather than receiving an all-day PD, they would prefer to have a visiting expert spend less time that is individualized and in their setting where they can apply what they are learning to the context of their distinct high school. There was overwhelming agreement that PD should be ongoing, continuous, and job-embedded.

Professional development helps stakeholders to improve within their respective roles. Perhaps, just as importantly, effective PD can also provide the ability for each individual to see the bigger picture. The idea of alignment falls into this topic of essential elements as well as in the area of ecological perspectives. I will go into a discussion on alignment in more detail here and then touch on it again as part of the ecological perspectives theme. A perspective on alignment in MTSS that is more important in high schools is part of the early implementation phase. Some of the participants talked about a need for implementers to first assess what supports, initiatives, or interventions already exist in the high school. Then, educators need to align them in the high school MTSS system as part of the implementation process, and assign

them to the tiers that make sense in the context of that high school. To align these supports in the system would involve resources such as time and finances, and to find ways to increase efficiency and effectiveness. One participant also identified a need for alignment in the leadership and the importance of bringing in multiple disciplines within the school as part of the leadership team.

As stakeholders work to align the initiatives, interventions, and resources, they will need to be informed on how well these components are functioning through data analysis. Data use was considered an essential element of MTSS in high schools in my data analysis. It is critical to be familiar with data in order to appropriately identify students in need of intervention and in order to monitor their progress. Equally, data are useful in learning how well interventions are working in a school. One participant used the memorable phrase of forcing stakeholders to "look under the hood" as describing the process of using data. Stakeholders need to see how the pieces of the system are functioning and make adjustments accordingly. Most participants agreed on setting decision rules as part of the process. Those that were familiar with EWS recommended it as the best form of data to use, while some were still applying the use of tests and screeners in a high school setting.

Ecological Perspectives. When participants were able to describe their perspectives in ways that applied to the high school system as a whole, their ideas seemed to lend themselves to this theme of ecological perspectives. There was significant data that supported how the principles of MTSS are universally the same for all settings, but would look different when applied to different contexts. The elements of MTSS implementation would therefore look differently in a high school when compared with an elementary school. High schools are structured differently and have logistical differences that impact the system. The students are

different with different skills. The application of MTSS in a high school would require more coordination and planning. Participants described that though MTSS started in elementary settings, it cannot just be "transplanted" to a high school setting. High schools also see themselves as different and this affects the implementation process as well. High schools have more human resources and this can be seen as an advantage to some.

Participants, having emphasized the uniqueness of the high school setting, introduced the possibility of using more than three tiers. One participant uses a tier between green and yellow that is lime green, and a tier between yellow and red that is orange. One stakeholder has branches of the 3-tiered approach, or tiers within tiers. And one stakeholder had an idea for a fourth tier for family interventions. As I mentioned previously with alignment as an essential element, it seems to also apply to this section of how participants were looking at the high school system as a whole. As part of the alignment, participants recommended integrating the various supports in the school. There is a need to make intervention run more effectively. Some said that MTSS is a way of addressing the needs of the whole child. One participant recommends "chunking," where they bring together student of different groups that have similar problems and can receive the same intervention.

Participants also clarified how special education fits within the tiered system. The roles of special educators and general educators were discussed by participants and how they should work in an optimally functioning MTSS in high school. There was significant discussion on how special education and MTSS are separate entities in the system. But also, the traditional roles of general education and special education teachers will need to be different in a MTSS structure. Some teachers believe that special education teachers should not be the individuals to provide the interventions in an MTSS system.

Just as special education is intended to respond to the needs of students, it is also necessary that stakeholders respond to cultural-based needs. Cultural responsiveness was mentioned in a variety of ways as an important part of the high school MTSS process. There were different cultures that were acknowledged by the participants. High schools in general have a distinct culture. Participants commented that the high school faculty and staff culture tend to display resistance to change as a part of their culture. Changing the high school culture is a "huge undertaking". Including parents in the MTSS process is a way of responding to the family cultures. Many see parental involvement as an integral part of the MTSS process. Finally, high schools and the community impact one another and there are ways to include the community in the high school MTSS process. The community can sometime partner with the school in developing strategies and interventions, and one expert has had success in doing this.

Focus on Students. A strong message that was predominant among participants was the importance of serving the needs of all students. The participants recognized the necessity of identifying students in a systematic way, and to ensure that every student that needs assistance will receive it. Just as participants spoke of the need for relationships between leaders and teachers, they also emphasized the need for strong relationships between teachers and students as well. For multiple reasons, by the time students are in high school, students that are at-risk are typically undetected. Also, by the time students are in high school they should be involved in the process. Participants shared multiple methods for including students in the MTSS process. Finally, there is an urgency in high school to provide students in need and many of the methods that require steps to receive assistance in elementary school may be less appropriate in high school. By the time a student is in high school, deficits are established and time is limited for the

ultimate goal of graduation. However, universally, participants saw MTSS as a viable way to meet the needs of high school students.

Chapter Five: Discussion

The purpose of this qualitative interpretivist study was to identify some of the perspectives of experts and stakeholders on MTSS implementation in high schools. I sought to learn what experts and stakeholders perceived to be the definition of MTSS in high schools, what they saw as the main focus of MTSS in high schools as compared to elementary or middle schools, how they view a high functioning MTSS in high school, and the impact of district supports on the implementation process in high schools. In this chapter I will begin by reflecting on my qualitative approach to this study, I will follow with an interpretation of my findings, then discuss potential implications for research and practice, and conclude with limitations to my study.

Methodological Reflections: Trustworthiness, Credibility, and Transparency

Connelly (2016) describes trustworthiness in qualitative research as including credibility, dependability, confirmability, transferability, and authenticity. During my analysis and description of the data for this project, I was able to maintain trustworthiness by using methods that were prescribed by expert recommendation (Percy et al., 2015). I was able to maintain dependability by keeping notes and using a codebook in order to track and analyze interview data that I collected. Confirmability is difficult to demonstrate without member checking and without additional reviews of my data by colleagues, but my intention was to maintain neutrality in reporting the findings from the data. In terms of transferability and authenticity, I feel that the data collected for my study may be applied to other situations in which high schools are

attempting to implement MTSS and that I selected participants that were appropriate for the research questions of my study.

According to Tracy (2010, p. 842), credibility "refers to the trustworthiness, verisimilitude, and plausibility of the research findings." Furthermore, she states that qualitative credibility "is achieved through practices including thick description, triangulation or crystallization, and multivocality and partiality" (p.843). In writing my results and discussion sections, I did my best to share multiple quotes that represented the thoughts and feelings of the participants. Though I am the analytical instrument of this study, I also did my best to remove my views and represent the participants' views as best that I could. Not all triangulation efforts with member-checking were maintained in my study; however, there were still multiple ways that I was able to triangulate the data. I fulfilled the need for more than one data source by including three published documents in addition to the interview data that were collected. In order to determine triangulation of this data, I reviewed my codebook and looked for any differences in coding between expert interviews and expert documents. I found that the data converged with each respective expert. However, the differences found between the experts tended to reflect the expected areas of focus for each of them (e.g., literacy, PBIS, tutoring).

I also included multiple sources for my data, or multivocality, by interviewing experts in addition to stakeholders to triangulate data. My stakeholders came from three different schools, and within the schools I attempted to interview participants from multiple roles within the schools for varied perspectives. In a similar fashion to the triangulation process for multiple sources of data, I reviewed the data between stakeholders in my codebook. Because many stakeholders were informed mainly in the MTSS processes in which they participated, they were unable to respond to some of the interview questions. Thus, triangulation or convergence of the

stakeholder data was difficult to determine in this area of my study. However, this is useful information regarding some of the themes that developed in my research about the importance and the nature of PD in high schools.

"Transparency refers to honesty about the research process (Tracy, 2010, p. 842)." Transparency in my work was demonstrated in my reflexivity statement, but was also demonstrated in my work with my participants and in my description of the data that I collected and analyzed. I shared with my participants the details of my study, provided them with a consent form to sign, and I also made it clear to them that they were not compelled to complete the interviews and could stop at any time if they wish. In my analysis and description of the data during writing of this document, I provided all of the details and steps of my analysis process. I included the weaknesses in my study in order to provide transparency as well.

In addressing my own credibility and trustworthiness as a researcher, it should be noted that my experiences in working in both elementary and secondary settings would impact my frame of reference when analyzing and sharing the data for this study. I also have experience as a qualitative researcher with my master's thesis and two qualitative manuscripts before completing my dissertation. In addition to these professional illustrations, on a personal note, I am a mature student with a variety of life experiences that can contribute to my credibility and trustworthiness. Finally, my experience as a school psychologist and in providing individual therapy has given me experience in one-on-one communication and relationship building in order to elicit information from participants during the interview process. These perspectives and experiences helped me to conceptualize and implement the study, communicate effectively with participants, and analyze and interpret the data presented in this manuscript.

Explanation of Key Findings

Participants' responses indicated some agreement on the definition of MTSS, the perceived most important emphases during implementation, and the participants' description of high functioning high school MTSS. The overarching principles seem to be what participants agreed on, whereas the application of these principles to the context of high school was where the participants sometimes differed. I will interpret the findings in accordance with the themes that developed from the data, essential elements of MTSS, ecological perspectives of MTSS, and focus on students.

Essential Elements of MTSS. All of the essential elements that the participants saw as forming a high functioning MTSS model in high school came through in the interviews and document analyses, and were consistent with the literature on MTSS implementation,

1. The importance of effective leadership teams (Sarlo, 2013)
2. Time for collaboration (Halawah, 2006; Sansosti et al., 2010; Sansosti et al., 2011)
3. Ongoing professional development needed (Sansosti, Telzrow, & Noltemeyer, 2010)
4. Alignment of instruction and initiatives (Duffy et al., 2012)
5. Understanding and using data (Jenkins & Johnson, 2008)
6. Setting and following appropriate decision rules (Jenkins & Johnson, 2008)

Many of the participants in my study reported on the importance of ongoing, job-embedded coaching, which is in alignment with research on PD, but also with the notion that *change is a process, not an event* (Hall & Hord, 2016). The stakeholders from my interviews discussed needing assistance within the context of their individual school settings in order to receive the

needed help to apply the MTSS principles in their context. These stakeholders were all within the same school district and all had general MTSS training, but none that was specific to their respective settings. The need for high school specific knowledge and training from the district has been discussed in the literature (Freeman et al., 2015; NASDSE [District Level], 2008; O'Connor & Freeman, 2012), which is consistent with the perspectives of participants in my study. However, finding people with the time and expertise to provide this type of job-embedded coaching can be difficult. One expert participant recommended a collaborative type of mentorship. It was described as a way for high school leaders to meet from multiple districts in order to share ideas with one another and develop methods of MTSS implementation in the context of a high school. Though nothing about this type of process is mentioned in my literature review, it is similar to an idea that can also be found in the field of counseling, which is called *Lateral Mentoring* (Arthur & Russell-Mayhew, 2010).

Participants also clearly discussed the need for data consistent with the literature on high school MTSS implementation (Duffy, 2007; Hughes & Dexter, 2011; Prewett et al., 2012). Though all participants were in agreement in the importance of understanding and using data in the MTSS process, they did not all identify the same type of data to be used. The research on MTSS in high schools often discussed the role of EWS as a data source for MTSS decision making in high schools (Allensworth, 2005; Blumenthal, 2016; Jenkins & Johnson, 2008). However, there was one expert that identified the use of EWS and no stakeholders referred to EWS as a viable data source despite the availability of EWS data in the district where I did my interviews. In alignment with my other interview data, I would hypothesize that this is in part due to lack of training from the district on how to use these data.

In addition to different data sources, participants emphasized different essential elements of MTSS in their discussions, which reflected the different perspectives that exist in the literature on MTSS implementation in high schools. One participant discussed that MTSS in high schools is used to avoid rushing kids into special education. This perspective is common given that much of the impetus for implementing MTSS comes from special education policy designed to improve the identification and outcomes of students with disabilities (IDEA, 2004). However, many scholars suggest that MTSS is not to be used as a gateway to special education services, but rather is intended to benefit all students with tiered approaches to interventions (Batsche et al., 2005; Fletcher & Vaughn, 2009; Gresham, 2007). Another participant focused on literacy and reading interventions as one of the most important components in MTSS in high schools consistent with some literature (King et al., 2012; NHSC, 2010). However, despite the need for ongoing instruction and remediation in reading, there is research that supports the shift for high school stakeholders to focus on graduation and to not allow intervention time to interfere with the urgency of that timeline (Stoiber & Gettinger, 2016, p. 128). Additionally, though other areas such as behavioral interventions, teacher training, and student mentoring are all important emphases, the current literature maintains that these elements should be aligned with a focus on graduation and used as supports for that goal without interfering with the goal of graduation (Johnson, 2009; Mellard & Johnson, 2008).

Ecological Perspectives of MTSS. One consistent theme from participants was the perspective that MTSS in an elementary setting cannot just be replicated in a high school. Participants said that MTSS implementation in high school needs to be treated differently from elementary school, and that the approach cannot be "transplanted" into a high school setting. This perspective is well supported by the literature. Fuchs et al., (2010) spoke of particular

MTSS elements that are no longer appropriate for secondary settings: the use of screening assessments, waiting for responsiveness between tiers, and the use of the same types of interventions that are used in an elementary setting. These ideas tie into the theme of *focus on students*, and specifically on the pattern of *student gap and urgency*. Most participants made it clear that by the time struggling students are in high school their academics have fallen farther behind and their need for interventions have become more urgent.

Shinn et al. (2016) spoke specifically to the developmental differences between elementary and secondary students, and they also addressed the student culture and climate of secondary settings. The participants echoed these same perspectives and described the need for responding to the culture in a high school when implementing MTSS. High school teachers tend to expect increased academic independence from students, which needs to be recognized when adapting any systems change to a high school setting. The participants also recognized that high school culture includes what students do outside of the classroom, such as driving, dating, extracurricular activities, and other activities that are unique to their age group.

In looking at the high school culture, Duffy et al. (2012) also pointed out the unique culture of each individual high school that impacts systems change. Duffy et al. saw how high school culture could include how stakeholders may see MTSS as an elementary school approach and not for high schools. As participants in my study addressed the cultural differences in a high school setting, they also addressed the community in general that they served and the importance of responding to the community, which can have an impact on MTSS intervention needs. Some participants highlighted the involvement of both parents and students in the MTSS process as part of cultural responsiveness. One expert, in particular, saw usefulness in student involvement in behavioral interventions and in fostering buy-in from fellow students and teachers. Both

Flannery et al. (2014) and Koselak (2011) provided views on how students could be involved in the MTSS process. Flannery et al. (2014) referred to high school students assisting with student behaviors in the high school by (a) making them a part of a problem-solving team that focuses on behavioral issues in the school, (b) involving students in the design of acknowledgement systems for appropriate school behavior, and (c) including the students in videos that are used to teach school expectations rather than teacher-led instruction that is typically used in elementary school. Koselak (2011) provided an example of the academic involvement of students as part of a mentoring system and peer tutoring, in addition to staff assistance in a school tutoring center that provides academic interventions. These examples are in line with my findings regarding increased student involvement in the high school MTSS implementation process.

Participants' perspectives on the number of tiers within an MTSS diverged from the literature for a couple of participants. One of the experts recommended the use of up to five tiers in order to accommodate more students and to use the resources more effectively. Additionally, a stakeholder thought that a fourth tier for family support and collaboration would be appropriate. These conceptualizations of MTSS differ from much of the literature that divides the tiers of MTSS into three tiers (Batsche et al., 2005). Although there is literature that supports MTSS as a continuum of services and there are a few instances of more than three tiers in the literature (Berkeley, Bender, Gregg Peaster, & Saunders, 2009; Duffy, 2007; Fuchs et al., 2010), more research is needed to understand the application of tiers within an MTSS at the secondary level.

Focus on Students. The theme of focusing on students as part of the MTSS process in high school was addressed in a variety of ways. The findings of my research included the priority of student outcomes for all students in the MTSS process, how the at-risk students are

typically undetected, the urgency of assisting students once they are in high school, and ideas on how all student needs are met. Though there may be mention of high school at-risk students being typically undetected in the literature, this was not a phenomenon that I noticed in my literature review. In terms of the urgency of meeting the needs of high school students one author, Koselak (2011), referred to research by Johnson et al. (2009) where they recommended implementing MTSS in stages over time. Koselak responded by reporting on how the urgency of high school needs a more rapid solution. Participants explained that, in to order to meet the needs of all students, Tier-1 instruction must be performing at a proficient level. This is consistent with most literature for all MTSS settings (Duffy, 2007; Duffy et al., 2012; Fuchs & Fuchs, 2007; Shinn et al., 2016;). Some participants believed that without MTSS in place, many adolescents at-risk would likely go undetected because the referral system would miss many students that data collection would likely identify. The literature on EWS discusses the importance of using data in identifying students in need of supports (Blumenthal, 2016; Jenkins & Johnson, 2008; Jerald, 2006). However, the participants' language was strong in stating that at-risk high school students in particular are typically missed because in many settings data is not used for identifying students in need of supports. In my review of the literature, there didn't appear to be a study that provided evidence of the percentage of students that are typically missed without the use of data. Lastly, participants described ways of meeting students' by individualizing their plans and this is supported in the literature as well (King et al., 2012),.

Stakeholder Data. It should be noted here that as I conducted the interviews, I learned that the stakeholders interviewed were less informed on MTSS than the experts. Despite this unexpected difference in the anticipated volume of data from stakeholders, I did find that they still frequently offered insights that were unique. This finding aligns with Hubbar, Mehan, and

Stein's (2006) perspective that experts typically look more for theory around practice while stakeholders are looking more for how to apply the research in their day-to-day practice. Additionally, the data support multiple scholars' perspectives on a need for communication between experts and stakeholders in MTSS implementation, particularly in high school (Brozo, 2009; Fisher & Frey, 2011; King & Lemons 2014; Sansosti et al., 2010a; Sansosti et al., 2010b). The stakeholders in school leadership positions were familiar with principles of MTSS, but struggled with how to apply the principles to their specific context.

Implications for Practice

The findings from this study indicate that despite the basic principles of MTSS being very similar across settings, in a high school context the application of the MTSS approach will be much different. Due to the typical size of most high schools, the developmental stages of the students, the usual attitudes and culture of high school staff, and the goal and timeline of graduation, the implementation of MTSS in high school will likely be increasingly more complex compared to elementary and even middle school settings. These complexities will likely indicate a need for thoughtful attention as high school stakeholders work to implement MTSS in a high school setting. Many participants recognized a need for specialized training in response to the struggles with high school MTSS implementation. Other items from the findings that are particularly unique to high schools are the level of student involvement and the sense of urgency that comes with the timing of graduation drawing near.

In terms of the type of PD that was recommended by the participants, the literature supports the importance of continuous and ongoing PD (Learning Forward, 2011) and job-embedded PD (specifically systems coaching) (Castillo et al., 2016 Erchul, 2015; March, Castillo, Batsche, & Kincaid, 2016). According to the experiences of the stakeholders' reports,

there is a need for job-embedded systems coaching from individuals that are knowledgeable about high schools. Experts, in particular, recommended ongoing coaching in order to provide sustainability in systems change efforts. Stakeholders described the need for systems coaches that could provide training that is specific to the needs of the high school setting. Also, one participant recommended the use of leadership collaboration with other schools in order to share ideas with each other and saw this as a form of professional development or mentorship. This calls for a need to increase district level supports that are adapted to high school settings in some districts where these supports do not exist.

The findings of this study also indicated that in a high school setting it is necessary for student involvement to occur in the MTSS process. According to participants, there appears to be some flexibility in how this would take place, yet the need is recognized nonetheless. High school stakeholders may find an increase in buy-in and/or insights into most appropriate interventions by including students in the MTSS process. Some of the methods of inclusion recommended by the participants could be in providing students the opportunity to select interventions or progress monitoring processes, allowing students to participate in student support team meetings, or having students participate in a study center or tutoring center as a peer tutor. There is some evidence in the use of these strategies. Flannery et al. (2014) included students in participation on problem-solving teams and Koselak (2011) included students as tutors.

Urgency in helping students succeed in the high school setting is something to consider for practitioners as they implement MTSS. The participants of this study recognized the shift in goals in a high school and the new priority of focusing on graduation. These ideas are also grounded in the literature (Allensworth, 2005; Johnson et al., 2009; Stoiber & Gettinger, 2016)

and could inform practice. There were many reasons that the participants highlighted regarding the urgency of helping students toward graduation. High school stakeholders, districts, and state education departments may wish to evaluate any policies that are in place which may not be appropriate for a high school setting; policies which prolong the wait for services. High schools would likely need the liberty to apply interventions as needed in order to help students graduate.

Limitations and Implications for Research

The findings and implications for practice should be interpreted in light of a few limitations. First, this study provided only cross-sectional data, which could be considered a limitation. With the recent development of MTSS in high schools and given the exploratory nature of this study, longitudinal studies that explore how conceptualizations and implementation evolve would likely contribute additional information to the current body of research. Although this study provided information that illustrated how experts and stakeholders conceptualize MTSS implementation at the secondary level, this type of a study could explore how perspectives change over time. For instance, a single case study on a high school that goes through the process of MTSS implementation could provide information that can inform how experts and stakeholders perspectives change as they progress through the implementation process as well as how implementation processes and supports change.

The fact that all stakeholders were from the same geographical area could also be seen as a limitation to this study. All of my stakeholders came from the same region of the country and from the same district. Although having all stakeholders from the same district allowed for a more in-depth look at perspectives from stakeholders with the same district context, participants from other regions and districts may have provided information that would illustrate other ways that stakeholders conceptualize secondary MTSS implementation issues. This same study could

be replicated in other areas of the country or as a larger study with stakeholders from more areas. Because my study provided a perspective on district support without the input of participants that worked at the district level, another study could be conducted which includes the perspectives of district personnel as well.

Despite the rich data from documents provided by the experts, it was quite limiting to not have a written document from the district where I conducted the stakeholder interviews. It would have been helpful to learn about beliefs and guidance specific to high schools in the district. However, the lack of this resource may provide some insight to the high school leaders expressing a need for increased context specific PD. In replicating this study, the researcher may wish to use the district level documentation as a criterion for participation to allow for a more rigorous and in-depth look at implementation from stakeholders' perspectives.

The inability to complete the member-checking process with fidelity was another limitation to this study. Despite advanced explanations with experts and stakeholders regarding the follow-up interview for member checking, all participants did not want to participate beyond the one interview and preferred to review the transcript for any misrepresentation of their perspectives. By not completing the member-checking process, this impacted my triangulation of the data, which can have an impact on the credibility of the data. Though there are some that critique the use of member checking because it implies that there is a single true reality (Tracy, 2016), the use of member reflections could have informed my interpretations of the data and whether additional follow-up questions were warranted. Future research on the topic should include member checking to improve the credibility of findings.

Given the nature of this topic of study with a relatively new implementation process, the interviews and document analysis was somewhat limiting for an in-depth understanding of the

moving parts and complexities to high school MTSS implementation. Additionally, although I attempted to bridge the gap between experts and stakeholders, researchers interested in pursuing this aim should consider conducting participatory action research with co-developed aims and research questions that further explore issues relative to findings from this study and the broader literature. For example, the co-researchers could explore implementation of PD that is high school and context specific, and include both qualitative and quantitative data in order to fully evaluate the process and its impact on MTSS implementation and student outcomes. Researchers also could explore the extent to which it makes sense to implement MTSS in high schools given finite resources? My approach to this research was with the assumption that MTSS in high school is a viable solution to the struggles that high school students are currently experiencing. Some may argue that resources should be provided to elementary students in order to prevent the issues that are identified in high schools. Co-researchers could explore the costs and benefits of implementing in elementary versus secondary settings to determine how best to allocate the finite resources available to school districts.

Conclusions

High school implementation of MTSS continues to be an under researched area in education. Given the state of the literature, understanding both expert and stakeholder perspectives on implementation can help provide valuable information to inform research, practice, and the gap between the two. Perspectives on MTSS implementation in high schools were explored through interviews and written documents of experts on high school MTSS, with additional interviews with high school stakeholders that are involved in varying levels of MTSS implementation. Data from the interviews and documents revealed similar perspectives that are supported by the literature. The data revealed a need for improvement in PD for stakeholders in

order to assist with context-specific application of MTSS principles, for implementing EWS as a data source in high schools for student involvement in the implementation process, and for a shift of focus for high school students to receive as much assistance as possible and as quickly as possible given the goal of graduation as a top priority in the high school setting. Future research that involves stakeholders from high schools is necessary in order to address the needs of high school systems and the students they serve.

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Appendices

Appendix A: Interview Protocols

Interview Protocol for High School Stakeholders:

(Pre-interview: Collect information from the interviewee regarding the level of district support that is offered in the MTSS implementation process [e.g. district MTSS model, level and frequency of training, infrastructure supports, and data accessibility and interpretation training]).

Opening Script: Thank you for your willingness to participate in my research. As a reminder, your name will remain anonymous in this interview and I will be the only person with a key to the numbers that match the interviewee. The questions that I will be asking you during this interview are intended for me to learn about your perspectives and so there are no wrong or right answers to my questions. If at any time during the interview you would like to end the interview or the recording just let me know and I'd be happy to do so. Do you have any questions?

(Interviewer begin recording)

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1. Tell me about your role in the school and on your leadership (or the appropriate name here) team.
    - *Tell me about training and ongoing support you receive(d) for your role in the MTSS process.*
2. Tell me about your definition of Multi-Tiered Systems of Support (MTSS) in a high school.
    - *What is it?*
    - *What do you see as the purpose of MTSS in a high school setting?*
    - *What are your perspectives in comparing MTSS in high schools with other systems approaches for helping students?*
    - *Tell me about your experiences with MTSS implementation?*
3. How do you envision an ideal functioning MTSS in a high school setting?
    - *Describe in detail all of the essential principles and elements of MTSS in a high school.*

- *From the information you've given so far, what do you see as the most important principles or elements when implementing MTSS in a high school?*
- *How is the school infrastructure set up to optimally implement MTSS in a high school?*
- *What might be some of the initial starting points for MTSS implementation in a high school?*

4. From your perspective how would you describe MTSS in a high school as compared to an elementary or middle school? If you have never worked in or with elementary schools, just do your best to respond (Follow up with questions regarding their experience in either middle school or elementary school if they have any).
    - *If the goals and objectives for MTSS in a high school are different than in an elementary or middle school, please explain how they differ.*
    - *Which principles apply to all schools and which to just high school?*
    - *What are your perspectives on priorities for MTSS in elementary school?*
    - *What are your perspectives on priorities for MTSS in middle school or junior high?*
    - *What are your perspectives on priorities for MTSS in high school?*
    - *What are some experiences you've had that led to these conclusions about MTSS in these various locations?*
    - Do you perceive MTSS implementation to be lagging or absent in high schools when compared with elementary or middle school? If so, why do think so?
    - *How would you describe what a leadership team or teams should look like in a high school?*
5. Please describe the level of support and training you receive from you school district in regards to MTSS implementation.
    - *Describe your professional development and/or coaching.*
    - *What processes and procedures does the district provide?*

- *Describe tangible resources or personnel resources or data access the district provides in order to implement and sustain MTSS in a high school?*

6. Can you think of anything else you would like to add regarding MTSS implementation in high schools?
    - *Please provide me with your perceptions and overall understanding of MTSS as it specifically relates to high school implementation.*

(Interviewer turn off recording device)

Closing script: Thank you for your willingness to be interviewed for my study. Before we set up a time for a follow up visit, do you have any questions or concerns regarding your interview today or regarding my study in general?

Interview Protocol for High School MTSS Experts:

Opening Script: Thank you for your willingness to participate in my research. As a reminder, your name will remain anonymous in this interview and I will be the only person with a key to the numbers that match the interviewee. The questions that I will be asking you during this interview are intended for me to learn about your perspectives and so there are no wrong or right answers to my questions. If at any time during the interview you would like to end the interview or the recording just let me know and I'd be happy to do so. When I turn on the recording device I would like you to state your name and that you have given permission for me to interview you and to record the interview. Do you have any questions?

(Interviewer begin recording)

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1. Tell me about your definition of Multi-Tiered Systems of Support (MTSS) in a high school.
   - *What is it?*
   - *What do you see as the purpose of MTSS in a high school setting?*
   - *What are your perspectives in comparing MTSS in high schools with other approaches?*
   - *Tell me about your experiences with MTSS implementation?*
2. How do you envision an ideal functioning MTSS implementation in a high school setting?
   - *Describe in detail all of the essential principles and elements of MTSS in a high school.*
   - *From the information you've given so far, what do you see as the most important principles or elements when implementing MTSS in a high school?*
   - *How is the school infrastructure set up to optimally implement MTSS in a high school?*
   - *What might be some of the initial starting points for MTSS implementation in a high school?*

3. How would you describe MTSS in a high school as compared to an elementary or middle school?
    - *If the goals and objectives for MTSS in a high school are different than in an elementary or middle school, please explain how they differ.*
    - *Which principles apply to all schools and which to just high school?*
    - *What are your perspectives on some of the priorities in terms of MTSS in elementary school?*
    - *What are your perspectives on some of the priorities in terms of MTSS in middle school or junior high?*
    - *What are your perspectives on some of the priorities in terms of MTSS in high school?*
    - *What are some experiences you've had that led to these conclusions about MTSS in these various locations?*
    - Do you perceive MTSS implementation to be lagging or absent in high schools when compared with elementary or middle school? If so, why do think so?
    - *How would you describe what a leadership team or teams should look like in a high school?*
4. Please describe the level of support and training you think a district should offer in regards to MTSS implementation.
    - *Describe the professional development and/or coaching that is necessary.*
    - *What processes and procedures should the district provide?*
    - *Describe tangible resources or personnel resources or data access the district should provide in order to implement and sustain MTSS in a high school?*
5. Can you think of anything else you would like to add regarding MTSS implementation in high schools?
    - *Please provide me with your perceptions and overall understanding of MTSS as it specifically relates to high school implementation.*

(Interviewer turn off recording device)

Closing script: Thank you for your willingness to be interviewed for my study. Before we set up a time for a follow up visit, do you have any questions or concerns regarding your interview today or regarding my study in general?

Appendix B: Interview Probes

Commonly Used Interview Probes

(University of Michigan Survey Research Center as cited by Johnson & Christensen, 2008)

- Repeat the question.
- "Anything else?"
- "Any other reason?"
- "How do you mean?"
- "Could you tell me more about your thinking on that?"
- "Would you tell me what you have in mind?"
- "What do you mean?"
- "Why do you feel that way?"
- "Which would be closer to the way you feel?"

Appendix C: Consent Form

Informed Consent to Participate in Research Involving Minimal Risk and Authorization to Collect, Use and Share Your Health Information

Pro # _____

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

We are asking you to take part in a research study called:
MTSS Implementation in High Schools: Expert and Stakeholder Perspectives
The person who is in charge of this research study is Julie Daye**.** This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Jose Castillo.

The research will be conducted at a convenient location of your choice and can be done at a meeting place or by telephone if you prefer.

Purpose of the study
The purpose of this research is to learn the perspectives of experts and stakeholders on Multi-Tiered Systems of Support (MTSS) implementation in high schools.

Why are you being asked to take part?
We are asking you to take part in this research study because either your peers consider you an expert on MTSS implementation in high schools, or because you are a high school stakeholder that is involved in implementing MTSS.

Study Procedures:
If you take part in this study, you will be asked to:

- Answer questions about your views on MTSS in high schools while being recorded.
- You will be asked about how you define MTSS in a high school, how you envision an ideal functioning implementation of high school MTSS, how it would compare to implementation in elementary or middle school, and to comment on how the level of district supports impact the implementation.

- The initial interview will likely take about one hour and then there will be a follow up appointment to review any responses that are ambiguous or unclear. The follow-up session should take approximately 30 minutes.
- We will make appointments together at times that are convenient for you.
-

Total Number of Participants
About fifteen to twenty individuals will take part in this study at USF.

Alternatives / Voluntary Participation / Withdrawal
You do not have to participate in this research study.

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study.

Benefits
We are unsure if you will receive any benefits by taking part in this research study.

Risks or Discomfort
This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

Compensation
You will receive no payment or other compensation for taking part in this study.

Costs
It will not cost you anything to take part in the study.

Conflict of Interest Statement
There are no known conflicts of interest.

Privacy and Confidentiality
We will keep your study records private and confidential. I, the primary investigator will keep all informed consent and printed materials in a combination lock box. All electronic data will be on the principle investigator's computer which is password protected. All recordings will be deleted at the conclusion of the study and transcripts will be kept for five years before being deleted.

Certain people may need to see your study records in addition to the principal investigator. Anyone who looks at your records must keep them confidential. These individuals include:

- The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff.
- Certain government and university people who need to know more about the study, and individuals who provide oversight to ensure that we are doing the study in the right way.
- The USF Institutional Review Board (IRB) and related staff who have oversight responsibilities for this study, including staff in USF Research Integrity and Compliance.

We may publish what we learn from this study. If we do, we will not include your name. We will not publish anything that would let people know who you are.

You can get the answers to your questions, concerns, or complaints

If you have any questions, concerns or complaints about this study, or experience an unanticipated problem, call Julie Daye at 801-556-0966.

If you have questions about your rights as a participant in this study, or have complaints, concerns or issues you want to discuss with someone outside the research, call the USF IRB at (813) 974-5638 or contact by email at RSCH-IRB@usf.edu.

Consent to Take Part in this Research Study

And Authorization to Collect, Use and Share Your Health Information for Research

I freely give my consent to take part in this study**.** I understand that by signing this form I am agreeing to take part in research. I have received a copy of this form to take with me.

_____ _____

Signature of Person Taking Part in Study Date

_____

Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect from their participation. I confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in their primary language. This research subject has provided legally effective informed consent.

_____ _____

Signature of Person obtaining Informed Consent Date

_____

Printed Name of Person Obtaining Informed Consent

Appendix D: Patterns and Word Codes Defined

Patterns. The secondary pattern codes were developed as I reviewed the primary pattern codes and recognized relationships amongst the data that crossed between the codes and patterns at this level. I found that all of the data from the primary pattern codes also fell within these secondary level patterns; but with fewer identified patterns that are more manageable sets of data for descriptive purposes.

Teacher training. *Teacher training* was assigned to any data that related to teacher learning. It could have referred to training in college programs before entering the career, professional development that was essential in MTSS implementation, or embedded ongoing training in the form of systems coaching or other types of coaching that might include systems level training as well.

Integrated supports. *Integrated supports* referred to the alignment of interventions and systems that were already, or needed to be, in place. It referred to anything that addressed infrastructure or foundational elements to MTSS implementation in high schools. It also addresses any comments about using existing systems and aligning them to a more true MTSS systems approach.

Decision rules. The *Decision rules* pattern applies to any piece of information that relates to decisions and data related to the level of MTSS interventions or related to the type of intervention provided for a student or group of students. It also relates to qualitative data regarding the monitoring of progress when interventions are provided. Decision rules can apply to academics, behaviors, or social/emotional interventions.

Special education and general education roles. Many participants had perspectives that related to the roles of special educators and general educators. Some of the coded data that was

identified pointed to the need for both roles to change, some on how they should differentiate between one another, and some on what special educators and general educators should or should not do. Regardless of the type of information that was provided by the participant of this study, if the data related to the roles of special and/or general educators, the data fell within this secondary pattern.

More than 3 tiers. Many participants of this study automatically assumed and used the traditional ideas of three tiers in a MTSS approach. However, there were also ideas that for high schools it would be necessary to use more than three tiers in order to provide best outcomes for students. Any of the details, descriptions, and ideas regarding more than three tiers is included in this secondary pattern.

Student gap and urgency. This secondary pattern refers to any bit of data that relates to the need to quickly help high school students. There were qualitative data that highlighted how once a student is in high school, the time left towards graduation is limited. These data from the participants typically described how the gaps have likely increased by the time a student is in high school, or on how there is now an urgency to provide interventions and supports quickly. Any mention of either of these ideas regarding how struggling high school students are in great need for immediate assistance is included here.

Students' needs met. This secondary pattern is self-explanatory and includes any description of meeting students' needs. This may include how students' needs are met and what needs are common among this population. It may also include students' needs that are frequently overlooked in high school populations.

MTSS principles vs. context. This pattern refers to what many participants described when comparing MTSS in high school compared to other school settings. Later in this chapter I

will report on how participants describe these differences. But in summary, many agree that MTSS principles should be the same in each setting but that it will look different and impact some implementation details because of the context of the setting.

At-risk typically undetected. This secondary pattern frequently came to light when participants discussed the culture of most public high school settings. They discussed different ways that at-risk students were not typically detected, and different reasons these students were not typically detected. This secondary pattern code would apply to anything related to students at-risk in high school being overlooked or undetected.

Student involvement. Student involvement was discussed by participants as an important element to the MTSS implementation process. Any code that identified ways in which students could or should be involved in the MTSS process was included in this secondary pattern.

Word Codes. Primary pattern codes were developed at the beginning of my immersion into the data. In following the Inductive Analysis steps recommended by Percy, Kostere, and Kostere (2015, p. 80), highlighted data that appeared meaningful and then removed any data that did not relate to my research questions. Then I coded each piece of data and identified a word or phrase that described that piece of data. These primary pattern codes are very basic descriptions of bits of data that were clustered into one of these twenty-three categories. Since some of the data could fall into more than one identifying code, I would sometimes duplicate the data into more than one category. I included any bit of information that related to each of these categories within the respective primary pattern codes. Below, I have provided the names of each code and a brief definition of them.

Infrastructure. Infrastructure refers any piece of the basic underlying framework of the school, district, or state systems that supports the MTSS process, or how any of these systemic pieces work together.

Leadership. This code refers to any indication of who leaders are or who they should be. The leadership code also refers to the importance of leadership in the MTSS implementation process or descriptions of the qualities of good leadership for high school MTSS.

Resources. Any mention of time, financial resources, or resources in personnel, I included in this primary pattern code.

Identification. The identification primary pattern code was used to name bits of qualitative data that refer to how decisions are made regarding interventions for students in the MTSS process. If a participant describes a referral process, data identification process, or assessments that are used to identify students that need interventions, then this primary pattern code was assigned. Anything related to identifying students or not identifying students was assigned this code.

Data. Any mention of the use of data was assigned the data primary pattern code.

Professional development. Any type of training for any educator is included in this professional development code. This professional development or training could refer to pre-career college/university training, state or district training, school-embedded training, or training from professional conferences.

Special education and general education roles. This primary pattern code could refer to the general roles of special education and general education in the MTSS process. Or it could also include reference to individual roles of special educators and general educators; be it how

they are different or similar, or what roles these different educators should play in the MTSS implementation process.

Participant emotion. Although the feelings of the participants are not directly related to my research questions, as a qualitative researcher I was compelled to include this as a code. There were a few times that participants used phrases like "I feel very strongly that…". I thought that it would be important to include these data when analyzing the perspectives of experts and stakeholders.

Definition. Since I ask for a definition of MTSS in high schools as one of my interview questions, this data pattern was a natural inclusion to my codes. Any data that related to defining MTSS in high schools was included in this primary pattern code.

Lagging in implementation. Again, as I also included a question about high schools lagging behind elementary schools or middle schools in the MTSS implementation process, this was also a natural inclusion to my codes. Any data that relates to high schools lagging or not lagging in the implementation of MTSS, or reasons why participants thought this may or may no be happening, was included in this code.

Special education. Any time special education is mentioned in a data bit and is not related to the role of special education, then it was included in this primary pattern code.

Differences in high school. Any mention of some of the differences between high school MTSS implementation and MTSS implementation in other settings was included in the primary pattern code of *differences in high school.* Sometimes participants mentioned differences in the process or also differences in the settings that may impact the process.

High school MTSS barriers. Participants mentioned barriers that do exist or could exist when implementing MTSS in high schools. They also may have mentioned either perceived barriers or ways to overcome barriers. Any mention of these ideas were assigned this code.

Other approaches. Whether participants mentioned alternate systems approaches or other frameworks that would make MTSS implementation less needed are given this primary pattern code.

The goal. Participants described the purposes or goals of MTSS in a high school the same as in other school settings. However, some goals were seen as unique to the high school setting. All references to goals of MTSS in a high school were included in this goal.

Highly functioning high school. When participants provided descriptions of a highly functioning MTSS high school then data relating to any portion of these descriptions received this code name.

Literacy. In elementary school the objective of MTSS is focused more on reading and math skill development (Johnson et al., 2009). Although in high school MTSS the objective becomes more targeted on graduating with a diploma, there is still a need for instruction to improve literacy. Also, some participants see literacy interventions as a priority in high school. Any data that refers to literacy or improving and interventions for reading is included in the primary pattern code *literacy.*

Teachers. This code was reserved for any mention of teachers that does not refer to teaching or that is not specifically coded for special educators or general educators.

At-risk students. The *at-risk students* code refers to participant data regarding students that are not on track to graduate, at-risk of not graduating, or struggling in any way compared to

their peers. Some of the student struggles could be related to academics, behaviors, or social/emotional struggles.

Community. Some participants mention the importance of community involvement in the MTSS process and some share of examples of how it was helpful as well. Any mention of the role of the community in high school MTSS implementation was assigned to this code.

Parent involvement. Parent involvement was also an element of high school MTSS that was shared by some of the participants in my study, and any indication regarding the role of parents in this process was assigned the *parent involvement* primary pattern code.

Students. In addition to student involvement, any mention of the students was included in this code. The secondary pattern code of *student involvement* evolved after most of the data was collected, coded, and analyzed.

About the Author

Julie Daye received her bachelor's degree in marriage and family counseling from Brigham Young University. She later received her education specialist degree in school psychology from Brigham Young University where she was awarded student of the year in the state of Utah by the Utah Association of School Psychologists. The author is currently finishing her fifth year as a school psychologist in a high school at Canyons School District in Utah. She is planning to start her career as a faculty member at West Texas A&M University in Amarillo, Texas at the beginning of next sch•ool year, upon fulfilling the requirements for her doctor of philosophy in school psychology from the University of South Florida.