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Investigating the Decision-Making of Response to Intervention (RtI) Teams Within the School Setting

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by

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DEDICATION

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ABSTRACT

The purpose of this study was to measure decision-making influences within RtI teams. The study examined the factors that influence school personnel involved in three areas of RtI: determining which RtI measures and tools teams select and implement (i.e. Measures and Tools), evaluating the data-driven decisions that are made based on the assessment and intervention data (i.e. Data-Driven Decisions), and analyzing the process and procedures of the decision-making itself (i.e. Process and Procedures). Core RtI team members were asked to indicate which factors they found to be the most influential to both their team and personal decision-making processes, whether the perceptions of their position influence their decision-making, to identify aspects of the decision-making process in which they are involved, and whether those aspects differed across personnel. Additionally, this study examined whether RtI decision-making at the elementary level differed from decision-making at the middle school level.

Faculty and staff from five South Carolina school districts who served on their school's core RtI team were asked to participate in the study. Participants' feedback was collected from the RtI Team Decision-Making Questionnaire. Descriptive statistics measuring frequency and percentages were performed to answer questions related to specific influences, perceptions, and level of involvement within the RtI decision-making process. Additionally, inferential statistics were used; Fisher's Exact Test with a Monte Carlo technique approach was performed to determine associations between level of involvement in RtI decision-making and position, and the Exact Test without an estimate

was used to analyze decision-making between school levels.

Analysis of the results suggest that there are distinct factors that either greatly or minimally influence RtI decision-making, and that team member's positions influence both their tier decision-making and level of involvement within various aspects of RtI. Furthermore, inferential testing does seem to suggest that there are significant associations between position and involvement in different decision-making aspects, as well as significant differences between elementary and middle school. This study concludes by explaining the practical importance of decision-making for both schools and district teams that are in the process of establishing an RtI program, or working to refine and improve their established RtI process.

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LIST OF ABBREVIATIONS

CBM……..Curriculum-Based Measurement

DD.....Data-Driven Decisions

FOI …….Fidelity of Implementation

LOI……..Level of Involvement

MT..... Measures and Tools

PP .....…… Process and Procedures

RtI .....Response to Intervention

CHAPTER ONE

NATURE AND SIGNIFICANCE OF THE PROBLEM

1.1 Introduction

As a result of provisions in the 2004 reauthorization of the Individuals with Disabilities Education Act (IDEA), along with other federal regulations, such as No Child Left Behind (NCLB), teachers should be using strategies and interventions that are based on peer-reviewed research. These laws require that instruction and measurement of student performance use evidence-based practices (Gresham, 2004). Along with evidence-based practices, implementing an educational program within a school setting requires other essential components, such as meaningful assessment and progress monitoring (Mellard, 2005; Mellard, Byrd, Johnson, Tollefson, & Boesche, 2004).

According to Gresham (2005), instructional programs should have reliable methods and procedures. To ensure that evidence-based practices are followed, educators are required to attend to several elements. First, evidence-based curriculum and instructional strategies are defined as those practices that are applied systematically with objective procedures, and require empiricism, reliability, and validity (Glover & DiPerna, 2007). Ensuring these scientific practices are used, the implementation of such interventions should be monitored (Gersten, Compton, Connor, Dimino, & Santoro, 2009). Second, programs should be based on meaningful assessments. A meaningful assessment needs to measure what the student knows and what he is able to do; the performance on the assessment guides accurate decision-making about the student (Green

& Johnson, 2010). Third, educators should collect data to monitor a student's progress. By using evidence tools to collect objective data, both students and teachers have the ability to track progress and monitor growth toward their goals through progress monitoring (Deno et al., 2009; Glover & DiPerna, 2007). Progress monitoring helps teachers design instruction (Stuart & Rinaldi, 2009) through effective, personalized, instructional strategies (Fuchs & Fuchs, 2006), in addition to allowing educators determine whether the student is progressing towards their established goal and criteria.

Finally, to ensure that evidence-based interventions serve their intended purpose and produce their expected results, educators need to measure the fidelity of implementation of the intervention. Fidelity of implementation, or treatment integrity, means that each component of a program is implemented in a consistent manner (Hagermoser-Sansonetti & Kratchowill, 2008). When interventions are implemented with fidelity, there are no marked departures of the standardized, recommended procedures, which can render research-supported strategies ineffective (Carter & Pesko, 2008). Fidelity and integrity are used interchangeably; they both refer to the degree to which a plan is implemented as intended.

Nellis (2012) outlined the importance of two types of integrity: intervention and procedural. Intervention integrity addresses the frequency and quality of the specific interventions provided in an educational program. Procedural integrity refers to the consistency with which the overall educational program is implemented. It is this procedural integrity that allows for the components of an educational program to be successful – namely, the collection and application of progress monitoring data to allow for making valid educational decisions. Evidence-based practices implemented with

fidelity and procedural integrity help guide school and district decision-making. These decisions should have one goal or purpose in mind – increasing student outcomes. One educational framework based upon these decision-making precepts of increasing student outcomes is response to intervention (RtI).

Response to Intervention

The RtI model is an educational framework designed to prevent educational failure through the measurement of student responses to evidence-based interventions (O'Donnell & Miller, 2011). According to Mellard et al. (2004), the key to successful implementation of RtI is high-quality, researched-based, developmentally appropriate instruction provided in the general curriculum. The RtI framework relies on active data-collection for progress monitoring, which provides the teacher with data to determine if that student is on-track to meet their established learning goals (Deno et al., 2009; Fuchs, Fuchs, & Compton, 2012). Additional interventions are then added, changed, or modified based on that student's progress monitoring (Fuchs & Fuchs, 2006). RtI represents an approach to establishing and redesigning learning environments to ensure that they are effective and relevant to all stakeholders (Mellard et al., 2004). RtI requires schools to shift from identifying students with a deficit to identifying students at risk (Ardoin, Witt, Connell, & Koenig, 2006).

According to Davis et al. (2011), RtI is typically constructed as either a 3 or 4 tier prevention system. The first tier is a core curriculum of research-based instruction provided to the entire school. This tier involves a screening measure, which is a benchmark for assessing all students. This data is then used to help identify those students who are at-risk for continued academic difficulty, and who would require

additional interventions (Fuchs & Fuchs, 2006). In tier 2, a student's response to intervention is monitored to determine whether the student is making progress and working towards mastery of their established goal. If a student is determined to be non-responsive, after a series of attempted changes within the interventions, they would then move to tier 3. Tier 3 involves predominantly individualized, intensive intervention that again relies on data-driven decision-making and the use of consistent, frequent progress monitoring. If a student is still not responsive based on all these levels of differentiated supports and interventions, an evaluation for eligibility determination is pursued.

Inherent in all of the tiers and levels of support is the idea that the screenings, progress monitoring, and intensive interventions form the basis for making RtI decisions. They enable student progress to become quantifiable (Gersten et al., 2009), allowing for RtI personnel to make data-driven decisions, which Bernhardt (2009) describes as the process of using data to inform decisions to improve teaching and learning. For example, RtI requires those involved in the interventions to use systematic decision points to guide their data-driven decision-making (Hoover & Patton, 2008).

However, the decision-making process is not exclusive to RtI. There are a number of factors beyond RtI that influence how schools and districts make their decisions. Before looking more closely at RtI decision-making processes, there first needs to be a greater understanding of decision-making in general.

Decision-making

As is the nature of education, schools and districts are required to participate in many decision-making activities at any given time. Research suggests there are a number of different factors that influence how decisions are made. Decision-making factors

include the leadership's involvement (Noel, Slate, Brown, & Tejeda-Delgado, 2008) and influence on others (Knotek, 2003; Sauer, 2011), whether decisions are made individually or through a shared approach (Kessler, 1992), and when a shared approach is taken, considering team aspects such as functioning and dynamics (Dierdorff, Bell, & Belohlav, 2011). While these and many other factors impact the decision-making process, it is the school personnel involved who have the ultimate responsibility for making decisions.

Decision-making relative to student performance varies between schools and districts, as different school personnel tend to think differently about instruction and decision-making aimed at raising student achievement (Breiter & Light, 2006). Some schools have a team of educators tasked to set policies and procedures and implement the mission and vision of the school, whereas others rely on a relative few, each with distinct, independent responsibilities. However, this expert model, which is characterized by school professionals addressing segregated goals with little integration or collaboration, is not the intent of IDEA's reauthorization, the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) (Clark & Flynn, 2011).

The antithesis of the expert model, and what IDEIA recommends, is a more collaborative team process approach, especially in the area of decision-making (Fuchs et al., 2012). In many schools, decisions related to student achievement are made through school teams. Some names include the Problem-Solving Team (Newton, Horner, Todd, Algozzine, & Algozzine, 2012), the Intervention Assistance Team (Goodman & Webb, 2006), the Site-Based Decision-making Team (Noel et al., 2008), or the Child Instructional Support Team (Kovaleski, 2007). Regardless of the name, their function remains the same.

There are several factors that influence a team's decision-making processes. They include the self-perceptions of the team members (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007), their status (Barnard, Baird, Greenwalt, & Karl, 2001; Knotek, 2003) and roles (Burns, Wiley, & Viglietta, 2008; Scott, Alter, Rosenberg, & Borgmeier, 2010) within their overall committee or team, the power of group influence (Anderson, Spataro, & Flynn, 2008; Aube, Rousseau, & Tremblay, 2011), and with respect education, the importance of the team members using data with validity to make appropriate educational decisions (Burns, Scholin, Kosciolek, & Livingston, 2010; Hoover, 2011; Shapiro et al., 2012). Research indicates that these factors can have a strong influence on those personnel involved in their decision-making (Hoover & Love, 2011).

With respect to teacher perceptions, research suggests that the power of perceptions may influence decision-making. The accuracy of the decisions that teams make can be compromised due to the existence of educator bias resulting from subjectivity, incompetence, or false self-perceptions (Goodman & Webb, 2006). Nunn, Jantz, and Butikofer (2009) discuss how teacher perceptions may influence their ability to directly influence positive student learning outcomes, and how this self-efficacy can impact their educational decision-making. While these beliefs may be beneficial for a teacher's individual class setting, they can adversely impact the rest of the team's overall decision-making (Nunn et al., 2009).

Teams also need to be aware of issues related to power, procedures, and purpose. Clark and Flynn (2011) state how each of these areas must be determined before teams can effectively work to meet their intended goals. Likewise, team staffing (Anderson et al., 2008) and dynamics (Barnard, Baird, Greenwalt, & Karl, 2001) need to be

considered. The power of groupthink and collectivism can also affect team performance, as Dierdorff et al. (2011) discussed when describing their findings on the relationship between psychological collectivism and team functioning. Of course, groups and teams may also be associated conflict; Shaw, Duffy, Zhu, Scott, and Shih (2011) studied the relationship between high levels of team relationship conflict, and its impact on task conflict and team functioning and performance. This groupthink can lead to bias, to where an educational decision may be made based on either conscious or unconscious subjectivity (Goodman & Webb, 2006). Leadership may also impact decision-making. Balkundi, Kilduff, and Harrison (2011) discuss the effects leaders of an organization can have on their team's performance, the roles they play within their team, and the influence they have on their team's balance of power. Sauer (2011) discusses the effects that a new leader and their style have on a team's performance, and their implication that power can influence others in a group.

Lastly, the importance of using data to make valid decisions can result in meaningful differences in the way problems are perceived and addressed. Many districts and schools think differently about the potential that data has to inform instruction and decision-making (Breiter & Light, 2006). The process for making decisions varies between schools and districts due to factors such as understanding the school's current performance, knowing if the school is meeting its established goals, evaluating what is working and what is not, and predicting and preventing failure (Bernhardt, 2009). Reeves and Burt (2006) highlight the fact that while data-based decision-making can lead to positive educational outcomes, there is a multitude of challenges that the school leaders (i.e. the principal) can face. These challenges include teacher knowledge of data

interpretation, teacher and student issues specific to the school, data collection processes, and interpretation of the data to appropriately adapt instruction. Breiter and Light (2006) discuss how team decision-makers may not even be aware of or consider the specific data they rely on and use to make each decision.

Recognizing the purpose of the decision-making teams, the effects they can have on students, and the various factors that influence educators' involvement in the decision-making process can easily be applied to RtI decision-making. In fact, many of these same decision-making factors are relevant to RtI teams. The participants on these teams oftentimes share the common purpose of identifying and resolving students' academic difficulties, often within a response to intervention framework (Sugai & Horner, 2009).

RtI decision-making

Similar to school-wide decision-making processes, there are many variables that are part of a school or district's RtI decision-making process. Fuchs and Fuchs (2006) discuss how decision-making is necessary throughout the entire framework. Valid decisions from a RtI model result in reduced risk and improved outcomes for children (Burns et al., 2010). Accuracy in decision-making relies on data that is collected throughout many components of the RtI framework. RtI relies on sources of data collected during universal screening (VanDerHeyden, 2010; VanDerHeyden Witt, & Gilbertson, 2007), as part of ongoing instructional practices (Mellard et al., 2004; Shinn, 2007), and progress monitoring (Ardoin, 2006; Evans & Owens, 2010). However, before the data can be collected, decisions need to first be made regarding the types of screening and progress monitoring measures and tool that are implemented. For example, different researchers recommend different tools for curriculum based measurement (CBM) (Deno

et al. 2009; Shapiro & Clemens, 2009). Determining which assessments to use when implementing RtI depends on relevancy, efficiency, and whichever allows the team to make the best data-driven decisions to meet each student's needs (Danielson, Doolittle, & Bradley, 2007).

Stuart and Rinaldi (2009) discuss how there is a critical need for schools and districts to develop an overall screening process, which includes choosing a screening measure and determining the purpose of a screen (McAlenney & Coyne, 2011; VanDerHeyden, 2010). Mellard and McKnight (2007) developed a tool to help guide teams select a screening tool. Additionally, with respect to progress monitoring, Deno et al. (2009) discuss the issues associated with selecting and implementing a progress monitoring tool, and O'Connor and Freeman (2012) discuss how choosing a progress monitoring tool may depend on the resources the district can allocate and ease of probe use, along with accuracy of the data the tool collects (Ardoin, 2006). Progress monitoring provides the information necessary for decision-making (Deno et al., 2009; Kratchowill, Volpiansky, Clements, & Ball, 2007), and is the cornerstone to an RtI model (Glover & DiPerna, 2007). Continuous progress monitoring allows for the collection of systematic decision points that help determine which additional interventions and strategies to implement (Zirkel & Krohn, 2008).

Selecting and implementing measures and tools allows for educators to accurately collect data to meet one of RtI's most critical and complex aspects: data-based decision-making (Ball & Christ, 2012). Among others, these tools collect data to help RtI personnel determine tier placement, individualize interventions, and document a student's responsiveness to each intervention (Fuchs & Fuchs, 2006; Mellard et al., 2004; Sugai &

Horner, 2009). Shapiro and Clemens (2009) discuss how individual student screening and progress monitoring data allows for decisions to be made on a variety of RtI related determinations, including interventions, movement within and between tiers, and when to refer students for an evaluation.

Data also allows teams to select tier placement based on when determining student responders and nonresponders (Fuchs & Fuchs, 2006; Shapiro et al., 2012). VanDerHayden (2010) discusses indicators that help teams determine the decisions that should be made based on the universal screening data. McAlenney and Coyne (2011), along with VanDerHeyden (2011), outline multiple solutions and approaches for increasing the accuracy of screening measures, and how best to use the data obtained from those measures to make informed, accurate decisions. Deno et al. (2009) discuss the need for schools to maintain a consistent focus on data by developing data decision-making criteria. For instance, data-driven decision-making guidelines need to be established in areas such as instructional changes (Sgouros & Walsh, 2012) and student goal setting (Fuchs et al., 2012). Data is also needed for schools and districts who are attempting to implement an RtI model. RtI readiness data indicates the specific needs of the school, which allows them to establish processes and procedures throughout the various components of the framework (Tyre & Feuerborn, 2012).

A third area within the RtI framework where decision-making is needed is in determining general processes and procedures. Establishing processes and procedures to ensure that accurate decisions are made is critical to the RtI framework's success. Wanzek and Cavanaugh (2012) discuss types of RtI process decisions that need to be made, such as the type of materials and resources to use, the size of student groups, and

determining the instructional staff involved in providing the interventions. According to Fuchs and Fuchs (2006), three considerations for making decisions within each level of intervention include intervention efficacy (e.g. measuring the efficacy of the current tier programs), assessment integrity (e.g. defining responsiveness), and feasibility (e.g. resources available). Other considerations include logistics of implementation, such as scheduling (Prewett, Mellard, & Lieske-Lupo, 2011), as well as determining the personnel involved in the RtI decision-making process (Abbott & Wills, 2012). Additionally, teams need to develop fidelity procedures. Establishing treatment integrity procedures allows for schools and districts to critically and objectively evaluate the effectiveness of their RtI system to make necessary decisions (Zirkel & Krohn, 2008). The need for fidelity of implementation will guide the RtI decision-making process in the areas of assessment practices, instruction and intervention delivery, and logistics and procedures (Keller-Margulis, 2012).

Hoover (2010) discusses that these core RtI components are tied to decision-making, which includes fidelity in both instruction and assessment. In fact, an error in any one of these RtI components could compromise the decision-making. According to Keller-Margulis (2012), accurate decision-making cannot be assumed without fidelity in RtI. For example, a reliable screening could be administered with fidelity, but if the data interpretation is not accurate, then the decisions made based on that data are rendered ineffectual. To ensure that valid decision-making occurs, a demonstration and understanding of the functional relationship between student responsiveness and exposure to the intervention is required (Duhon, Mesmer, Atkins, Greguson, & Olinger, 2009). An understanding of the special education decision-making protocols is also

required. Shapiro and Clemens (2009) measured the accuracy of the team's decision-making with respect to student referrals for special education. Gresham, MacMillian, and Bocian (1998) previously conducted a similar study.

RtI processes and procedures also include the way schools and districts establish their RtI program. Fuchs, Fuchs, and Compton (2004) outline various types of decision-making processes, depending on whether schools use the problem-solving or the standard treatment protocol model. Carney and Stiefel (2008) describe the problem-solving model as an inductive approach, where a school-based team of educators evaluates each individual student's data before making instructional decisions collectively. Conversely, with the standard treatment protocol method, the RtI process is provided through a standard delivery system, and the protocol (i.e. the intervention) is delivered in a predetermined format (Fuchs et al., 2004). A third decision-making model, which is a hybrid, is a blend of components between these two models (Marchand-Martella, Ruby, & Martella, 2007). As part of this blended model, schools can incorporate both approaches within the entire RtI paradigm (Carney et al., 2008).

The essential consideration within each of these three areas is the RtI team, which have many decision-making expectations. RtI teams are involved in decision-making related to student performance (Fuchs et al., 2012), assessments (Burns, Vanderwood, & Ruby, 2005), choosing both universal and individualized instructional interventions (Fuchs & Fuchs, 2006), developing the logistics related to implementing those interventions, and data driven decisions, such as determining student movement in interventions (Abbott & Wills, 2012). The various personnel involved on the RtI team are a key determinant of the decisions that are made. However, RtI teams may vary by

size (Knotek, 2003), the personnel's discipline area (Conderman, Johnston-Rodriguez, Hartman, & Kemp, 2010), and the presence and/or role of the special education teacher (Fuchs et al., 2012). Nunn and Jantz (2012) discussed the association between a teacher's perceived skill and their perception on the outcomes within the RtI model, drawing the conclusion that while a core teacher needs to be involved in decision-making, it should not be to the exclusivity of other educators and personnel.

Purpose of Study

Studies have looked at particular aspects of the RtI teams, such as teacher perceptions of their roles within RtI with respect to intervention implementation and instruction (Swanson, Solis, Ciullo, & McKenna, 2012), or the overall effects of team member support and acceptability (Yetter, 2010). Some researchers have studied particular aspects of the RtI decision-making, such as how teams use data for classification agreement to make decisions (VanDerHeyden, 2011), special education referral (Hoover & Love, 2011), screening (Shapiro et al., 2012), or decision-making with fidelity (Bianco, 2010; Keller-Margulis, 2012). However, none have measured RtI team decision-making. There is a need to identify the different decision-making factors that influence teams and specific school personnel involved in RtI. The outcomes of team decision-making are critical components of the RtI process, and gaining a full understanding of the nature of the decisions is crucial in evaluating the impact on a model (Shapiro et al., 2012).

Additionally, RtI personnel decision-making has not been studied in any school level, and comparing them may even demonstrate variability in the decision-making processes between teams. Sanger, Friedli, Snow, Brunken, and Ritzman (2012), as well

as Fuchs et al. (2004), argue that the problem-solving approach is necessary at the secondary level. As opposed to elementary, middle and high school levels require a greater interdisciplinary focus, and with this approach, a problem-solving team of various educators of different disciplines need to be able to collaborate and work together (VanDerHeyden, 2010; Vaughn & Fletcher, 2010; White, Polly, & Audette, 2010). Middle school requires a comprehensive framework that incorporates problem-solving (Dulaney, 2012). Comparing the different school levels may even demonstrate variability in the decision-making processes between teams.

Measuring the different decision-making factors that influence school personnel involved in RtI, comparing them, and determining the relative strength these factors play in the decision-making process, would serve to advance the knowledge of RtI team decision-making. Not only would this allow for RtI practices and procedures to be objectively measured, it would help to explain the reasoning behind how and why RtI teams make their decisions. This will provide school and district administrators with an understanding about their current practices and clarification about what they need to continue to improve on, which will better prepare teams for recognizing the influences that have the greatest impact on their RtI decision-making.

The overall purpose of this research study is to examine multiple factors that influence the decisions of educators participating on RtI teams. The study will specifically examine factors that influence school personnel involved in the following components of the decision-making process:

1. Determining which research based assessments, curriculums, progress monitoring probes, evidence-based interventions, and the measures associated with them, are

implemented in the school setting (i.e. Measures and Tools).

2. Evaluating the data-driven decisions that are made based on the assessment and intervention data, including the rules, guidelines, and processes involved in these determinations (i.e. Data-Driven Decisions).
3. Analyzing the process of the decision-making itself, including the model approach, the dynamics of the team members, and the influences (internal and external) impacting decision-making (i.e. Process and Procedures).

The results of this study will contribute to the literature on RtI in several ways. Examining the nature of decision-making in each of these areas would provide greater insight for those educators involved in the RtI process. This analysis will help schools and districts determine the success of the RtI instructional model in a practical, useful manner. Second, by looking at the decision-making process across these three components of RtI, practices and procedures can be objectively identified. The results also will explain how and why RtI decisions are made, and whether some team members are more involved that others in the decision-making. Lastly, comparing decision-making similarities and differences between school levels (i.e. elementary and secondary) will identify similarities and differences, and highlight what RtI personnel value within each level. This will help teams recognize those influences that have the greatest effect on their decision, allowing them to ultimately make better, more informed decisions. The proposed study will answer the following questions:

1. What factors do RtI team members report as the most influential to their team's overall RtI decision-making processes?
2. What factors do RtI team members report as the most influential to their personal

RtI decision-making processes?

3. Do team members' perceptions of their positions on their RtI team influence their decision-making within each RtI tier?
4. In what aspects of the decision-making process do team members report participating in for each RtI area? Do these aspects differ across roles and personnel?
5. Do the decision-making aspects of RtI personnel differ according to school level (elementary v. middle v. high)?

1.2 Definitions of Relevant Terms

The following terms are defined according to their operational definitions and how their meanings are used in this study:

Curriculum based measurement (CBM): CBM are simple procedures used to measure student growth in academic areas. The data collected are used to make determinations about student responsiveness towards their instruction. An example of a CBM for reading would be a measure for oral reading fluency (ORF) (Ardoin, 2006; Capizzi & Barton-Arwood, 2009; Deno et al., 2009).

Fidelity of implementation: Fidelity of implementation (FOI) is monitoring whether all elements of an intervention or plan were implanted as originally intended. This term is synonymous with the term treatment integrity (Glover & DiPerna, 2007; Gresham, 2004; Hagermoser-Sanetti & Kratchowill, 2009).

Progress monitoring: Progress monitoring consists of periodic measurements to determine what learning targets each student has or has not mastered, and track overall student progress towards an established learning target (Fuchs & Fuchs, 2006; Shapiro &

Clemens, 2009).

Response to Intervention (RtI): RtI is a collection of evidence based instructional methods and practices, that combined with progress monitoring and tiered levels of interventions, identify and provide additional services to students who need them. The purpose of RtI is to serve as a prevention model that differentiates and provides intervention and instruction for the sole purpose of benefitting every student's learning outcomes (Davis et al., 2011; Fuchs & Fuchs, 2006; Shinn, 2007).

RtI Data-Driven Decisions: The decisions that are made based on the data collected from the measures and tools within a school's or district's RtI program. Such indicators may include determining placement into and movement out of a tier, determining a student's progress within and across tiers, and referral for special education (Burns et al., 2010; Hoover, 2011).

RtI Measures and Tools: The selection of different types of measures and tools that are implemented into a school's or district's RtI program. Such indicators may include the measures and tools used to measure progress monitoring (such as screenings, benchmarks and CBM), and the curriculum(s) and interventions provided within each tier (Shapiro et al., 2012; Shapiro, Solari, & Petscher, 2008).

RtI Processes and Procedures: The key elements that pertain to the processes and procedures that are implemented in a school's or district's RtI program. These may include the logistics involved in implementing a school's RtI model, how fidelity of its implementation is analyzed, measured, and tracked, the resources directly involved in the program, and the professional development that is provided to the educators involved (Abbott & Wills, 2012; Nellis, 2012; Prewett et al., 2011; Wanzek & Cavanaugh, 2012).

Student responsiveness and non-responsiveness: Students who perform at or above the criteria to indicate risk are determined to be responsive. Students who fall below the criteria are considered nonresponsive and are identified to receive additional support and interventions (Fuchs & Fuchs, 2006; Gersten et al., 2009; Stuart & Rinaldi, 2009).

Team-based RtI decision-making: The RtI team is the decision-making body who helps shape a school's RtI framework. The process by which they make decisions related to a school's or district's RtI program are based on the input of those stakeholders who have first hand, direct knowledge of the relevant issues related to the educational topic. For example, a team of educators may discuss any area of RtI related to the school or district, before coming to consensus to implement that decision (Sugai & Horner, 2009).

Universal Screening: Universal screening is an approach to measurement that is used to identify (and predict) students who may be at risk for poor learning outcomes or are having current difficulty. This screening is given to all students three or four times each year (McAlenney & Coyne, 2011; VanDerHeyden, 2010).

CHAPTER TWO

REVIEW OF THE LITERATURE

As a result of legislation and legal mandates, educational programs in schools are required to be evidence-based, outcomes oriented, and peer reviewed (Gresham, 2005). The recent reauthorization of IDEA (2004) explicitly states that schools and districts are required to provide scientifically based interventions (Burns & Yesseldyke, 2005), and if a student is not responsive in their instruction, additional supports and interventions need to be provided. Response to Intervention (RtI) is a process that builds on concepts found in IDEA and NCLB, as it requires that students receive effective instruction (Barnett, Daly III, Jones, & Lentz Jr., 2004). When followed correctly, emphasizing scientifically based, effective programs in practical ways, such as RtI, allows for improving the instructional outcomes of students (Mellard et al., 2004).

While evidence supports individual components of RtI, there is little quantitative evidence measuring how the decisions within RtI teams are made, the decision-making processes based on these components, and the decisions themselves. A gap in the literature exists with respect to measuring the process and procedures of decision-making within RtI teams, and in particular, how and why RtI personnel make their decisions. The outcomes of team decision-making are critical components of the RtI process; gaining a full understanding of the nature of these decisions is crucial in evaluating the impact on a model (Shapiro et al., 2012).

This literature review will first examine the implications educational reforms have on RtI and its overall components, including areas where decisions within RtI are required. Then current research on the psychological influences on teams will be studied, including how teams engage in decision-making, followed by its application and generalization to school based teams. Finally, RtI decision-making will be examined looking at predictors for decision-making within the RtI team, and measuring the influences of RtI personnel involved in those decisions.

2.1 Introduction

Educational Legislation, Reform, and Components

The reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA), which was an enhancement of the IDEA of 1990, was in part designed to ensure that state and local education agencies meet the unique, individualized needs of each student with a disability by providing meaningful services and programs that require validation and empirical evidence. The reauthorization was further enhanced with the regulatory alignment with another piece of educational legislation, the Elementary and Secondary Education Act (ESEA) of 2001, also known as No Child Left Behind (NCLB) (Sugai & Horner, 2009). One such area of alignment is the requirement of scientifically based research.

According to IDEA (Part 300), under the definition of C.F.R § 300.35, a scientifically based research practice must be accepted by a peer reviewed journal or approved by a panel of independent experts through rigorous, objective, and scientific review. The meaning of empirical practices is also defined in section 9101(37) of NCLB and places a strong emphasis on research based supports and interventions. Upon

passage of these regulations, emphasis on student performance and the requirement that instruction utilize evidence-based practices were the new standards for education (Hoover & Patton, 2008).

A variety of terms are used to describe scientifically based research, including research-based curriculum or methods, evidence-based educational methods, evidence-based interventions, or evidence-based practices. According to Hoover and Love (2011), these terms refer to both curriculum and interventions. They argue that the term research-based is linked to overall comprehensive content curriculum, while evidence-based is linked to specific interventions.

In sum, responding to scientific, evidenced-based practices is an emphasis of both IDEA and NCLB. However, when implementing an instructional paradigm such as RtI, there are other equally essential components. These components include evidence-based practices, assessment, progress monitoring, fidelity of implementation, and effective decision-making.

Components of RtI That Require Decisions

Evidence-based practices. Any intervention or teaching strategy a school implements needs to have science behind it. According to Gresham (2004), evidence-based, scientific practices are those that are applied systematically with objective procedures, and require empiricism, reliability and validity. The purpose of an evidence-based practice, therefore, is to collect accurate, adequate objective information in order to guide instruction to best meet the needs of each student (Gresham, 2005).

However, evidence-based interventions are not always used. Interventions implemented in schools often do not have empirical support and are chosen for reasons

such as personal appeal, popularity, or perceived ease of implementation, rather than the degree of research supporting their use (Gresham, 2004). Ensuring the implementation of scientific practices allows for the process to be monitored (Gersten et al., 2009). Implementing RtI with integrity provides context for intensifying, modifying, or changing an intervention. These decisions must be based on data that are accurate.

Assessment. According to Green and Johnson (2010), any type of assessment should be designed to find out what a student knows and is able to do. Assessment is a collection of methods that allows educators to measure student outcomes. Measurement is validated in relation to its purpose (Carmines & Zeller, 1979); the purpose of assessment is to determine a student's knowledge, skills, and abilities prior to, during, and after instruction, as well as their mastery of established target goals (Green & Johnson, 2010).

Within RtI, there are different types of assessments that need to be provided at various points in the learning process. One type of assessment is diagnostic, or benchmark, assessment. This type of assessment provides the teacher with the information about what a student currently knows and is able to do. This data allows for the teacher to identify areas of student weakness and provides information about a student's learning rate and comparative level of achievement (Fuchs & Fuchs, 2006). Another term for a benchmark is called universal screening, which the National Center on Response to Intervention (rti4success.org) defines as an approach to measurement used to identify and predict students who at risk for poor learning outcomes (Fuchs et al., 2012).

Another type of assessment is formative assessment, which is a type of assessment that teachers use to plan and guide their instruction. Formative assessment

consists of probes the teacher uses to determine levels of student learning while instruction is taking place (Capizzi & Barton-Arwood, 2009). Formative assessments measure student progress towards mastery of their learning goals by allowing teachers to diagnose student ability, difficulty, and progress. This type of assessment also allows teachers to evaluate their own instruction (Deno et al., 2009), and recognize a student's responsiveness towards that instruction (Stuart & Rinaldi, 2009).

Regardless of the type of assessments implemented in RtI, there are several considerations within this area that needs to be taken into account. Danielson et al. (2007) discuss how assessment should measure data that is most relevant and helpful for setting student goals. Moreover, assessments need to be efficient, taking into consideration practical implications like training, time allocation, and locations. Lastly, assessment should focus on data that allow teachers to make the best educational decisions on what the student needs. According to Green and Johnson (2010), validity consists of whether the assessment is an accurate measure of the content provided. The data collected allows for appropriate decisions because it gives the teacher a true understanding of what the student knows and is able to do. Valid decision-making is driven by the accurate, objective data that is collected from assessments, which allows educators to monitor student progress. When done consistently, monitoring allows for teachers to develop effective, personalized instructional strategies.

Progress monitoring. RtI also requires progress monitoring. According to Deno et al. (2009), active progress monitoring allows for teachers to see if their instruction needs to be changed, modified, adjusted, or supplemented, and for students to set goals for what they are working towards. Data is collected frequently and consistently to

provide both students and teachers the ability to track progress and monitor growth. Progress monitoring helps teachers design instruction and determine if the student is progressing towards established criteria (Glover & DiPerna, 2007).

In order for progress monitoring to be effective within an educational program, it needs to be sensitive to student change, educationally meaningful, and not take up a lot of time (Stuart & Rinaldi, 2009). Moreover, because progress monitoring requires the ongoing assessment of student performance, a progress monitoring plan should be implemented (Fuchs & Fuchs, 2006). Although there are different types of progress monitoring tools, curriculum based measurement (CBM) is frequently used, which is defined as a way to measure progress for all students (Fuchs & Fuchs, 2006).

Specific to RtI, progress monitoring requires data collection for all students, and is used to guide decision-making. Shapiro and Clemens (2009) discuss how progress monitoring allows for the measurement of how students are responding to the interventions they are receiving. Progress monitoring quantifies a student's rate of improvement or responsiveness to instruction, and allows for formative data to drive instructional decisions by requiring teachers to focus on student data (Deno et al., 2009).

With respect to decision-making, progress monitoring data allows for the educational decisions within an RtI program to be made based on how the student is responding. Not only can progress monitoring data identify students who are considered at-risk, but it can also indicate a need for a change in instruction, curriculum, or another type of intervention (Duhon et al., 2009). It can be used to identify those learners who are not meeting benchmarks, or who are not progressing at the pre-established rate of responding (Fuchs & Fuchs, 2006). In sum, progress monitoring allows for educators to

make informed decisions.

Fidelity of implementation. All three components (i.e. evidence-based practices, assessment, and progress monitoring) require fidelity of implementation. According to Hagermoser-Sanetti and Kratchowill (2009), this integrity ensures that these components are delivered in a comprehensive and consistent manner by an interventionist trained to deliver the intervention. The outcomes of an RtI model must demonstrate that the changes produced by an intervention are reliable changes that are not due to chance or extraneous factors (Gresham, 2005); marked departures can render strategies ineffective (Carter & Pesko, 2008). For delivery models such as RtI, therefore, treatment integrity (i.e. treatment fidelity) is a key determinant of having effective processes and procedures, because fidelity in these components ensures teams have the information they needed to make accurate decisions (Zirkel & Krohn, 2008).

Fidelity of implementation measures accuracy and validity in all the components of RtI. Not only is fidelity needed in the overall RtI implementation, but it is needed to ensure that there is valid decision-making in each of the various areas of RtI. Kovaleski (2007) discusses how treatment integrity is required for an RtI program if there is to be consistency within the model, and that fidelity will allow for teams to make decisions with confidence. Conversely, a lack of attention to treatment integrity undermines the primary tenet of RtI - that students will receive effective intervention services based on need (Duhon et al., 2009). Any intervention needs procedural integrity to demonstrate adherence to established protocols when providing interventions at each tier (Glover & DiPerna, 2007). According to Fuchs and Fuchs (2006), fidelity measures that focus on individuals providing the instruction would indicate whether the intervention was

appropriate. Since these individuals determine the need for instruction and the progress of students during instruction, the fidelity of the decision-making is equally important.

Impact on RtI decision-making

RtI implementation with fidelity affects decision-making, both directly and indirectly. A lack of fidelity could directly compromise teams from making accurate and valid decisions. For example, a reliable screening can collect valid data, but if the data-driven decisions are not correct, and the interpretation of that data is not accurate, the RtI program may be rendered ineffective. Fidelity in the decision-making process is required to help eliminate potential assumptions and allow for valid conclusions to be drawn confidently (Burns, Peters, & Noell, 2008). Since decision-related implications are one of the most important overarching aspects to the RtI framework (Shapiro et al., 2012), it is critical to ascertain the extent to which treatments were implemented, and whether those treatment decisions were made as intended (Burns & Ysseldyke, 2005).

Along with allowing for appropriate decisions to be made with confidence, fidelity also indirectly impacts the RtI decision-making process. VanDerHayden (2010) studied classification analysis, which quantifies the degree to which a decision corresponds to procedures and pre-established decision rules. This is in part set up by determining sensitivity (i.e. the power to detect true positives), specificity (i.e. the power to detect true negatives), and predictive power (i.e. the probability the data collected is correct and predicts level of risk). When there is fidelity with determining leveling, the RtI team is able to determine high sensitivity or specificity to enable it to rule-out or rule-in a disabling condition. This allows them to be confident in their decision-making. Moreover, Keller-Margulis (2012) developed a framework to monitor RtI implementation

with fidelity, which can help teams make valid decisions. She discussed the need for fidelity in assessment practices (i.e. screening, progress monitoring), instruction and intervention delivery for each tier, and procedural decision-making, which includes developing the type of RtI model (e.g. problem solving v. standard) and determining at-risk criterion. Fidelity of implementation data is collected through periodic fidelity checks, such as planned and unplanned observations, as well as checklists, tables, surveys, and self-assessments.

Although many researchers imply that fidelity in the decision-making process throughout RtI is important (Glover & DiPerna, 2007; Gresham, 2004; Hagermoser-Sanetti & Kratchowill, 2009), no one has measured nor evaluated how teams make decisions. Since RtI is a team-based effort, with the professional expertise within the team as key critical elements, it is necessary to further examine team decision-making. However, before RtI teams can be reviewed, it is first necessary to look teams in general.

2.2 The Psychology of Teams

Work teams consist of two or more individuals in a permanent, formal group that collectively share common task objectives of accomplishing outcomes for one or several tasks that are set by an organization (Aube et al., 2011; Chen et al., 2007). One of the main purposes of forming a team is to produce an outcome that may be too complex for individuals to complete independent of each other (Kapoor, 2004). In particular, some of the benefits of work teams is that they allow for assistance between personnel (Anderson et al., 2008), can lead to the implementation of novel ideas that would not otherwise be (Kapoor, 2004), and allow for information exchanges and free debate between its group members (DeChurch, Mesmer-Magnus, & Doty, 2013).

Recognizing team processes and procedures are particularly valuable when working towards team outcomes (Aube et al. 2011), and when studying team processes, it is essential to consider the dynamic interaction between the individuals within a team and the team as a whole (Chen et al. 2007). There are many relevant psychological theories that influence teams (Balkundi et al., 2011), and several factors that can affect a team's functioning and outcome (Aube et al., 2011). Some of these factors include power and influence, team members, leadership (e.g. styles, roles), and team dynamics.

The ability to influence others is critical to each member's overall effectiveness. Anderson et al. (2008) studied how influence within teams stem from two sources: power and skillful use of influential tactics. They suggest that the more individuals control resources, form important alliances, and possess admired qualities, the more their teammates defer to their ideas and directives. Teammates' power might differ in their levels of influence if one uses more effective influence tactics than the other. Kanter (1979) argued that "we have to look not at the person . . . but at the position the person occupies in the organization to understand differences in influence . . . within the team" (p. 66), as cited by Anderson et al. (2008), (p. 702).

Although prior research implied that an individual's position in the organization is the only way to attain influence and power (Kapoor, 2004), Anderson et al. (2008) argue that another way to exert influence is from an individual's personal characteristics. They also hypothesize that the fit between an individual and the organization can influence team decisions. Interestingly, group functioning may be affected by size or composition.

Aube et al. (2011) hypothesized that the larger the team, the more difficult it may be for members to work together effectively, ultimately leading to counterproductive

behaviors. They looked at the relationship between team size and the quality of experience by examining the effect large teams have on the quality of the group experience. They found that teams should not include more than the number of members required to efficiently perform the task; doing so may prevent teams from working together to maintain effective, healthy, constructive relationships, or preserving positive group experiences. In order to remediate these counterproductive effects, teams need to maintain a high quality of group experiences through positive relationships, because teams composed of members who trust each other are able to share ideas and work collaboratively together towards a common goal. Teams need to be built with committed, professional individuals working together; these individuals contribute to change and innovation (Barnard et al., 2001).

Aside from size and relationship, several studies measured the effects leaders and their characteristics have on teams. Balkundi, Kilduff, and Harrison (2011) looked at the context of work teams and interpersonal interactions as they relate to the leader of the organization. They discuss how previous research assumed that most leaders interact directly with team members in the processes of team development and performance management. They extrapolated this assumption by studying whether leaders who are central in these processes emerge as charismatic to the rest of their team, and how this view impacts their team's performance. They found that teams led by charismatic leaders tend to be high performing to the extent that their perceived charisma depends on their centrality within the team. By being centrally active, a leader has opportunities to directly communicate to team members their vision for working toward team goals, and construct a valuable charismatic personality that will help direct and motivate teams.

Chen et al. (2007) applied the concept of leader motivation and studied the effects leader behaviors have on employee motivation at both the individual and team level. They studied leadership and motivation through the psychological empowerment of leaders: impact (i.e., degree to which employees feel their work affects their organization), competence (i.e., perceived ability to accomplish work-related tasks), meaningfulness (i.e., intrinsic caring about work tasks), and choice (i.e., perceived self-determination or autonomy at work). Their study found that leaders empower their team as a whole differently than they do the individuals on the team. At the individual level, the focus was on members' perceptions regarding how empowered they are personally, and at the team level, on shared perceptions among team members with respect to their team's collective level of empowerment. Moreover, individuals' motivation may be the key variable to their willingness to perform meaningful work for their organization.

Cooperation among team members is another component of effective team functioning. Barnard et al. (2001) studied group cohesiveness, defined as the homogeneity of the group. The results of their study suggest that, contrary to earlier research, group cohesion served to suppress contradictory opinion rather than foster individual expression. Their findings imply that when group objectives are based on new and unfamiliar tasks, external social comparative pressures may dominate. However, they also found that the members' status in the group dominates when the group's interaction centers on exchanging information and attempting to influence current opinions and attitudes. This finding suggests that as groups gain cohesion, individual members have the opportunity to gain credibility and greater potential for influence.

DeChurch et al. (2013) measured the types of conflict within teams, and the

processes that teams use to manage conflict. They studied how the amount of conflict present determined the team members' perceptions of their differences and shaped their behaviors in response to those perceived differences. They argued that there has been an overemphasis on what teams disagree about and an under emphasis on team processes. They found that the manner in which teams interact to resolve their differences plays an important role in determining their performance, and that the more teams characterize their conflict process as individualistic as opposed to collectivistic, the worse their performance. This study suggests that how teams interact regarding their conflict is just as important as the nature of the conflict itself, because how they work through their differences can directly shape their performance.

Instead of looking at conflict within teams, Dierdorff et al. (2011) measured ways to enhance individual team members' propensities to cooperate within their team. They studied how perceived quality of exchanges may influence team members' motivation during the initial formation of the team. They found that when individuals within a team perceive there to be high quality exchanges, they are more likely to engage in reciprocal cooperative behaviors. They also discovered that teams benefit from members being skeptical to the extent that they can rely on (i.e. trust) other team members during formation; however, this was tempered once the final team was composed of individuals who felt uncomfortable relying on trust alone. As such, if feedback within the team is lacking, and help is not perceived to be present, the motivation of team members to engage with each other in a cooperative manner may diminish. This suggests that a quality interaction between team members is essential to the team's overall performance.

Recognizing the influences these factors have on team functioning and

performance provides a better understanding of how teams can be successful. Of course, the functioning of a team is only as important as the decisions that they make. As such, a closer look at how teams engage in decision-making will now be discussed.

2.3 General Team Decision-Making

In order to measure team outcomes, there should be an understanding of how teams make the decisions that lead to their established goals. Team decision-making is a highly complex individual cognitive process influenced by various environmental factors (Breiter & Light, 2006). The team approach to decision-making is based on the assumption that groups are better at making decisions than individuals, and teams can achieve outcomes superior to the ones an individual can produce (Aube et al., 2011).

Benefits to Team Decision-Making

To ensure the team approach is successful, teams need to develop collaborative strategies that promote shared decision-making. From a historical context, shared decision-making allows for teams to commit to operate by consensus, respect one another's styles, speak honestly, and advocate for the team's decisions to their constituencies (Kessler, 1992), thereby allowing for accurate decision-making (Barnard et al. 2001). Effective shared decision-making requires knowledge, skills, and dispositions conducive to systematic gathering, analysis, and interpretation of relevant data (Reeves & Burt, 2006). One key tenet of shared decision-making is collaboration.

Collaboration is a process by which professionals engage in a nonhierarchical relationship to distribute responsibilities in order to develop interventions to promote a culture where people have a shared purpose (Burns et al., 2005; Knoeppel & Rinehart, 2010). Collaboration allows for the equal opportunity to participate, which can enhance

democratic decision-making (Barnard et al. 2001). Teams that collaboratively problem-solving think through an issue and gather data to understand in greater depth before solving it (Bernhardt, 2009; Knoeppel & Rinehart, 2010).

With respect to schools, not only does collaboration allow for students to be served amongst many teachers, but it also provides school personnel the opportunity to collectively develop appropriate interventions (Burns et al., 2005). Teaming creates relationships with participants that can help to enhance the effectiveness of programs through the decisions that are made (Fuchs & Fuchs, 2006). Before collaboration can lead to effective decision-making, factors related to power, procedures, and purpose must be agreed upon (Clark & Flynn, 2011).

Decision-making Application in Education

Team decision-making can be applied to any organization. Decision systems developed in business organizations in Management Information Systems (MIS) or Decision Support Systems (DSS) have been recently generalized into the education field (Breiter & Light, 2006). These models highlight the importance of having information available to make informed, appropriate decisions. With respect to schools, qualities of the participants' include their ability to be analytical observers who are both consciously and professionally competent, helping ensure decisions are made with a greater sense of reliability (Glickman, Gordon, & Ross-Gordon, 2005). Having high-quality team participants allows for schools to adopt a systematic, team-based process for using data to inform classroom instruction and support teachers' efforts to meet the individual needs of their students (Algozzine, Newton, Horner, Todd, & Algozzine, 2012).

Clark and Flynn (2011) discuss how teams can take a clinical approach to

decision-making in schools through professional learning communities (PLCs). They discuss how there are various components to a team's rational thinking when making decisions, including shared beliefs and personal practices, collective learning, and supportive leadership and conditions. These principles can help teams interpret student responses that lead to reasoned, creative approaches. According to them, it is this reliance on shared, collective work (i.e. PLCs) that promotes discourse and allows teams to arrive at appropriate decisions.

From a historical context, the field of education has seen an increased role in the decision-making responsibilities of school personnel and the types of decisions made within both a school and district system (Kimpston & Anderson, 1982). Moreover, established decision-making models designed to structure group decisions have been applied to schools, such as the Nominal Group Technique (NGT) and the Delphi Techniques (Moore, Fifield, Spira, & Scarlatto, 1989). According to the NGT model, team participants need to accomplish six steps. These steps include writing ideas individually, offering one idea at a time until all ideas have been presented and recorded, discussing each shared idea, conducting an initial individual rank ordering of ideas, interacting collectively about this initial vote, and reaching a final resolution.

Marzano, Walters, and McNulty (2009) discuss how adopting shared team decision-making practices allow for the leader of the school to indirectly increase the school's relations and resources, predominantly because accurate decision-making leads to increased school effectiveness. Noel et al. (2008) discuss providing schools site-based decision-making practices. They argue that in order for schools to become the primary unit of management for educational improvement, there needs to be a greater

decentralization from school districts. Since school stakeholders have direct, first-hand knowledge of the relevant school issues, they should therefore have the power and authority to make the decisions particular to their specific needs.

To apply this theory, Noel et al. (2008) interviewed six principals and teachers from Texas high schools to measure the ways site-based decision-making committees influence the decision-making process at their schools, and how this type of decision-making influences a school's culture. Their results showed inconsistency between teacher and principal perspectives with respect to principal involvement in the decision-making process. Specifically, principals perceived there to be greater input provided by site-based decision-making committees as compared to the perceptions of the teachers on those same committees. This shows that each team members' individual perspective may influence the types of decisions that the team makes collectively.

The attitudes and beliefs of the team members can also influence the decisions they make, including the adverse impact teacher bias may have on team decision-making (Goodman & Webb, 2006). Other educational decision-making influences include the team members' knowledge, effectiveness and perceptions (Evans & Owens, 2010), and the overall approach and type of decision-making model teams use (Lau et al., 2006). The structure of the team also requires a consistent objective review of the decision-making process (Goodman & Webb, 2006).

Data-Driven Decision-Making in Schools

The availability of relevant information is a necessary condition for data-based decision-making (Bernhardt, 2009), which requires the use of quantitative and/or qualitative information to guide courses of action (Knoeppel & Rinehart, 2010). In order

to use data to guide decision-making, differentiating between relevant versus irrelevant data is essential (Breiter & Light, 2006). The information must not overload or complicate the decision-makers, and should instead provide them with the ability to make the appropriate decision(s).

The use of data allows schools to make instructional decisions, and is an important part of the role of educators (Knoeppel & Rinehart, 2010; Reeves & Burt, 2006). Decisions based on data require school teams to understand how they are currently performing, know if they are meeting their goals, evaluate what is and is not working, and predict success by preventing failure (Bernhardt, 2009). However, it is important to recognize that decision-makers at different levels of the school system require different information, and that team decisions require data to be provided to a wide range of stakeholders (Breiter & Light, 2006).

The tools used to collect data must inform an educator's practice in meaningful ways, and help lead the team to recognizing current need areas (Bernhardt, 2009; Evans & Owens, 2010). Breiter and Light (2006) discuss that once the data is collected, it is transformed first into information and then into team knowledge. This transformation occurs in five sequential steps: organizing, summarizing, analyzing, and synthesizing, which can then lead to the pinnacle step, decision-making. They purport that following these steps will allow teams to make informed decisions.

Data-driven decision-making is not guaranteed to succeed. For example, the data may be ignored by the team during the decision-making process (Breiter & Light, 2006). Reeves and Burt (2006) interviewed principals of schools with decision-making teams, and identified a number of challenges for effective team decision-making. Specifically,

principals indicated the need for training teams on how to interpret data that guides informed decision-making, the need for teams to be objective in their decisions, and the critical step of implementing consistent processes and procedures.

Although group decision-making models have been widely applied in business and social research, they have rarely been used with teams addressing areas of student weakness and nonperformance. Within schools, team decision-making can address the area of nonperformance through RtI. However, before studying specific predictors of RtI decision-making and the influences that impact RtI team members, a more general analysis of a school decision-making is first needed. A closer look will now be taken at how teams make decisions related to students who are demonstrate areas of difficulty.

2.4 School Team Decision-Making

Decision-making frameworks in education should result in consistent decisions and improved student learning (Messick, 1995), based on identifying a problem and developing a resolution (Burns et al., 2010) through collaboration (Barnard et al. 2001). Collaborative efforts allow team members to discuss and develop ways to characterize students, address their presenting problems (Gresham et al., 1998), and make effective instructional decisions (Burns et al., 2010).

Team decision-making that addresses student problem areas is not new. Federal regulations recommend providing guidance to support the education of individuals with disabilities through directives of implementing multidisciplinary teams (i.e. MDT) (Algozzine et al., 2012). Historically, prereferral teams grew out of the mandate requiring the use of MDTs in the special education referral and placement process (Knotek, 2003). While MDT is a common team name, there are other team names such

as the Child Study Team (CST) (Moore et al., 1989), Prereferral Intervention Team (Burns & Symington, 2002), School Study Team (SST) (Gresham et al., 1998), and Problem-Solving Teams (Burns, Vanderwood, & Ruby, 2005). Each multidisciplinary team is designed to develop interventions for students demonstrating difficulty within their general education environment (Burns & Symington, 2002).

Despite multiple studies investigating school team decision-making, there is scant research focusing on the team as the focal point to better understand the social and psychological influences involved in team decision-making (Burns & Yesslydyke, 2005). In order to apply this process to RtI team decision-making, a closer look at prefererral teaming first needs to be taken. Studying these teams will allow for a greater understanding of their decision-making through the problem-solving model. Lastly, another educational problem-solving model, Positive Behavior Intervention Supports (PBIS), will be investigated to determine if the decision-making teams can be generalized and applied to the RtI decision-making team models.

Prereferral Teams

According to Knotek (2003), the development of MDTs was designed to address the legal stipulation that general education interventions must be attempted before students could be referred for evaluation for special education eligibility. These teams evolved as a way for schools to provide effective interventions to students demonstrating difficulty in their general education setting. The team's purpose is to function as one single body that rigorously and objectively conceptualizes the student's functioning. That functioning body has common multidisciplinary participants including school psychologists, general and special education teachers, and school administrators

(Gresham et al., 1998). With this group of professionals, the team is better able to problem solve to formulate classroom-based interventions (Knotek, 2003). From a historical perspective, Moore et al. (1989) discussed CSTs, another prereferral team involved in making decisions related to referral, assessment, and possible placement of individual students in special education. The primary role of the CST is to evaluate student progress and make decisions regarding the development of a student's program and delivery of services.

According the Buck, Polloway, Smith-Thomas, and Cook (2003), the function of a prereferral team model is preventive. This action-oriented approach allows teams to develop interventions focused on general education (setting and teachers), problem-solve to implement classroom interventions, and serve as the evaluating body to measure student learning pre-and-post intervention. Prereferral intervention practices may reduce the number of inappropriate referrals to special education and provide student protection by limiting bias with teachers (Knotek, 2003). All of these benefits are enhanced when prereferral models are implemented with fidelity (Burns et al., 2005).

While there are common, overarching features of prereferral teams, there are also differences. This variability is in part due to the non-mandated entity of IDEA, which allows states to decide if and how to incorporate the prereferral process into their general and special education regulations (Buck et al., 2003). According to Burns and Symington (2002), differences include the status of a state's prereferral team (i.e. mandated vs. encouraged), team size, personnel on the team, and the level of their involvement in the implementation of prereferral strategies. Aside from these differences, team models also vary across the dimensions of format, staff assignment, and training.

Buck et al. (2003) conducted a meta-analysis to measure these varying dimensions. Their research was an extension of the research analysis first presented by Carter and Sugai (1989), who originally studied the prereferral intervention processes within the United States. The purpose of Buck et al.'s (2003) research was to ascertain the terminology used across states when referring to prereferral interventions, to determine the status of prereferral teams under state regulations, to confirm the jurisdiction of the prereferral intervention process, and to solicit the input of state educational agency (SEA) personnel into the nature of such practices. In the Fall of 2000, State Directors of Special Education and other State Department representatives were sent a survey that included seven items categorized into two separate parts: current state practices and respondents' judgment. The survey used was a revised, updated adaptation of the original developed by Carter and Sugai (1989). The 51 surveys that were received represented every state and resulted in a total of 1,727 responses.

The results indicated that 43% of the states reported some sort of requirement for a prereferral team and that 47% of the states did not use a standard term for their team name. Additionally, of those states that require teams, 47% indicated that there was no specific policy regarding under whose auspices the prerefferal team was under, while 37% indicated it was part of general education. The other parts of the survey focused on judgments of the state department representatives. Those results indicated that 59% of the team leaders are general education teachers; that the majority of the types of decisions that teams make include instructional modifications, curricular modifications, and behavior management processes; and that about three quarters either find their prereferral process in their state to be usually (35%) or sometimes (45%) successful.

There are several implications to Buck et al.'s (2003) study. For one, even though prereferral intervention teams are assumed to be an extension of special education programs for local schools and districts, the data showed that over 70% of states reported that general education teachers have the responsibility for implementing the prereferral process, and are the core leaders of the team. The data also showed that the majority of decisions pertain to interventions in instructional modifications and behavior management, implying that the prereferral process is less a special education screening process than it is a preventive process.

With respect to special education, according to Knotek (2003), MDTs more often tend to favor referral over intervention, and with the mandates of the special education process, are thought to be the center point in the special education referral process. As such, Knotek (2003) measured the appropriateness of referrals of students under the auspices of MDT teams. He explored how MDTs provide a social context that guides and shapes the decision-making processes by examining how members of a student study team (SST), a common form of MDT, in two mostly poor (75%) African-American elementary schools (90%) conceptualized student problems before deciding upon a recommendation for referral. The researcher of this qualitative study collected information and analyzed decision-making through observation, SST meeting transcripts, and interviews conducted between September and March of one school year.

The researcher, a school psychologist who was new to the district and also participated on the team at both school sites, served in a dual observer/participant role. Within each of the two school teams, there were 4-8 core members that included teachers, administrators, counselors, and psychologists. Moreover, while not core members,

additional frequent attendees (e.g. parents, teacher aides) were involved in aspects of the team. The average length of team member service was slightly greater than three years, and 20 meetings were recorded throughout the school year. The results showed the SST teams reviewed 54 cases in the study's time period, and of those, 46 (85%) cases were referred for special education; of those 46, 24 (52%) qualified. There were four recurring topics and processes across both SST teams. Three categories were related to the team's specific content of its decision-making: problem characterization, student characteristics (i.e. presenting problem), and interventions implemented. A fourth category was process oriented, and focused on the social context (i.e. interactions) of the team.

These four themes were found related to both the social context of the team (i.e. category #4) and the problem solving process. The qualitative data indicated there was variability with each team's problem solving process and the description of the student problem. Variability of the problem description demonstrated teacher subjectivity. Moreover, for teams with principals as core participants, the teachers on the team indicated that they were concerned that student problems would be viewed as an evaluation of them and their performance. Specific to social status, the data indicated that not all of the team members considered themselves equal, as there was the perception of status among team members. His findings indicated that high-status team members influenced how students were described and their problems conceptualized. Social power and influence were also reflected in how the team characterized students' functioning based on the high-status members' descriptions, suggesting that social influence has a direct impact on the problem-identification process of SST teams. For example, when the principal was a core member, ideas were more readily accepted and adopted by the

other team members.

According to Burns and Symington (2002), along with MDTs, prereferral intervention teams (PIT) have many positive impacts, including reducing special education referrals and placement, positive intervention delivery practices, and decision-making collaboration. They conducted a pilot meta-analysis to examine the effectiveness of PIT models. Of the 72 studies they initially reviewed, 19 met criteria for further inclusion: each study needed to include outcome measures for PIT teams, examine the pre-/post-implementation of PIT, and show data that computed an effect size. Of the 19, only nine presented data usable for their meta-analysis. Worth noting is that for each study, while some participants in the study were identified as at-risk, all students were in general education, as those with disabilities were excluded.

The nine articles were divided into two groups: student outcomes and systemic outcomes (two coders categorized with 100% agreement). Student group outcome measures included observations of student time on task, target behavior, and academic and behavioral difficulties; systemic group measures included variables such as number of referrals and placements in special education, percentage of referrals resulting in a disability, and number of students retained in a grade. For student outcomes, the results indicated an increase in both time on task and task completion, and a decrease in behavioral and academic difficulties; for system outcomes, effect sizes included reduced referrals to and new placement in special education, and an increase in consultative activities by school psychologists. However, their analysis indicated inconsistent findings between the factors that lead to how schools implement PIT teams.

In a follow-up study, Burns et al. (2005) looked at five different types of PIT

models through meta-analysis of current state models. While all of the major PIT models represented a team-based consultative approach, important distinctions existed between them: team format, the assignment of staff on the team, and the level and focus of training of the staff. With respect to team format, defined as which school personnel serve on the team, the main variables were whether or not there was a special education perspective (either a special education teacher or a school psychologist) on the team, team member personnel, the leadership within teams, and administrator involvement. There were several findings: for one, how roles were assigned to participating PIT team members were inconsistent between teams. Secondly, the level of overall training provided to PIT teams was insufficient. Some teams had received training, while others did not; moreover, even when it was provided, it differed in areas of assessment (behavioral and academic), collaboration (communication and team-building), and skill development in consultative processes.

The Student Study Team (SST) is another team where prereferral decisions are made. This team's activities contribute useful, valuable, and educationally relevant information that can serve as the basis for classification decisions and instructional recommendations to teachers (Gresham et al., 1998). Decisions that SSTs make include providing opportunities for direct remedial instruction when specific learning deficits are identified, shifting a child to a different teacher/class, and providing services responsive to environmental factors implicated in the child's identified problem areas. After such modifications are attempted, the SST reevaluates the child's progress regarding modifications prior to, and including, determining eligibility.

According to Gresham et al. (1998), part of the function of the SST is to

incorporate the specialized knowledge of the school psychologist and other members to interpret student data. They measured decision-making accuracy of SSTs by studying three groups of students: learning disabled (n = 47), MMR (n = 43), and low achievers (n = 60), and compared these groups to SST classification decisions to determine relative rates of agreement. They hypothesized that SSTs rarely consider state guidelines for making determinations for special education for at-risk students for mild disabilities, and instead decide placement based on the levels of interventions.

In their study, taken from data collected in the 1994-1995 school year, participants included 150 students from grades 2-4 across 24 California elementary schools. All of these students (i.e. 89 males, 61 females; 55 White, 43 Black, 52 Hispanic) had been referred to their school's respective SST team. These students were considered at-risk for school failure and referred by regular education teachers to the SST, which evaluated the cases and made recommended modifications in school programming. The three groups were defined based on various score combinations derived from their academic competence rating on the Social Skills Rating Scale, the Wechsler Intelligence Scale for Children-Ill, and the Wide Range Achievement Test-Revised. The study looked at the decisions made for students referred to SSTs concerning their special education eligibility, the specific classification decisions made by SSTs, and how those decisions were in line with pre-established eligibility criteria.

The results showed low levels of agreement between SST classification decisions and research definitions of at-risk groups. With respect to eligibility determinations, of the 47 actual LD students, SSTs classified 28 of these cases as LD for a 59.5% agreement rate, and slightly less than 25% of students who did not show the required 22-point

discrepancy were nonetheless classified by SSTs as LD. For the MMR group, 29 students (67.5%) were deemed eligible, and 16 from the LA group; however, only a 14% agreement rate (6 out of 43 cases) resulted in the student actually being classified. Moreover, 19 students were misclassified by SST as LD.

The implications of this study indicated that the diagnostic process carried out by SST members is not necessarily guided by authoritative definitions of mild disabilities, and that decision-making may not be influenced by the results of objective assessment and evaluation data. In a sense, the study shows that prereferral teams may very well be making many types of decisions, including classification and placement, based on their perceptions of what support a student needs, and not based on whether the child meets some authoritative standard (Gresham et al., 1998).

Burns and Symington (2002) discussed how these arbitrary team decisions are rarely supported by data, result from poor team preparation, and may be indicative of difficulties team members have in communicating content-related information specific to their particular discipline. They argue these factors can adversely impact the success of prereferral teams because they lead to poor and inconsistent intervention strategies, insufficient time, and a lack of adequately trained teams; this may also adversely impact team roles (Burns, Wiley, & Viglietta, 2008). These factors may even be antithetical to the team's function, the decisions they make, and the services they provide, which can ultimately lead to arbitrary decision-making (Burns et al., 2005).

It is evident from the research that in addition to the inconsistencies that exist between prereferral teams, ineffective decision-making may also result when teams only address surface issues, focus entirely on short-term solutions, or have a poor

understanding of group processes. Teams need to recognize that problem identification is only one step in the problem solving process, and serves the purpose of helping teams develop solutions (Burns et al., 2005). Therefore, comparing collaborative to non-collaborative approaches through problem-solving models is needed, which will provide a better understanding of the decision-making aspects of RtI teams.

Problem-Solving Approach

Teams were designed as collaborative problem-solving groups (Buck et al., 2003) that allow for educators to consult with peers about problem students and create interventions that could be attempted in the classroom (Knotek, 2003). The purpose of teams is to focus on individual students (Newton, Horner, Algozzine, Todd, & Algozzine, 2009), and move beyond problem identification to problem solving (Burns et al., 2005) by eliminating the discrepancy between actual versus expected (i.e. desired) outcomes (Newton, Horner, Todd, Algozzine, & Algozzine, 2012). Problem solving teams are critical to RtI implementation because they serve as the structure that meets the needs of students' functioning within the most intense tier of service (Burns et al., 2008).

The problem-solving approach addresses the core concerns at an individual level (Lau et al., 2006) and/or school wide level (Newton et al., 2009), and creates and requires collaboration within the school between multiple stakeholders (Tilly, 2008) to provide resources and supports to at-risk students in the general education environment (Lau et al., 2006). Lau et al. (2006) discussed the sequential problem solving steps: defining the problem within the learning context; developing a hypothesis; determining instructional interventions; monitoring progress and evaluating intervention effectiveness. Buck et al. (2003) previously outlined steps in a problem-solving model to include team members

reviewing data for identifying students, hypothesizing causes to explain a student's difficulty, and developing strategies to remediate that difficulty

A problem-solving approach first incorporates universal supports provided to all students, including ongoing monitoring of practices through system-wide decision-making (Ervin, Schaughency, Matthews, Goodman, & McGlinchey, 2007). Since problem-solving is required across all three levels of a tiered model, teams are making decisions throughout each level (Fuchs et al., 2012). Intensive problem-solving is a practice teams engage in as part of the decision-making process. However, even more intensive problem-solving is developed once specific, localized problems are identified and matched with appropriate secondary and tertiary interventions (Ervin et al., 2007).

Knotek (2003) discussed how prereferral teams following the problem-solving model allow them to focus on problem identification and problem-verification. He stated that team problem-solving should begin with the SST chair presenting formal information to the team from a form or completed screening tool, which would provide documentation, a summary of the presenting problem, and a checklist for developing interventions. After each form is reviewed, team members add personal and professional opinions, and collectively decide on further action. The interventions that are decided upon need to be based on a clear description of the problem, including hypothesis testing and ruling out as many explanations for problems as possible.

Burns et al. (2008) looked at the performance feedback of the problem-solving process of multidisciplinary problem-solving teams (PST). These teams used assessment data to first develop intervention plans for targeted students, and then evaluated interventions to determine efficacy. They hypothesized that providing performance

feedback could increase the procedural integrity of PSTs by improving team functioning. The participants in their study were PSTs from three elementary schools within an urban district. However, this participating district had not provided consistent district-wide PST training in many years, and the only resource provided to PST teams was an annual district-provided PST process manual and a short PD refresher.

Differences among the three teams included the PST members (participants ranged between 4-9 members), length (20-60 minutes), duration (weekly-monthly), and the number of students discussed (two-multiple) at each meeting. In this single-subject study design, the PSTs from each school were observed using a 20-item observation checklist that included items associated with characteristics of PSTs. The unit of analysis for the study was the observation of the team, and not the individual team members. The A-B design showed that baseline data was collected before providing the intervention (i.e. performance feedback) for a certain amount of time at the first, and then subsequent, schools. Performance feedback was provided to the entire team for 20-60 minutes by the researcher at the first intervention meeting. IOA between the researcher and observer ranged between 80-100%. The results showed that the percentage of items observed on the survey during the problem-solving team meetings increased between 30-45% after the performance feedback was provided. The implication to this is that problem-solving teams may demonstrate greater objectivity if they know what is expected of them.

This implication was demonstrated by Lau et al.'s, (2006) case study, which delineated stages of a problem solving process and the decisions the team made per each stage of a struggling second grader. These decisions included determining the student's area(s) of difficulty, implementing specific interventions, determining the level and

duration of the intervention, analyzing the data, determining effectiveness, and referral for special education. Tilly (2008) expanded on this and discussed the historical growth of educational problem solving. Initially, he discussed how problem solving helps teams follow a logical set of steps: identifying the student's problem, determining the function of why it's happening, implementing interventions, and evaluating their effectiveness.

Tilly (2008) believes his model, while similar to Lau et al.'s (2006), is more comprehensive in nature. In contrast to his model, he argued that the early application of the problem-solving method relied on specific experts within the team who were focused on moderate to severe student problems. As a result, the problem-solving focus was not addressing problems in the early stages, when the problems were more easily preventable and remediated. Instead, his problem-solving approach outlines practices at four levels, and within each level, teams need to consider decisions around two variables: intensity of the problem and the amount of resources needed to address it. He argued that this allows students to receive interventions delivered on a continuum.

Algozzine et al. (2012) also outlines steps of a problem solving model, which are in line with both Lau et al.'s (2006) and Tilly's (2008), except that they also stress the importance of the problem solving model's purpose: allowing for teams to consult and collaborate for accurate decision-making. The relevance of data that is collected and analyzed by school professionals is likely to make a meaningful difference in the way the problem is perceived and addressed (Evans & Owens, 2010). This decision-making component of the problem solving model allows empirically validated investigation and evidence based practices, mainly through the area of interventions and instruction (Tilly, 2008). However, while the problem-solving method has been the foundation for science-

based practices, its longevity has not correlated with systematic investigation or evidence of its use or value in improving school-based decision-making (Algozinne et al., 2012).

Algozinne et al. (2012) discussed how there had not been a current instrument available for documenting the extent to which steps in the problem-solving logic set are followed during team meetings. They developed an instrument called the Decision, Observation, Recording, and Analysis (DORA) tool to document team problem-solving decision-making. DORA was developed with two sections: Section 1 is logistics of a problem-solving team meeting, and Section 2 is actual decision-making following the five step process of effective team problem solving. They incorporated the Team-Initiated Problem Solving (TIPS) model as their five-step process: identifying problems, developing and refining hypotheses, generating solutions, developing and implementing actions, and evaluating outcomes. Section 1 measured team structure at the start, middle, and end of meeting, and Section 2 broke down a student's problem into information, hypothesis, function, solution, data, and interventions.

DORA correlated to The Social Problem-Solving Inventory–Revised (SPSI-R), which is a self-report survey that provides indicators of respondents' problem orientations, approaches, and styles for resolving everyday problems. According to Algozzine et al. (2012), the total SPSI-R score is a global indicator of problem solving, and five scale scores are used to reflect strengths and weaknesses within each problem solving indicator. The data collected provided evidence of an overall score of the items observed during the meeting, and subscale percentages for each of the TIPS sections. The study measured the extent of agreement between expected and actual content in the DORA instrument to determine whether items in DORA addressed areas that were

recommended as critical and essential to solving the problem.

Within Algozinne et al.'s (2012) study, the team members completed this inventory independent of the other team members, and the results showed a high degree of congruence in their analysis of the content reflected in the Problem Solving dimension of the SPSI-R. In this single-subject design, they calculated percentage of agreement between pairs of observers by comparing Section 1 and Section 2 DORA scores at 20 meetings. The average agreement across observers was 85% for the team's use of the foundational elements and ranged from 50% for the team's identification of a problem to 92% for type of problem identified by the team, including agreement of 84% for the data use, 78% for solutions, and 85% for both thoroughness and action plan elements. The study's results imply that an instrument can provide support for professionals focused on documenting and improving team problem-solving. DORA provided a way for teams to measure the extent to which critical problem-solving features are evident at data-based problem-solving team meetings, such as RtI.

A closer look now needs to be taken at a specific problem-solving paradigm, positive behavior intervention support (PBIS). PBIS is based on a problem-solving model and aims to prevent inappropriate behavior through teaching and reinforcing appropriate behaviors (OSEP Technical Assistance Center on Positive Behavioral Interventions & Supports, 2007). It is comprised of a broad range of systemic and individualized strategies for achieving important social and learning outcomes while preventing problem behavior with all students (Freeman et al., 2006). Implementing a school-wide (SW) PBIS approach allows for the services to be provided in inclusive practices and settings, such as the classroom, nonclassroom, and individual student levels

(Sugai & Horner, 2009). According to Algozzine et al., (2012), one of the primary purposes of DORA was designed to document activities and adult behaviors during SWPBS meetings. PBIS decision-making will be reviewed to determine whether they can generalize and serve as a primary predictor for RtI decision-making.

PBIS Decision-Making

Problem-solving teams can inform the problem-solving decision-making process for either academics or behavior (Sugai & Horner, 2009). With respect to behavior, data coming from progress monitoring and screening measures are likely to make a meaningful difference in the way the problem is perceived and addressed (Evans & Owens, 2010). PBIS, like RtI, requires certain processes to be implemented effectively.

With respect to PBIS, teams may demonstrate varied levels of organizational skill regarding the management of the structural aspects of the team meeting, including the amount of team members, the members who serve on the team, and how teams implement and document their decisions reached in their meetings (Newton et al., 2012). Other differences include data collection processes and types, as well as how teams use that data to inform their decision-making (Sugai & Horner, 2009). Like RtI, variance between these and other factors within PBIS decision-making teams may result in their failure to implement problem-solving processes with fidelity (Newton et al., 2012).

In a study conducted by Newton et al. (2012), PBIS team processes were measured through the team's implementation of TIPS, a formal problem-solving model that was operationalized to guide PBIS team members' decision-making. The TIPS model allowed PBIS team members to identify problems by using data to discover discrepancies between students' current and desired social behaviors (Algozzine et al.,

2012). Moreover, within TIPS, teams must evaluate their current practices and identify how the critical interventions, tiers, and systems are incorporated (Scott et al., 2010).

In the Newton et al. (2012) single-subject study design, upon completion in their TIPS professional development workshop, PBIS team members were assessed on whether they used the TIPS problem-solving process with fidelity in their PBIS team meetings. Four elementary schools (two each per district) were selected to participate, each with variability in several factors, including the number of PBIS team members, the members serving on the team, and the frequency of the meetings. There was, however, consistency in the duration of each school's meeting (one hour). Once the researchers reviewed the current baseline team data (e.g. unfocused, sporadic meetings, inconsistent decision-making) and determined that TIPS implementation was appropriate, the members of the PBIS team were then provided a one-day TIPS workshop. Each team member who participated in the training learned extensively about the key criteria for implementing the TIPS model, and were then observed using the aforementioned DORA data collection protocol upon returning to school (Algozzine et al., 2012). The DORA scores were derived across three domains: a problem precision score, a thoroughness score, and a solution score, and were given at the end of the PBIS team's school year.

IOA between two researchers indicated that teams had developed a high degree of precision (average score of 88%, 73%-100%), showed thoroughness in implementing the problem-solving process (average score of 88%, 67%-100%), and were effective in terms of the percentage of problems that had at least one intervention (i.e. action plan) selected for implementation (average score of 88%, 50%-100%). This study then followed-up with three of the four schools participating in the subsequent school year to determine

which PBIS teams maintained the use of TIPS problem-solving processes in their meetings. In the follow-up, no additional TIPS training or support was provided. Comparing results between school years showed that one school demonstrated overall maintenance (slight increases or decreases), but the two others has slight to more significant declines; none demonstrated increases in any area.

The decline in fidelity after one-year of removed training indicates that teams need to develop ongoing, follow-up assistance and application, which could otherwise adversely impact decision-making. There are multiple variables that can result in decreased fidelity, such as turnover of team members, lack of consistent follow-up and technical assistance provided, and failure to emphasize decision-making as a priority within the school from administration (Newton et al., 2012). Interestingly, while Newton et al.'s (2012) study discussed how there was a decline in the team's problem-solving, it did not measure the team's perceptions of their functioning, or the possible function of the change in their decision-making from one year to the next. A study by Ervin et al. (2007) did measure the satisfaction of school personnel based on their perceptions of their schools' PBIS implementation that was lead by the PBIS team. They measured this using the School-Wide Evaluation Tool (SET) to collect data from SWIS at four elementary schools from four separate districts.

The SET self-assessment checklist data indicated that the decision-making targets the PBIS team established were rated to be at 100% by the end of the first year of implementation. Moreover, school personnel rated the PBIS team's implementation, worth, fit, and expected effectiveness all at high levels. However, only 36% (4 out of 11) of those personnel were a part of their school's actual PBIS team. This did not allow the

researchers to make any conclusion about the specific team member's perceptions, nor was data used to study the perceived demands of the actual team members. Specifically, demands can include the school PBIS team having to adapt infrastructure, communicate effectively with team members, and engage in focused problem-solving (Ervin et al., 2007). This suggests that while there are factors that seem to impact the PBIS teams' decision-making, more research is needed to determine precisely which factors influence teams the least and the greatest.

In previous writings, Newton et al. (2009) provided an overview of a problem-solving model and its application with PBIS teams, arguing that environmental supports can directly enhance the PBIS team and their collective decision-making meetings. For one, PBIS teams need to meet on a regular basis to include variables such as dates, times, location, and duration. Another environmental consideration is choosing appropriate team members; teams should range in team members' general skills, decision-making authority, and school roles. This concept is supported by Scott et al. (2010); teams require personnel familiar with intervention strategies, participation by a building-level administrator, and establishing team roles at the beginning of the school year.

Once environmental supports are established, team decision-making can be facilitated more efficiently through established PBIS team protocols. According to Newton et al. (2012), the first step of the team's decision-making protocol is identifying social behavior problems through established problem identification data, and defining / clarifying the problems with precision is the second. They clarified that PBIS team members must then develop and refine hypotheses, which would allow the collective knowledge and experience of the PBIS team to generate a hypothesis specific to the

identified problem and select appropriate interventions. Selecting interventions can best be done through action plans, which are a record of the problem-solving decisions reached by the team and reflect the actions (i.e. interventions) that must be completed. They discuss how this action plan can include target goals, a timeline, assigning PBIS team members to specific responsibilities, and the decision rule concerning the effect that the intervention is expected to have on the targeted problem. Lastly, one of the main responsibilities of the PBIS team is to evaluate and revise action plans based on the progress towards the established goal, timeline, and decision rule(s), allowing the team to evaluate and revise the intervention if needed.

Scott et al. (2010) outlined a decision-making framework to prescribe interventions at the secondary and tertiary PBIS tiers, and presented a range of strategies for teams to implement. They proposed four essential component steps for team decision-making strategies: prediction, high-probability interventions, consistency, and assessment. With respect to prediction, identifying the predictable failures of students requires looking at student patterns (in the case of RtI, would be non-responders) through established data-gathering processes. Secondly, once data is collected, PBIS team personnel then evaluate it to determine which interventions to implement for each identified student. The recommendation the team makes for secondary interventions is based on consideration of teacher/student relationships, academic and skill instruction, and classroom management. While these considerations are different for RtI, the overall construct is the same: the team needs to select and implement interventions only after it fully considers their potential impact.

The third decision-making component, consistency, requires the accurate

selection of the intervention(s) and clear communication across team members. Much like RtI, PBIS requires teams to consistently track those students who are provided with tiered interventions. With both RtI and PBIS, interventions need to be implemented correctly, because otherwise, team decision-making may be rendered ineffective. In fact, providing simpler strategies prior to moving the focus to more complex interventions is one of PBIS's core features (Sugai & Horner, 2009). Just like RtI, this allows PBIS to be conceptualized as a framework through the use of team problem-solving. The team can decide upon implementing a specific intervention, but it will have little chance to produce the desired effect if it is not implemented as the team intended (Newton et al., 2009). This last step, assessment, drives decision-making because it involves evaluating the effect of the intervention, identifying non-responders after varying intervention(s), and informing decision-makers on more precise prediction information, all of which guides system-wide processes.

Sugai and Horner (2009) outline how the guiding principles of RtI can be applied to PBIS. They discuss how providing students with a continuum of behavior supports is a PBIS cornerstone based on RtI. PBIS can be guided by RtI's foundations of pre-referral interventions and teaming aspects, diagnostic and precision teaching, curriculum-based measurement, and behavioral/instructional consultation and problem-solving. Moreover, they argue that RtI's features allow for four basic operating principles used by PBIS teams to guide their decision-making. This includes using data to narrow identification of goals and outcomes, establishing goals and objectives based on the data, considering and continually adapting empirical interventions and practices, and organizing the resources and systems to allow for the implementation of these

interventions. To ensure this, they developed a self-assessment tool to help school and district teams implement a PBIS model within an RtI context. They discussed how teams are better equipped to make accurate decisions when they establish procedural guidelines in the areas of team formation, agreements, data-based action plans, processes and procedures, and program evaluation. To ensure accuracy, teams need to coordinate the operational aspects in order to establish data decisions based on pre-established rules.

Like PBIS, RtI promotes a careful consideration of an array of interventions that are organized to respond to the increasing support needs of students (Sugai & Horner, 2009). Generalization from PBIS to RtI can also be made based on the similar core features they both share: scientifically based interventions, continuum of intensity, problem-solving protocols that drive decision-making, data-based decision rules, implementation integrity, and continually identifying non-responsive students (Fuchs & Fuchs, 2003). Similar to PBIS, additional information collected to improve RtI decision-making would allow for a more compelling outcome (Barnett et al., 2004).

Based on the review of PBIS literature, the case can be made that PBIS team decision-making serves as a predictor of RtI decision-making within teams. However, other such predictors for RtI decision-making may also exist. In order to make this determination, it is necessary to examine the research measuring decision-making for RtI teams. Decision-making is a critical component of the RtI paradigm, especially when the implications impact children who are at risk for academic failure (Burns et al., 2005). As such, a closer look will now be taken at RtI decision-making predictors for teams.

2.5 Predictors for Decision-Making within RtI Teams

The research reviewed has demonstrated that the problem-solving model is

generic and thus could be applied across an array of academic contexts and problems (Newton et al., 2012), including RtI. Within an RtI model, team decision-making processes play a major role (Shapiro et al., 2012). Among the decisions required of teams within an RtI model include universal screening, when to modify instruction, when students should change tiers, determining responders versus nonresponders, and referral for special education (Shapiro et al., 2012). There are also many other types of decisions that teams make within an RtI model, including problem identification, problem analysis, progress monitoring, and program evaluation (Ball & Christ, 2012).

Regardless of the type of decision, a school or district's RtI model will only be effective if there is clear decision-making and communication with team members who are making those decisions (Burns et al., 2008). Valid decisions within an RtI model may result in reduced risk and improved outcomes, showing the importance of implementing instructional interventions that are based on empirically-based decision rules (Fuchs et al., 2012). Some RtI decisions require minimal data, whereas other, more intensive decisions that require student problem solving (e.g. eligibility for special education services) should meet the highest standards (Burns et al., 2010).

Hoover (2010) discusses how there are several core areas of RtI that require decision-making. For each area of consideration, he poses a key decision-making question to guide the decision-making process. For one, RtI teams need to determine the use of specific research-based curriculum and evidence-based interventions. Another RtI decision-making area includes fidelity within both the instructional and assessment areas. Moreover, decision-making requires data-based decisions, including establishing data rules and determining rate of progress and level of proficiency. In a sense, RtI requires

educators to engage in appropriate decision-making throughout all RtI components to ensure that RtI can be effective (Shapiro et al. 2012).

To highlight the types of processes and decisions made within an RtI model, Burns and Ysseldyke (2005) examined four existing large-scale RtI models. They developed guiding questions to summarize the implementation of these models, and reviewed various RtI components that require decisions. These large-scale RtI models were already in place at state or LEA levels, and were exemplars of wide-scale problem solving. Their analysis showed that all four models were similar in their process, which included a team approach, interventions based on school-wide screening data, progress monitoring strategies, and the decision-making recommendations of special education referral. Additionally, all used some type of benchmark to collect data, and each required the formation of a team to implement data-driven decisions based on frequent monitoring of student response to interventions. However, there were also many differences. With respect to general RtI processes and procedures, team training varied in terms of how to implement, whom to include, and how to provide preparation for specific professionals. Additionally, while all models employed a multidisciplinary collaborative team, there was variation with the professionals who served on that team and the roles they played. There was also inconsistency with the administrative role the principal had on the team, the level of parental involvement, and inconsistent fidelity of implementation checks.

RtI's overarching goals occur within the context of multiple systems, including examining such aspects as the learner, the curriculum, the learning environment itself, and the instruction provided (Sgouros & Walsh, 2012). RtI decisions are made based upon a process consisting of an integrated set of tools, procedures, and decisions

(VanDerHeyden et al., 2007). These data sources enable decision-making around student achievement to be made with accuracy (Shapiro et al, 2012). As such, a closer look is first taken at RtI decision-making with respect to measures and tools. Thereafter, data-driven decision-making and process and procedures will be discussed, respectively, before analyzing a main predictor, RtI teams.

Decision-Making Related to Measures and Tools

One essential component of RtI models is the use of valid and reliable data sources and assessments (Shapiro et al., 2008). Such considerations can include determining the measurement tools that are implemented for benchmark screenings and progress monitoring, implementing curriculum, and selecting tiered interventions. Although universal screening measures are critically important, reliance on any single metric has been found to result in less than accurate decision-making then when teams combine relevant sources (Shapiro et al., 2012). Even within universal screening, there are multiple considerations that need to be taken into account (Shapiro & Clemens, 2009; Wanzek & Cavanaugh, 2012). Abbott and Wills (2012) discuss how data collection procedures should fit within the school's unique environment. Fuchs and Fuchs (2006) recommend how often screening and progress monitoring tools should be administered, and McAlenenny and Coyne (2011) review considerations for screening approaches.

Research has focused on determining the types of assessments, tools, and instruments used within an RtI model. Deno et al. (2009) provided recommendations for schools to select using MAZE, which they argue should serve as both a screening and progress monitoring tool. Ardoin (2006) recommends that teams monitor students' maintenance of intervention effects by using CBM reading (R-CBM) in combination with

their current curriculum (or intervention). He argues this combination procedure should be implemented for a designated period of time, which will allow for intervention effects to be accurately evaluated, thereby limiting decision-making errors. Regardless of which benchmarks are selected, they should provide diagnostic validity and predict future success and failure (Fuchs et al., 2012). To help teams make an appropriate selection, Stuart and Rinaldi (2009) proposed a framework to better determine which type of screening to implement while considering the specific needs of their own school when selecting measures. Similarly, Mellard and McKnight (2007) also developed a tool to help guide teams select a screening measure. However, despite these tools, the research indicates that there still is no uniform agreement about best practices, and variability exists with respect to team decision-making in this area.

Questions and variability also remain within other aspects of measures and tools, including selecting the core curriculum and determining its effectiveness (McKenzie, 2009), as well as determining the specific Tier 2 curriculum interventions to implement (Wanzek & Cavanaugh, 2012). Additionally, teams need to take school level into consideration when they make these types of decisions. By middle and high school, Shapiro and Clemens (2009) discuss the need to incorporate a screening other than a test for fluency, such as a nonverbal assessment, and Fuchs et al. (2012) discuss the need for a language-based literacy approach (i.e. reading comprehension). Vaughn and Fletcher (2010) discuss how teams can use past performance and assessment data to determine academic difficulty. In fact, determining which measures and tools to use in middle school can be very different as compared to an elementary level (Prewett et al., 2012).

VanDerHayden (2010) discussed how in order to ensure accurate decision-

making, the screening decisions made need to be in line with the program's intentions. Selecting a screening depends on several factors, and team considerations are based on sensitivity (identifying those who need help) and specificity (not identifying those who do not need help). VanDerHayden (2011) had a follow-up study examining how RtI teams apply decision rules to ensure correct actions, and that classification agreement analysis should drive decision-making. For every student for whom a decision is made in RtI, classification agreement analysis can characterize the degree to which RtI decisions matched the established criteria. She argued that classification agreement analysis is an important method for evaluating the technical adequacy of decision-making with the assessments used to collect the data.

Shapiro et al. (2008) studied the decision-making process with respect to benchmark assessments. The purpose of their study was to measure the relationship between screening data on oral reading fluency (ORF) and statewide achievement reading assessments measuring comprehension. They examined whether teams that incorporated reading comprehension data along with screening data would increase the diagnostic accuracy (i.e. decision-making) of student risk. To do this, they measured data from 1,000 students across grades 3-5 in six Pennsylvania elementary schools across three districts. The study's procedures included analyzing data from the chosen school-wide screening and a reading comprehension measure collected within their district. The findings indicated the combination of the data collected from a universal screening (i.e. DIBELS), along with standardized reading comprehension measures, resulted in better predictive power of student outcomes against the statewide assessment of reading than either of the measures alone. In this study, teams that added a reading comprehension

measure to their screening processes enhanced their decision-making.

In a follow-up study by Shapiro et al. (2012), they examined the actual decision-making processes of grade-level teams implementing an RtI model for reading. They measured the consistency of how team decision-making matched the universal screening's predetermined recommendations. The study explored team decisions involving student assignment to tiers based on universal screening data collected at the fall and winter benchmark sessions over a two-year period. The participating schools in the study included three elementary schools with a size range from 257-318 from the same eastern Pennsylvanian district. The participants included each school's core RtI team, consisting of eight or nine members that included special and general education teachers, administrators, a district representative, and interventionists. In addition to core RtI teams, this particular district also employed grade level teams; the focus of the study compared the decision-making process with the grade-level team to the core RtI team.

The core RtI team was responsible for selecting and completing initial screening data-analysis, and making standard, pre-established recommendations for grouping students into tiers. The grade-level team consisted of all teachers at each grade level. Once the core RtI team made decisions regarding the data collected by the screening assessment, the grade-level teams then reviewed that data for each student to determine if they agreed with the recommendations of the screening measure (e.g. DIBELS) and the core team's decision. The grade-level team incorporated additional data sources (e.g. reading comprehension, state testing) when making their instructional decisions. To analyze the decision-making processes, the researchers conducted agreement analysis, discrepancy analysis, and a third criterion, team consistency with screenings.

With respect to the first research question, the degree to which teams agree with recommendations from universal screening, the mean agreement between core team recommendations (based on DIEBELS data) and grade-level team decisions across all grade was 83.3% for Fall, Year 1 (range of 63.7%-90.0%), and 79.8% for Fall, Year 2 (range of 50.0%-87.7%). Winter analysis showed a slight, but insignificant, increase in mean agreement. They also examined the particular data that teams disagreed on, and found that the largest disagreement between core and grade-level teams occurred consistently at recommending student placement into tier 2 (26.8% disagreement), as compared to placement in tier 3 (18.1%) or remaining in tier 1 (7.8%). The results also showed that grade-level teams generally recommended students require less support (i.e. remain in Tier 1) than the core RtI team. With respect to the degree of disagreement, the mean percentages of decisions inconsistent with the screening data made by grade-level teams for Year 1 and 2 was 23.5% and 8.6%, respectively. Moreover, in the second year of screening data, while not in full agreement with core team's recommendations, some grade level teams did not make any decisions based on non-data sources, and at most, only 7.7% did.

There are several recommendations from the Shapiro et al. (2012) study. With respect to the level of agreement and disagreement, RtI teams should consider using both benchmark and additional data sources to improve prediction outcomes in their screening decisions. Teacher feedback should be one of these data sources, because in many instances, the teachers on the grade-level team were able to provide insights on particular students. The results also showed the importance of creating uniform screening decisions made by RtI teams, which directly impacts class wide instructional and individual

interventions. This importance is also apparent in a study conducted by VanDerHeyden et al. (2007).

According to VanDerHeyden et al. (2007), there is the need for school-based teams to provide decisions about which students require interventions, which types of interventions are needed, and the selection of the intervention(s) that is likely to be effective. In their study, they evaluated an RtI model that was implemented with the System to Enhance Educational Performance (STEEP) model, which is a series of assessment and intervention procedures with specific decision rules. The STEEP model consists of four sequential decision-making stages, each with standard decision rules: universal screening, class wide intervention, performance and skill deficit assessment, and selecting and assessing individual interventions. There were several STEEP model effects that the authors measured, but with respect to decision-making, studied the degree to which the RtI team's decision coincided with the prescribed STEEP recommendation.

This study used a multiple baseline design for five schools within a district by measuring STEEP with two schools in the first year, one additional school in the second, and two more in the third and final year. Each school used a multi-disciplinary team that had been trained on the STEEP model, and were encouraged, but not mandated, to consider STEEP decision-making practices. With three screenings throughout the school year, there were integrity checklists that outlined observable steps in the screening procedures by trained observers, for a total of 54 observations at 98.76% integrity. The data indicated that on average, 6.68 team sessions occurred before a decision was reached about whether RtI (i.e. the selected interventions) were adequate, and 12.41 sessions occurred before a decision was reached to determine that RtI (i.e. interventions) required

changing because they were inadequate. With respect to the degree to which decision-making (i.e. multi-disciplinary) teams utilized STEEP to make decisions, about 30% of the teams did not use the STEEP model decision-making when they made their recommendations. Moreover, for level of agreement, the team's decision to evaluate matched the STEEP recommendation 62% of the time.

Along with this study, the decision-making considerations for measures and tools were highlighted in another study by Abbott and Wills (2012), who provided an in-depth description of how one school expanded their RtI model through empowering and growing their reading (i.e. RtI) team. Team responsibilities included determining school, teacher, and student data collection tools, choosing the universal screening, selecting evidence-based interventions, evaluating them, and adjusting them as needed. The team also made intervention decisions based on best fit within the school environment, philosophy, and the intensity of student needs. This can include taking into account a school's resources and how best to allocate them when selecting an ideal screening assessment (Petscher, Kim, & Foorman, 2011).

In sum, while all of these studies in some way measured decision-making with respect to screening and other measurement tools, each had a narrow focus, and none offered quantifiable data as to how teams make their decisions. In fact, it can be argued that how teams select the screening measures, interventions, and curricula are just as important as the measure itself. Moreover, once the measures and tools are decided upon, the team then needs to make decisions based on the information that is collected.

Decision-Making Related to Data-Driven Decisions

High-stakes decisions that are based on students' response to intervention

highlights the importance assessment plays on data collection (Gresham, 2004). Data-based decision-making is the very core of RtI (Burns et al., 2010); one of the most critical and complex elements is that of data-based decision-making (Ball & Christ, 2012). In general, RtI decision-making involves reviewing school, classroom, subgroup, and individual data (Hawkins, Kroeger, Musti-Rao, Barnett, & Ward, 2008). Team members use data to guide their decisions about how to improve student performance in accordance with the targeted outcomes (Newton et al., 2009). Understanding the process of decision-making within RtI requires that teams integrate their use of data along with teacher judgments and student performance (Shapiro et al., 2012). The RtI team should embrace and use data to guide practice and intervention (Abbott & Wills, 2012).

RtI teams are expected to use data to improve academic outcomes for students (Algozzine et al., 2012; Hoover & Love, 2011). Consideration of classroom factors associated with data is consistent with and a key component of the problem-solving model when making instructional decisions within an RtI model (Fuchs & Fuchs, 2006). Some areas of RtI that require data decisions include the purpose and roles of each tier (Fuchs et al, 2012), determining responsiveness versus not-responsiveness (Fuchs & Fuchs, 2006), and intervention intensity, which is defined as the level of which the intervention is modified or changed as a result of a student's current non-responsiveness (Gersten et al., 2009). McAlenenny and Coyne (2011) discuss different intervention approaches schools can take once the data is collected and non-responsiveness identified. In fact, data generated from assessments serve as the foundation for making informed decisions, as they allow for diagnostic assessments that pinpoint specific learner needs (Hoover & Love, 2011; Sugai & Horner, 2009). Student progress data allows teams to

determine the appropriate tier of intervention and level and rate of achievement (Burns et al., 2010; Shapiro & Clemens, 2009).

Hoover (2011) discussed how the key component of RtI is achievement data that allows school-based teams to have the information necessary to make effective instructional decisions. He argues data serves as the foundation for RtI decision-making and the problem-solving decision-making process. Data-based decisions include establishing proficiency cut scores and levels, determining gap analysis, and measuring rate of progress. Ball and Christ (2012) also discuss different types of data-driven decisions that RtI teams need to make, including tier placement, determining placement in specific interventions, movement between and within tiers, and maintaining, revising, or replacing interventions based on progress.

Aside from quantitative decision-making, Hoover (2011) also discussed how there are several qualitative factors that RtI teams need to consider to make fully informed decisions. Saeki et al. (2011) agree, saying that data-driven RtI decisions can be qualitative as well, so long as objectivity is promoted in the decision-making process. Moreover, they discuss how qualitative data may provide relevant student information in the RtI service delivery model. According to Hoover (2011), qualitative data can be used to guide decisions regarding evidence-based practices, instructional and classroom differentiation, and types of instruction provided to students. He created an RtI quantitative and qualitative decision-making guide for teams to implement as they make their data-based decisions. He argued that this guide helps teams determine which research-based curricula to provide each student, as well as the evidence-based interventions and methods implemented to meet their targeted need areas. This

instructional differentiation may include determining the student's variety of skills, and then matching the evidence-based intervention to those skills. Data based decision-making can also include a teams' consideration of the instructional approach, which can range from establishing groups focused on direct instruction, cooperative interaction, or independent task completion.

A critical part of assessment data is obtaining a baseline of the student's performance, comparing it to teacher or school expectations, and setting a goal for a specified period (Hoover, 2011). Goal setting allows teams to select the intervention by using established, comprehensive data decision rules (Hoover & Love, 2011), and matching the intervention to the severity of the concern (Burns et al., 2005). The goal is for teams to use data to quantify expectations and compare student progress during the intervention. However, there is variance in data driven decision-making; many teams interpret data and measure student responsiveness differently, such as gap analysis, rate of progress, and cut scores (Hoover & Love, 2011).

Specific to these considerations, Burns et al. (2010) researched two common decision-making frameworks used to evaluate progress monitoring. The first framework, aimline, includes plotting student progress and comparing progress to that set line (i.e. aimeline); the second, dual discrepancy (DD), involves computing a numerical slope, and comparing the slope of growth and post-intervention level to a set criterion. The study measured the reliability of decisions made using both frameworks. In the study, 30 second-graders (20 male, 25 Caucasian) participated in a tier II intervention from one Midwestern elementary school.

In Burns et al.'s study (2010), the progress monitoring data for the 30 students

receiving small-group interventions were examined to determine if they made sufficient progress through both approaches. Internal consistency of the decision-making was measured by assigning every other data point to one of two conditions; progress monitoring data point one went to Condition A, two to B, etc. Two sets of data were separately interpreted for each student using both aimline and DD. Data for each student were twice coded (once per condition) as insufficient progress, sufficient progress, or exceeding progress expectations, and then compared the two ratings. With respect to aimline, sufficient progress was defined as student's responding three to five data points above their respective aimlines; data points that closely approximated the aimline suggested effective intervention. For DD, the median of the final three post-intervention data points was compared to the Spring second-grade established criterion for low risk; slopes at least one standard deviation below the mean indicated ineffective intervention.

In the single-subject design, approximately 25% of the graphs used to judge student progress were examined by two people to result in 100% IOA agreement. The results of the study demonstrated that 40% of the students would be identified as needing more intensive interventions when comparing the data collected from one model with the other. That is, using an aimline or DD approach could result in different decisions for 40% of the students. Moreover, the CBM-R (the instrument used to collect the data) reliability estimated data accuracy close to .90, but internal consistencies of the decisions within these frameworks both fell below .60. This lack of internal consistency with decision-making frameworks indicates the need to develop a measure or tool that will identify influences and factors that impact team decisions.

One way to limit the variance in the decision-making is through the emphasis of

collaboration between the team personnel. Sgouros and Walsh (2012) discussed how the method of CBM progress monitoring could be followed through a data team model of group collaboration to better ensure accurate decision-making. They discuss the need for a systematic process of analyzing student growth and instructional/curriculum changes. According to these authors, after analyzing any data, the team should either implement a positive response (i.e. make no changes), a questionable response (i.e. consider some type of change), or a negative response (i.e. changing an intervention). They argue that this process should be ongoing and consistent.

Using data in this manner is supported by Barnett et al. (2004), who argue that the best way to measure data is through creating single-case designs. They argue that the primary advantage of these designs is that they allow school-based teams to use scientifically supported methods for making decisions, and that single-case designs help to further develop valid decision-making frameworks. Moreover, these designs allow for teams to be better informed when making decisions because they have a better understanding of each individual's behavior based on their response to the variable. They also argue that these designs help teams organize data with respect to intervention intensity (i.e. time and support provided to students based on data), strength (i.e. interventions that change an identified problem area), hierarchy (i.e. types, sequence of supports), and student resistance (i.e. response strength).

Even though it is clear that teams need to make appropriate data-driven decisions, establishing RtI process and procedures is also essential. There are many key elements in the design and implementation of RtI procedures, processes, and practices (Nellis, 2012), and the RtI team needs to consider and make decisions accordingly.

Decision-Making Related to RtI Processes and Procedures

Components to a fully implemented RtI model require decisions based on state requirements, the model selected, professional development provided (Sanger et al., 2012), the school's stated purpose of RtI, and the number of tiers in the model selected (White et al., 2010). Decision-making is also required in determining the intensity of intervention, dynamics and resources, use of research-based practices, and fidelity of instruction (Gersten et al., 2009). Other considerations include logistics, such as coordinating intervention schedules (Sanger et al., 2012) and determining which personnel to involve in providing the interventions (Abbott & Wills, 2012). Moreover, readiness areas of RtI implementation (Tyre & Feuerborn, 2012), the role of special educators (Fuchs et al., 2012), fidelity (Keller-Margulis, 2012) and RtI model type need to be decided upon (Fuchs et al., 2004; White et al., 2010).

With respect to personnel, Hauerwas and Goessling (2008) discuss how RtI models need to incorporate teacher assistants and paraeducators in many of the model's components, including serving as members of the school-wide RtI team, intervention implementation and instruction, and assessment processes. Nunn and Jantz (2012) agree, discussing the need for support professionals' to be incorporated into providing the leveled instruction. Regardless of the personnel involved, team members need to be aware of their bias (Goodman & Webb, 2006) and self-efficacy (Nunn et al., 2009) when making decisions. Duhon et al. (2009) conducted a study that measured teacher integrity through performance feedback, which is a method that includes a systematic review of implementation and outcome data; praise is provided for accuracy and corrective feedback for errors. They discussed that the RtI team needs to provide opportunities

to deliver feedback to ensure integrity as part of their decision-making procedures.

Establishing procedures for ensuring fidelity of implementation is also essential, allowing for the delivery of the instruction or intervention to be implemented in the way it was designed (Gresham et al., 2008). Bianco (2009) discussed the necessity to document interventions that are implemented accurately in order to ensure valid decision-making, and Keller-Margulis (2012) discussed ways to conduct fidelity checks. Along with fidelity, teams need to consider overall RtI program evaluation, which occurs both formatively and summatively, and requires decisions that are focused on determining the effectiveness of a program, intervention, or curriculum (Ball & Christ, 2012). Hoover and Love's (2011) case study highlights important RtI decisions that schools need to make prior to, and then once establishing, an RtI model. With respect to the latter, this includes RtI leader development, instruction, and progress monitoring procedures. Along with leader development, faculty development requires intensive, frequent, and systematic training in RtI skills and procedures (Nellis, 2012) that needs to address content, coherence, and consistently active learning (Kratochwill et al., 2007).

Other team considerations include RtI architecture and logistics. Jenkins, Schiller, Blackorby, Thayer, and Tilly (2013) conducted an analytical study on the structure, variation, and processes and procedures of elementary schools implementing RtI. They created a 20-question survey and followed up with interviews that measured many aspects of Tier 2 and Tier 3 processes and procedures, including location of interventions, size of intervention groups, time allocated for intervention, the number of days and minutes each week an intervention is provided, and the frequency of progress monitoring. Their sample included 62 elementary school participants across 17 states,

with roughly 40% of the respondents either being the principal or RtI lead. A similar study by Wanzek and Cavanaugh (2012) measured Tier 2 variables, including time in intervention, instructional group size, location of services, the implementer of those services, and characteristics used to select intervention materials. The overall results of both studies showed variability in each of the measured aspects; teams and schools did not make uniform process and procedure decisions.

Not only do process and procedure decisions vary across RtI models, but the models themselves may vary in schools. RtI models include the standard treatment protocol, a problem-solving process, and a mixed model (White et al., 2010). According to White et al. (2010), the standard treatments protocol model emphasizes treatment fidelity, evidence-based instruction, replicable teaching procedures, and standard tiered instruction approach. The problem-solving approach is similar in that it also emphasizes the importance of student progress monitoring and the organization of tiered instruction. However, the problem-solving approach embraces a more flexible, less prescriptive, and more individual intervention implementation (Fuchs et al., 2004).

Fuchs et al. (2004) discussed considerations for deciding upon which RtI approach to implement. Between the various approaches, different assessment methods would demonstrate varied ways to distinguish responsive and non-responsive groups. With respect to the problem-solving approach, they discuss that responsiveness to generally effective instruction can be estimated for all students so that a normative profile can be generated to describe the full range of the students' response. According to VanDerHayden (2010), the problem-solving approach ensures all students who require services receive them; however, unlike the standard treatment protocol approach, it

produces potential false positives. She discusses how the standard model is more likely to identify false negatives – students who improve during intensive tutoring, only to be returned to their whole class (i.e. Tier 1) setting where they may once again fail to respond. It may be that in order to determine model type, teams first need to determine whether the primary RtI intent is identification or prevention, with the latter emphasizing intervention support for students as little rti (Shinn, 2007).

All of these areas of RtI decision-making aspects have one overarching factor in common – the individuals who are making these decisions. The RtI team is the decision-making body, and the personnel on the team are those individuals who help shape a school's RtI framework (Sugai & Horner, 2009). Therefore, the single greatest predictor of RtI decision-making, team personnel and functioning, will now be discussed.

RtI Teams

The RtI team has many responsibilities, including evaluating student performance, accepting responsibility for assessments, choosing both universal and individualized instructional interventions, developing the logistics related to implementing those interventions (including coordinating school personnel), and data driven decisions, such as determining student movement in interventions (Abbott & Wills, 2012). Assessing student progress and making intervention adjustments are critical aspects of a problem-solving team (Sugai & Horner, 2009). The importance of the RtI team dynamic is highlighted in a study by Hoover and Love (2011).

Their case study examined various areas that influence the RtI team, and discussed how teams are responsible for making informed, accurate decisions. The three participating schools implemented their RtI program through the collaborative

consultation model; the district hired a consultant (i.e. outside educator) with RtI expertise for the purpose of assisting each team leader to establish their school's model. Even though schools received outside guidance and consultation, they were the ones who were ultimately responsible for the implementation and success of their RtI program. For each of the three schools, the principal chose the RtI team leader, who then received training from the consultant in four areas: tiered instruction, research-based curriculum and interventions, data-driven decision-making, and the role of RtI in special education eligibility. Along with attending training, other team leader responsibilities include coordinating and leading RtI team meetings, sharing pertinent information with the consultant, and exploring solutions to issues as they arose.

For each of the three schools, the consultant worked with the RtI lead on a consistent basis throughout the first year of implementation, but with less frequency as the year progressed. The goal of the consultant was to provide strategies and practices to build the RtI team leader's capacity to effectively lead the RtI team meetings. Instruction targeted the leader's ability to organize presentations, create guides, checklists, and templates (e.g. fidelity checks, adherence to decision rules), structure team discussions, identify student problem data, and target solutions. Their study highlighted the two main roles of RtI teams: identifying issues of direct relevance and responding directly to those school-based RtI issues, and selecting solutions that address their school's RtI issues. Both roles, they argue, require school-based RtI leaders to empower team members to meet their schools RtI needs. An implication of this study is that RtI leaders who provide their teams with targeted strategies and solutions will promote better team functioning and decision-making. In fact, the RtI team has the power to create and implement a

comprehensive plan to meet either student or school needs (Abbott & Wills, 2012).

However, there is variability in RtI teams. According to Nellis (2012), some teams have a school-wide focus, whereas others are focused on either individual students or groups of students. Other team variables include time, logistics, team purpose and processes, training, and administrative support. Scheduling team meetings, membership of who is included in teams, and team procedures and documentation also impact team functioning (Nellis, 2012). This variability of teams is demonstrated by White et al. (2010), who measured, with respect to teams, core RtI personnel. In their descriptive case study, they interviewed 15 staff members involved in their elementary school's implementation of RtI. All the members were part of the school's RtI leadership team (10) or district personnel (5); RtI experience ranged from 4 -23 years. The interview was unstructured, beginning with a few primary questions and followed by probes based on participants' initial responses. The interviewers determined coding processes and procedures prior to any interview, and an IOA reliability of 94.29% was demonstrated.

There were several overall conclusions, but particular to RtI teams, this school had t two types: an RtI team and an RtI Leadership team. The RtI team was established after the initial RtI Leadership Team was formed, and the function of the RtI team served in addition to, and not in place of, the Leadership team. The RtI team was designed to determine student problems by using progress monitoring data and aligning research-based intervention selections with the presenting problem. This team met once per week, and had about 50% personnel overlap with the members on the RtI Leadership Team. Conversely, the RtI Leadership team's focus was not on particular students, but rather on making system-wide decisions to improve their school's overall model. For each RtI

level (i.e. tier), the RtI leadership team made most of the major decisions, such as defining the decision rules of the school, setting the guidelines and policies, and developing the implementation guide with forms. The interview data indicated that although the principal was part of the leadership team, he purposefully did not serve as chair as a signal to the faculty that he wanted a team effort.

Nellis (2012) discussed the critical need for a school to assemble the right RtI team. While the composition of teams may vary, teachers need to be an integral part of any team (Nunn & Jantz, 2012), as they serve as a primary resource for families (Conderman et al., 2010), and are involved in problem-solving, decision-making, and goal-setting (Nellis, 2012). Judgments offered by teachers as a function of their ongoing, formative, and informal observations of students could serve as an important data source, and during the course of decision-making, teachers can provide perceptions about student performance and behavior (Shapiro et al., 2012). Regardless of who participates on the team, it is imperative for the personnel to have the necessary knowledge and skill for RtI implementation and intervention designs (Nellis, 2012).

Summary of Predictors

Any model that guides decision-making should be comprehensive, provide a standard process for making sequential decisions, emphasize the importance of using scientifically based interventions, and allow judgments about validity focused on significantly improving student outcomes (Barnett et al., 2004). The gathering, charting, summarizing, and analyzing of both quantitative and qualitative data provide RtI problem-solving team personnel with a wealth of information necessary to make informed instructional decisions (Hoover, 2011). While RtI is designed for teams to

make decisions and solve problems collaboratively that are guided by data (Fuchs et al., 2012), unlike DORA for PBIS (Algozzine et al., 2012), no instrument currently measures the aforementioned RtI decision-making aspects. According to Ball and Christ (2012), there is variance within RtI between the number of data points needed to make a decision, the amount of time necessary to evaluate intervention effectiveness, the types of progress monitoring tools and data collection, and the appropriate determination of whether a response to intervention is successful or unsuccessful. This variance adversely impacts decision validity, which is the most critical type of validity in RtI because decisions are the ultimate application of the data.

Gaining a full understanding of the nature of the decisions teams make is crucial in evaluating the impact of RtI. The integrity of the RtI decision-making process is likely to be flawed if there are attempts to draw conclusions without essential information (Burns et al., 2008). Few studies have actually examined the decision-making process within RtI models, and there seems to be no current study that has looked at this process within the RtI team. RtI team decision-making has not been studied, and more specifically, the predictors that influence how the personnel on the teams make decisions within these components are unknown.

2.6 Study Justification

Research documenting decision-making practices across different types of teams will add to the emerging value of RtI. A school or district's RtI model will only be effective if there is clear decision-making protocol amongst team members. In fact, having a better idea of the decisions being made may lead to the development of empirically based decision rules (Newton et al., 2012). A closer look needs to be taken at

the specific factors that influence and impact the educators involved in the RtI decision-making process. The implication is that objectively measuring and comparing RtI practices and procedures would serve to advance the knowledge of teams. Specifically, this research will examine the decision-making of the personnel who serve on their core RtI team. Moreover, because some RtI models are solely implemented in elementary settings, and others are in both elementary and secondary levels, it remains unclear what decision-making differences are made between those levels.

The research indicates that measuring decision-making between team levels are important for several reasons. By middle and high school (i.e. secondary), a greater emphasis on inter-disciplinary content is made when teams make decisions (Sanger et al., 2012). A problem-solving team should include various educators of different disciplines working together, who can help to develop strategies based on their specific knowledge. This opportunity might not be the same for both settings, and comparing team levels may show differences in their decision-making. Additionally, team decision-making may vary due to the fact that secondary teams require more logistical coordination with respect to staffing, allocating resources, and scheduling (Prewett et al., 2012; Sanger et al., 2012). Even philosophical differences may exist between team levels; teams need to decide if they should consider RtI to be a prevention model, or instead view RtI as a way to narrow gaps in the basic content skill areas as much as possible (Prewett et al., 2012). Comparing team level decision-making may help ascertain this viewpoint.

I am interested in studying these teams and developing quantitative data based on their problem-solving practices. My study is aimed to add to the literature on the process of decision-making by studying various personnel serving on RtI teams and analyzing

which decisions they make and why they make them, including measuring factors that influence their team and personal decision-making. Understanding decision-making is essential to learning more about RtI, and my research is needed to further expand the team-decision-making approach, which I measured through an RtI decision-making survey I developed, called the RtI Team Decision-Making Questionnaire.

Measurement tools need to be designed to improve the process of using data to inform classroom instruction and support educators' efforts to meet the individual, academic, and social learning needs of all students (Newton et al., 2009). My survey ensured this by measuring practical, relevant, and specific aspects of RtI team and personal decision-making. Moreover, any tool designed to assess decision-making behaviors should include items that professionals agree represents essential components of decision-making (Algozzine et al., 2012), which will help to support team personnel with their problem solving (Newton et al., 2009). My survey met these criteria as well, as it allowed for a better understanding of decision-making practices across different personnel within RtI teams.

CHAPTER THREE

METHODOLOGY

The overall purpose of this research study was to examine multiple factors that influence the decisions of educators participating on RtI teams. The study specifically examined factors that influence school personnel involved in the following components of the RtI decision-making process:

1. Research based assessments, curriculums, progress monitoring probes, evidence-based interventions, and the measures associated with them that are implemented in the school setting (i.e. Measures and Tools).
2. Data-driven decisions that are made based on the assessment and intervention data, including the rules, guidelines, and processes involved in these determinations (i.e. Data-Driven Decisions).
3. The process of the decision-making itself, including the model approach, the dynamics of the team members, and the influences (internal and external) impacting decision-making (i.e. Process and Procedures).

The study allowed for the relationships to be examined among the factors that influence the decisions of the various personnel on the core RtI team. The study also measured those influences that have the greatest impact on the decisions personnel make within the RtI team. The research questions this study measured were:

1. What factors do RtI team members report as the most influential to their team's

overall RtI decision-making processes?

2. What factors do RtI team members report as the most influential to their personal RtI decision-making processes?
3. Do team members' perceptions of their positions on their RtI team influence their decision-making within each RtI tier?
4. In what aspects of the decision-making process do team members report participating in for each RtI area? Do these aspects differ across roles and personnel?
5. Do the decision-making aspects of RtI personnel differ according to school level (elementary v. middle v. high)?

The purpose of this chapter is to provide an overview of the methodology that this study implemented. Specifically, the setting, study participants, research design, data collection, and the survey instrument are all examined. The survey instrumentation will be explained, and references associated with its development will be summarized.

3.1 Overview of the Study Procedures

Study Design

The study was designed to examine decision-making within RtI teams by measuring the specific factors that influence those educators who are involved in the RtI decision-making process. The overall purpose of my research study was to look at multiple factors that influence the decisions of educators participating on RtI teams, and measure how those factors were incorporated in a school's RtI model. Additionally, I attempted to compare the decision-making factors of RtI personnel according to both their school position and school level (elementary v. middle v. high). However, none of

the participating districts had an established RtI model in their high schools; therefore only comparisons between elementary and middle level were made in this study

Setting. This study took place in five South Carolina school districts. Research participation was secured for each district. Research and information sharing agreements through district research requests were confirmed prior to commencement of the data collection. Each district had their own set of participation protocols and requirements.

Study participants. There were selection criteria for both the school and the individual participants within the study. With respect to the school criteria, all the schools within the selected district(s) currently using an RtI model were solicited for participation. Due to the focus on RtI decision-making, only schools that have been implementing RtI for two or more years were solicited. Schools with two or more years experience will have already gone through initial implementation, and were assumed to have developed more consistent processes and procedures.

The five participating school-districts represented a mix between small, rural districts (two) and mid-size, suburban districts (three). The rural districts are classified as small because as compared to the suburban districts, which ranged in size between 20 to 33 total schools, there were four schools in one district, and five in the other. This mixture of participating school districts provided a strong representation of racial, ethnic, and socioeconomic diversity amongst both the student body and the faculty and staff ("State Report Cards", 2014). However, not all of the schools within each district participated in this study due to a variety of reasons: the multiple and varied contact attempts I made were never returned; some schools did not meet the qualifying criteria set forth in the study; some schools did not have an established RtI program, and in

others, the RtI Leads refused to participate. Participation rates are in Chapter 4, Table 4.1.

Of note is that one of the rural school districts used the term GLIT (Grade Level Intervention Team) as opposed to RtI. The function of the GLIT model is the same as RtI: overall management of intervention processes through tiered intervention. Within this district, in addition to the core GLIT team members, every teacher at the primary and elementary school could attend a GLIT meeting if a student they teach was involved, although only those on the core teams participated in the study.

With respect to the selection of individual participants, all faculty and/or staff who served on their school's RtI team were asked to participate in the study. The focus of this study was on the core members of the team who were intricately involved in the decision-making; this stipulation eliminated those personnel with only general or consultative involvement. Since most schools had a core group of individuals serving on their team, there was a range of personnel eligible to participate from each school.

Schools had different types of personnel serving on their RtI team. Participants on a core RtI team may have included administrators, classroom teachers, RtI Specialists or Leads, instructional specialists / coaches, school psychologists, support staff (i.e. paraprofessionals), and district personnel. Worth noting is that while there were 139 respondents who did indicate their position, there were others who submitted their survey, but neglected to record their position. A full listing of position types is found in Table 4.15 in Chapter 4. The criteria for participation were educators directly involved in their team's RtI decision-making processes. Additionally, since some core members served on RtI teams in multiple schools, those participants were requested to complete only one survey based on the RtI team they considered to be their primary (i.e. the team

with which they provided the most active input).

Instrumentation

Survey rationale. It is clear that a closer look needed to be taken at the specific factors that influence educators involved in the RtI decision-making process, and how these factors are incorporated in a school's RtI program. There is a large amount of current research examining the various components of RtI; however, none of this research measures how decisions are actually made within these components. There are gaps in the research regarding how and why RtI teams make their decisions. The purpose of this research was to improve the process of understanding RtI decision-making to better inform classroom instruction and support educators' efforts to meet the academic and social learning needs of all students. According to Algozzine et al. (2012), future research documenting decision-making practices across different types of teams will add to the emerging value of [a designed instrument].

As such, the RtI Team Decision-Making Questionnaire was created based on the current areas of RtI that were identified in the literature review, and each section of the survey is a result of empirical research. The survey was developed to address the research questions by measuring the different decision-making factors that influence school personnel involved in RtI, comparing them, and determining team member's level of involvement in the RtI decision-making processes. Table 3.1 provides and overview of the survey sections, items per section, and current research based on target questions.

Table 3.1

Overall RtI Components, Along with Specific Aspects and Sample Resources within Each Component

Survey component	Specific RtI component(s) / aspects	Sample Resources

Measures and Tools (MT)	Assessment	Fuchs & Fuchs (2006) • A Framework for Building Capacity for Responsiveness To Intervention
	Screening, Progress Monitoring	Deno et al., (2009) • Developing a School-Wide Progress-Monitoring System Stuart & Rinaldi (2009) • A Collaborative Planning Framework for Teachers Implementing Tiered Instruction
	Curriculum / Interventions	Duhon et al. (2009) • Quantifying Intervention Intensity: A Systematic Approach to Evaluating Student Response to Increasing Intervention Frequency Wanzek & Cavanaugh (2012) • Characteristics of General Education Reading Interventions Implemented in Elementary Schools for Students With Reading Difficulties
Data-Driven Decisions (DD)	Evidence-based practices	Gresham (2004) • Current Status and Future Directions of School-Based Behavioral Interventions Mellard et al. (2004) • Foundations and Research on Identifying Model Responsiveness-To-Intervention Sites
	Determining risk, responsiveness vs. non-responsiveness	Fuchs & Fuchs (2006) • A Framework for Building Capacity for Responsiveness to Intervention Gersten et al. (2009) • Assisting Students Struggling With Reading: Response to Intervention (RtI) and Multi-Tier Intervention in the Primary Grades VanDerHayden (2010) • Use of Classification Agreement Analyses to Evaluate RtI Implementation

	Placement into tiers	Fuchs et al., (2012) • Smart RtI: A Next Generation Approach to Multilevel Prevention McAlenenny and Coyne (2011) • Identifying At-Risk Students For Early Reading Intervention: Challenges And Possible Solutions
	Tier movement / Referral for Special Education	Shapiro & Clemens (2009) • A Conceptual Model for Evaluating System Effects of Response to Intervention.
Processes and Procedures (PP)	RtI model approach	Fuchs, Fuchs, & Compton (2004) • Identifying reading disabilities by responsiveness to instruction: Specifying measures and criteria White, Polly, & Audette (2010) • A Case Analysis of an Elementary School's Implementation of Response to Intervention.
	Fidelity of implementation	Glover & Diperna (2007) • Service Delivery for Response to Intervention: Core Components And Directions For Future Research Keller-Margulis (2012) • Fidelity of Implementation Framework: A Critical Need for Response to Intervention Models
	Logistics and Resources	Jenkins et al. (2013) • Responsiveness to Intervention in Reading: Architecture and Practices. Prewett et al. (2012) • RtI Scheduling Processes for Middle Schools: An Information Brief.
	Professional development	Abbott & Wills, 2012 • Improving the Upside-Down Response-to-Intervention Triangle With a Systematic, Effective Elementary School Reading Team

		Kratochwill et al. (2007) • Professional Development in Implementing and Sustaining Multitier Prevention Models: Implications for Response to Intervention

Survey design. The RtI Team Decision-Making Questionnaire (Appendix A) is comprised of 30 questions, which include both Likert-style formatted questions, guided open-response questions, and one general demographic page provided at the end of the survey. Some questions in the survey had multiple sub items within the overarching, main question. In each section, the first set of questions is Likert-style formatted, with each question ranging from 1 – 4 (1 being a strong negative response, and 4 being a strong positive response). The survey was provided to participants electronically, and was developed through Qualtrics Survey Software ©. The survey addressed three overall decision-making areas of the RtI process: measures and tools used to collect data; data-driven decisions; and general processes and procedures of the RtI model.

Survey areas. The first category of the RtI decision-making survey, determining the Measures and Tools, consists of 11 total questions: the first seven require Likert-like responses, followed by three subsequent open-ended response items, and concluding with one multiple choice item. This section includes such indicators as the measures and tools used for progress monitoring, curricula, interventions, and benchmarks. The items address various aspects of decision-making when RtI team members make measures and tools related decisions. The first section (Questions #1 and #2) measures whether or not the RtI team member's perception of their position allows for them to make and provide feedback in measures and tools related decisions within each tier. The second section (Question #3, aspects a-g) measures the participants' perceptions of the role they play based on their level of involvement in the decision-making of various RtI aspects related

to measures and tools. This includes questions related to determining the types of screening, progress monitoring, curriculum, and interventions that are implemented. The third section (Questions #4 - #6) specifically focuses on identifying the participants' level of involvement in each RtI tier based on their perceptions of the roles they play in the measures and tools decision-making process. The fourth section (Question #7, factors a-f), identifies factors that influence the participants' RtI measures and tools related decisions for both their team in general and them personally. The fifth section (Questions #8 - #10) includes three open-response items for participants to identify any additional factors that influence their decision-making that was not listed in section four (for both team and personally). A final categorical question (Question #11) measures the amount of time devoted in RtI meetings to making decisions related to measures and tools.

The second category within the survey, Data-Driven Decisions, consists of eight total questions: the first four require Likert-like responses, followed by three subsequent open-ended response items, and concluding with one multiple choice item. This section include such indicators as determining placement into and movement out of a tier, determining progress within tiers, and referral for special education. The items address various aspects of the data-driven decisions that RtI team personnel make. The first section (Questions #12 and #13) measures whether or not the RtI team member's perception of their school position allows for them to make and provide feedback for data-driven decisions within each tier. The second section (Question #14, a-k) measures the participants' perceptions of the role they play and their level of involvement within various data-driven decision-making aspects. This includes questions related to cut scores, student outcome and risk predictions, placement and movement within and

between tiers, student responsiveness, rates of improvement, and referral to special education. The third section (Question #15, a-f), identify factors that influence the participant's RtI data-driven decisions for both their team and them personally. The fourth section (Questions #16 - #18) includes three open-response items for participants to identify any additional factors that influence their decision-making that was not listed in section three. A final categorical question (Question #19) measures the amount of time devoted in RtI meetings to making data-driven decisions.

The third category of RtI decision-making, general Processes and Procedures, consists of 11 total questions: the first seven require Likert-like responses, followed by three subsequent open-ended response items, and concluding with one multiple choice item. This section includes such indicators as the logistics involved in implementing the RtI model, fidelity of its implementation, resources involved, and professional development. The items addressed various aspects of decision-making when RtI team members make process and procedure related decisions. The first section (Questions #20 and #21) measures whether or not the RtI team member's perception of their school position allows for them to make and provide feedback for process and procedure decisions within each tier. The second section (Question #22, a-i) measures the participants' perceptions of the role they play based on their level of involvement in the decision-making of various RtI aspects related to processes and procedures. These questions included determining the type of RtI model implemented (including the number of tiers), the type of personnel and other resources involved, intervention location and duration, student groupings, professional development, and fidelity of implementation. The third section (Questions #23 - #25) focuses specifically on identifying the

participants' level of involvement in each RtI tier based on their perceptions of the roles they play in the decisions related to processes and procedures. This section is also included within the measures and tools category, because unlike how data-driven decisions are made throughout each tier, there may be more variation with which tiers process and procedure decisions are made. The fourth section (Questions #26, a-f) identifies factors that influence the participant's RtI process and procedures decisions for both their team in general and them personally. Lastly, the fifth section (Questions #27 - #29) concludes with targeted open-response items, inquiring about additional factors that influence participants' decision-making in general RtI processes and procedures. A final categorical question (#30) measures the amount of time devoted in RtI meetings to making process and procedure decisions. Table 3.2 provides a summary of the survey questions that address each research question within each of the three RtI areas.

Table 3.2

The Targeted Content for Each Survey Item within Each RtI Section

RtI Survey Section	**Question number**	**Targeted content**
Measures and Tools (MT)	Question #1, #2	• RtI team member's perceptions of how their school position on their team influences their decision-making within each tier.
	Question #3 (aspects a-g)	• Participants' perceptions of the role they play within various decision aspects (based on their level of involvement).
	Question #4 - #6	• Identifying the participants' level of involvement in each RtI tier based on their perceptions of the roles they play in decision-making.
	Question #7 (factors a-f); #8-10 – open response	• Identifying factors that influence the participants' RtI measures and tools related decisions for their team and them personally.

	Question #11	• Amount of time devoted in RtI meetings to making decisions.
Data-Driven Decisions (DD)	Question #12, #13	• RtI team member's perceptions of how their school position on their team influences their decision-making within each tier.
	Question #14 (aspects a-k)	• Participants' perceptions of the role they play within various decision aspects (based on their level of involvement).
	Question #15 (factors a-f); #16-18 – open response	• Identifying factors that influence the participants' RtI data-driven related decisions for their team and them personally.
	Question #19	• Amount of time devoted in RtI meetings to making decisions.
Process and Procedures (PP)	Question #20, #21	• RtI team member's perceptions of how their school position on their team influences their decision-making within each tier.
	Question #22 (aspects a-i)	• Participants' perceptions of the role they play within various decision aspects (based on their level of involvement).
	Question #23 - #25	• Identifying the participants' level of involvement in each RtI tier based on their perceptions of the roles they play in decision-making.
	Question #26 (factors a-f); #27-29 – open response	• Identifying factors that influence the participants' RtI process and procedures related decisions to their team and them personally.
	Question #30	• Amount of time devoted in RtI meetings to making decisions.

The survey also includes a general demographics page that gathered information about the core participants on the team; however, no personal or identifiable information was collected, as the survey was confidential and anonymous. Demographic information included the participant's school position, number of team members, the number of years in education and service on the RtI team, the types of RtI training and professional

development received, and school level in which they work (i.e. elementary v. middle). Moreover, participants who indicated that they served in multiple levels (e.g. elementary and middle) were specifically asked to only choose their primary (i.e. main) level.

Aside from this demographic data collected from all participants, additional information was requested from each of the self-identified RtI Leads. This information was requested within the survey, and was only asked for those individuals who self-identified as being the Lead. This included inquiring about their school's year in the RtI process, the type of model used to make decisions (standard, problem-solving, blend), the number of personnel serving on their team, the number of tiers within their model (3 or 4), and the number of students within each tier, including referral to special education.

Procedures

Initial steps. Each potential participating district was sent an email that included a copy of my cover letter (Appendix B), a General Outline of my Dissertation (i.e. a mini summary of Chapters 1-3) (Appendix C), and a draft of my survey (Appendix A). In this email, I introduced myself, explained the purpose of my request, and provided corresponding information. The process of applying varied from district to district: some districts required a formal application process, which included completing a district application, whereas others simply required an email with these attachments. In total, I requested participation from 23 South Carolina school districts. Of those 23, I heard back from 15 of them (eight did not respond to my initial request). Of those 15, seven districts rejected my request for participation outright; another informed me that they forwarded my application to the appropriate personnel, but I subsequently never heard back again; and in another district, I had submitted my materials per their application process,

received clarifying questions that I then followed-up and addressed, but never heard back again. In total, five have accepted my proposal. Worth noting is that a sixth district did agree to participate, but this confirmation was only provided several months after my initial application submission, and given how my study was nearing completion, I respectfully and politely informed them that the timeframe was too short given the logistics required.

Upon receiving district approval, I initially contacted, via email, each individual school's principal for introductory purposes, giving them a general overview of myself, my study, and brief review of my procedures. Within this email, I emphasized the fact that their district's approval had already been secured, as well as IRB confirmation from my university. Other salient points I made included how my survey was confidential and anonymous (no identifiable data collected), emphasized that instructional time would not be adversely impacted, and notified them that I would be contacting their school's RtI Lead. Some principals did not acknowledge or respond back, while others were accepting and made offers of help and support. There were a few principals that were hesitant, and requested additional information, which I always provided. Their hesitancy stemmed from issues related to confidentiality and anonymity. After principal contact, I then called and attempted to speak to each school's RtI Lead. In speaking to them, I again introduced myself, reviewed my study and its purpose, emphasized district and IRB approval, and highlighted the study's participation criteria. A few Leads indicated to me their preference to communicate via email, and I always deferred to their preferred method. Once I confirmed eligibility and the target participants, I again summarized with them my main three salient points (confidential and anonymous, no loss of instructional

time, and how the survey was validated to take 20-25 minutes). Once confirmed, I then requested the email addresses of their school's entire core RtI team members. In closing, I requested their participation and their support for promoting participation in my study to their team, and reviewed with them the next steps and timelines.

Distribution. Once I obtained all the core RtI team email addresses for all the participating schools within a district, I then sent out the survey. This process required a staggered distribution by district, as collecting team member contact information took longer in some districts than others. In some cases, for the mid-size districts, it took 2-3 weeks to fully collect each RtI team's email addresses. Moreover, even though in many cases I had confirmed email addresses from personnel at various schools, my survey requests were sent out simultaneously to all identified team members only once all the school teams in that district were accounted for. Lastly, given how my study was conducted during the spring, in several districts, my planned survey distribution coincided with their spring break. Since some of the districts had different dates for spring break, I measured the send-out date partly around their break, with the hopes of increased participation.

The survey was sent as an email message through Qualtrics Survey Software's © web-based survey distributor. However, one district had a firewall that did not allow their team members to receive the Qualtrics © distribution, and I instead sent to survey link through a blind-copy email from my university's account. The link to the survey was included at the bottom of the introductory email, which contained the same information that principals and RtI Leads initially received. This email communication included a request to complete the study, highlighting that participation was completely voluntary.

My introductory message explained that serving as a participant in my dissertation would not have an adverse impact on their instructional time, nor would it subjectively rate their instruction. I discussed how the survey could be completed at the participant's convenience (time, location, etc.), and highlighted the fact that because the survey could be completed remotely, it did not require its completion during the school day. I also communicated that the survey would be available for several weeks, explaining how a long completion window would allow participants ample opportunity for completing it. For their convenience, participants had the ability to save and continue their survey at another time, so long as it fell within the completion window. With respect to this window, I always provided a completion due date in each communication request. I informed them that periodic email reminders would be generated to serve as a prompt for them to complete the survey. To increase participation, I ended up extending the survey's completion due date, and communicated this extended date with participants.

There was a financial incentive opportunity for participants to complete their survey, which was communicated within the reminder email. A reminder of this incentive, along with a brief thank-you statement, was also provided at the end of the survey. There were five $25 gift cards drawings provided in an attempt to increase the response rate. Since this survey was confidential and anonymous, if a participant wanted to be included in the drawing, upon completing their survey, they were requested to email me indicating as such, along with their contact information. Once the survey window was closed, and it was clear no more participants were completing the survey, I conducted the drawing to select the five names. A gift card was then mailed to them.

In sending the survey to the initial school teams, I had inadvertently omitted two

aspects within two questions: question 3, aspect c in Measures and Tools, and question 14, aspect g in Data-Driven Decisions. Upon noticing this omission through my consistent checking and reviewing, I then immediately added those two originally intended aspects to the survey. Since this survey was administered online, updating the survey in real time was possible. While unfortunate, this omission impacted only those team members from the first distribution, and of that distribution, only those participants who opened their link within the first days of that distribution. I updated the survey to include these aspects within days of the initial distribution, which was well before I sent it to several of the other districts' schools' team members.

3.2 Data Analysis

Research Question #1

To answer Research Question #1, descriptive statistics measuring frequency and percentages were performed. The hypothesis was that there are specific, identifiable factors that influence the RtI team's decision-making. In order to study this, the survey has a question matrix that measured six factors within each of the three RtI areas that may influence the participant's team when making RtI decisions. Additionally, the average amount of time a team spends per week making decisions within each RtI area was measured. Descriptive statistics was sufficient to answer this research question with a frequency and percentage breakdown. The results were provided by a full frequency table with a full breakdown for each factor within each of the three RtI areas. The appropriate way to summarize the descriptive statistics was by categorical data, because each factor is its own entity and unrelated to each other, and numerical statistics (e.g. mean) would therefore invalidate the results (Agresti & Finlay, 2009; Moore, 2010).

Along with measuring the influences of the six factors, the survey also provided open-response items to inquire about additional factors that influenced team members' decision-making, and how they viewed these influences. These data were also summarized with a full breakdown for each factor.

Research Question #2

Descriptive statistics measuring frequency and percentage was also performed to answer Research Question #2. This question measured how a participants' position speaks to their personal decision-making process. The hypothesis was that because different schools have different personnel serving on their core RtI team, the factors that influence the team's overall decision-making (i.e. Research Question #1) might not necessary be the same, and even if they are, the degree of the influence may be different for each team member personally. The same six-factor matrix in each of the three RtI areas that was used to answer Research Question #1 was used to answer this research question as well, except that the data was measured from the "personal" influence section of the matrix as opposed to the "team" section. The results were provided by a full frequency table with a full breakdown for each factor within each of the three RtI areas. Along with measuring the influences of the six factors, the survey also provided open-response items to inquire about additional factors that influenced team members' decision-making, and how they viewed these influences. These data were also summarized with a full breakdown for each factor.

To answer this research question, I also collected information on the survey to measure team member's level of involvement (LOI) within each tier based on the perceptions of the role they play in making decisions within each of the three RtI areas.

This data was collected for Measures and Tools and Process and Procedures only. Since data-driven decisions are made throughout all three tiers, including it in the survey would not have provided informative data needed to answer the question. A comparison between team members' levels of involvement within tiers for both RtI areas was made.

Research Question #3

To answer Research Question #3, descriptive statistics measuring frequency and percentages was performed. The hypothesis was that the RtI team member's perception of their team position does play a role in the types of RtI decisions they make within each of the tiers, and that this perception may influence may vary depending on the decision-making within each RtI component. In order to measure this, there are two questions (i.e. factors) from each of the three areas on the survey that identify the decisions core team members make within each of the tiers. The first question measured whether team members felt that their position allows for them to make decisions within each of the RtI areas (which included selecting and implementing measures and tools and process and procedures for those two areas), and secondly, if their position allows for them to provide ongoing, informative feedback to the rest of their team about the decisions that they make. Again, because categorical data is what was being measured, determining mean and other numerical statistics were not appropriate.

Research Question #4

There were two parts to Research Question #4. The first part of the question investigated various aspects of the decision-making process team members report participating in. My hypothesis was that team members engaged in different levels of involvement for various RtI decision-making aspects with respect to measures and tools,

data-driven decisions, and general processes and procedures. This portion of the question was answered through descriptive statistics, measuring frequency and percentage for each aspect within each area, and summarized in a categorical summary table.

To answer the second portion of Research Question #4, two categorical variables needed to be compared. Specifically, the question measured level of involvement in the decision-making within aspects differs across positions of RtI team members. My hypothesis was that the positions of the various personnel on the core RtI team will impact their involvement in the RtI decision-making areas of measures and tools, data-driven decisions, and general processes and procedures. That is, I hypothesized that position will affect involvement in the decision-making within particular aspects as demonstrated by a significant association between them. Since each aspect is not dependent on the other, a categorical comparison between each aspect (Variable 1) within each RtI area and position (Variable 2) was made. Presenting data on two categorical variables requires a test for an association (Moore, 2010), which was performed through the Fisher's Exact test with a Monte Carlo estimate approach.

Originally, the chi square measures of association test was the intended statistical procedure to answer RQ #4b, but due to the sparseness (i.e. breadth) of the positions team members reported as holding, many of the comparisons did not meet both of the required chi square assumptions (Moore, 2010). As a result, I used the Fisher's Exact Test with a Monte Carlo technique approach to test this association, which allows for the estimate of the Exact Test. Unlike the chi square association, because this approach makes no assumptions, it produces unbiased estimates (Agresti & Finlay, 2008), and approximates as close to the p-value as possible because it takes into account confidence intervals

("Nominal Association," n.d.). This test was able to speak to the question of whether the level of involvement in each aspect (i.e. the dependent variable) was based on position (i.e. the independent variable) on the RtI team.

The null hypothesis (Ho) for each test was that there is no association between the two categorical variables (level of involvement in the decision-making per aspect and position), and the alternative hypothesis (Ha) was that there is an association between the two categorical variables. The Exact Test value, p-value, confidence intervals at the 99% level, and the Cramer's V coefficient, which is a measure of the association (Hinkle, Wiersma, & Jurs, 1998; "Nominal Association," n.d.), were all computed for each aspect. The 2-sided p-value was compared to the .05 level of significance and the Monte Carlo approach by using 10000 samples with a seed value of 200000. The data was summarized in table form for each of the three RtI areas (one table per area).

Additionally, while no inferential statistics was formally performed to compare positions to one another, I did combine similar positions together into four groups to better analyze percentages between level of involvement and position. Combining the like positions together was necessary due to the plethora of the team members' positions in the study. This information is demonstrated in Appendices C, D, and E, for Measures and Tools, Data-Driven Decisions, and Process and Procedures, respectively.

Research Question #5

To answer Research Question #5, I had originally anticipated measuring the association between all three levels, as the demographic survey question was differentiated into elementary (K-5), middle (6-8), and high (9-12). However, it turned out that none of the districts in my survey had an established RtI program in any of their

high schools, and so only a two way association (elementary vs. middle) was possible. Even then, only a handful of middle schools had an established RtI model. As such, because this resulted in a relatively small middle level sample size, Fisher's Exact Test was computed to answer this research question. Specifically, of the participants who answered this school level demographic question (N = 139), 94.2% were elementary level (n = 131), and 5.8% were from middle school (n = 8). Since this small middle level sample size allowed me to measure the data exactly how it was reported, I used Fisher's Exact Test without needing to account for an estimate approach.

The hypothesis was that there would be a significant association between school level (i.e. elementary vs. middle) and that the level of participants' involvement in the decision-making of RtI aspects within each area; that is, involvement in aspects of the decision-making depends on what school level the team members are in (i.e. elementary vs. middle). The Ho postulated that there is no association between school level and level of involvement for each school level, and the Ha predicted that there is an association between these variables. The Exact Test value, p-value, and Phi test value (which also measures association strength) were all computed for each aspect. The 2-sided p-value was compared to the .05 level of significance. The data is summarized in table form for each of the three RtI areas (one table per area). In this question, both Cramer's V and the Phi coefficient value were the same for each aspect, given how one of the categorical variables (school level) had only two factors. The Phi coefficient was selected because my comparison involved a 2-factor table, where both variables (i.e. elementary vs. middle) were nominal dichotomies (Hinkle et al., 1998).

Additionally, because of the relatively small sample size, I was able to measure

the level of involvement by school level (in percents), conditioned on the fact that I was only looking at elementary and middle. In order to make this percentage comparison between elementary and middle per aspect, I combined team member's level of involvement into two groups: not involved with somewhat involved, and involved with highly involved. Combining the levels of involvement was necessary because the relatively small middle level sample size did not provide enough data to allow for percentage comparisons otherwise. By collapsing into two groups, more accurate percentage comparisons were able to be made. A summary of the type of data analysis used to answer each question, along with the rationale, is provided in Table 3.3.

Table 3.3

Data Analysis Used to Answer Each Research Question

Research Question	Data Analysis	Rationale	How Results are Provided
RQ #1	Descriptive statistics measuring frequency and percentages	Each factor is separate, unrelated to each other, • categorical data	Full frequency table • frequency and percent breakdown
RQ #2	Descriptive statistics measuring frequency and percentages	Each factor is separate, unrelated to each other, • categorical data	Full frequency table • frequency and percent breakdown
RQ #3	Descriptive statistics measuring frequency and percentages	Each factor is separate, unrelated to each other • categorical data	Full frequency table • frequency and percent breakdown
RQ #4	a. Descriptive statistics b. Fisher's Exact Test with a Monte Carlo estimate approach	Comparison between 2 categorical variables Requires a test of association • Variable 1 – Level of Decision-Making Involvement within each aspect • Variable 2 - Team Member's Position on the RtI team	Full frequency table • frequency and percent breakdown • 10000 sampled tables • Starting seed value of 2000000 • Confidence Interval (99% level) • Significance (p=.05) • Cramer's V coefficient
RQ #5	Fisher's Exact Test	Requires a test of association	• Significance (p=.05) • Phi correlation coefficient

		• Variable 1 – Level of Involvement within each RtI aspect • Variable 2 – School Level (elementary v. middle)	• Percentage comparison of Level of Involvement between Elementary v. Middle Level

Reliability and Validity

Reliability. The importance of reliability and validity, which are required for any meaningful assessment, were addressed in this study. With respect to reliability, this survey was provided to each participant following all established protocols and procedures, and scored in the same manner to allow the data to remain consistent and stable (Gresham, 2004). Additionally, the results of the survey were coded the same, the variables were scored the same, and the original data was carefully preserved to run accurate analysis. With respect to running the analysis, SPSS © statistical software was used to compute the analysis for each research question, ensuring that all mathematical calculations were reliably calculated.

Validity. This study had construct-related validity to allow for accurate conclusions to be made based on data collected (Carmines & Zeller, 1979; Green & Johnson, 2010). This is in part due to the fact that this survey has already secured content-related evidence for validity (Carmines & Zeller, 1979; Green & Johnson, 2010) through its initial validation rounds. Specifically, to work towards securing content validity, before the final form of the survey was developed, feedback was solicited from many types of personnel who participate in RtI teams, and provided them with an initial draft. Specifically, feedback was provided by special education directors, guidance counselors, special and general education teachers, and school psychologists. Along with input from colleagues in relevant positions, I also solicited feedback from fellow students

in my doctoral cohort. The feedback that I received included issues pertaining to formatting, clarity of some items, and reliably confirming the length of time required to take the survey. This input was then used to amend and further enhance the survey to its current version.

Additionally, content validity was enhanced in a variety of ways. For one, all questions included in the survey added to the knowledge base of RtI decision-making. Moreover, the content both directly and indirectly addressed aspects of RtI that has not been measured, such as the concept of team influences and aspects of decision-making involvement. Lastly, some of the specific items on the survey have been addressed in other decision-making surveys of other educational predictors (i.e. PBIS), or were developed based on themes in the literature.

CHAPTER FOUR

RESULTS

4.1 Introduction

The overall purpose of this study was to examine multiple factors that could influence the decisions of educators participating on RtI teams. These factors were examined within the following three RtI components:

1. Research based assessments, curriculums, progress monitoring probes, evidence-based interventions, and the measures associated with them that are implemented in the school setting (i.e. Measures and Tools).
2. Data-driven decisions that are made based on the assessment and intervention data, including the rules, guidelines, and processes involved in these determinations (i.e. Data-Driven Decisions).
3. The process of the decision-making itself, including the model's approach, the dynamics of the team members, and the influences (internal and external) impacting decision-making (i.e. Processes and Procedures).

Specifically, I was measuring the nature of decision-making in each of these areas by answering the following questions:

1. What factors do RtI team members report as the most influential to their team's overall RtI decision-making processes?
2. What factors do RtI team members report as the most influential to their personal RtI decision-making processes?

3. Do team members' perceptions of their positions on their RtI team influence their decision-making within each RtI tier?
4. In what aspects of the decision-making process do team members report participating in for each RtI area? Do these aspects differ across roles and personnel?
5. Do the decision-making aspects of RTI personnel differ according to school level (elementary v. middle v. high)?

Based on the school districts that participated in this research, one of the original five research questions, *Do the decision-making aspects of RTI personnel differ according to school level (elementary v. middle v. high)?*, had to be modified to eliminate the high school option.

There were some expectations I had based on the districts that agreed to participate in my research. First, based on my preliminary conversations at the district level, I expected there to be an established RtI program at both middle and high schools. However, once I began speaking with the actual schools, I found this was not the case. In fact, of all the schools that participated in the study, only three met the study's participation criteria and had an established middle level RtI program. Secondly, I did not expect core RtI team size to vary as greatly as it did for schools within the same district. Lastly, I expected greater participation than actually occurred. Given how the study's procedures required me to make direct personal contact with each school's RtI Lead, I anticipated this interaction would increase participation to near 100%; however, this was not the case, and these issues collectively affected the overall participation rate.

This chapter is organized into three sections. The first section provides an

overview of the study's sample selection procedures. Within this section, participation rates and demographic data of the participants, the schools, and the teams will be discussed. The second section includes descriptive statistics related to research questions #1-4a. The third section includes results for research questions #4b and #5, which were derived from inferential statistical analysis.

4.2 Study Overview

The five participating South Carolina school districts were a mix of small, rural districts (two) and mid-size, suburban districts (three). There was variation in the number of schools within each district, as well as the number of schools that participated. Some schools within participating districts were not involved in the study due to various reasons, including not returning contact attempts, not meeting the qualifying criteria, or not having an established RtI program. With respect to middle level RtI, there were three participating middle schools: two were from School District (SD) B and one from (SD) C. School and district size, as well as participation rates, are summarized in Table 4.1.

Table 4.1

Participation Overview

School District (SD)	Schools in District	Schools (i.e. Teams) that Participated in Study	Number of Participants Survey Sent	Started Survey		Fully Completed Survey		Of those started, percent fully complete
				N	%	N	%	
SD_A	12	11	89	81	91	49	55	60.5
SD_B	27	14	87	71	81.6	43	49.4	60.1
SD_C[a]	3	3	17	15	88	14	82	93.3
SD_D	6	2	16	11	68.8	10	62.5	91
SD_E	35	7	50	33	66	19	39	57.9
Totals	83	37	259	211[b]		135		

[a]This district's server did not allow the survey to be sent from the survey software's online server; as such, participation within this district could not be calculated. Data were derived by subtracting totals of other districts. [b]Of 211 started, 178 had usable data,

A total of 259 surveys were sent out to the identified core RtI team members at their respective schools, of which 211 were opened, for a percentage rate of 81.4%. However, of those 211, 33 were not advanced past the introductory page, and no sort of data were ever recorded for them; as such, a total of 178 surveys (68.7%) were used in this study. Of the 178 surveys that were started, 135 of them were fully completed (75.8%); 43 surveys were started and had discernible data recorded on them, but were never completed. In sum, of the 259 surveys sent, the overall completion percentage for a fully completed survey was 52.1%. There were four additional surveys where the participants answered every question, but never clicked the "finalize and submit" button; therefore, while they technically submitted all the data, their surveys were not classified as fully completed. In all, of the 83 total schools within the five participating districts, 37 of them were represented within the study, with a range of 2-14 school teams per district. However, because the survey was confidential and anonymous, the number of team members on those school teams who actually completed the survey was not ascertained.

The last section of the survey was an array of demographic questions with respect to schools, teams, and participants, which are summarized in Table 4.2. Overall, 96% of the 37 teams ranged in size between 4-11 team members, 84.1% of participants served on their RtI team between 2-5 years, and the highest number of service years were 23. Of the 14 (10.1%) participants who served on multiple teams, nine were in two schools (64.1%), one in both three and four (7.1%), and three served in five (21.4%).

Table 4.2

Summary Table of Team Demographics

Demographic Aspect	Range	Minimum	Maximum	Mean	Median	Mode
Team Size	23	2	25	7.21	7	6 (N=29)

Years Serving on RtI team	23	0	23	3.61	3	1 (N=33)
Years of Experience in RtI	20	0	20	5.68	5	5 (N=27)
Years in Education	45	1	46	16.86	17	17 (N=12)
Year of School's RtI model	8	1	9	2.9	3	4, 5 (N=7)
Serve on Multiple RtI Teams	4	1	5	n/a	n/a	2 teams (N=9)[a]
Current Number of Students in RtI Tiers Per School						
Tier 2	198	20	218	80.13	60	50 (N=4)
Tier 3 (Tiers 3a and 3b)	106	1	107	20.50	12	10[b] (N=4)
Referred to Special Education	58	3	61	15.53	10	3[b] (N=5)

[a]14 participants served on multiple teams; the mode is based on those serving multiple schools. [b]Multiple modes exist; the smallest value is shown.

In order to determine the participants' background knowledge and understanding of RtI, a demographic question related to the type(s) of RtI training and professional development (PD) participants received was included (Table 4.3). The most common PD is provided by the team member's school district (90.4%), while close to half (48.6%) have never received formal training. Moreover, 72.3% have learned about RtI through their pre-service educational program. Since team members were able to answer this question by selecting as many or as few answers as relevant to them, it is not possible to compare each option with the other; rather, the only comparison that can be made is participant involvement (i.e. yes or no) within each PD type, and not between the percentage type.

Table 4.3

Type of RtI Training and Professional Development (PD) Team Members Have Received

	Type of professional development (PD) received											
Participant Involvement	Education program; graduate or undergrad.		District provided PD		State provided PD		Seminars and conferences		Never received formal RtI training		Other	
	N	%	N	%	N	%	N	%	N	%	N	%
Yes	47	72.3	104	90.4	29	54.7	57	78.1	17	48.6	19	45.2
No	18	27.7	11	9.6	24	45.3	16	21.9	18	51.4	23	54.8

Total	65	100	115	100	53	100	73	100	35	100	42	100

Aside from demographic data collected from all participants, additional data were collected only from the self-identified RtI Leads of each team (n = 32; 23% of participants). These targeted questions included the current number of students served within each tier and the year of their school's RtI model, both of which are presented within Table 4.2. Other targeted data collected included the school's model type and its number of tiers. Table 4.4 provides these data.

Table 4.4

Description of the Participating School's Model

N / %	Type of RtI Model			Number of Tiers	
	Standard-Treatment Protocol	Problem Solving	Hybrid, Blend	3 tiers	4 tiers (3a, 3b)
N	10	7	15	24	8
%	31.3	21.9	46.8	75	25

4.3 Descriptive Statistics for Research Questions #1-4a

Research Questions #1 and #2

RQ #1: Factors that influence team decision-making. With respect to the most influential factors team members report as having on their team decisions, survey item 7 a-f (team) asked participants about Measures and Tools (MT), 15 a-f (team) about Data-Driven Decisions (DD), and 26 a-f (team) about Processes and Procedures (PP).

Measures and tools. With respect to MT decisions, 61.3% of team members indicated that the greatest influence to their team's decision-making is using evidenced-based practices, as compared to just 1.8% who indicated pressure from parents. Conversely, the factor within MT that had the least amount of influence on participants

was pressure from teammates (42.2%). Moreover, only 15.1% of participants reported that pressure from superiors greatly influenced their decisions, as compared to other factors, such as their position in the school (46.4%), and role on their team (41.0%). All percentages for MT (team) decisions can be found in Table 4.5.

Data-driven. The data measuring influential factors impacting team decision-making was also similar for data-driven decisions and process and procedures. With respect to DD decisions, evidence-based practices had the greatest influence for 63.3% of team members, as compared to pressure from parents, which greatly influenced only 2% of all participants. Other factors that greatly influenced team member decisions were position in the school (42.2%) and role on their team (40.8%). Conversely, pressure from superiors (28.6%) and pressure from the team (40.1%) were not influential in decisions-making within the team.

Process and procedures. With respect to PP decisions, while not as strong as the other areas, evidence-based practices greatly influenced 57% of the participants, as compared to just 1.4% for pressure from parents. The data also indicate that pressure from superiors either does not or only somewhat influences 63.4% of the team members' PP decisions. All percentages for DD and PP (team) decisions are in Table 4.5.

Comparisons. When comparing these three RtI areas, several points of data demonstrate variance. For one, within MT, while 46.4% indicate that their position greatly influences decisions, only 35.2% indicated this level of influence for PP. Secondly, the role on the team greatly influences 40.8% of participants within DD, but just 35.2% within PP. Additionally, while pressure from parents was most non-influential throughout, 16.3% of participants did indicate that parents do influence their

MT decisions. Cumulatively, in all three areas of RtI, parent influence was smallest, followed by team pressure. Evidence-based was highest, followed by position in school or role on team. Comparisons for all three RtI areas (team) are shown in Table 4.5.

Table 4.5

Comparison Table of Influential Factors of Decision-Making within Measures and Tools, Data-Driven Decisions, and Process and Procedures (Team)

Type of Influence (Team)	RtI Area		Does not influence	Somewhat influences	Influences	Greatly Influences	Total
a. Use of evidenced-based practices	Measures / Tools	N	6	10	48	102	166
		%	3.6	6.0	28.9	61.4	100
	Data-Driven	N	5	8	41	93	147
		%	3.4	5.4	27.9	63.3	100
	Process / Procedures	N	9	14	38	81	142
		%	6.3	9.9	26.8	57.0	100
b. Position (school)	Measures / Tools	N	18	14	57	77	166
		%	10.8	8.4	34.3	46.4	100
	Data-Driven	N	13	17	55	62	147
		%	8.8	11.6	37.4	42.2	100
	Process / Procedures	N	20	18	54	50	142
		%	14.1	12.7	38.0	35.2	100
c. Role (team)	Measures / Tools	N	14	20	64	68	166
		%	8.4	12.0	38.6	41.0	100
	Data-Driven	N	10	19	58	60	147
		%	6.8	12.9	39.5	40.8	100
	Process / Procedures	N	15	19	58	50	142
		%	10.6	13.4	40.8	35.2	100
d. Pressure (team)	Measures / Tools	N	70	53	33	10	166
		%	42.2	31.9	19.9	6.0	100
	Data-Driven	N	59	55	27	6	147
		%	40.1	37.4	18.4	4.1	100
	Process / Procedures	N	61	55	20	6	142
		%	43.0	38.7	14.1	4.2	100
e. Pressure (superiors)	Measures / Tools	N	38	51	52	25	166
		%	22.9	30.7	31.3	15.1	100
	Data-Driven	N	42	44	44	17	147
		%	28.6	29.9	29.9	11.6	100
	Process / Procedures	N	37	53	35	17	142
		%	26.1	37.3	24.6	12.0	100
f. Pressure (parents)	Measures / Tools	N	67	69	27	3	166
		%	40.4	41.6	16.3	1.8	100
	Data-Driven	N	62	63	19	3	147

		%	42.2	42.9	12.9	2.0	100
	Process / Procedures	N	66	57	17	2	142
		%	46.5	40.1	12.0	1.4	100

Amount of time. Data were also collected from team members to measure how much time their team spends making decisions within each of the three areas. This information was collected through item 11 for MT, item 19 for DD and item 30 for MT. The data showed that the least amount of time (0-15 minutes) is spent making MT decisions (37.3%), and the largest amount of time (greater than 45 minutes) is spent making DD decisions (27.2%). Moreover, 66.2% and 66.9% of team members indicated their team spends up to 30 minutes each meeting making MT and PP decisions, respectively. The data show that teams devoted the greatest amount of time (i.e. at least 31 minutes) making DD decisions (54.4%). Table 4.6 summarizes these data.

Table 4.6

Amount of Time Devoted to Decision-Making per RtI Component

Time Spent (per meeting)	Measures / Tools		Data-Driven		Process / Procedures	
	N	%	N	%	N	%
0 - 15 minutes	62	37.3	17	11.6	44	31.0
16 - 30 minutes	48	28.9	50	34.0	51	35.9
31 - 45 minutes	27	16.3	40	27.2	24	16.9
Greater than 45 minutes	29	17.5	40	27.2	23	16.2
Total	166	100.0	147	100.0	142	100.0

RQ #2: Factors that influence personal decision-making. With respect to the most influential factors team members report for their personal decisions, survey item 7 a-f (personal) asked participants about Measures and Tools (MT), 15 a-f (personal) about Data-Driven Decisions (DD), and 26 a-f (personal) about Processes and Procedures (PP). The data between two survey categories, does not influence and somewhat influences,

were combined in certain instances. This combination allowed for broader conclusion statements to be made, such as: generally does not influence; little to no influence; or not much influence. Influences and greatly influences responses on the survey were also combined to allow for the overall conclusion statement, generally influences, to be made. This summing was combined throughout this chapter; the presence of these general descriptive statements implies one of these two combinations.

Measures and tools. With respect to the factors team members report influencing their individual (i.e. personal) decisions, within MT, evidence-based practices had the greatest influence (63.3%), and position in their school was the second most influential (42.8%). Conversely, pressure from parents greatly influenced just 1.8%. Pressure from teammates also yielded no influence for 42.2% of participants. All percentages for MT (personal) decisions can be found in Table 4.7.

Data-driven. For DD (personal), 66% of participants indicated that evidence-based practices were the greatest influence. Only 2% and 1.4% reported pressure from team mates and parents, respectively. Thus, these factors were the least influential. Participants reported that both pressure from superiors (29.9%) and pressure from team mates (38.8%) also did not influence their DD decisions. All DD (personal) decision percentages are in Table 4.7.

Process and procedures. Lastly, within PP (personal), evidence-based practices also have the greatest influence on participants (59.2%), and pressure from parents the least (1.4%). Other findings show that the role on the team is the second highest influence (46.5%). Moreover, roughly 81% of participants indicate that pressures within their team had generally little or no influence when making PP decisions. Table 4.7

summarizes PP (personal) findings.

Comparisons. There was variance within the data when comparing levels of influence within the three RtI areas (personal). First, the role on the team has the greatest influence for DD decisions (40.8%) as compared to MT (37.3%) and PP (32.4%) decisions. Another factor, pressure from supervisors, greatly influences 11.4% of team member's decisions within the MT area, as compared to 8.5% for PP and 8.2% for DD. Moreover, position within the school seems to be less of an influence for PP decisions (73.9%) as compared to MT (77.1%) or DD (78.2%) decisions. Lastly, pressure from parents generally does not influence team member's decisions (84%-86%) within each area. Comparison data of personal influences is in Table 4.7.

Table 4.7

Comparison Table of Influential Factors of Decision-Making within Measures and Tools, Data-Driven Decisions, and Process and Procedures (Personal)

Type of Influence (Personal)	RtI Area		Does not Influence	Somewhat influences	Influences	Greatly Influences	Total
a. Use of evidenced-based practices	Measures / Tools	N	9	10	42	105	166
		%	5.4	6.0	25.3	63.3	100
	Data-Driven	N	5	8	37	97	147
		%	3.4	5.4	25.2	66.0	100
	Process / Procedures	N	13	8	37	84	142
		%	9.2	5.6	26.1	59.2	100
b. Position (school)	Measures / Tools	N	21	17	57	71	166
		%	12.7	10.2	34.3	42.8	100
	Data-Driven	N	14	18	51	64	147
		%	9.5	12.2	34.7	43.5	100
	Process / Procedures	N	22	15	52	53	142
		%	15.5	10.6	36.6	37.3	100
c. Role (team)	Measures / Tools	N	17	19	68	62	166
		%	10.2	11.5	41.0	37.3	100
	Data-Driven	N	12	19	56	60	147
		%	8.2	12.9	38.1	40.8	100
	Process / Procedures	N	15	15	66	46	142
		%	10.6	10.6	46.5	32.4	100
d. Pressure	Measures /	N	70	63	27	6	166

(team)	Tools	%	42.2	38.0	16.3	3.6	100
	Data-Driven	N	57	61	26	3	147
		%	38.8	41.5	17.7	2.0	100
	Process / Procedures	N	58	57	21	6	142
		%	40.8	40.1	14.8	4.2	100
e. Pressure (superiors)	Measures / Tools	N	43	56	48	19	166
		%	25.9	33.7	28.9	11.4	100
	Data-Driven	N	44	49	42	12	147
		%	29.9	33.3	28.6	8.2	100
	Process / Procedures	N	37	50	43	12	142
		%	26.1	35.2	30.3	8.5	100
f. Pressure (parents)	Measures / Tools	N	72	70	21	3	166
		%	43.4	42.2	12.7	1.8	100
	Data-Driven	N	64	61	20	2	147
		%	43.5	41	13.6	1.4	100
	Process / Procedures	N	64	59	17	2	142
		%	45.1	41.5	12.0	1.4	100

Decision-making comparisons between team and personal influences. For each of the three RtI areas, evidence-based practices are the most influential decision-making factor on the survey; this factor generally influenced between 78% - 90% of all team members' team and personal decisions. Conversely, the least influential factor impacting participants' team and personal decision-making across all three RtI areas was pressure from parents, where between 82% - 86.7% reported little to no influence. The data also indicated that pressure from team mates was the second least influential factor overall for both team and personal, as this factor generally does not influence 74% - 81% of participants.

However, within pressure from teammates, there were differences between team and personal that were only present in MT (team). For instance, 25.9% of respondents were influenced by their teammates, as compared to just 19.9% for personal. Another difference between team and personal was with pressure from superiors; this factor influences or greatly influences 46.4% of participants for team decisions, as compared to

40.3% for personal. Within DD, one difference is that pressure from superiors influence or greatly influences 41.5% for team decisions, as compared to just 36.8% for personal decisions. Within PP, this aspect influences 24.6% for team, but 30.3% for personal.

Level of involvement. Survey items 4-6 (MT) and 23-25 (PP) measured team member's level of involvement (LOI) based on the perceptions of the role they play in their team in making decisions within each tier. With respect to MT, team members indicated that the highest level of involvement (33.1%) was within tier 2; they were slightly less involved (29.5%) within tier 1. Moreover, team members were involved or highly involved similarly between tier 2 (65%) and tier 3 (62.6%). With respect to PP, the highest level of involvement was measured to be in tier 2 (70.4%), which was greater than tier 3 (65.5%) and far greater than tier 1 (52.8%). Conversely, 24.6% of team members reported that they were not involved for tier 1 decisions; 9.9% were not involved in tier 2; and 13.4% were not involved in tier 3 decisions. Moreover, when comparing team member's level of involvement between MT and PP, only small differences were noted between tiers 1 and 2. Tier 3 had no notable differences between the two RtI areas. Table 4.8 summarizes these data.

Table 4.8

Level of Involvement within Each Tier Based on Perceived Role on RtI Team

MT (#4-6) –and– PP (#23-25)	Measures and Tools (MT)						Process and Procedures (PP)					
	a. RtI Tier 1		b. RtI Tier 2		c. RtI Tier 3		a. RtI Tier 1		b. RtI Tier 2		c. RtI Tier 3	
Level of Involvement	N	%	N	%	N	%	N	%	N	%	N	%
Not involved	49	29.5	22	13.3	26	15.7	35	24.6	14	9.9	19	13.4
Somewhat involved	39	23.5	36	21.7	36	21.7	32	22.5	28	19.7	30	21.1

Involved	41	24.7	53	31.9	54	32.5	42	29.6	55	38.7	52	36.6
Highly Involved	37	22.3	55	33.1	50	30.1	33	23.2	45	31.7	41	28.9
Total	166	100	166	100	166	100	142	100	142	100	142	100

Note. DD decision LOI data were not collected.

Additional influences. There were nine open-response survey items (items 8-10 for MT, 16-18 for DD, and 27-27 for PP) that inquired about additional factors that influenced team members' decision-making. The response data were summarized into patterns and themes, and shown below in Table 9. Within MT, 29% of participants indicated that they are influenced and bound by district mandates, as compared to just 9.3% for DD or 12.1% for PP decisions. Other influences that were high in some areas but not others included school culture, which is a strong influence on PP decisions (15.1%) but non-existent for both MT or DD decisions; incorporating previous experiences, which only influences MT decisions (6%); and the consideration of multiple data sources, which influences 27.9% of team members when making DD decisions, just 10.1% for PP decisions, and no role in MT decisions. These additional influences, summarized in Table 4.9, are generally viewed as positive (ranged between 50.7% - 60.4% within each area), while the greatest amount of negative viewpoints of these influences were within the PP area (29.6%). Viewpoints are listed in Table 4.10.

Table 4.9

Additional Factors Team Members Reported as Influential to Their Decision-Making

Other Listed Influences	N / %	RtI Area / Component			Total (N)
		Measures / Tools	Data-Driven	Process / Procedure	
District / Administration mandates	N	29	8	12	49
	%	29	9.3	12.1	17.2
Student progress / Meeting child's set goals	N	0	15	8	23
	%	0	17.4	8.1	8.0

Student's individual needs (e.g. previous experiences, background, etc.)	N	23	16	3	42
	%	23	18.6	3.1	14.8
Resources (money, time, etc.)	N	23	8	28	59
	%	23	9.3	28.1	20.8
Perceived teacher's ability / teacher input / teachers sharing their concerns	N	14	11	19	44
	%	14	12.9	19.1	15.4
Previous personal / professional experiences	N	6	0	0	6
	%	6	0	0	2,1
Data accuracy / Incorporating and reviewing multiple sources of data	N	0	24	10	34
	%	0	27.9	10.1	11.9
School Culture (past / prior routines, workplace climate, school environment)	N	0	0	15	15
	%	0	0	15.1	5.2
Other [a]	N	5	4	4	13
	%	5	4.6	4.1	4.6
Total	N	100	86	99	285
	%	100	100	99.8	100.0

[a]To be classified as other, no more than two of the same selections were identified.

Table 4.10

Team Members Viewpoints of Additionally Listed Influences

	Influences of Measures and Tools decisions		Influences of Data-Driven decisions		Influences of Process & Procedure decisions	
Rating	N	%	N	%	N	%
Positive	37	50.7%	32	60.4	29	53.7%
Neutral	20	27.3%	9	16.9	9	16.7%
Negative	16	22%	12	22.7	16	29.6%
Total	73	100.0	53	100.0	54	100.0

Research Question #3

Within each RtI area, team members were asked to summarize their decision-making per tier based on the perceptions of their position on their RtI team. Six total questions (survey items 1-2 for MT, 12-13 for DD, and 20-21 for PP) measured this perception within two areas: making decisions within each RtI area (which included selecting and implementing for MT and PP), and providing ongoing, informative feedback about the decisions to their team.

Measures and tools. Within MT, the greatest tier involvement was tier 2, as 75.3% agreed or strongly agreed that their position allowed them to make tier 2 selection and implementation decisions, as compared to 70.5% for tier 3, and just 64.4% for tier 1. Conversely, 35.5% of participants did not think their position allowed them to make tier 1 decisions, as compared to 29.5% for tier 3 and just 24.7% for tier 2. Tier 2 was also the greatest involved tier with respect to team members providing ongoing, informative feedback, as 79% either agreed or strongly agreed that their positions allow for them to do this, compared to 74.1% within tier 3 and just 66.2% within tier 1. A summary is provided in Table 4.11.

Data-driven. Within DD decisions, 90% of all participants perceive that their position generally allowed for them to make data-driven decisions within tier 2, as compared to tier 3 (84.35%) and tier 1 (74.8%). Moreover, 89.1% of participants agreed or strongly agreed that their position allowed for them to provide ongoing, informative feedback within tier 2, which was the highest rating of all the tiers.

Process and procedures. Within PP, 85.9% of team members either agreed or strongly agreed that that their position allowed them to determine which processes and procedures were decided upon and implemented in tier 2, which was greater than in tier 3 (80.2%) and far greater than in tier 1 (69.7%). Conversely, 30.3% of respondents indicated that they did not perceive that their position allowed for them to make decisions within tier 1, as compared to 19.8% in tier 3 and 14.0% in tier 2. For the second question, providing ongoing and informative feedback for PP decisions, 84.5% agreed or strongly agreed that they do this within tier 2, as compared to 78.1% for tier 3 and 69.0% for tier 1. PP data can be found in Table 4.11.

Comparisons. When comparing all three RtI areas together, tier 2 decisions were greatest for DD decisions, as 90.5% of participants agree or strongly agree that that their position allows for them to make these types of decisions, as compared to 75.3% for MT and 85.9% for PP. Data also showed that 35.6% of team members did not think that their position allows for them to make tier 1 MT decisions, which is in contrast to tier 1 decisions in PP (30.3%) and DD (25.6%). When comparing each tier to one another, participants indicated that they felt their position allows for them to make the greatest amount of tier 2 decisions and the least amount of tier 1 decisions. Data also indicated that within each RtI area, roughly 10% of team members perceive that their position allows for them to make more tier 3 than tier 1 decisions.

With respect to providing ongoing feedback to their team, team members either agreed or strongly agreed that their positions allow for them to do this the most within tier 2 for each area. Within tier 2, providing feedback was largest in DD (55.8%), as compared to PP (41.5%) and MT (38%). Within each of the three areas, team members indicated that their positions allowed for them to make decisions by the greatest percentage in tier 2 and the least in tier 1, with the only exception being in MT tier 1 (66.2%) versus tier 3 (64.1%). Comparison data are in Table 4.11.

Table 4.11

Perception of Position on RtI Team Influencing Decision-Making within each Tier for Measures and Tools, Data-Driven, and Processes and Procedures

MT #1, 2 DD #12, 13 PP #20, 21 Type of Decision	Tier	RtI Area	N / %	Team Member's Perception of Position				Total
				Strongly Disagree	Disagree	Agree	Strongly Agree	
Allowing team members to make		Measures / Tools	N	23	36	55	52	166
			%	13.9	21.7	33.1	31.3	100

decisions within each particular RtI area (e.g. selection, implementation)	Tier 1	Data-Driven	N	13	24	44	66	147
			%	8.8	16.3	29.9	44.9	100
		Process / Procedures	N	23	20	49	50	142
			%	16.2	14.1	34.5	35.2	100
	Tier 2	Measures / Tools	N	17	24	60	65	166
			%	10.2	14.5	36.1	39.2	100
		Data-Driven	N	5	9	53	80	147
			%	3.4	6.1	36.1	54.4	100
		Process / Procedures	N	9	11	63	59	142
			%	6.3	7.7	44.4	41.5	100
	Tier 3	Measures / Tools	N	19	30	53	64	166
			%	11.4	18.1	31.9	38.6	100
		Data-Driven	N	7	16	44	80	147
			%	4.8	10.9	29.9	54.4	100
		Process / Procedures	N	13	15	55	59	142
			%	9.2	10.6	38.7	41.5	100
Allowing team members to provide ongoing, informative feedback for the types of decisions made within each particular RtI area	Tier 1	Measures / Tools	N	21	35	58	52	166
			%	12.7	21.1	34.9	31.3	100
		Data-Driven	N	12	23	45	67	147
			%	8.2	15.6	30.6	45.6	100
		Process / Procedures	N	20	24	47	51	142
			%	14.1	16.9	33.1	35.9	100
	Tier 2	Measures / Tools	N	15	20	68	63	166
			%	9.0	12.0	41.0	38.0	100
		Data-Driven	N	5	11	49	82	147
			%	3.4	7.5	33.3	55.8	100
		Process / Procedures	N	10	12	61	59	142
			%	7.0	8.5	43.0	41.5	100
	Tier 3	Measures / Tools	N	17	26	60	63	166
			%	10.2	15.7	36.1	38.0	100
		Data-Driven	N	7	12	45	83	147
			%	4.8	8.2	30.6	56.5	100
		Process / Procedures	N	11	20	54	57	142
			%	7.7	14.1	38.0	40.1	100

Research Question #4a

Three overall survey items, each with multiple sub-items, asked team members to identify their level of involvement (LOI) in the decision-making of particular aspects within each RtI area. Survey item 3 (a-h) pertained to LOI for aspects within MT, item 14 (a-k) for aspects within DD, and item 22 (a-i) for aspects pertaining to PP.

Measures and tools. The top three aspects with the highest percentage of team

member involvement within MT includes providing consistent feedback on those measures and tools (aspect h; 63.3%), planning which tiered interventions to implement (aspect e; 61.4%), and determining when and how often to progress monitor (aspect c; 59.9%). Table 4.12 summarizes all MT involvement data.

Table 4.12

Level of Involvement in the Decision-Making of Measures and Tools Aspects

MT #3 a-h	Level of Involvement					
Measures and Tools (Aspects)		Not Involved	Somewhat Involved	Involved	Highly Involved	Total
a. Determining which screening instruments are implemented	N	61	35	35	35	166
	%	36.7	21.1	21.1	21.1	100.0
b. Determining which progress monitoring and CBM probes are implemented	N	51	32	49	34	166
	%	30.7	19.3	29.5	20.5	100.0 0
c. Determining when and how often to progress monitor	N	31	28	50	38	147
	%	21.1	19.0	34.0	25.9	100.0
d. Planning which school-wide curriculum the school implements	N	64	32	30	40	166
	%	38.6	19.3	18.1	24.1	100.0
e. Planning which tiered interventions to implement	N	25	39	45	57	166
	%	15.1	23.5	27.1	34.3	100.0
f. Deciding to change the screening, CBM probe, progress monitoring, and/or interventions	N	35	42	51	38	166
	%	21.1	25.3	30.7	22.9	100.0
g. Deciding when to implement these changes (aspect 'f')	N	35	35	52	44	166
	%	21.1	21.1	31.3	26.5	100.0
h. Providing consistent feedback to the about the M,T selected	N	25	36	58	47	166
	%	15.1	21.7	34.9	28.3	100.0

Data-driven. With respect to measuring team member's LOI with DD aspects, the largest percentages of team members who are involved or highly involved include referring students for evaluation (aspect k; 77.6%,), selecting students for placement into tiers 2 and 3 (aspect d; 74.8%), and identifying students considered non-responsive to their intervention (aspect e; 72.8%). However, 61.3% of participants were generally not involved in developing the strands of risk outcomes (aspect b), which is the largest

cumulative uninvolved percentage. Data-driven aspects are found in Table 4.13.

Table 4.13

Level of Involvement in the Decision-Making of Data-Driven Aspects

DD#14 a-k		Level of Involvement				
Data-Driven Decisions (Aspects)		Not Involved	Somewhat Involved	Involved	Highly Involved	Total
a. Establishing cut scores on universal benchmarks to sort student	N	61	26	32	28	147
	%	41.5	17.7	21.8	19.0	100.0
b. Developing the strands (i.e. high, moderate, low) of risk outcomes	N	58	32	29	28	147
	%	39.5	21.8	19.7	19.0	100.0
c. Identifying students considered at-risk, based on those risk outcome	N	26	23	48	50	147
	%	17.7	15.6	32.7	34.0	100.0
d. Selecting students for placement into tiers 2, 3	N	21	16	48	62	147
	%	14.3	10.9	32.7	42.2	100.0
e. Identifying students considered non-responsive to their provided intervention(s)	N	19	21	42	65	147
	%	12.9	14.3	28.6	44.2	100.0
f. Determining students' rate of improvement (ROI) within a tier	N	23	23	56	45	147
	%	15.6	15.6	38.1	30.6	100.0
g. Determining student's ROI for movement between tiers	N	24	19	43	47	133
	%	18.0	14.3	32.3	35.3	100.0
h. Identifying students who qualify for movement between tiers	N	20	21	48	58	147
	%	13.6	14.3	32.7	39.5	100.0
i. Determining student's ROI between two benchmark periods	N	27	27	46	47	147
	%	18.4	18.4	31.3	32.0	100.0
j. Determining when students meet their learning target	N	22	21	51	53	147
	%	15.0	14.3	34.7	36.1	100.0
k. Referral for evaluation for special education	N	11	22	40	74	147
	%	7.5	15.0	27.2	50.3	100.0

Process and procedures. Within the PP aspects, the largest percentage of team members (59.2%) was either involved or highly involved in determining the type of RtI model implemented. Moreover, determining both the logistics involved in student groupings (53.5%) and determining the duration of the interventions (52.8%) were also relatively higher compared to the other aspects. In contrast, determining the location of the interventions had the most participants who were either not or only somewhat

involved (60.6%). Team members also reported that they were generally not involved in determining the personnel providing the interventions (aspect c; 54.9%). A full summary of these data is shown in Table 4.14.

Table 4.14

Level of Involvement in the Decision-Making of Process and Procedures Aspects

PP#22 a-i	Level of Involvement					
General Process and Procedures (Aspects)		Not Involved	Somewhat Involved	Involved	Highly Involved	Total
a. Determining the type of RtI model the school implements	N	37	21	36	48	142
	%	26.1	14.8	25.4	33.8	100.0
b. Deciding on the number of RtI tiers implemented within the model	N	47	29	31	35	142
	%	33.1	20.4	21.8	24.6	100.0
c. Determining personnel involved in providing the intervention(s)	N	48	30	27	37	142
	%	33.8	21.1	19.0	26.1	100.0
d. Determining the location of the intervention(s)	N	55	31	25	31	142
	%	38.7	21.8	17.6	21.8	100.0
e. Determining the duration of the intervention(s)	N	41	26	40	35	142
	%	28.9	18.3	28.2	24.6	100.0
f. Determining logistics involved with student groupings (size, ability)	N	34	32	36	40	142
	%	23.9	22.5	25.4	28.2	100.0
g. Providing professional development opportunities for teachers and staff	N	38	35	35	34	142
	%	26.8	24.6	24.6	23.9	100.0
h. Determining practices associated with fidelity of implementation	N	46	30	34	32	142
	%	32.4	21.1	23.9	22.5	100.0
i. Analyzing fidelity data / recommending necessary changes	N	43	30	33	36	142
	%	30.3	21.1	23.2	25.4	100.0

4.4 Inferential Statistics for Research Questions #4b and 5

Research questions 4b and 5 compared differences between participants' level of involvement in decision-making within these aspects to both their position in their school or district (RQ #4b) and school level (RQ #5) using Fisher's Exact Test with a Monte Carlo estimate approach for RQ#4 and this same Exact Test but without an estimate approach for RQ#5. The chi square measures of association test was the intended

procedure to answer RQ #4b, but due to the sparseness (i.e. breadth) of positions that team members reported as holding, many of the association measures did not meet both required chi square assumptions. As a result, the Fisher's Exact Test with a Monte Carlo technique approach to test this association was used. This approach allows for the estimate of the Exact Test, which unlike chi square, makes no assumptions and therefore produces unbiased estimates (Agresti & Finlay, 2008). Due to small sample sizes for middle and high school level participants, Fisher's Exact Test was also used to answer RQ#5. However, because this small sample size allowed me to measure the data exactly how it was reported, the Fisher's Exact Test did not need to account for estimates.

Research Question #4b

Within the general demographics page of the survey, participants were provided with a list of 10 position options to choose from, with three of those 10 position choices (teacher, interventionist, and other) requiring follow-up questions. A list of all 14 positions is summarized in Table 4.15. The largest percentage of team members was administrators (21.6%); social worker and district representative (1.4%) were the least.

Table 4.15

Summary of the Participant's Positions

Position	N	Percent
Administrator	30	21.6
RtI Specialist / RtI Lead	19	13.7
Instructional Specialist / Coach	16	11.5
School Psychologist	11	7.9
Guidance Counselor	6	4.3
Support Staff (e.g. teacher assistant, clerical staff, etc.)	4	2.9
District Representative	2	1.4
Interventionist [a]	1	.7
General Education teacher	5	3.6
Special Education teacher	9	6.5

Reading Interventionist	24	17.3
Math Interventionist	3	2.2
Speech-Language Therapist	7	5.0
Social Worker	2	1.4
Total	139	100.0

[a] There was one interventionist who did not indicate whether it was for reading or math.

This question was answered by comparing survey items MT #3 (a-h), DD #14 (a-k), and PP #22 (a-i) with the position item listed within the general demographics page. To answer this question, for each of the three areas, the Monte Carlo approach of 10000 sampled tables was computed with a randomly generated starting seed value of 2000000. Along with levels of significance, Cramer's V coefficient values were also computed to determine the strength of each of the associations between position and aspect. Cramer's V measures the strength of the aspect's association relative to each other by a percentage of their maximum possible variation (Hinkle et al., 1998; "Nominal Association," n.d.). Cramer's V coefficients allowed for comparisons of aspects within each RtI area.

Measures and tools. With respect to MT, all associations between position and aspects were significant (all p-values were below the .05 threshold), demonstrating that there is an association between position and level of involvement for each particular aspect. With respect to Cramer's V coefficients, deciding and planning on which school-wide curriculum to implement (aspect d; *Cramer's V* = .439) had the strongest dependency between level of involvement and position, while deciding to change the screening, interventions, and other measures (aspect f; *Cramer's V* = .356) had the relative weakest. Aspect d also had the highest Fisher's Exact Test value (75.506), and lowest p-value (p = .000), 99% Confidence Intervals (CI) [.000, 000]. All values are shown in Table 4.16.

Table 4.16

Measure of Association between Level of Involvement and Position within Measures and Tools Aspects

MT #3 (a-h)	Fisher's Exact Test	Monte Carlo Significance (2-sided)			Symmetric Measures
			99% Confidence Interval		
Measures and Tools (MT) Aspects	Value	P-Value	Lower Bound	Upper Bound	Cramer's V
a. Determining which screening instruments are implemented	55.003	.003	.001	.004	.379
b. Determining which progress monitoring, CBM probes selected	55.790	.002	.001	.003	.387
c. Determining when and how often to progress monitor	46.200	.035	.030	.040	.372
d. Planning the school-wide curriculum to implement	75.506	.000	0.000	.000	.439
e. Planning which tiered interventions are implemented	54.970	.003	.001	.004	.366
f. Deciding to change the screening / CBM / progress monitoring / interventions.	51.986	.007	.005	.009	.356
g. Deciding when to implement changes ('f')	57.324	.001	0.000	.001	.378
h. Providing consistent feedback to RtI team about M,T selected	52.328	.007	.005	.009	.377

Data-driven. With respect to associations between level of involvement within aspects of DD and position, all but one of the associations was significant. Aspect e, identifying students considered non-responsive to their intervention, had a slightly smaller p value (p = .047) than the .05 threshold, but because the upper bound of the 99% CI [.041, .052] was above this threshold, significance could not confidently be attained. When comparing the aspects with each other, the strongest association was between position and determining students' rate of improvement for movement between tiers (aspect g; *Cramer's V* = .434), followed closely by selecting students for placement into

tiers 2 and 3 (aspect d; *Cramer's V* = .422). The weakest significant association between position and level of involvement was aspect j (*Cramer's V* = .358), followed by identifying students who qualify for movement between tiers (aspect h; *Cramer's V* = .380). Values are shown in Table 4.17.

Table 4.17

Measure of Association between Level of Involvement and Position within Data-Driven Aspects

DD #14 (a-k)	Fisher's Exact Test	Monte Carlo Significance (2-sided)			Symmetric Measures
			99% Confidence Interval		
Data-Driven Aspects	Value	P-Value	Lower Bound	Upper Bound	Cramer's V
a. Establishing cut scores on universal benchmarks	58.275	.001	.000	.002	.383
b. Developing the strands (i.e. high, low) of risk outcomes	67.441	.000	0.000	.000	.417
c. Identifying students considered at-risk	66.699	.000	0.000	.000	.415
d. Selecting students for placement into tiers 2, 3	63.631	.000	0.000	.000	.422
e. Identifying students considered non-responsive to provided intervention	46.278	.047	.041	.052	.344
f. Determining students' rate of improvement within a tier	58.445	.001	0.000	.001	.408
g. Determining students' ROI for movement between tiers	60.925	.000	0.000	.001	.434
h. Identifying students who qualify for movement between tiers	54.122	.003	.002	.005	.380
i. Determining student's ROI between 2 benchmark periods	61.028	.000	0.000	.001	.412
j. Determining when student met learning target	49.247	.020	.016	.023	.358
k. Referral evaluation for special education	57.770	.001	.000	.002	.402

Process and procedures. With respect to comparing PP decision-making level of involvement and position, there were significant associations with all but two of the

aspects; aspect a, determining the type of RtI model of the school (*Fisher's Exact Test* = 44.394; p = .080; 99% CIs [.073, .087]), and aspect b, deciding on the number of RtI tiers within the model (*Fisher's Exact Test* = 39.461; p = .245; 99% CIs [.234, .256]). All other aspects' p-values were measured at .000, and all had lower and upper bound CIs of .000 as well. When comparing the relative strengths of association for these significant aspects and position, the strongest was aspect d, determining location of the intervention (*Cramer's V* = .471). In contract, the weakest of all the significant associations was determining the duration of the intervention (aspect e; *Cramer's V* = .399) and determining the logistics with student groupings (aspect f; *Cramer's V* = .399). All PP association data are summarized in Table 4.18.

Table 4.18

Measure of Association between Level of Involvement and Position within Process and Procedure Aspects

PP #22 (a-i)	Fisher's Exact Test	Monte Carlo Significance (2-sided)			Symmetric Measures
			99% Confidence Interval		
Process and Procedure (PP) Aspects	Value	P-Value	Lower Bound	Upper Bound	Cramer's V
a. Determining the type of RtI model	44.394	.080	.073	.087	.325
b. Deciding on the number of RtI tiers within the model	39.461	.245	.234	.256	.324
c. Determining personnel involved in intervention(s)	67.774	.000	0.000	.000	.415
d. Determining location of intervention(s)	89.139	.000	0.000	.000	.471
e. Determining duration of the intervention(s)	62.700	.000	0.000	.000	.399
f. Determining logistics involved with student groupings (e.g. size, ability)	63.120	.000	0.000	.000	.399
g. Providing professional development opportunities for teachers and staff	82.046	.000	0.000	.000	.453

h. Determining the practices associated with FOI	82.122	.000	0.000	.000	.453
i. Analyzing the FOI data / recommending changes	79.027	.000	0.000	.000	.441

Percentage comparisons. Additionally, percentages of level of involvement by position were compared for each aspect within each of the three RtI areas. However, instead of computing percentages for all 14 positions, positions were combined into one of four overall groups. Since some of the positions had a very small sample size, combining like positions into an overall group allowed for more meaningful comparison. The four similar-sized groups of combined positions, included: Administrators and District Representatives (*n* = 32; 23%); RtI Specialists and Instructional Coaches *(n* = 35; 25.2%); Teachers and Interventionists *(n* = 42; 30.2%); and a combination of School Psychologists, Speech Therapists, Support Staff, and Guidance *(n* = 30; 21.6%). The percentage comparisons of level of involvement for these combined positions for each aspect within MT, DD, and PP are provided in Appendices D, E, and F, respectively.

Research Question #5

Within the general demographics page of the survey, participants were asked to qualify the school level in which they work. To measure the association between all three levels, the survey question was differentiated into elementary (K-5), middle (6-8), and high (9-12). However, it turned out that none of the districts in my survey had an established RtI program in any of their high schools, and so only a two way association (elementary vs. middle) was possible. Moreover, participants who indicated that they served in multiple levels (e.g. elementary and middle) were specifically asked to only choose their primary (i.e. main) level. Of the participants who answered this school level

demographic question *(N* = 139), 94.2% were elementary level *(n* = 131), and 5.8% were from middle school *(n* = 8). Because of the relatively small middle level sample size, the Fisher's Exact Test was computed to answer this research question.

Measures and tools. For MT, there was a significant association between level of involvement in decision-making and school level for two aspects. The first significant aspect was determining which screening instruments are implemented (aspect a; p = .007); there was also a significant association between school level and level of involvement for planning school-wide curriculum (aspect d; p = .059). In measuring and comparing the strengths of the associations (i.e. relationships) for this research question, phi values were reported. Phi values are equal to Cramer's V coefficients when there are only two variables to compare (Agresti & Finlay, 2008; Hinkle et al., 1998), and since one of the variables (i.e. school level) had only two possible outcomes, phi values appropriately describe the levels of association in this question. Comparing phi values for these two significant aspects showed that aspect a (*phi value* = .275) was more closely associated with school level than aspect d (*phi value* = .197). All values are shown in Table 4.19.

Table 4.19 also includes percentage comparisons of level of involvement between elementary and middle level. However, due to the small sample size, percentages were derived by combining the survey's level of involvement into two groups: not involved with somewhat involved, and involved with highly involved. Comparing the two significant aspects, within aspect a, 60.3% of elementary team members were generally not involved, as compared to 12.5% for middle level personnel. For aspect d, 59.5% of

elementary participants were generally not involved, as compared to 25% for middle level. All percentage data are shown in Table 4.19.

Table 4.19

Measure of Association between Level of Involvement and School Level within Measures and Tools Aspects (Including Percentages)

Association Between Level of Involvement and School Level				Level of Involvement by School Level (in percents)			
Measures and Tools Aspects (a-h)	Chi-Square Test		Symmetric	Elementary		Middle	
	Fisher's Exact Test	Exact P-Value (2-sided)	Phi Value	NI / SI	I / HI	NI / SI	I / HI
a. Determining which screening instruments are implemented	9.173	.007	.275	60..3	39.7	12.5	87.5
b. Determining which progress monitoring, CBM probes selected	4.881	.142	.182	49.6	50.4	12.5	87.5
c. Determining when and how often to progress monitor	1.554	.878	.129	38.8	61.2	0	100
d. Planning the school-wide curriculum	6.279	.059	.197	59.5	40.5	25	75
e. Planning which tiered interventions are implemented	1.758	.660	.129	38.2	61.8	12.5	87.5
f. Deciding to change the screening / CBM / progress monitoring / interventions.	2.354	.524	.138	46.6	53.4	25	75
g. Deciding when to implement the changes ('f')	3.427	.335	.169	42.8	57.2	12.5	87.5
h. Providing consistent feedback to RtI team about M,T selected	1.463	.780	.120	35.1	64.9	12.5	87.5

Data-driven. With respect to DD, none of the team members' level of involvement in the decision-making was significantly associated with school level (p =

.142-.783). While level of involvement aspects were not significant, the strongest association between all the variables is aspect j, determining when students meet their learning target (*phi value* = .220). All other phi-values were below .200. With respect to the percentages between level of involvement and school level, 71% of elementary were involved or highly involved, as compared to 100% for middle level. There was also 100% middle level involvement in aspect k, referral for evaluation for special education, as compared to 77.9% for elementary. While 29% of elementary team members reported themselves to be generally uninvolved with determining when students meet their learning target (aspect j), no one (0%) did from middle level. All association and percentage data are provided in Table 4.20.

Table 4.20

Measure of Association between Level of Involvement and School Level within Data-Driven Aspects (Including Percentages)

Association Between Level of Involvement and School Level				Level of Involvement by School Level (in percents)			
Data-Driven Aspects (a-k)	Chi-Square Test		Symmetric	Elementary		Middle	
	Fisher's Exact Test	Exact P-Value (2-sided)	Phi Value	NI / SI	I / HI	NI / SI	I / HI
a. Establishing cut scores on universal benchmarks	3.390	.313	.141	58.8	41.2	37.5	62.5
b. Developing the strands of risk outcomes	3.303	.336	.146	61.8	38.2	37.5	62.5
c. Identifying students who are considered at-risk	2.661	.433	.143	32.1	67.9	25	75
d. Selecting students for tier 2, 3 placement	2.536	.417	.145	22.9	77.1	25	75
e. Identifying students considered non-responsive to intervention	2.184	.476	.130	26	74	25	75

f. Determining students' rate of improvement (ROI) within a tier	1.966	.577	.135	30.5	69.5	12.5	87.5
g. Determining students' ROI for movement between tiers	2.906	.330	.184	33.1	66.9	0	100
h. Identifying students qualifying for movement between tiers	2.881	.370	.165	27.5	72.5	12.5	87.5
i. Determining student's ROI between two benchmark periods	1.972	.659	.133	35.9	64.1	12.5	87.5
j. Determining when students meet their learning target	4.663	.142	.220	29	71	0	100
k. Referral evaluation for special education	1.318	.783	.127	22.1	77.9	0	100

Process and procedures. When comparing level of involvement in decision-making and school level within PP, there were several significant associations. The highest level of significance was for analyzing fidelity of implementation data and recommending changes (aspect i; $p = .005$). The other significant aspects included deciding on the number of RtI tiers (aspect b; $p = .009$), determining the location of interventions (aspect d; $p = .028$), and determining the type of model used (aspect a; $p = .032$). Percentages between school levels are more consistent within this RtI area as compared to the other two. The highest discrepancy percentages are for aspect i, where 53.4% of elementary team members were generally uninvolved, as compared to just 12.5% for middle, and aspect a, where 58% reported themselves to be either involved or highly involved in elementary, as compared to 75% for middle. All significance levels and percentages are found in Table 4.21.

Table 4.21

Measure of Association between Level of Involvement and School Level within Process and Procedure Aspects (Including Percentages)

Association Between Level of Involvement and School Level				Level of Involvement by School Level (in percents)			
Process and Procedure Aspects (a-k)	Chi-Square Test		Symmetric	Elementary		Middle	
	Fisher's Exact Test	Exact P-Value (2-sided)	Phi Value	NI / SI	I / HI	NI / SI	I / HI
a. Determining the type of model used	7.424	.032	.243	42	58	25	75
b. Deciding on the number of RtI tiers within the model	8.799	.009	.274	53.4	46.6	62.5	37.5
c. Determining personnel involved in intervention(s)	6.036	.066	.195	56.5	43.5	37.5	62.5
d. Determining location of intervention(s)	7.389	.028	.217	61.8	38.2	50	50
e. Determining duration of the intervention(s)	2.961	.373	.151	47.3	52.7	50	50
f. Determining logistics involved with student groups	3.507	.302	.155	47.3	52.7	37.5	62.5
g. Providing professional development for teachers and staff	2.892	.443	.156	52.7	47.3	37.5	62.5
h. Determining the practices associated with FOI	3.378	.343	.164	54.2	45.8	37.5	62.5
i. Analyzing FOI data / recommend changes	9.658	.005	.303	53.4	46.6	12.5	87.5

CHAPTER FIVE

DISCUSSION

The purpose of this study was to measure decision-making within RtI teams. Decision-making analysis may assist district officials who are responsible for establishing and setting RtI district policy, administrators who lead RtI schools, and the teams within those schools who are involved in its practical, day-to-day implementation. In this study I determined what factors team members report as the most influential in their team and personal decision-making processes and whether team members' perceptions of their positions influence their decision-making within tiers. Moreover, I identified aspects of the decision-making process that team members reported participating in and whether those aspects differed across personnel. Additionally, I examined those aspects by analyzing whether RtI decision-making at the elementary level differed from RtI decision-making at the middle school level.

RtI decision-making has been measured in terms of three components. These components included: Measures and Tools, Data-Driven Decisions, and Process and Procedures. Previous researchers have shown that there are specific types of decisions that need to be made within each of these areas, which are referred to in this study as decision-making aspects (Fuchs et al, 2012; Shapiro et al., 2012; Shapiro & Clemens, 2009). However, no research has actually measured the decision-making processes within each area. Separating each area provides a clearer understanding of how and why teams make their decisions. Doing so can determine precisely what influences teams and

personnel when making RtI decisions, while at the same time accounting for the possible degree to which these influences vary. When there are notable variations between these areas, the relationships are described and summarized. Since decision-making is present throughout all areas of RtI (Fuchs et al., 2012; Shapiro et al., 2012), separating each area allows for a more focused approach.

Selecting the target participants for this study was based on the gaps in previous research. In a study by Ervin et al. (2007), the implementation of a tiered intervention model (in this case, PBIS) was measured by analyzing staff perceptions and satisfaction of their school's implementation decisions. However, just 36% of the personnel targeted for participation were a part of their school's actual PBIS team. In this study, only the perceptions of the core RtI team members were measured. Moreover, unlike Ervin et al.'s (2007) study, this study also examined team members' key influences, involvement level, and school levels.

5.1 Study Summary of Results

What Factors do Team Members Report as the Most Influential to Their Decisions and Those of Their Team Members?

When making decisions, researchers have demonstrated there are specific influences that affect teams. Anderson et al. (2008) studied team influence; other studies have measured the outcomes of teams based on dynamics and relationships (Aube et al., 2011; Balkundi et al., 2011; Chen, 2007) and analyzed their influences (Anderson et al., 2008; Kapoor, 2004). Barnard et al. (2001) looked at how groups pressure individuals, and how individuals can contribute to the change and innovation of the group. Data from other studies show that there may be overarching influences that impact the types of

decisions that teams make (Noel et al., 2008). However, none of the literature applied these team dynamics or influences to RtI team decision-making, as was investigated in this study.

Review of team influences. With respect to measuring team influences, team members indicated that using evidence-based practices most influenced their team's decisions within all three RtI areas (Measures and Tools, Data-Driven Decisions, and Process and Procedures). This factor clearly influences team decision-making more than any other. Conversely, a large majority of RtI team participants indicated that pressure from parents did not influence their team's decision-making, making it the lowest rated influence. Team members also indicated that pressure from teammates did not influence their decisions. This is worth noting because even when asked to answer this question from the team perspective, participants still felt that pressure from their fellow members did not influence their team's decisions.

Even though previous researchers have concluded that an RtI model must incorporate and guide decisions that are based on evidence-based practices (Hoover et al., 2010; Shapiro et al., 2012; Tilly, 2008), none of them actually measured whether teams are doing this. RtI team members indicated that not only do they use evidence-based practices to make team decisions, but they consider this factor to be the greatest influence of all. These findings support researchers' assertions that these practices are a cornerstone for implementation across all RtI areas, because team members indicated spending the majority of their time making data-driven decisions, with the idea that their decisions are evidence-based. This implication is also supported by the fact that team members indicated that evidence-based practices are most influential when they make

data-driven decisions.

Data from this study did not confirm prior research with respect to pressure from parents (Conderman et al., 2010; Knotek, 2003) or team mates (Aube et al., 2011; Dierdorf et al., 2011). However, previous research did not investigate RtI specifically, and my findings may be due more to the fact that because evidence-based practices are so influential, they simply cancel other superfluous influences, and truly drive the decision-making with RtI teams.

Review of personal influences. The results for personal influences are very similar to that of team influences. The use of evidence-based practices is the greatest influence for team members when they make their personal decisions. Whereas this factor was the largest influence within all three RtI areas, it was greatest within area of data-driven decisions. Also similar to the team influences factor was the lack of influence parents had on team members' personal decisions. Even though the data showed that parents tend to influence team decisions slightly more than personal ones, it is still well below any of the other influences.

Additional comparisons between personal and team show that several of the team factors, such as pressure from superiors, school position, and pressure from teammates, tend to have a slightly greater influence on team decisions when compared to personal ones. Whereas this slight increase is evident throughout all three areas, which supports previous research done on group decision-making and exchanging ideas (Kapoor, 2004), the degree of difference is greatest for each of these influences within measures and tools. One implication for this may be that only certain team members make measures and tools decisions, and as a result, team influences become more powerful because there are less

people involved. Another implication may be that if fewer people are involved in measures and tools decisions, coming to consensus without varying viewpoints will become more pronounced, and therefore teams will be more influenced collectively than individually.

Participants were also given open-response items to indicate other influences that affect their decision-making. RtI team members indicated that one possible influence was that district and administration mandates influenced their measures and tools related decisions at a much greater level than the other two areas. This implies that school districts are more likely to establish and set policies related to selecting and implementing specific measurement tools, and that the autonomy for team members to make these types of decisions is limited. Another finding was that the accuracy of the data and the ability to incorporate and analyze multiple data sources are other factors that greatly influence team members' data-driven decisions. These strong influences correlate with the high level of influence evidence-based practices has on decision-making throughout RtI. These results confirm that teams are greatly influenced by data, and think that the data they use to make their decisions are most likely obtained from evidence-based practices.

To answer this question, I measured team members' perceptions of how their role on their RtI team influences their level of involvement within each tier. As a whole, team members perceived themselves to be least involved for tier 1 decisions and most involved with tier 2 decisions. An implication to this finding may be that because teams place the greatest emphasis in targeting and working with students in tier 2, most personnel are involved in these decisions, as opposed to tier 1, which only involve a select few. That is, these data may suggest that many RtI team members only get intricately involved in

decision-making after a student is placed into tier 2, and when the student is placed in tier 1, a majority of team members are either uninvolved or only somewhat involved. It is possible that even though they may not be involved in tier 1 decisions, team members may feel comfortable being involved so long as their roles and expectations are clearly defined and are made to feel that they are an important part of their core RtI team.

Do Perceptions of Team Members' Position on Their RtI Team Influence Tier Decision-Making?

Researchers have suggested that tier-based models require decision-making throughout, and particular to RtI, many different types of decisions are made within each of the tiers (Gersten et al., 2009; Scott et al., 2010; Shapiro et al., 2012; Shapiro & Clemens, 2009). It is clear that any intervention should be implemented with procedural integrity; that is, such interventions must adhere to established protocols (Glover & DiPerna, 2007). For RtI, purposes and roles need to be established within each tier (Fuchs et al., 2012), because there are specific decisions that must be made within tiers. Some examples include: screening measures in tier 1 (Shapiro & Clemens, 2009), curricula within tier 2 (Wanzek & Cavanaugh, 2012), or problem solving issues associated within the most intense tier of service (Burns et al., 2008).

Researchers have studied how the core RtI team selected and completed initial screening data-analysis, and made standard, pre-established recommendations for grouping students into tiers (Shapiro et al., 2012). However, their decision-making analysis only focused on benchmark and screening interpretation within tier 1. In this study I measured whether the team members felt their position allows for them to make decisions within each tier, and if so, whether they remain actively involved (e.g., provide

ongoing, consistent feedback) after those initial decisions are made. The findings clearly showed that core RtI team members believed that their position allows them to be most actively involved in making and providing consistent feedback for tier 2 decisions, and least actively involved in tier 1 decision-making. Stated another way, team members believed that their position on their RtI team allows them to make the greatest amount of decisions and provide the most ongoing, informative feedback on those decisions within tier 2.

The implication of this finding is that team members believe that their position is associated with whether they have the authority to make certain types of decisions. This association may be the reason why they believe that they are able to make tier 2 decisions; in a sense, most team members, regardless of their specific position, are making these decisions. This finding also implies that there is consistency with how participants view their decision-making role; a large percentage of core RtI team members, across a myriad of positions, indicated that they make and provide consistent follow-up for tier 2 decisions. This is also supported by the fact that these same participants agree with the idea that they do not feel they make on-going tier 1 decisions with consistency.

The reason for this may be that many tier 1 decisions may require only one-time decisions, and therefore do not require follow-up; another may be that these decisions are mandated by a select few, either at the school or district level. This implication is supported by the fact that for many tier 1 decisions, such as choosing a screening, selecting core curriculum, and selecting interventions, administrators, leads, and coaches are the ones predominantly involved. The reasoning for this distinction of involvement

between tier 1 and 2 may be quite simple: teams might believe that because of their limited resources, the focus and importance of the entire RtI team should be on tier 2. Team members might believe that assigning select personnel who are the most knowledgeable with RtI to making tier 1 and tier 3 decisions would allow team members to focus on serving students in tier 2. The role of the team may also determine the reason for this distinction, as teams may view their main purpose as providing support to non-responsive students, which is a main purpose of tier 2 (Fuchs et al., 2004).

Analysis of these data also indicates that tier 1 decisions may be somewhat out of a team member's control, whether because only by a few individuals at the school or district level make such decisions. This hypothesis may be supported by the fact that a large percentage of participants believe that district mandates were a strong influence within Measures and Tools. A conclusion is that regardless of the team member's position on their team, some of the decision-making autonomy they believe they have is lost for tier 1. That is, their position does not matter.

RtI is a team-based problem-solving approach that includes team members reviewing data and continuing to develop strategies to remediate identified areas (Buck et al., 2003). In RtI, team members decide on further actions based on a summary of professional feedback (Burns et al., 2008; Knotek, 2003). In this study I have shown that teams are consistently and actively involved in tier 2 decisions for all RtI areas and types of decisions and except for process and procedures for tier 3, teams reported less involvement in tier 1 in both decision-making and providing feedback.

In What Aspects of the Decision-Making Process Do Team Members Report Participating for Each RtI Area, and Do These Aspects Differ Across Team Member's Roles and Positions?

Researchers have studied decision-making practices and targets within teams (Ervin et al., 2007). These practices are based on the multiple types of decisions that are made within an RtI model (Ball & Christ, 2012), which range in their requirements and levels of importance (Burns et al., 2010). Follow-up research studied the types of decisions intervention teams make (Buck et al., 2002; Knotek, 2003), and more recently, in particular to RtI team decision-making (Ball & Christ, 2012; Fuchs et al., 2012; Shapiro et al., 2012). This study measures, for each of the three RtI areas, a team member's perception of involvement in the decision-making for particular RtI aspects, and whether their position was associated with this level of involvement.

Team members' level of involvement in decision-making. When comparing team members' top rated involvement levels in decision-making within each of the three RtI areas, team members reported the greatest involvement in making Data-Driven Decisions. Team members appear to be generally more involved in their school's data-driven decisions than other types of decisions, which support earlier findings that teams actively and consistently spend the greatest amount of time making Data-Driven related decisions. Conversely, teams are generally least involved with decisions related to Process and Procedures and Measures and Tools.

A possible explanation for less involvement in these other two areas may be that only a few individuals are actually involved in several types of decisions; another may be that some aspects of these areas are not decided at the school team level. In a sense, it is

possible that team members are simply not given the authority to make these decisions because the decisions are mandated or made by district-level officials. It may be that once the day-to-day RtI operations are initially decided upon, they are not continually reviewed and modified. The same applies to screenings, benchmarks, and tests; once the tools are chosen, they are not as often discussed or tracked. It may also be that school district officials set mandates without seeking continued feedback for Measures and Tools decisions such as deciding which tools to use, when and how often to use them, and screening or progress monitoring logistics.

Lastly, the data also indicates that within each of the three areas, there are clear and distinct aspects that team members are and are not involved in with respect to decision-making. For instance, even while participants' are most actively involved in the Data-Driven area, there are three aspects where most of the team members are involved: referral for evaluation, selecting students for placement into tiers 2 and 3, and identifying students who qualify for movement between tiers. Conversely, two data-driven decision - making aspects in which team members tend not be involved include establishing cut scores on universal benchmarks and developing the strands of risk outcomes.

Relationship between position and aspect involvement. The data collected from prior research implies that an individual's position in his or her organization does impact decisions (Kapoor, 2004), and that team members can influence these decisions (Aube et al., 2011). Hoover and Love (2011) studied decision-making by focusing on the role of the RtI lead, the impact the lead can have on fellow team-members, and the lead's influence on team decision-making. However, no research has specifically studied the involvement of the other RtI team members, nor has there been a study that measured the

association (i.e. relationship) between the team members' position and their decision-making.

In this study, there are 14 overall positions recorded for team members. Because each participant's opinions and perspectives are captured individually, a better understanding has been gained as to whether involvement in each particular decision-making aspect is dependent on position. The data suggests that there are many significant associations between position and involvement in many of the decision-making aspects. Overall, the three RtI areas have either most (Data-Driven and Process and Procedures) or all (Measures and Tools) decision-making aspects significantly associated with position. These significant values indicate that the team members' level of involvement in the decision-making is different based on their position, and that position does seem to affect how involved they are. In short, position impacts the level of involvement for several types of decisions across all three RtI areas, implying that the decisions they make depends on the position they have.

This study only measured whether involvement was significantly different across position, and therefore no formal, inferential testing of the differences between the positions themselves was performed. However, the percentages of level of involvement by combined positions for each area have been computed. As previously mentioned, because the participants' positions ranged in breadth, combining them into four similar groups was the only way to make general positional comparisons. This information is provided in Appendices D, E, and F for Measures and Tools, Data-Driven Decisions, and Process and Procedures, respectively. Comparing percentages shows that teachers and interventionists are much more involved in Data-Driven decisions when compared to

both Measures and Tools and Process and Procedures. Another general trend is that except for a few particular decision-making aspects, RtI lead personnel, instructional coaches, and administrators seem to be intricately involved in most aspects within all three RtI areas. Conversely, aside from several Data-Driven decision-making aspects, school psychologists, guidance counselors, and therapists are generally not involved in RtI decision-making throughout the process. Lastly, for the most part, RtI lead personnel and specialists are least involved in Process and Procedures decisions, even when compared to Measures and Tools decisions. The implication of these percentage comparisons confirms that entire teams do not decide collectively on all decisions, and if they do, seem to predominantly focus in the Data-Driven area. This data supports the findings that teams may place their resources and emphasis on making tier 2 data-driven decisions and require their team members to be involved accordingly. An implication of this finding may be that teams perhaps dictate which members are involved in which decisions, and outside of the data-driven aspects to where most everyone is involved, certain decision-making aspects are only assigned to specific team members.

RtI areas. Within each RtI area, significant associations were compared using Cramer's V correlations. Within Measures and Tools, the data revealed that the strongest association was for deciding and planning on which school-wide curriculum to implement. The implication is that the level of involvement with planning curriculum is influenced by a team member's position. Administrators, RtI lead personnel, and instructional coaches were the most influential in determining curriculum; out of the 42.4% of team members who are involved in this aspect, 35.4% of them were administrators, lead personnel, or coaches (Appendix D). With respect to Data-Driven

decisions, determining a students' rate of improvement for movement between tiers showed the strongest relationship, implying that team members who are involved in making these decisions do so because of the type of position that they hold. Conversely, the one aspect that was not significant was identifying students who were considered non-responsive to their intervention, which shows that position is independent of being involved in this type of decision, as 74.1% of all team members report involvement. This may be because all, or a large majority, of the team members makes these types of decisions, or that school-based teams make these types of decisions in a more prescribed and standardized manner, such as a standard-treatment protocol model (Fuchs et al., 2004).

With respect to Process and Procedures, the strongest association was determining the locations of the intervention. This strong association may be due to the fact that teams only assign a select few to work on this RtI logistic, and team members therefore associate their position with making this particular type of decision. That is, being involved in this aspect is associated with the position of the team member. Conversely, determining model type and selecting the number of tiers are both independent of position. This may imply that school districts mandate certain types of decisions, that the personnel on the team do not spend much time, if any time at all, considering the details associated with establishing how to implement a school model, or that once a model has been established, teams do not drastically change it.

Do the types of decisions that RtI personnel make differ according their school level?

Shapiro and Clemens (2009) discussed how different screenings should be used

between elementary and middle school level. Fuchs et al. (2012) discussed differences in interventions, and Ardoin (2006) discussed how middle school norms and comparison data to determine responsiveness are vastly different than those at the elementary level. This study examined the decision-making similarities and differences between school levels (i.e. elementary vs. middle) to better understand what RtI personnel in each school level value when making decisions.

This research analyzed data to measure whether team member's involvement in these decision-making aspects depends on their school level, and determined that there are significant associations within Measures and Tools and Process and Procedures, but none within Data-Driven Decisions. A significant association means that there is a significant difference between the team member's school level and their level of involvement in that particular decision-making aspect, and that their school level appears to affect how involved they are in making that particular type of decision. While no formal testing was conducted for comparing the school levels to each other, percentages for these two variables within each RtI area were computed.

When comparing the significant differences between school level and decision-making in Measures and Tools, the strongest association was between school level and determining which screening instruments teams implement. A majority of elementary team members reported they were not involved in determining screening instruments, yet a majority of middle level participants reported involvement at this stage. This finding is in line with previous researchers' arguments that the focus of RtI at the middle school is most likely different than at elementary (Fuchs et al., 2012; Shapiro & Clemens, 2009) because schools and districts in the middle level may not be standardized in their

protocols (Dulaney, 2012; Prewett et al., 2006; Vaughn & Fletcher, 2010). For example, elementary schools might use school-wide CBM measures for screening, but such instruments may be perceived as having limited utility with older children, and so more team input is required.

When comparing school level and decision-making aspects within Process and Procedures, the strongest association was between school level and analyzing fidelity of implementation data. When compared to elementary level participants, a larger percentage of middle level team members reported that they analyzed the fidelity of their school's RtI implementation and recommended changes based on their analysis. This finding may be a result of middle schools not yet having their processes firmly established. Not many middle schools even have an RtI program, and for the ones that do, there seems to a great deal of variation among teams and schools. If a model is not firmly established, or there is variation within that model, fidelity of implementation will almost certainly be compromised.

Another significant association in Process and Procedures was between school level and involvement in deciding on the number of RtI tiers. Although making this type of decision is independent of a team member's position, it is significantly dependent on their school level. An implication of this may be that because middle school RtI programs are not as firmly established, team members are not as concerned with continuing to modify the number of tiers in their school's model. This hypothesis may be supported by the fact that 62.5% of middle level team members reported that they are generally not involved in tier development, as compared to just 37.5% who indicated they were. Further research will need to further determine the reason for this.

There are no significant associations between school level and any of the Data-Driven decision-making aspects, which suggests that, regardless of school level, team members appear to be greatly involved throughout the Data-Driven area. The data supports the idea that there are no significant differences between elementary and middle school personnel for this RtI area; data-driven decisions are inherent in all that teams do, regardless of level or position.

5.2 Limitations of the Study

Although this study yielded useful and important information with respect to RtI team decision-making, there are limitations as well. One limitation of the study is that the results of the survey were based on a smaller than the intended sample size. I anticipated a completion percentage close to 75%, which was based on the feedback and conversations I initially had with each team's RtI Lead. A larger sample size may have provided more accurate information.

The smaller sample size may also lead to another limitation: there were only eight total middle school participants. The results, while reliable and valid, may have been different if more middle school team members had participated. While this small sample size was due to the fact that only three schools had RtI at the middle school level, I recognize that a larger sample would have allowed me to be more confident in the implications for Research Question #5.

Another limitation is the fact that all of the data collected was exclusively from my survey. I did not observe RtI teams when they were meeting to make their decisions, nor did I interview participants related to their decision-making. It may be that participants responded in ways that were not indicative of their actual decision-making,

which I would have better accounted for with multiple methods. Another limitation may be the survey itself. Specifically, it may have been longer than some participants anticipated, or that it was sent to personnel who were not truly involved in the core decision-making on their RtI team. There were 33 surveys that were opened but not advanced past the introductory page; this may indicate that participants did not have the time needed to provide their feedback, that they did not have relevant information to offer, or that based on their position, they believed this survey was not appropriate for them. Another reason for their non-participation may have been a lack of motivation, although by providing a financial incentive, I attempted to alleviate that possibility.

Moreover, while the mean, median, and mode were well within the target range for the year of the school's RtI model, at least one RtI lead person indicated on the survey that their school was within its first year in RtI. The study was intended for schools in at least in their second year. While I communicated this to each RtI lead person prior to moving forward and sending out the survey, at least one either did not understand the study's qualifications for participation, or they simply had a type-o and entered the incorrect number when answering this question on the survey.

Another limitation is that there were relatively few teachers who participated in the study, making up just 10.1% of the recorded positions. Since teachers work with students on a daily basis, their limited input may suggest their perspectives were not adequately represented. For instance, the data collected indicated that teachers were generally uninvolved in many aspects within Measures and Tools and Process and Procedures. However, teacher input is likely, since they are the ones working directly with students on a daily basis. The fact that not many of the participants were teachers

limited this perspective, and possibly increased the decision-making power of other positions.

Across all three areas, pressure from parents was clearly not an influence. However, the wording of the question on the survey may very well have been a large function of this. Specifically, in keeping with the format of other questions, the survey question asked participants to rate the level of influence on pressure from parents. The limitation, however, was the fact that participants might have inferred the term *pressure* in a pejorative manner. If the wording on the survey had been *input from parents* instead of *pressure from parents*, more respondents might have indicated the presence of parent influence for their team and personal decision-making.

5.3 Implications for Future Research and Practice

The overall purpose of my research study was to examine the multiple factors that influence the decisions of educators participating on RtI teams, and to determine how these factors are appropriately incorporated and considered in a school's overall RtI model. Currently, there is very little information on how these processes are decided. The results of this study better help to explain the importance of decision-making for both schools and districts who are in the process of establishing an RtI program, or for those who are continually working to refine and improve their already established RtI paradigm

Implications for Future Research

One implication related to the specific findings of this study pertains to the issue of district involvement in RtI. The results of this research study suggest that there are times when team members are not involved in decision-making. This finding could be attributed to the fact that districts may mandate or set policy for certain types of

decisions, particularly for selecting screening measures and planning curriculum. However, one of the greatest challenges of future research will be how to appropriately measure the districts' involvement and influence within their schools' RtI model. Whereas the results of this research determined that district mandates account for some of the decision-making within RtI, I did not measure the specific decisions that districts make, nor did I examine how or why district officials make these decisions. Future research should to compare a district's specific hierarchical structure to their overall RtI policies and procedures, which will allow researchers to better determine the overall similarities and differences in districts implementing and running an RtI program.

This research will also allow for districts and schools who are just starting RtI to have a clear understanding of essential steps to follow or key criteria to consider. Moreover, for those districts and schools with an already-established program, this research will provide a better understanding of exactly who (i.e. district or school) is responsible for what decisions, and why they are made the way they are. This information will also help with consistency and acknowledgement of responsibilities.

Of course, a district's or school's consistency will only be effective if there is clear decision-making and communication with team members who are making those RtI decisions (Burns et al., 2008). A practical implication of this communication is demonstrated by the fact that in this study, only three district representatives served on core RtI teams. This lack of district participation either implies that many of the policies are set by the officials and mandated, or just the opposite, with district officials taking a completely hands-off approach. Future research should examine district level involvement in decision-making. It was surprising to find a paucity of district

representatives who were a part of the decision-making team. What is more surprising is that even with team members clearly indicating that district mandates have a significant influence on some of their Measures and Tools decisions, district officials were still not a member of the core teams. Further research needs to investigate the district's role in RtI decision-making at the district and school levels, including how they communicate their mandates and policies to schools and teams.

The challenge in investigating a district's role and communication is that RtI procedures are not uniform across districts. In this study, 23 school districts in South Carolina were contacted, which ranged in size, socio-economic status, and student diversity. Some districts were not doing RtI, others were doing some version, and others called it by different names. RtI in some districts was under the auspices of the Office of Instruction, while in others it was under Special Services. Even more surprising was the fact that even within the same district, there were some schools that had an established RtI model and others that did not. This large variation may be one of the reasons why there is so little research that has measured decision-making within RtI. Because there are no mandates at the state level with respect to RtI, each district appears to be doing their own thing with respect to rules, application, and structure.

In fact, based on this variation, state officials may need to consider establishing some set of universal policies, procedures, or guidance with respect to RtI. It is clear that not all districts have RtI established within their schools; some may be because of their choosing, but other districts may want RtI and for whatever reason have currently not implemented it. Because districts have unique needs that are most certainly different than others, as do the schools within those districts, states mandating RtI policies would not be

appropriate. However, by determining what RtI resources each state can provide, and how they can provide it, schools or districts that would like this support would greatly benefit. If schools and districts have a clear understanding of the current resources their state provides, their RtI needs may more likely be met.

In addition to district involvement, future researchers also need to explore team members' understandings of evidence-based practices. The results from this study found that using evidence-based practices greatly influences team members' decision-making across all RtI areas. However, this study did not determine whether the personnel are actually knowledgeable in this area. How RtI personnel identify and select evidence-based practices are unknown. Also unknown is whether the practices selected meet the federal requirements for evidence-based practices. An implication of this uncertainty is that team members may think they are using and being influenced by evidence-based practices when in reality they are not; future research needs to examine this issue, as the use of evidence-based practice is the foundation of an effective RtI process.

Implications for Practice

The results of this study may help schools and districts in many ways. By recognizing and having an understanding of the factors that are most influential in RtI decisions, teams can more efficiently allocate time and resources. For instance, to support the most influential factor, evidence-based practice, districts can ensure that participants have a thorough knowledge of how to select and evaluate curriculum and instructional strategies. RtI lead personnel can provide targeted and constructive emphasis if they have information that shows them that additional assistance in selecting and implementing evidence-based practices is needed, whether it is provided through

trainings (i.e. learning a new skill), professional development (i.e. ongoing professional growth and improvement), or cooperative efforts. In another example, these findings indicated that certain types of decisions are related to and dependent on the team member's position. If school officials and team members are made aware of this, they can better decide if this is appropriate, or if they want to provide guidance to team interactions to include more of their team members' perspectives and feedback when making team decisions.

The outcomes of team decision-making are critical components of the RtI process, and having a fuller understanding of the nature of the decisions is crucial in evaluating the impact on a school's or district's model (Shapiro et al., 2012). The results of this study will help to explain how and why decisions are actually made in an RtI school. For example, the results indicated that teams spend a majority of their meeting time making data-driven decisions. This finding shows that teams are intentionally maximizing their time by effectively focusing on the RtI process. This research supports the idea that teams are spending a majority of their time on the major purpose of an RtI model, which is following evidence-based practices to improve student outcomes. Moreover, it supports the idea that when teams meet to make their decisions, they place greater emphasis on making certain types of decisions (i.e. data-driven) as compared to others.

The data indicates that the main focus and attention for RtI teams is making Data-Driven decisions, and the RtI area that is generally least emphasized is Measures and Tools; the amount of time spent and consistent follow-up was the lowest of all three areas. The implication for this is that the decisions required within this area are made by only a select few, and, when they are made by more team members, they are most likely

just one-time decisions. That is, team members are only periodically discussing and deciding upon Measures and Tools decisions, and when they are, it is most likely by an administrator or RtI lead. Most of the decisions do not require follow-up discussion or consistent feedback; the data indicate that once they are made, teams are then placing most of their time, focus, and resources into Data-Driven tier 2 decisions.

Another finding suggests that many core team members believe that their positions influence their decision-making, both by the decisions they make and the tiers in which they make them. Within each of the three areas, many of the types of decisions team members' made were significantly related to position. RtI lead personnel, administrators, and district officials can use this information to develop strategies to address specific team needs in order to promote better team functioning and enhance their RtI model. This study also provides evidence that differences exist in RtI decision-making between elementary and middle level. District, school, and RtI leaders who are aware and understand these potential differences must first determine if this difference between levels is intentional or not. Researchers have suggested it is appropriate for RtI to have different purposes at each of the school levels (Ardoin, 2006; Dulaney, 2012), and so it may be expected that a district intends for the purposes and logistics of their models to be different (Prewett et al., 2011),

One of the possible reasons for this variation between elementary and middle school decision-making is the fact that there are seemingly fewer options for middle school RtI models. Middle school teams have less history and research to pull from, and so their involvement in several types of decisions is not the same as their elementary counterparts. Because of this, more middle school personnel may very well be involved

in aspects that require greater participation in assessment selection and implementation. \ Because there are only a limited number of middle school RtI programs, middle level team decision-making may be based on characteristics such as remediation and school performance, rather than intervention and identification.

By recognizing the presence of decision-making similarities and differences between teams of different school levels (i.e. elementary vs. middle), educational leaders can determine if these significant differences are intentional and purposeful, or whether they are more so a product of inconsistency. Districts can provide the appropriate course of action based on their determination, whether it is implementing vertical teaming, providing additional professional development, or taking a more hands-on approach. Recognizing another significant difference between levels, choosing screening measures, can also have practical implications for schools and teams. Whereas this difference may be intended, it may also be a function of the limited knowledge a team may have on the types of screening measures to implement. Solutions such as developing a cooperative teaming approach or training relevant personnel on the purpose and importance of these types of measures may appropriately address this.

In fact, in spite of all the variability within RtI in this study, there was still a very high level of consistency with many of the overall findings. This indicates that tier 2 data-driven decisions are what teams emphasize in their school's RtI model, and they do this with evidence-based practices. These findings are only more evidence that aspects of RtI decision-making are durable across levels, schools, and districts, and the practical implementation of RtI is being followed as to how it was intended; data-driven decision-making is a team's priority.

5.3 Overall Summary

There were several significant findings of this research. RtI team members are involved in making Data-Driven decisions more than decisions related to Measures and Tools or Process and Procedures, and by and large, make tier 2 decisions more often than making decisions at either tier 1 or 3. Moreover, when making decisions, teams and the personnel who serve on those teams are most influenced by evidence-based practices and least influenced by parents. Additionally, many specific decision-making aspects within each of the three RtI areas are significantly related to position, indicating that a team member's position dictates what types of decisions they are involved in making. There were also significant differences between certain types of decisions that team members make and their school level. Specifically, team members' involvement with certain decisions is dependent on whether they are in elementary or middle school; it is clear that decision-making for elementary school personnel is significantly different than for middle school within some areas. These findings contribute to the literature on RtI with respect to decision-making, identifying areas where research can further expand upon, and providing practical implications that schools and districts can use to further develop their RtI model.

REFERENCES

Abbott, M., & Wills, H. (2012). Improving the upside-down response-to-intervention triangle with a systematic, effective elementary school reading team. *Preventing School Failure, 56,* 37-46.

Agresti, A., & Finlay, B. (2009). *Statistical Methods for the Social Sciences* (4th ed.). Upper Saddle River, NJ: Pearson

Algozzine, B., Newton, J. S., Horner, R. H., Todd, A. W., & Algozzine, K. M. (2012). Development and Technical Characteristics of a team decision-making assessment tool: Decision observation, recording and analysis (DORA). *Journal of Psychoeducational Assessment, 30,* 237-249.

Anderson, C., Spataro, S. E., & Flynn, F. J. (2008). Personality and organizational culture as determinants of influence. *Journal of Applied Psychology, 93*, 702-710.

Ardoin, S. P. (2006). The response in response to intervention: Evaluating the utility of assessing maintenance of intervention effects. *Psychology in the Schools*, *43*, 713-725.

Ardoin, S. P., Witt, J. C., Connell, J. E., & Koenig, J. L. (2005). Application of a three-tiered response to intervention model for instructional planning, decision-making, and the identification of children in need of services. *Journal of Psychoeducational Assessments, 23*, 362-380.

Aube, C., Rousseau, V., & Tremblay, S. (2011). Team size and quality of group

experience: The more the merrier? *Group Dynamics: Theory, Research, and Practice, 15*, 357-375.

Balkundi, P., Kilduff, M., & Harrison, D. A. (2011). Centrality and charisma: Comparing how leader networks and attributions affect team performance. *Journal of Applied Psychology, 96*, 1209-1222.

Ball, C. R., & Christ, T. J. (2012). Supporting valid decision-making: Uses and misuses of assessment data within the context of RtI. *Psychology in the Schools, 49*, 231-244.

Barnard, W. A., Baird, C., Greenwalt, M., & Karl, R. (2001). Intragroup cohesiveness and reciprocal social influence in male and female discussion groups. *The Journal of Social Psychology, 132*, 179-188.

Barnett, D. W., Daly III, E. J., Jones, K. M., & Lentz Jr., F. E. (2004). Response to Intervention: Empirically based special service decisions from single-case designs of increasing and decreasing intensity. *The Journal of Special Education, 38*, 66-79.

Bianco, S. D. (2010). Improving student outcomes: Data-driven instruction and fidelity of implementation in a response to intervention (RtI) model. Teaching *Exceptional Children Plus, 5*, 1-13.

Bernhardt, V. L. (2009). Data use: Data-driven decision-making takes a big-picture view of the needs of teachers and staff. *Journal of Staff Development, 30*, 24-27.

Brieter, A., & Light, D. (2006). Data for school improvement: Factors for designing effective information systems to support decision-making in schools. *Educational Technology & Society, 9*, 206-217.

Burns, M. K., Peters, R., Noell, G. H. (2008). Using performance feedback to enhance implementation fidelity of the problem-solving team process. *Journal of School Psychology, 46*, 537-550.

Burns, M. K., Schloin, S. E., Kosciolek, S., & Livingston, J. (2010). Reliability of decision-making frameworks for response to intervention for reading. *Journal of Psychoeducational Assessment, 28*, 102-114.

Burns, M. K., & Symington, T. (2002). A meta-analysis of prereferral intervention teams: Student and systemic outcomes. *Journal of School Psychology, 40*, 437-447.

Burns, M. K., Vanderwood, M. L., & Ruby, S. (2005). Evaluating the readiness of pre-referral intervention teams for use in a problem solving model. *School Psychology Quarterly, 20*, 89-105.

Burns, M. K., Wiley, H. I., & Viglietta, E. (2008). Best practices in implementing effective problem-solving teams. *Best practices in school psychology V*, 1633-1644.

Burns, M. K., & Ysseldyke, J. E. (2005). Comparison of existing response-to-intervention models to identify and answer implementation questions. *The California School Psychologist, 10*, 9-20.

Buck, G. H., Polloway, E. A., Smith-Thomas, A., & Cook, K. W. (2003). Prereferral intervention processes: A survey of state practices. *Exceptional Children, 69*, 349-360.

Capizzi, A. M., & Barton-Arwood, S. M. (2009). Using a curriculum-based measurement graphic organizer to facilitate collaboration in reading. *Intervention*

in School and Clinic, *45*, 14-23.

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and Validity Assessment*. Thousand Oaks, CA: SAGE Publications.

Carney, K. J., & Stiefel, G. S. (2008). Long-term results of a problem-solving approach to response to intervention: Discussion and implications. *Learning Disabilities: A Contemporary Journal, 6*, 61-75.

Carter, E. W. & Pesko, M. J. (2008). Social validity of peer interaction intervention strategies in high school classrooms: Effectiveness, feasibility, and actual use. *Exceptionality, 16*, 156-173.

Carter, J., & Sugai, G. (1989). Survey on prereferral practices: Responses from state departments of education. *Exceptional Children*, 55, 298-302.

Chen, G., Kirkman, B. L., Kanfer, R., Allen, D., & Rosen, B. (2007). A multilevel study of leadership, empowerment, and performance in teams. *Journal of Applied Psychology, 92*, 331-346.

Clark, M. K., & Flynn, P. (2011). Rational thinking in school-based practice. *Language, Speech,and Hearing Services in Schools, 42*, 73- 76.

Coleman, M. R., Buysse, V., & Neitzel, J. (2006). Recognition and response: An early intervening system for young children at-risk for learning disabilities. FPG Child Development Institute; The University of North Carolina at Chapel Hill

Conderman, G., Johnston-Rodriguez, S., Hartman, P., & Kemp, D. (2010). What teachers should say and how they should say it. *Kappa Delta Pi Record, 3,* 175-181.

Danielson, L., Doolittle, J., & Bradley, R. (2007). Professional development, capacity

building, and research needs: Critical issues for response to intervention implementation. *School Psychology Review, 36(*4), 632-637.

Davis, N., Baquero, L., Compton, D. L., Fuchs, L. S., Fuchs, D., Gore, J. C. (2011). Functional correlates of children's responsiveness to intervention. *Developmental Neuropsychology, 36*, 288-301.

DeChurch, L. A., Mesmer-Magnus, J. R., & Doty, D. (2013). Moving beyond relationship and task conflict: Toward a process-state perspective. *Journal of Applied Psychology, 98*, 559-578.

Deno, S. L., Reschly, A. L., Lembrke, E. S., Magnusson, D. E., Callender, S. A. Windram, H., & Stachel, N. (2009). Developing a school-wide progress-monitoring system. *Psychology in the Schools, 46*, 44-55.

Dierdorff, E. C., Bell, S. T., & Belohlav, J. A. (2011). The power of "we": Effects of psychological collectivism on team performance over time. *Journal of Applied Psychology*, *96*, 247-261.

Duhon, G. J., Mesmer, E. M., Atkins, M. E., Greguson, L. A., & Olinger, E. S. (2009). Quantifying intervention intensity: a systematic approach to evaluating student response to increasing intervention frequency. *Journal of Behavioral Education*, *18,* 101-118.

Dulaney, S. K. (2012). A middle school's response-to-intervention journey: Building systematic processes of facilitation, collaboration, and implementation. *NASSP Bulletin, 97*, 53-75.

Ervin, R. A., Schaughency, E. Matthews, A., Goodman, S. D., & McGlinchey, M. T. (2007). Primary and secondary prevention of behavior difficulties: Developing a

data-informed problem-solving model to guide decision-making at a school-wide level. *Psychology in the Schools, 44,* 7-18.

Evans, S. W., & Owens, J. S. (2010). Behavioral assessment within problem-solving models: Finding relevance and expanding feasibility. *School Psychologist Review, 39*, 427-430.

Fuchs, D., Fuchs, L. S., & Compton, D. L. (2004). Identifying reading disabilities by responsiveness to instruction: Specifying measures and criteria. *Learning Disability Quarterly, 27*, 216-228.

Fuchs, D., & Fuchs, L. S. (2006). Introduction to response to intervention: What, why, and how valid is it? *Reading Research Quarterly, 41*, 93-99.

Fuchs, L. S., & Fuchs, D. (2006). A framework for building capacity for responsiveness to intervention. *School Psychology Review*, *35*, 621-626.

Fuchs, D., Fuchs, L. S., & Compton, D. L. (2012). Smart RtI: A next –generation approach to multilevel prevention. *Exceptional Children, 78*, 263-279.

Gersten, R., Compton, D. L., Connor, C. M., Dimino, J., & Santoro, L. (2009). Assisting students struggling with reading: Response to intervention (RtI) and multi-tier intervention in the primary grades. *IES Practice Guide, What Works Clearinghouse*, 1–60.

Glickman, C., Gordon, S. P., & Ross-Gordon, J. M. (2005). The basic guide to supervision and teaching leadership. Boston, MA: Allyn-Bacon.

Glover, T. A, & DiPerna, J. C. (2007). Service delivery for response to intervention: Core components and directions for future research. *School Psychology Review, 36*, 526-540.

Goodman, G., & Webb, M. A. (2006). Reading disability referrals: Teacher bias and other factors that impact response to intervention. *Learning Disabilities: A Contemporary Journal, 4*, 59-70.

Green, S. K., & Johnson, R. L. (2010). Assessment is Essential. New York, NY: McGraw Hill.

Gresham, F. M. (2004). Current status and future directions of school-based behavioral interventions. *School Psychology Review, 33*, 326-343.

Gresham, F. M. (2005). Response to intervention: An alternative means to identifying students as emotionally disturbed. *Education and Treatment of Children, 28*, 328-344.

Gresham, F. M., MacMillian, D. L., & Bocian, K. M (1998). Agreement between school study team decisions and authoritative definitions in classification of students at-risk for mild disabilities. *School Psychology Quarterly, 13*, 181-191.

Hagermoser-Sanetti, L.M., & Kratochwill, T.R. (2009). Toward developing a science of treatment integrity: Introduction to the special series. *School Psychology Review, 38*, 445-459.

Hauerwas, L. B., & Goessling, D. P. (2008). Who are the interventionists? Guidelines for paraeducators in RtI. *Teaching Exceptional Children Plus, 4*, 1-13.

Hawkins, R. O., Kroeger, S. D., Musti-Rao, S., Barnett, D. W., & Ward, J. E. (2008). Preservice training in response to intervention: Learning by doing an interdisciplinary field experience. *Psychology in the Schools*, *45*, 745-762.

Hinkle, D.E., Wiersma, W., Jurs, S.G. (1998). *Applied Statistics for the Behavioral Sciences* (4th ed.). Boston, MA: Houghton Mifflin Company.

Hoover, J. J. (2010). Special education eligibility decision-making in response to intervention models. *Theory Into Practice, 49*, 289-296.

Hoover, J. J. (2011). Making informed instructional adjustments in RtI models: Essentials for practitioners. *Intervention in School and Clinic, 47*, 82-90.

Hoover, J. J., & Love, E. (2011). Supporting school-based response to intervention: A practitioner's model. *Teaching Exceptional Children, 43*, 40-48.

Hoover, J. J., & Patton, J. R. (2008). The role of special educators in a multitiered instructional system. *Intervention in School and Clinic, 43*, 195-202.

Individuals with Disabilities Education Act (IDEA), 34 CFR § 300.32, 34 CFR § 300.382, 34 CFR § 300.521, 34 C.F.R. §§ 300.530-537

Jenkins, J. R., Schiller, E., Blackorby, J., Thayer, S. K., & Tilly, W. D. (2013). Responsiveness to intervention in reading: Architecture and practices. *Learning Disability Quarterly, 36*, 36-46.

Kanter, R. M. (1979). Power failures in management circuits. *Harvard Business Review, 57,* 65–75.

Kapoor, I. (2004). Concluding remarks: The power of participation. *Current Issues in Comparative Education, 6,* 125-130.

Keller-Margulis, M. A. (2012). Fidelity of implementation framework: A critical need for response to intervention models. *Psychology in the Schools, 49*, 342-352.

Kessler, R. (1992). Shared decision-making works! *Educational Leadership*, 36-38.

Kimpston, R.D, & Anderson, D.H. (1982). A study to analyze curriculum decision-making in school districts. *Educational Leadership, 11*, 63-67.

Knoeppel, R. C., & Rinehart, J. S. (2010). A canonical analysis of successful and

unsuccessful high schools: Accommodating multiple sources of achievement data in school leadership. *Educational Considerations, 38,* 24-32.

Knotek, S. (2003). Bias in problem solving and the social process of student study teams: A qualitative investigation. *The Journal of Special Education*, *37*, 2-14.

Kovaleski, J. F. (2007). Response to intervention: Considerations for research and systems change. *School Psychology Reviews, 36*, 638-646.

Kratochwill, T. R., Volpiansky, P., Clements, M., & Ball, C. (2007). Professional development in implementing and sustaining multitier prevention models: Implications for response to intervention. *School Psychology Review*, *36*, 618-631.

Lau, M. Y., Sieler, J. D., Muyskens, P., Canter, A., Vankeuren, B., & Marston, D. (2006). Perspectives on the use of the problem-solving model from the viewpoint of a school psychologist, administrator, and teacher from a large midwest urban school district. *Psychology in the Schools, 45,* 117-127.

McAlenney, A. L., & Coyne, M. D. (2011). Identifying at-risk students for early reading intervention: Challenges and possible solutions. *Reading and Writing Quarterly, 27*, 306-323.

Marchand-Martella, N. E., Ruby, S.F., & Martella, R.C. (2007). Intensifying reading instruction for students within a three-tier model: Standard-protocol and problem solving approaches within a response to intervention (RtI) system. *Teaching Exceptional Children Plus, 3*, 1-11.

Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School Leadership That Works: From Research to Results*. Alexandria, VA: ASCD

McKenzie, R. G. (2009). Obscuring vital distinctions: The oversimplification of learning disabilities within RtI. *Learning Disability Quarterly*, *32*, 203-215.

Mellard, D. F., Byrd, S. E., Johnson, E., Tollefson, J. M., & Boesche, L. (2004). Foundations and research on identifying model responsiveness-to-intervention sites. *Learning Disability Quarterly*, *27*, 243-256.

Mellard, D. F. (2005). Responsiveness to intervention in the SLD determination process. *National Research Center on Learning Disabilities,* 1–13.

Mellard, D. F., & McKnight, M. A. (2007). A screening tool for well-described responsiveness-to-intervention models and comparison models. Winter 2007, *National Research Center on Learning Disabilities*.

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. *American Psychologist*, *50*, 741-775.

Moore, D. S. (2010). The Basic Practice of Statistics (5th ed.). New York, NY: W.H. Freeman and Company.

Moore, K. J., Fifield, M. B., Spira, D. A., & Scarlato, M. (1989). Child study team decision-making in special education: Improving the process. *Remedial and Special Education, 10*, 50-58.

Nellis, L. M. (2012). Maximizing the effectiveness of building teams in response to intervention implementation. *Psychology in the Schools, 49*, 245-256.

Newton, S. J., Horner, R. H, Algozzine, R. F., Todd, A. W., & Algozzine, K. M. (2009). Using a problem-solving model to enhance data-based decision-making in schools. *Handbook of Positive Behavior Support.* Springer: New York, NY; 551-

580.

Newton, S. J., Horner, R. H, Todd, A. W., Algozzine, R. F., & Algozzine, K. M. (2012). A pilot study of a problem-solving model for team decision-making. *Education of Treatment of Children, 35*, 25-49.

Noel, C., Slate, J. R., Stallone-Brown, M., Tejeda-Delgado, C. (2008). Site-based decision-making: Views from secondary school personnel. *Florida Journal of Educational Administration & Policy, 2*, 50-61.

Nunn, G. D., & Jantz, P. B. (2012). Factors within response to intervention implementation training associated with teacher efficacy beliefs. *Education, 129*, 599-605.

Nunn, G. D., Jantz, P. B., & Butikofer, C. (2009). Concurrent validity between teacher efficacy and perceptions of response to interventions outcomes. *Journal of Instructional Psychology, 3,* 215-218.

O'connor, E. P., & Freeman, E. W. (2012). District-level considerations in supporting and sustaining RtI implementation. *Psychology in the Schools*,*49*, 297-310.

O'Donnell, P. S., & Miller, D. N. (2011). Identifying students with specific learning disabilities: School psychologists' acceptability of the discrepancy model versus response to intervention. *Journal of Disability Policy Studies, 20*, 1–12.

OSEP Technical Assistance Center on Positive Behavioral Interventions & Supports (2007). Retrieved on January 11, 2015 from http://www.pbis.org.

Petscher, Y., Kim, Y-S., & Foorman, B. R. (2011). The importance of predictive power in early screening assessments: Implications for placement in the response to intervention framework. *Assessment for Effective Intervention, 36*, 158-166.

Prewett, S., Mellard, D., & Lieske-Lupo, J. (2011). RtI scheduling processes for middle schools: An information brief. *National Center on Response to Intervention*. 1-15.

Reeves, P. L. & Burt, W. L. (2006). Challenges in data-based decision-making: Voices from principals. *Educational Horizons, 85*, 65-71.

Russell, J. J., Cooper, B. S., & Greenblatt, R. B. (1992). How do you measure shared decision-making? *Educational Leadership, 9*, 39-41.

Saeki, E., Jimerson, S. R., Earhart, J., Hart, S. R., Renshaw, T., Singh, R. D., & Stewart, K. (2011). Response to intervention (RtI) in the social, emotional, and behavioral domains: Current challenges and emerging possibilities. *Contemporary School Psychology, 15*, 43-52.

Sanger, D., Friedli, C., Brunken, C., Snow, P., & Ritzman, M. (2012). Educators' year long reactions to the implementation of a response to intervention (RtI) model. *Journal of Ethnographic & Qualitative Research*, *7*, 98-107.

Sauer, S. J. (2011). Taking the reins: The effects of new leader status and leadership style on team performance. *Journal of Applied Psychology, 96*, 574-587.

Scott, T. M., Alter, P. J., Rosenberg, M., & Borgmeier, C. (2010). Decision-making in secondary and tertiary interventions of school-wide systems of positive behavior support. *Education and Treatment of Children, 33*, 513-535.

Sgouros, I., & Walsh, K. (2012). Response to intervention within tier 3: A model for data teams. C*ommunique, 40*, 8-10.

Shapiro, E. S., & Clemens, N. H. (2009). A conceptual model for evaluating system effects of response to intervention. *Assessment for Effective Intervention, 35*, 3-

16.

Shapiro, E. S., Solari, E., & Petscher, Y. (2008). Use of a measure of reading comprehension to enhance prediction on the state high stakes assessment. *Learning and Individual Differences, 18,* 316-328.

Shapiro, E.S., Hilt-Panahon, A., Gischlar, K.L., Semeniak, K., Leichman, E., & Bowles, S. (2012). An analysis of consistency between team decisions and reading assessment data within an RtI model. *Remedial and Special Education, 33*, 335-347.

Shaw, J. D., Duffy, M. K., Zhu, J., Scott, K. L., & Shih, H. A. (2011). A contingency model of conflict and team effectiveness. *Journal of Applied Psychology, 96*, 391-400.

Shinn, M. R. (2007). Identifying students at risk, monitoring performance, and determining eligibility within response to intervention: Research on educational need and benefit from academic intervention. *School Psychology Review*, *36*, 601-617.

South Carolina Department of Education. (2014). *State Report Cards by District.* Retrieved from https://ed.sc.gov/data/report-cards/state-report-cards/2014, October 10, 2015

Stuart, S. K., & Rinaldi, C. (2009). A collaborative planning framework for teachers implementing tiered instruction. *Teaching Exceptional Children, 42(*2), 52-57.

Sugai, G., & Horner, R. H. (2009). Responsiveness-to-intervention and school-wide positive behavior supports: Integration of multi-tiered system approaches. *Exceptionality, 17,* 223-237.

Swanson, E., Solis, M., Ciullo, S., & McKenna, J. W. (2012). Special education teachers'

perceptions and instructional practices in response to intervention implementation. *Learning Disability Quarterly, 35*, 115-126.

Tilly III, W. D. (2008). The evolution of science psychology to science-based practice: Problem solving and the three-tiered model. *Best Practices Into School Psychology V*, 17-36.

Tyre, A. D., Feuerborn, L., Beisse, K., & McCready, C. (2012). Creating readiness for response to intervention: an evaluation of readiness assessment tools. *Contemporary School Psychology, 16*, 103-114.

U.S. Department of Education: Building the Legacy: IDEA 2004.

VanDerHeyden, A. M. (2010). Use of classification agreement analyses to evaluate RtI implementation. *Theory Into Practice, 49*, 281-288.

VanDerHeyden, A. M. (2011). Technical adequacy of response to intervention decisions. *Exceptional Children, 77*, 335-350.

VanDerHeyden, A. M., Witt, J.C., & Gilbertson, D. (2007). A multi-year evaluation of the effects of a response to intervention (RtI) model on identification of children for special education. *Journal of School Psychology, 45,* 225-256.

Vaughn, S., & Fletcher, J. M. (2010). Thoughts on rethinking response to intervention with secondary students. *School Psychology Review*, *39*, 296-303.

Virginia Commonwealth University (VCU). (n.d.). *Nominal Association: Phi and Cramer's V*. Retrieved from http://www.people.vcu.edu/~pdattalo/702 SuppRead/MeasAssoc/NominalAssoc.html.

Wanzek, J., & Cavanaugh, C. (2012). Characteristics of general education reading interventions implemented in elementary schools for students with reading difficulties. *Remedial and Special Education, 33*, 192-202.

White, R. B., Polly, D., Audette, R. H. (2012). A case analysis of an elementary school's implementation of response to intervention. *Journal of Research in Childhood Education, 26*, 75-90.

Yetter, G. (2010). Assess the acceptability of problem-solving procedures by school teams: Preliminary development of the pre-referral intervention team inventory. *Journal of Educational and Psychological Consultation, 20*, 139-168.

Zirkel, P. A., & Krohn, N. (2008). RtI after IDEA: A survey of state laws. *Teaching Exceptional Children, 40*, 71-73.

APPENDIX A – RTI TEAM DECISION-MAKING QUESTIONNAIRE

RtI Team Decision-Making Questionnaire

Introduction

This survey is measuring an important area of the response to intervention (RtI) paradigm – decision-making. I am conducting this survey as part of my dissertation to collect information as it relates to RtI decision-making. I am measuring educators' perceptions of the RtI decision-making process. Your responses will assist me in determining the multiple factors that influence the decisions of educators participating on RtI teams. Your feedback will suggest ways to better understand how those decisions are made in a practical, useful manner.

As an educator directly and substantially involved in your school's RtI decision-making process, you can provide the unique perspective I need to evaluate the decision-making process. Your participation is voluntary and confidentiality will be guaranteed. I am the only person who will have direct access to your completed survey. I recognize that your time is limited, and so this survey was developed to be completed within approximately 20-25 minutes. I ask for your participation, as it is critical for investigating the decision-making process. *However*, please make sure you complete **ONLY ONE** survey. If you serve on multiple teams, complete the survey for the RtI team with which you provide the **most frequent, active** input.

Survey Design

The survey itself will specifically examine the factors that influence decision-making in the following three areas:

Area I - Determining the measures and tools that are implemented (e.g. progress monitoring, interventions, curriculums, etc.)

Area II - Data-driven decisions (e.g. student responsiveness, referral for evaluation, etc.)

Area III - The actual processes involved in making decisions (e.g. fidelity of implementation, frequency of meetings, communication process of decisions, etc.)

Each area will be measured in its respective section. Each section will have roughly 23 questions. In each section, the first set of questions will be Likert-style formatted, with each question ranging from 1 – 4 (1 being a non-factor, and 4 being a strong factor) in the decision making process. Three subsequent questions will be open-response items, where the question will be targeted, but the response given will be open to your ideas. One final question will reflect the amount of time you time spend with your group making decisions in each area. The final page of the survey will be a general demographic page for you to complete.

Please keep in mind that while you are a part of a larger team who is involved in your school's RtI decision-making, your responses should reflect **your own**, **individual** beliefs about the factors that influence your decisions. Your responses will not be compared to the rest of your team, and will instead be coded and grouped by similar position. This will hopefully allow you to provide a more honest appraisal of the specific influences that play a role in your decision-making in each area. Moreover, this will allow for your results to still be included, even if one particular team member from your school does not participate.

The first category of RtI decision-making indicators is determining the ***measures and tools*** that are implemented. This section will include such indicators as the measures and tools used for progress monitoring, curriculums, interventions, and benchmarks. Consider each indicator that is described, and then please rate the factors that influence your decisions.

Directions: For Questions #1 and #2, select the choice that best describes whether you think your position on your RtI team influence's your decisions related to ***measures and tools*** within each tier.

1. My position on the RtI decision-making team allows me to help determine which ***measures and tools*** are implemented.

RtI Tier	Strongly Disagree	Disagree	Agree	Strongly Agree
Tier 1 (i.e. Core)	1	2	3	4
Tier 2	1	2	3	4
Tier 3	1	2	3	4

2. My position on the RtI decision-making team allows me to provide informative, on-going feedback in determining which RtI ***measures and tools*** my team implements.

RtI Tier	Strongly Disagree	Disagree	Agree	Strongly Agree
Tier 1 (i.e. Core)	1	2	3	4
Tier 2	1	2	3	4
Tier 3	1	2	3	4

Directions: For Question #3, answer the questions in the grid below, based on your perceptions of the role you play in the ***measures and tools*** decision-making process. Circle the number that best answers the question:

3. As a member of the RtI decision-making team, how involved are you with the following:

Question	Not involved	Somewhat involved	Involved	Highly Involved
a. Determining which screening (i.e. benchmark) instruments are implemented?	1	2	3	4
b. Determining which progress monitoring and CBM probes are implemented?	1	2	3	4

c. Determining when and how often to progress monitor?	1	2	3	4
d. Planning which school-wide curriculum the school implements?	1	2	3	4
e. Planning which intervention(s) the school implements?	1	2	3	4
f. Deciding to change a current benchmark, probe, curriculum, or intervention to a different one?	1	2	3	4
g. Deciding when the implementation of these changes (in #8) will begin?	1	2	3	4
h. Providing consistent feedback to the RtI team about the tools and measures that are used?	1	2	3	4

Directions: For Questions #4 - #6, identify the level of your involvement in each **RtI Tier** based on the perceptions of the role you play in the ***measures and tools*** decision-making process.

4. As a member of the RtI decision-making team, your degree of involvement with respect to ***measures and tools*** in **Tier 1** is:

- O Not involved
- O Somewhat Involved
- O Involved
- O Highly Involved

5. As a member of the RtI decision-making team, your degree of involvement with respect to ***measures and tools*** in **Tier 2** is:

- O Not involved
- O Somewhat Involved
- O Involved
- O Highly Involved

6. As a member of the RtI decision-making team, your degree of involvement with respect to ***measures and tools*** in **Tier 3** is:

- O Not involved
- O Somewhat Involved
- O Involved
- O Highly Involved

Directions: For Question #7, answer the questions in the grid below, based on identifying the factors that influence your RtI decision-making with respect to ***measures and tools*** **as it relates to both *your team* and *you personally.*** Circle the appropriate number that best answers the question:

7. As a member of the RtI decision-making team, what influences your RtI decisions?

	Team				**Personal**			
Question	**Does not influence my decisions**	**Somewhat influences my decisions**	**Influences my decisions**	**Greatly influences my decisions**	**Does not influence my decisions**	**Somewhat influences my decisions**	**Influences my decisions**	**Greatly influences my decisions**
a. Following evidenced based, best practices	1	2	3	4	1	2	3	4
b. My position in the	1	2	3	4	1	2	3	4

school.								
c. My role within the RtI team.	1	2	3	4	1	2	3	4
d. Pressure from my teammates.	1	2	3	4	1	2	3	4
e. Pressure from my school's superiors.	1	2	3	4	1	2	3	4
f. Pressure from parents	1	2	3	4	1	2	3	4

Directions: For Questions #8 - #10, write an open-response to the following questions:

8. What are some other factors that influence your decision-making process as it relates to ***measures and tools***?

9. Of those factor(s) you listed in item #19, which are the most influential, and why?

10. Summarize these overall influences you described in #20. Are they positive, neutral, or negative?

11. In general, when your RtI team meets, how much time is devoted to decision-making with respect to ***measures and tools***?

- O 0-15 minutes
- O 16-30 minutes
- O 31-45 minutes
- O Greater than 45 minutes

Section II – Data Driven Decisions

The second category of RtI decision-making indicators focuses on ***data-driven decisions***. This section will include such indicators as determining placement into and movement out of a Tier, determining progress within tiers, and referral for special education. Please rate the degree to which different factors influence your decisions for each described indicator.

Directions: For Questions #12 and #13, please select the choice that best describes whether you think your position on your RtI team influence's your ***data-driven decision-making*** within each tier.

12. My position on the RtI decision-making team allows me to be involved in the RtI ***data driven decisions*** that are made.

RtI Tier	Strongly Disagree	Disagree	Agree	Strongly Agree
Tier 1	1	2	3	4
Tier 2	1	2	3	4
Tier 3	1	2	3	4

13. My position on the RtI decision-making team allows me to provide informative, on-going feedback in determining the RtI ***data driven decisions*** that are made.

RtI Tier	Strongly Disagree	Disagree	Agree	Strongly Agree
Tier 1	1	2	3	4
Tier 2	1	2	3	4
Tier 3	1	2	3	4

Directions: For Question #14, answer the questions below based on your perceptions of the role you play in the ***data-driven*** decision-making process. Circle the number that best answers the question.

14. As a member of the RtI decision-making team, how involved are you with the following:

Question	**Not involved**	**Somewhat involved**	**Involved**	**Highly Involved**
a. Establishing the cut scores on universal screenings / benchmarks that are used to sort students into categories of relative risk?	1	2	3	4
b. Developing the strands of risk outcomes (e.g. grouping benchmark scores that are considered high, moderate, low risk)?	1	2	3	4
c. Based on those outcomes, identifying those students who are considered at-risk?	1	2	3	4
d. Selecting the students for placement into additional Tiers (i.e. 2, 3)?	1	2	3	4
e. Identifying those students who are considered non-responsive (e.g. not meeting targeted goals) to an intervention?	1	2	3	4
f. Determining the rate of improvement	1	2	3	4

by a student within a tier?				
g. Determining the rate of improvement by a student with possible movement between tiers?	1	2	3	4
h. Identifying those students who qualify for movement between tiers (up or down)?	1	2	3	4
i. Determining the rate of student's improvement between two benchmark periods?	1	2	3	4
j. Determining when a student has met his or her learning target?	1	2	3	4
k. Referring students for evaluation for special education?	1	2	3	4

Note: Since ***data-driven decisions*** require decisions to be made throughout all tiers due to their interdependence and connectedness to each other, identifying the specific level of your involvement in each **RtI Tier is not applicable in this section**.

Directions: For Question #15, answer the questions in the grid below, based on identifying the factors that influence your RtI decision-making with respect to ***data driven decisions*** **as it relates to both *your team* and *you personally***. Circle the appropriate number that best answers the question:

15. As a member of the RtI decision-making team, what influences your RtI decisions?

	Team				Personal			
Question	**Does not influence my decisions**	**Somewhat influences my decisions**	**Influences my decisions**	**Greatly influences my decisions**	**Does not influence my decisions**	**Somewhat influences my decisions**	**Influences my decisions**	**Greatly influences my decisions**
a. Following evidenced based, best practices	1	2	3	4	1	2	3	4
b. My position in the school.	1	2	3	4	1	2	3	4
c. My role within the RtI team.	1	2	3	4	1	2	3	4
d. Pressure from my teammates.	1	2	3	4	1	2	3	4
e. Pressure from my school's superiors	1	2	3	4	1	2	3	4

f. Pressure from parents	1	2	3	4	1	2	3	4

Directions: For Questions #16 - #18, write an open-response to the following questions:

16. What are some other factors that influence your decision-making process as it relates to ***data driven decisions***?

17. Of those factor(s) you listed in item #42, which are the most influential, and why?

18. Summarize these overall influences you described in #43. Are they negative, neutral, or positive?

19. In general, when your RtI team meets, how much time is devoted to decision-making with respect to ***data driven decisions***?

- O 0-15 minutes
- O 16-30 minutes
- O 31-45 minutes
- O Greater than 45 minutes

Section III – General Processes and Procedures

The third category of RtI decision-making indicators are related to ***general processes and procedures***. This section will include such indicators as the logistics involved in implementing your school's RtI model, fidelity of its implementation, resources involved, and professional development. Consider the indicator, and please rate the factors that influence your

Directions: For Questions #20 and #21, please select the choice that best describes whether you think your position on your RtI team influences your ***general processes and procedures*** **related decision-making within** each tier.

20. My position on the RtI decision-making team allows me to help determine which ***general processes and procedures*** are implemented.

RtI Tier	Strongly Disagree	Disagree	Agree	Strongly Agree
Tier 1	1	2	3	4
Tier 2	1	2	3	4
Tier 3	1	2	3	4

21. My position on the RtI decision-making team allows me to provide informative, on-going feedback in determining the ***general processes and procedures*** that are implemented.

RtI Tier	Strongly Disagree	Disagree	Agree	Strongly Agree
Tier 1	1	2	3	4
Tier 2	1	2	3	4
Tier 3	1	2	3	4

Directions: For Question #22, answer the questions in the grid below, based on your perceptions of the role you play in the ***general processes and procedures*** decision-making process. Circle the number that best answers the question:

22. As a member of the RtI decision-making team, how involved are you with the following:

Question	Not involved	Somewhat involved	Involved	Highly Involved
a. Deciding the type of RtI model that is used (e.g. problem-solving, standard treatment)?	1	2	3	4
b. Deciding the number of tiers that are implemented?	1	2	3	4
c. Determining the personnel involved in the interventions (e.g. teacher assistants, teachers, etc.)	1	2	3	4
d. Determining the location of the interventions that are provided?	1	2	3	4
e. Determining the duration of the interventions that are provided?	1	2	3	4
f. Determining the logistics involved with student groupings (e.g. size, ability)?	1	2	3	4
g. Providing RtI professional development opportunities for teachers and staff ?	1	2	3	4

h. Responsible for the practices associated with fidelity of implementation (e.g. scheduling observations, frequency, duration of checks, etc.)	1	2	3	4
i. Responsible for analyzing the fidelity data, and making any necessary changes?	1	2	3	4

Directions: For Questions #23 - #25, identify the level of your involvement in each **RtI Tier** based on the perceptions of the role you play in the ***general processes and procedures*** decision-making process.

23. As a member of the RtI decision-making team, your degree of involvement with respect to ***general processes and procedures*** in **Tier 1** is:

- O Not involved
- O Somewhat Involved
- O Involved
- O Highly Involved

24. As a member of the RtI decision-making team, your degree of involvement with respect to ***general processes and procedures*** in **Tier 2** is:

- O Not involved
- O Somewhat Involved
- O Involved
- O Highly Involved

25. As a member of the RtI decision-making team, your degree of involvement with respect to ***general processes and procedures*** in **Tier 3** is:

- O Not involved
- O Somewhat Involved
- O Involved
- O Highly Involved

Directions: For Questions #26, answer the questions in the grid below, based on identifying the factors that influence your RtI decision-making with respect to ***general processes and procedures*** **as it relates to both *your team* and *you personally***. Circle the appropriate number that best answers the question:

26. As a member of the RtI decision-making team, what influences your RtI decisions?

	Team				**Personal**			
Question	**Does not influence my decisions**	**Somewhat influences my decisions**	**Influences my decisions**	**Greatly influences my decisions**	**Does not influence my decisions**	**Somewhat influences my decisions**	**Influences my decisions**	**Greatly influences my decisions**
a. Following evidenced based, best practices	1	2	3	4	1	2	3	4
b. My position in the school.	1	2	3	4	1	2	3	4
c. My role within the RtI team.	1	2	3	4	1	2	3	4
d. Pressure from my teamm	1	2	3	4	1	2	3	4

ates.								
e. Pressure from my school's superiors.	1	2	3	4	1	2	3	4
f. Pressure from parents	1	2	3	4	1	2	3	4

Directions: For Questions #27 - #29, write an open-response to the following questions:

27. What are some other factors that influence your decision-making process as it relates to ***general processes and procedures***?

28. Of those factor(s) you listed in item #66, which are the most influential, and why?

29. Summarize these overall influences you describe in #67. Are they negative, neutral, or positive?

30. In general, when your RtI team meets, how much time is devoted to decision-making with respect to ***general processes and procedures***?

- O 0-15 minutes
- O 16-30 minutes
- O 31-45 minutes
- O Greater than 45 minutes

General Demographics Page

1. What is your school position?

(Please check only one):

- o Administrator
- o RtI specialist
- o Instructional specialist
- o School Psychologist
- o Teacher
- o Guidance Counselor
- o Support staff (teacher assistant, RtI assistant)
- o District Representative
- o Other: _____

2. How many members are on your school's core RtI decision-making team?

(Place answer on the line) _____ members

3. What school level does your RtI team represent?

- o Elementary School (i.e. grades K-5)
- o Middle School (i.e. grades 6-8)
- o High School (i.e. grades 9-12)

4. How many years have you been serving on your school's RtI team?

(Place answer on the line) _____ years

5. How many years have you been in education?

(Place answer on the line) _____ years

6. Where did you receive your training, education, etc. related to RtI?

(Check all that apply)

- o My education program (graduate or undergraduate)
- o District provided professional development
- o State provided professional development
- o Never received formal RtI training, education

7a. Are you an RtI team member for multiple schools?

- O Yes
- O No

7b. If yes, please indicate how many:

- O 2 schools
- O 3 schools
- O 4 schools
- O 5 schools
- O Other _____

Note: If you would like to be considered for the finical reward drawing, **once you have completed the survey**, please email me at smthur@hotmail.com. In your email, please provide me your name and address of where you would like to receive your reward.

Thank you so very much for taking the time to complete this survey. I very much appreciate your willingness to be a part of this worthwhile study

APPENDIX B – COPY OF COVER LETTER SENT TO DISTRICTS

SCOTT M. THUR

Dear Colleague:

Please allow me to introduce myself and highlight for you the purpose of this letter. I am a doctoral student at the University of South Carolina (USC), pursing my Ph.D. degree in Special Education Leadership and Administration. I am in the process of conducting my dissertation, and am writing to you to request your district's permission to participate in my dissertation study. Please find my *General Outline of Dissertation Proposal* enclosed for your review.

My dissertation is in the area of Response to Intervention (RtI). I am studying decision-making within RtI teams, and measuring the specific factors that influence those educators who are involved in the RtI decision-making process. Currently, there is very little information on how these processes are decided. It would be very helpful to understand how this dynamic works when setting up an RtI program, or for implementing an RtI program with fidelity that has already been established. The overall purpose of my research study would be to look at multiple factors that influence the decisions of educators participating on RtI teams, and looking at how these factors are incorporated in a school's overall model. Additionally, I plan to compare the decision-making factors of RtI personnel according to their school level (elementary v. middle v. high). In order to accomplish these purposes, I will ask participating members of RtI teams to complete a survey about the factors they consider important and influential in their decision-making processes. Please find my *RtI Team Decision-Making Survey Questionnaire* enclosed for your review.

This survey will be an electronic survey that participants will be asked to complete online (this attached survey is a hard-copy just for your review). The survey has already gone through its initial validation round, as relevant suggestions have been provided by knowledgeable colleagues and special education professionals. The survey will allow for the relationships to be examined between the factors that influence the decisions of the various personnel on the core team. The survey specifically examines the factors that influence decision-making in the following three areas:

1. Determining the measures and tools that are implemented (e.g. progress monitoring, interventions, curriculums, etc.).

2. Data-driven decisions (e.g. measuring student responsiveness, referral for evaluation).

3. The actual processes and procedures followed in making decisions (e.g. fidelity of implementation, frequency of meetings, communication process of decisions, etc.).

I want to stress the importance and attention I place on confidentiality and participant protection. The survey will allow for each team member to indicate their position on the RtI decision-making team. Since each participating members' results will be coded through their position with like positions, I can guarantee confidentiality. Therefore, names will not be collected, and only the coded position will be associated with the responses. Moreover, I am required to go through the IRB review-board at USC, and am mandated to adhere to their strict policies, procedures, and guidelines.

Should your district choose to participate, I will share my dissertation results with you, which will provide your schools with several key benefits. First, examining the nature of RtI decision-making in each of these areas would provide greater insight for your teams and schools. Analyzing and having a better understanding of these factors will help your schools determine the success of its RtI instructional model in a practical, useful manner. Secondly, by looking at the decision-making process across several areas of RtI, practices and procedures can be objectively measured. In fact, the outcomes of team decision-making are critical components of the RtI process, and gaining a full understanding of the nature of the decisions is crucial in evaluating the impact on a model (Shapiro, Hilt-Panahon, Gischlar, Semeniak, Leichman, & Bowles, 2012). The results will also help to explain how and why decisions are actually made in a practical, day-to-day RtI school. Lastly, (if applicable, based on participating districts) looking at decision-making similarities and differences between school levels (i.e. elementary vs. secondary) will highlight what RtI personnel in each level value when making decisions. This may help schools and districts recognize factors that different school levels may overly emphasize, or conversely, not give enough focus and attention to.

I am anticipating beginning my data collection in January, 2015. I hope to propose my dissertation to my committee in December, 2014, and will only begin my study once I receive committee confirmation. Moreover, I hope this time frame allows you the appropriate time necessary to fully review my dissertation outline and consider my participation request.

Should I receive district approval, I will then contact each individual school's principal or RtI Lead to request participation. At that point, once I confirm all RtI decision-making team members from the respective school, I would then provide the survey to each listed team member of each school. I appreciate your consideration, and look forward to hearing back from your after your review. Should you have any additional questions, I may be contacted at my phone number, address, and/or email listed on the top of the front page. Thank you very much for your time, and I hope to be working with you in this important research-based project.

Sincerely,
Scott M. Thur

Enclosures: General Outline of Dissertation Proposal
RtI Team Decision-Making Survey Questionnaire

APPENDIX C - GENERAL OUTLINE OF DISSERTATION (I.E. A MINI SUMMARY OF CHAPTERS 1-3) PROPOSAL SENT TO DISTRICTS

Running Head: INVESTIGATING THE DECISION-MAKING PROCESS OF RtI TEAMS

Research proposal: Investigating the decision-making process of response to intervention (RtI) teams within the school setting

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General Outline of Dissertation Proposal

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Response to intervention (RtI) is a model that integrates various components of evidence based procedures into systematic, tiered interventions (Fuchs & Fuchs, 2006). This collection of evidence-based instructional methods is combined with tiered levels of interventions to provide additional and remedial supports to students who need them. The basic premise of RtI is that educators provide these additional supports within a continuum of tiers, based on the responses of the student within each tier to allow for their specific differentiated needs (Galvin, 2007). RtI is an educational framework that allows students to work towards their mastery goals and best educational outcomes by having teachers use high-quality, scientifically based instructional methods and on-going student assessment.

The RtI model includes measures of student responses to changes in instruction that rely on evidenced-based assessment strategies for the purpose of collecting accurate, adequate, objective educational data (O'Donnell & Miller, 2011). RtI requires those involved in the interventions to differentiate instruction as needed to implement interventions with fidelity, and use systematic decision points to make educational decisions (Hoover & Patton, 2008). According to Gersten et al. (2009), the essence of RtI is that it establishes a universal system of support, in which the empirically-validated academic interventions change and become more intensive for identified students through the continuum of support practices.

RtI models should provide all students with evidence-based instruction at the appropriate level of intervention, as determined through consistent screenings. These

aspects of RtI are measured through another one of its core components – progress monitoring. Progress monitoring is defined as using evidence-based assessments to collect objective data that allow both students and teachers the ability to track progress and monitor growth (Mellard, 2005). Among other benefits, progress monitoring helps a teacher know if a student is progressing towards established criteria that are deemed sufficient in mastering the learning goal (Glover & DiPerna, 2007). Since progress monitoring requires performance to be measured frequently, objectively, and consistently, a teacher can measure a student's response to intervention. Based on the data collected from progress monitoring, interventions are then added, changed, or modified based on that student's performance (Fuchs & Fuchs, 2006). Progress monitoring provides the information necessary for decision-making. The data allow for educators to determine the most appropriate tier for instruction, individualize interventions, and document a student's responsiveness to each intervention.

There are other decisions that need to be made by educators within the RtI framework. Wanzek and Cavanaugh (2012) discuss decisions such as type of materials and resources, the size of student groups, and the instructional staff involved in providing the interventions. Fuchs and Fuchs (2006) discuss how, for each level of intervention, there are three considerations for making decisions: intervention efficacy (i.e. measuring the efficacy of the current tier programs), assessment integrity (i.e. defining responsiveness), and feasibility (i.e. identifying staff, roles, logistics, etc.) Moreover, even the types of screening and progress monitoring tools require decisions. For example, researchers recommend different tools for curriculum based measurement (CBM) (Deno, Reschly, & Magnusson,2009; Shapiro & Clemens, 2009). VanDerHayden

(2010) discusses indicators that help teams to determine the decisions that should be made based on the universal screening data. Moreover, determining personnel roles within RtI is an essential consideration. As discussed in Fuchs, Fuchs, and Compton (2012), the role of the special education teacher in the RtI process varies among schools. Through their analysis, because special educators already deliver the most intensive (i.e. tertiary) instruction within the school setting, they need to play a more dominant role in providing the interventions even before referral to special education.

The way schools and districts establish their RtI program also affects how decisions are made. Fuchs, Fuchs, and Compton (2004) outline various types of decision-making processes, depending on whether schools are using the problem-solving or standard treatment protocol model. The problem solving approach includes a school-based team of educators making decisions collectively, with each team making instructional decisions based on student performance, and targeting each student's individual needs through a variety of interventions. Conversely, with the standard treatment protocol method, the RtI protocol is provided through a standard delivery system. This approach requires the use of the same empirically validated treatment for all students with similar non-responsiveness, and unlike the problem solving model, requires no decision-making processes associated with deciding which specific, individualized interventions to implement for each student (Carney & Steifel, 2008). A third decision-making model, which is a hybrid, is a blend of components between these two models (Marchand-Martella, Ruby, & Martella, 2007).

Given these and many other factors that require decision-making within the RtI paradigm, a closer look needs to be taken at the specific factors that influence the

educators involved in the decision-making process, and how these factors are incorporated in a school's RtI model. While there is a relatively large amount of qualitative data regarding decision-making, there is a paucity of current quantitative research looking at the specific factors that RtI personnel consider when making decisions. This suggests that measuring the different decision –making factors that influences school personnel involved in RtI, comparing them, and determining the weight these factors play in the decision-making process, would serve to advance the knowledge of decision-making teams of RtI. Not only would this allow for RtI practices and procedures to be objectively measured, it would help to explain to teams how and why decisions are actually made in an RtI school.

Research Questions

The overall purpose of this dissertation is to determine which factors differentially influence school personnel on RtI decision-making teams. Results will be discussed in relation to the following research questions:

1. What factors do team members report influence the entire RtI decision-making process, both in general and specific to each stage (i.e. tier)?
2. What factors do RtI team members report as the most influential to their personal decision-making process?
3. In what steps of the decision-making process do team members report participating? Do these steps differ across roles and personnel?
4. Do the decision-making factors of RtI personnel differ according to school level (elementary v. middle v. high)?

Method

Setting

This study will take place in a South Carolina school district. All the schools within the district currently using an RtI model will be solicited for participation in the study. Due to the focus on RtI decision-making, only schools that have been implementing RtI for greater than two years will be solicited. Schools with two or more years experience will have already gone through initial implementation, and will have developed more consistent processes and procedures after the second year of implementation.

Participants

All core faculty and/or staff involved in the RtI decision-making process in each school will be asked to participate in the study. The emphasis is on the core members of the team, because the study is measuring those personnel involved in making the actual decisions. For example, teachers who have some general involvement in RtI, or consult with, but are not actually on the actual team, will most likely not be a part of the decision-making processes. A teacher(s) who represents multiple grades, is consistently active and engaged on the team, and is considered a core team member, will be requested to participate. Since most schools have a core group of individuals serving on this decision-making team, I expect there to be a range of core individuals (e.g. some schools may have four, while others may have eight) eligible to participate from each school. Moreover, eligibility will increase if the RtI paradigm for the participating district is established in the secondary levels and the criterion is met (i.e. greater than two years).

Participants on a core RtI team may include administrators, classroom teachers, RtI instructional specialists, school psychologists, support staff (i.e. paraprofessionals),

and district personnel. The criteria for participation are educators who are directly involved in the RtI decision-making process. The participants will consist of the members of the school-based team. With each school having their own team, the make-up of personnel involved in each school team may be different. The data collected from the various team members from each school will be grouped by like roles. If a particular team member does not complete the survey, the rest of the participating team members should still submit theirs, because the data will be grouped and coded by like positions, and not by particular schools. Lastly, some core members will serve on RtI teams in multiple schools. Should that be the case, the participant will be requested to complete only one survey based on the RtI team they consider to be their primary (e.g. the team with which they provide the most frequent, active input).

Data Collection

School Description

Basic information will be collected includes the district's general demographic information, SES, student size, and grade levels. General information about the RtI process will be requested from the individual(s) responsible for coordinating the RtI model in each particular school, including the year in the RtI process, the school personnel involved in the RtI decision-making process, the type of model used to make decisions (standard, problem-solving, blend), the number of tiers within the model (3 or 4), the number of students in Tier 2, Tier 3, Tier 3b (if applicable), and the number of students referred to special education from the RtI paradigm. This information is separate from the quantitative data collected from the survey.

Identifying participants

The school's RtI decision-making team will be identified by contacting (by phone) the school directly and speaking with an administrator or equivalent (i.e. RtI specialist, interventionist, coordinator, etc.) to confirm the team members. Once identified, members of the team will then receive information detailing the study, the purpose, and the information that will be requested. Their participation will be completely voluntary, as I will confirm their intention and agreement to participate prior to them completing the survey. Moreover, I will ensure the protection of each participant through the anonymity of respondents in two ways. First, names will not be recorded. Instead, positions will be coded through a designated number. Second, comparisons within the specific teams will not be made. That is, each team member's submitted response will not be compared to the rest of their specific team, but rather grouped with respondents of similar positions (e.g., all school psychologists). This will be done by coding each team member's response based on their position. All IRB procedures and requirements will be followed. This will be ensured because upon approval of my study from USC, I then have to receive confirmation from IRB prior to me being allowed to collect any data from your district.

Instrument

The data will be collected through a computer-based survey. The survey will be presented through either Survey Monkey software or a Google Form application. The survey design will be Likert-style formatted, but will also have a few guided open-response questions asking about targeted areas. The survey addresses three overall areas of the RtI process: tools and measures; data-driven decisions; and general processes and procedures. Each of these three areas is outlined in the survey within designated sections,

and the questions within each section are related to each particular area. The survey was developed to be completed within approximately 20-25 minutes, and each RtI section includes roughly 20 Likert-style questions, plus 3 open-response item questions, for a total of approximately 70 questions. The survey concludes with a general demographics page intended to collect information specific to each core participant on the team.

Data Analysis

Appropriate inferential statistics will be computed. There will be descriptive, qualitative, and quantitative statistics measured in this study, and answers will be summarized to allow for comparisons between RtI team members. The Likert-style questions will allow for rating scales to be measured, through comparisons and determining item means. The open-response items will be quantified and coded into general themes. The demographics page will allow for descriptive analysis to be measured, including determining overall frequencies and means. The school description data collected from each school will allow for qualitative information. Since there are multiple decision-making personnel that will be measured, dependent t-tests will be calculated; however, this will be based on multiple types of personnel participating, and depending on participation, an independent t-test or ANOVA comparisons may instead be made. Lastly, participation will dictate the statistical comparisons that are made between school levels.

APPENDIX D - PERCENT OF LEVEL OF INVOLVEMENT BY COMBINED POSITIONS FOR MEASURES AND TOOLS (MT) ASPECTS

MT Aspects (a-h)	Position	NI	SI	I	HI
a. Screening instruments selected, chosen to implement	Administrator / District Representative	5.8%	3.6%	6.5%	7.2%
	RtI Specialist / Instructional Coach	3.6%	5.8%	5.0%	10.8%
	Teacher / Interventionist	15.8%	7.2%	6.5%	.7%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	11.5%	4.3%	2.9%	2.9%
	Total LOI / Aspect	36.7%	20.9%	20.9%	21.6%
b. Progress monitoring, CBM probes implemented	Administrator / District Representative	3.6%	5.0%	10.1%	4.3%
	RtI Specialist / Instructional Coach	1.4%	4.3%	7.2%	12.2%
	Teacher / Interventionist	13.7%	5.8%	7.2%	3.6%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	10.8%	2.9%	5.8%	2.2%
	Total LOI / Aspect	29.5%	18.0%	30.2%	22.3%
c. When, how often to progress monitor	Administrator / District Representative	1.6%	4.0%	9.7%	9.7%
	RtI Specialist / Instructional Coach	3.2%	2.4%	7.3%	10.5%
	Teacher / Interventionist	9.7%	6.5%	10.5%	3.2%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	6.5%	4.0%	8.1%	3.2%
	Total LOI / Aspect	21.0%	16.9%	35.5%	26.6%
d. Planning which school-wide curriculum to implement	Administrator / District Representative	.7%	2.9%	5.8%	13.7%
	RtI Specialist / Instructional Coach	4.3%	5.0%	5.8%	10.1%
	Teacher / Interventionist	13.7%	10.1%	4.3%	2.2%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	17.3%	3.6%	.7%	0.0%
	Total LOI / Aspect	36.0%	21.6%	16.5%	25.9%
e. Plan which tiered interventions to implement	Administrator / District Representative	.7%	2.9%	5.8%	13.7%
	RtI Specialist / Instructional Coach	.7%	4.3%	5.0%	15.1%
	Teacher / Interventionist	5.0%	9.4%	8.6%	7.2%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	5.0%	8.6%	6.5%	1.4%
	Total LOI / Aspect	11.5%	25.2%	25.9%	37.4%

f. Changing current screening / CBM probe / curriculum / intervention	Administrator / District Representative	1.4%	6.5%	8.6%	6.5%
	RtI Specialist / Instructional Coach	1.4%	2.2%	10.1%	11.5%
	Teacher / Interventionist	7.9%	11.5%	5.8%	5.0%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	7.2%	7.2%	5.8%	1.4%
	Total LOI / Aspect	18.0%	27.3%	30.2%	24.5%
g. Deciding when to implement changes (‘e’)	Administrator / District Representative	.7%	4.3%	11.5%	6.5%
	RtI Specialist / Instructional Coach	.7%	2.9%	9.4%	12.2%
	Teacher / Interventionist	11.5%	6.5%	7.9%	4.3%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	7.2%	7.2%	4.3%	2.9%
	Total LOI / Aspect	20.1%	20.9%	33.1%	25.9%
h. Providing consistent feedback of selected M,T	Administrator / District Representative	1.4%	5.8%	9.4%	6.5%
	RtI Specialist / Instructional Coach	.7%	1.4%	10.1%	12.9%
	Teacher / Interventionist	4.3%	8.6%	7.9%	9.4%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	6.5%	5.0%	8.6%	1.4%
	Total LOI / Aspect	12.9%	20.9%	36.0%	30.2%

APPENDIX E - PERCENT OF LEVEL OF INVOLVEMENT BY COMBINED POSITIONS FOR DATA-DRIVEN DECISION (DD) ASPECTS

DD Aspects (a-k)	Position	NI	SI	I	HI
a. Establishing cut scores on universal benchmarks	Administrator / District Representative	5.0%	3.6%	7.2%	7.2%
	RtI Specialist / Instructional Coach	4.3%	6.5%	5.0%	9.4%
	Teacher / Interventionist	18.0%	4.3%	5.8%	2.2%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	12.2%	3.6%	4.3%	1.4%
	Total LOI / Aspect	39.6%	18.0%	22.3%	20.1%
b. Developing the strands (i.e. high, moderate, low) of risk outcomes	Administrator / District Representative	4.3%	4.3%	8.6%	5.8%
	RtI Specialist / Instructional Coach	2.2%	8.6%	3.6%	10.8%
	Teacher / Interventionist	18.7%	5.8%	3.6%	2.2%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	12.2%	4.3%	4.3%	.7%
	Total LOI / Aspect	37.4%	23.0%	20.1%	19.4%
c. Identifying students considered at-risk	Administrator / District Representative	1.4%	2.2%	10.8%	8.6%
	RtI Specialist / Instructional Coach	0.0%	2.2%	7.2%	15.8%
	Teacher / Interventionist	5.8%	8.6%	10.1%	5.8%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	9.4%	2.2%	5.8%	4.3%
	Total LOI / Aspect	16.5%	15.1%	33.8%	34.5%
d. Selecting students for placement into tiers 2, 3	Administrator / District Representative	0.0%	2.9%	11.5%	8.6%
	RtI Specialist / Instructional Coach	0.0%	1.4%	5.8%	18.0%
	Teacher / Interventionist	5.8%	2.9%	10.8%	10.8%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	6.5%	3.6%	5.8%	5.8%
	Total LOI / Aspect	12.2%	10.8%	33.8%	43.2%
e. Identifying students considered non-responsive to interventions	Administrator / District Representative	1.4%	5.0%	7.2%	9.4%
	RtI Specialist / Instructional Coach	1.4%		6.5%	17.3%
	Teacher / Interventionist	5.0%	3.6%	10.8%	10.8%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	5.0%	4.3%	5.0%	7.2%
	Total LOI / Aspect	12.9%	12.9%	29.5%	44.6%

f. Determining students' rate of improvement (ROI) within a tier	Administrator / District Representative	2.9%	1.4%	13.7%	5.0%
	RtI Specialist / Instructional Coach	.7%	2.2%	7.2%	15.1%
	Teacher / Interventionist	5.8%	3.6%	13.7%	7.2%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	5.8%	7.2%	5.0%	3.6%
	Total LOI / Aspect	15.1%	14.4%	39.6%	30.9%
g. Determining student's ROI for movement between tiers	Administrator / District Representative	2.4%	3.2%	12.1%	7.3%
	RtI Specialist / Instructional Coach	.8%	1.6%	4.8%	16.1%
	Teacher / Interventionist	6.5%	4.8%	12.1%	6.5%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	8.1%	4.8%	3.2%	5.6%
	Total LOI / Aspect	17.7%	14.5%	32.3%	35.5%
h. Identifying students who qualify for movement between tiers	Administrator / District Representative	1.4%	2.2%	12.2%	7.2%
	RtI Specialist / Instructional Coach	.7%	.7%	7.2%	16.5%
	Teacher / Interventionist	4.3%	5.0%	10.1%	10.8%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	5.8%	6.5%	3.6%	5.8%
	Total LOI / Aspect	12.2%	14.4%	33.1%	40.3%
i. Determining student's ROI between two benchmark periods	Administrator / District Representative	2.2%	2.9%	12.9%	5.0%
	RtI Specialist / Instructional Coach	.7%	2.2%	6.5%	15.8%
	Teacher / Interventionist	5.8%	6.5%	9.4%	8.6%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	7.2%	7.2%	2.9%	4.3%
	Total LOI / Aspect	15.8%	18.7%	31.7%	33.8%
j. Determining when students meet their learning target	Administrator / District Representative	2.2%	2.9%	12.2%	5.8%
	RtI Specialist / Instructional Coach		2.9%	5.8%	16.5%
	Teacher / Interventionist	5.8%	2.2%	12.2%	10.1%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	5.8%	5.8%	4.3%	5.8%
	Total LOI / Aspect	13.7%	13.7%	34.5%	38.1%
k. Referral for evaluation for special education	Administrator / District Representative	0.0%	2.2%	5.8%	15.1%
	RtI Specialist / Instructional Coach	.7%	4.3%	7.2%	12.9%
	Teacher / Interventionist	5.0%	5.0%	11.5%	8.6%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	1.4%	2.2%	3.6%	14.4%
	Total LOI / Aspect	7.2%	13.7%	28.1%	51.1%

APPENDIX F - PERCENT OF LEVEL OF INVOLVEMENT BY COMBINED POSITIONS FOR PROCESS AND PROCEDURE (PP) ASPECTS

PP Aspects (a-i)	Position	NI	SI	I	HI
a. Determining the type of RtI model used	Administrator / District Representative	2.2%	3.6%	6.5%	10.8%
	RtI Specialist / Instructional Coach	2.2%	4.3%	6.5%	12.2%
	Teacher / Interventionist	10.1%	3.6%	8.6%	7.9%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	11.5%	3.6%	4.3%	2.2%
	Total LOI / Aspect	25.9%	15.1%	25.9%	33.1%
b. Deciding on the number of RtI tiers implemented in the model	Administrator / District Representative	3.6%	4.3%	4.3%	10.8%
	RtI Specialist / Instructional Coach	5.0%	5.8%	6.5%	7.9%
	Teacher / Interventionist	13.7%	5.8%	7.2%	3.6%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	10.8%	5.0%	3.6%	2.2%
	Total LOI / Aspect	33.1%	20.9%	21.6%	24.5%
c. Determining personnel involved in the interventions	Administrator / District Representative	2.2%	3.6%	3.6%	13.7%
	RtI Specialist / Instructional Coach	3.6%	7.2%	6.5%	7.9%
	Teacher / Interventionist	17.3%	5.8%	6.5%	.7%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	10.8%	5.0%	2.9%	2.9%
	Total LOI / Aspect	33.8%	21.6%	19.4%	25.2%
d. Determining location of interventions	Administrator / District Representative	.7%	2.9%	5.8%	13.7%
	RtI Specialist / Instructional Coach	5.0%	7.9%	5.0%	7.2%
	Teacher / Interventionist	18.0%	6.5%	5.0%	.7%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	15.1%	5.0%	1.4%	0.0%
	Total LOI / Aspect	38.8%	22.3%	17.3%	21.6%
e. Determining duration of the intervention	Administrator / District Representative	.7%	4.3%	7.9%	10.1%
	RtI Specialist / Instructional Coach	2.9%	5.0%	7.9%	9.4%
	Teacher / Interventionist	12.9%	3.6%	9.4%	4.3%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	12.2%	5.8%	2.9%	.7%
	Total LOI / Aspect	28.8%	18.7%	28.1%	24.5%

f. Determining logistics involved with student groupings (size, ability)	Administrator / District Representative	.7%	5.0%	7.9%	9.4%
	RtI Specialist / Instructional Coach	2.2%	3.6%	7.2%	12.2%
	Teacher / Interventionist	9.4%	7.9%	7.9%	5.0%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	11.5%	6.5%	2.2%	1.4%
	Total LOI / Aspect	23.7%	23.0%	25.2%	28.1%
g. Providing professional development opportunities for teachers and staff	Administrator / District Representative		4.3%	8.6%	10.1%
	RtI Specialist / Instructional Coach	2.2%	3.6%	7.9%	11.5%
	Teacher / Interventionist	12.9%	10.1%	5.8%	1.4%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	12.2%	6.5%	2.2%	.7%
	Total LOI / Aspect	27.3%	24.5%	24.5%	23.7%
h. Determining practices associated with FOI	Administrator / District Representative	0.0%	2.2%	10.8%	10.1%
	RtI Specialist / Instructional Coach	5.8%	5.0%	6.5%	7.9%
	Teacher / Interventionist	13.7%	6.5%	6.5%	3.6%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	12.9%	7.2%	.7%	.7%
	Total LOI / Aspect	32.4%	20.9%	24.5%	22.3%
i. Analyzing the FOI data / recommend changes as needed	Administrator / District Representative	0.0%	2.9%	8.6%	11.5%
	RtI Specialist / Instructional Coach	4.3%	5.8%	6.5%	8.6%
	Teacher / Interventionist	13.7%	3.6%	8.6%	4.3%
	School Psych. / Speech Therapist / Support Staff / Guidance / (Other)	12.2%	8.6%	0.0%	.7%
	Total LOI / Aspect	30.2%	20.9%	23.7%	25.2%