EFFECTS OF TEACHER EFFICACY AND STUDENT'S GENDER AND ETHNICITY ON SPECIAL EDUCATION REFERRAL AND RESPONSE TO INTERVENTION

by

ARCHNA RANDALL

A dissertation submitted to the Graduate Faculty in Educational Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2012

This manuscript has been read and accepted for the
Graduate Faculty in Educational Psychology in satisfaction of the
dissertation requirement for the degree of Doctor of Philosophy.

Georgiana Shick Tryon, Ph.D.

Date	Chair of Committee

Mario Kelly, Ed. D.

Date	Executive Officer

Dr. Helen Johnson

Dr. Jay Verkuilen
Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK

THE CITY UNIVERSITY OF NEW YORK

Abstract

EFFECTS OF TEACHER EFFICACY AND STUDENT'S GENDER AND ETHNICITY ON SPECIAL EDUCATION REFERRAL AND RESPONSE TO INTERVENTION

by

Archna Randall

Advisor: Georgiana Shick Tryon, Ph.D.

Abstract

This study examined the relationships among teacher efficacy, student gender, and student ethnicity (African American, Asian American, Latin American, and Caucasian) on teachers' decisions to use RTI versus referring immediately to special education. Kindergarten through eighth–grade teachers ($N = 134$) completed an anonymous survey online that included demographic questions, the Teachers' Sense of Teacher Efficacy Scale (TSES*;* Tschannen-Moran & Woolfolk Hoy, 2001), a hypothetical case study of a student struggling academically, and questions about teacher referral decisions. Participants randomly received one of the eight hypothetical case studies that varied the student's gender and ethnicity. This study employed procedures similar to earlier studies (Meijer & Foster, 1998; Podell & Soodak, 1993; Soodak & Podell, 1993) that manipulated student characteristics. Results support previous research studies that found that high teacher efficacy relates to fewer special education referrals. Multiple logistic regression analyses show that teachers with higher teacher efficacy in student engagement and instructional strategies were more likely to use RTI versus referring to special education. Teacher efficacy for classroom management was not related to teacher referral decisions. There was a significant relationship among teacher efficacy, student's gender, and teachers' referral

decisions. Efficacious teachers were more likely to use RTI for a struggling female student than for a struggling male student. Taken together, teacher efficacy, student's gender, and student's ethnicity did not relate significantly to teachers' decisions to use RTI versus referring to special education. This study demonstrated promising results related to teachers' efficacy and teachers' decisions to use RTI. Study limitations include sample size and demographics, validity of using vignettes, and teachers responding in a socially desirable manner that may have precluded significant results. It is recommended that educators be ready for the paradigm shift away from the refer–test model to the RTI approach. Future research is encouraged to develop an RTI teacher efficacy scale and examine teachers' integrity of implementing of RTI.

Dedication

To my dear parents, Mathew and Mercy Philip for instilling in me the passion for learning and the drive to achieve my goals.

With your encouragement, I commenced this journey, and with your unconditional love and support, I accomplished it. Thank you Dad, for your endless words of wisdom and lifelong lessons, and Mom, for demonstrating the confidence and strength that inspired me to persevere. I love you both dearly!

Acknowledgments

First and foremost, I thank God for giving me the strength and faith to achieve my lifelong dream, and blessing me with all the wonderful people in my life who have helped me throughout this journey.

I would like to express my deepest gratitude to my advisor, Dr. Georgiana Tryon for her guidance, wisdom, speedy feedback, and sense of humor. She persistently encouraged me and believed in me when I doubted myself. Thank you to my committee members, Dr. Jay Verkuilen and Dr. Helen Johnson, and my readers, Dr. Ida Jeltova and Dr. Annette Parchment-Pennant for their invaluable insight. Thank you to my friend, Dr. Darsh Ramdass for sharing his statistical knowledge. I am especially grateful to Pamela Kuhen for helping me tremendously with organizing and analyzing my data. Most of all, thank you to my friend and peer, Dr. Deborah Jaspen, for her immense support, for answering my endless questions and for editing my work.

I am eternally grateful to my friends and family for their unwavering love and support. Thank you to my confidant and cousin, Liji, and my dear friend, Winnie for always being there to listen and offer emotional support. I thank my parents for putting my education and demands first, and for rearranging their schedule to help take care of the kids. I am forever indebted to my loving husband and best friend, Russell Randall, who is my pillar and deserves an honorary degree for his commitment, patience and support. Last but not least, thank you Russell Jr. and Riel, for your patience and understanding, when "mommy had to do her work" for the past seven years. I hope that my achievements will inspire you to follow your dreams and attain your own personal and intellectual goals. I am truly blessed to have two amazing sons. I love you both with all my heart!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: Introduction

Many factors influence a teacher's decision to refer a student for a special education evaluation. Research over the years has demonstrated that teachers sometimes refer students with particular characteristics for special education testing (Hosp & Reschly, 2004; MacMillan & Reschly, 1998). For example, studies show disproportionality between the number of males and females referred to special education, with males being more likely to be referred than females (Oswald, Best, Coutinho, Nagle, 2003; Wehmeyer & Schwartz, 2001). In addition, studies have shown racial and ethnic differences in special education referral rates with African American students being more likely to be referred than Caucasian students (Artiles, Aguirre-Munoz, & Abedi, 1998; Artiles & Trent, 1994; Chang, 2003; Hosp & Reschly, 2004). The overrepresentation of males and African American students in special education classes is a pervasive problem. Furthermore, research shows that a majority of students who are referred for special education evaluation are eventually found eligible for special education services (Hosp & Reschly, 2004; MacMillan & Reschly, 1998). Thus, it is important to examine the factors that may influence a teacher's decision to refer a student for a special education evaluation.

Teacher efficacy has been shown to have an effect on teachers' decisions to refer students to special education (Egyed & Short, 2006; Meijer & Foster, 1988; Podell & Soodak, 1993; Soodak & Podell, 1993). Teacher efficacy is defined as the beliefs that teachers possess about their skills and abilities to create desirable outcomes for students (Ashton & Webb, 1986; Gibson & Dembo, 1984). Soodak and Podell (1993) investigated the influence of teacher efficacy and student problem type on teachers' placement and referral decisions. Results from this study revealed that both special education teachers and general education teachers with higher self-efficacy were more likely to agree with a general education placement, whereas teachers with

lower self-efficacy were more likely to refer students for evaluation in a special education setting. These findings agree with previous research by Meijer and Foster (1988) who found that teachers with higher self-efficacy were less likely to refer a student to special education when responding to a hypothetical vignette of a problematic child.

To date, a vast amount of research has demonstrated the positive effects of being an efficacious teacher. Research shows that efficacious teachers tend to work longer with students who are struggling (Gibson & Dembo, 1984), are more open to new ideas or likely to experiment with new methods to meet student needs (Cousins & Walker, 2000), are less critical of students who make errors (Ashton & Webb, 1986), and are less likely to refer students to special education (Meijer & Foster, 1998; Podell & Soodak, 1993; Soodak & Podell, 1993; Tournaki & Podell, 2005).

While much research has examined student characteristics, teacher efficacy, and teachers' decisions to refer students to special education, research has not looked at teachers' decisions to utilize a response to intervention (RTI) approach before referring students for an evaluation compared to immediately referring students with problems for an evaluation. RTI is a multitiered intervention model that involves using research–based interventions to support students with learning and behavioral difficulties (Fuchs & Fuchs, 2006; Fuchs, Mock, Morgan, & Young, 2003; Klingner & Edward, 2006). RTI is a problem–solving approach for all students, starting with universal screening (Fuchs & Fuchs, 2006; Fuchs et al., 2003). The National Research Center on Learning Disabilities (NRCLD) identified eight core features of RTI: high quality classroom instruction, research–based instruction, assessment of classroom performance, universal screening, continuous progress monitoring, research–based interventions, progress monitoring during interventions, and fidelity measures (Mellard, 2004).

Currently, the reauthorized IDEA (2004) permits all states to use research–based procedures for determining whether a child has a learning disability (LD; U.S. Department of Education, 2006). The New York State (NYS) Education Department (2008) authorizes the use of RTI to determine if a student has a LD. Although the NYS Education Department has mandated that all school districts in New York have RTI in place by July 1, 2012, as part of the process of determining if students in grades kindergarten through fourth grade have a LD (New York State Education Department, 2008), the concept of RTI has been around since 2003. Many school districts have already implemented RTI while other districts have just begun training their staff on RTI.

New York's mandate means that its school districts will no longer be able to use the discrepancy model to determine eligibility for special education services for learning disabilities after July of 2012. This law will require NYS school districts to use research–based interventions in general education settings as part of the evaluation process. In turn, the use of RTI will help to rule out lack of proper instruction or lack of appropriate interventions as reasons for students' difficulties. Fuchs and Fuchs (2006) indicated that a student's responsiveness or unresponsiveness to instruction or intervention could be demonstrated through the use of RTI. Therefore, those students who do not respond (i.e., learn or make academic progress) should receive additional support and, subsequently, those who still do not respond should qualify either for special education or for a special education evaluation (Fuchs et al., 2003).

Because federal regulations encourage and state law will soon mandate educators to use RTI rather than the traditional refer–test model to meet the needs of students, it is important to examine the willingness of stakeholders (e.g., teachers) to use this alternative method. Therefore, the goal of this dissertation study—to compare stakeholders' decisions to use RTI versus the

traditional refer–test model when students experience academic difficulties—is both timely and meaningful.

Overview

The purpose of this dissertation study is to examine how teacher efficacy and student characteristics relate to teachers' decisions to use RTI versus referring to special education immediately. More specifically, I examined the effects of teacher efficacy, students' gender (male versus female), and student's ethnicity (African American, Asian American, Caucasian, and Latin American) on teachers' decisions to use RTI versus referring to special education.

I collected data was collected using an experimental case study methodology, in which I manipulated conditions of student demographic characteristics (gender and ethnicity). I adopted procedures employed in previous teacher efficacy studies (Meijer & Foster, 1998; Podell & Soodak, 1993; Soodak & Podell, 1993) that used vignettes (case studies) and manipulated the etiology of the student's academic difficulties and socio–economic status. There were a total of eight case studies, and the participants (teachers) each received one randomly assigned case study with the students' ethnicity and ethnicity manipulated. After reading the case study, the participants answered questions as to whether they would use an RTI approach or use the traditional refer–test model to address the student's difficulties. Each teacher also completed a demographic questionnaire and the *Teachers' Sense of Teacher Efficacy Scale* (*TSES*; Tschannen-Moran & Woolfolk Hoy, 2001). I administered the measures in counterbalanced order to control for order effects.

I computed descriptive statistics, which includes information such as teachers' gender, age, ethnicity, number of years teaching, and whether they are special education or general education teachers. I used Pearson correlations to examine the relationship between teacher

efficacy and teachers' decisions to use RTI versus referral to special education. I used chi-square tests of independence to examine the effect of student's gender and ethnicity on teachers' decisions to use RTI versus referring to special education. Last, I employed multiple logistic regressions to examine whether student characteristics (gender and ethnicity) and teacher efficacy predict teachers' decisions to use RTI or to refer to special education.

The results of this study will help educators understand issues pertaining to teacher biases related to special education referrals and willingness to use RTI. The results will also add to the extensive research on teacher efficacy and special education referrals (Egyed & Short, 2006; Meijer & Foster, 1998; Podell & Soodak, 1993; Soodak & Podell, 1993; Tournaki & Podell, 2005). In sum, study findings demonstrate how teacher efficacy and student characteristics (gender and ethnicity) relate to a teacher's decision to use RTI versus referring to special education. Thus, this study, has important implications for RTI research and practice given that high teacher efficacy relates to positive outcomes (Ashton & Webb, 1986; Cousins & Walker, 2000; Gibson & Dembo, 1984).

CHAPTER 2: Literature Review

This chapter provides a brief history of special education and a review of the literature pertaining to the three main points of this dissertation: the traditional refer–test model for special education, Response to Intervention (RTI), and teacher efficacy. I begin with an overview of the history of special education and the federal laws that govern and protect students with disabilities. A summary follows of the history of special education, the definition of learning disability, and how students are determined to have learning disabilities. I then discuss issues pertaining to the current definition for learning disability and review the discrepancy model, also referred to as the traditional refer–test model and the IQ–achievement discrepancy model. Also important to this dissertation is the issue of disproportionality in special education, which is discussed in terms of overrepresentation and underrepresentation of certain ethnic groups.

In the next section of this chapter I provide the meaning and framework of RTI and consider its rise as an alternative to the discrepancy model. I also present a review of the empirical research on RTI to date. Finally, I discuss the specifics of RTI implementation across different states, the positive effects of RTI, and stakeholders' perceptions of RTI.

One theoretical construct most relevant to this dissertation is teacher efficacy. I define teacher efficacy and the groundwork related to it. Then, I discuss the various measurements of teacher efficacy and provide a rationale for the teacher scale that I used for this dissertation. I briefly discuss the relationship between teacher efficacy and teacher experience. Finally, I provide a review of the literature pertaining to teacher efficacy and student characteristics, and how teacher efficacy relates to teachers' decisions to refer students to special education. This chapter concludes with a statement of the problem, the rationale, and the research questions for this study.

A Brief History of Special Education in America

Vital to an understanding of special education in America today is a review of its history. Radical changes took place in the 1970s in the field of education, particularly for students with special needs. During this time, three important federal laws were passed to protect individuals with disabilities to ensure their rights to educational opportunities: (a) Section 504 of the Rehabilitation Act of 1973, (b) PL 94–142, the Education for all Handicapped Children Act (EAHCA), and (c) the Individuals with Disabilities Education Act (IDEA).

Section 504 of the Rehabilitation Act of 1973 is a civil rights statue that had a major impact on public schools. It states the following:

> No otherwise qualified individual with disabilities in the United States…shall, solely by reason of his/her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance or activity conducted by any executive agency or by the United States Postal Services. (Rehabilitation Act of 1973, 29 U.S.C. § 701).

Under Section 504, schools must provide students with disabilities equal opportunities to obtain the same result, to gain the same benefit, or to reach the same level of achievement as students without disabilities (Jacob-Timm & Hartshorne, 1994). For the first time, exclusion and segregation of students with disabilities was viewed as discrimination and was banned. Section 504 was the first law that required school districts to educate students with disabilities in the general education classroom (Zirkel, 2009). General education teachers became responsible for the instruction to meet the needs of disabled students as adequately as the needs of nondisabled students.

Before 1975, children with disabilities were mostly denied an education solely on the basis of their disabilities. On November 29, 1975, President Ford signed the Education for All Handicapped Children Act (EAHCA), also known as Public Law 94–142. This federal law requires public schools to provide appropriate educational services for all disabled people between ages 3 and 21. The law further states that related services for children must be made available to them in the least restrictive environment (LRE). Also introduced for the first time was the Individualized Education Program (IEP) for each child with a disability (Mitchell & Espin, 1990). School systems were therefore responsible for providing adequate education and opportunities for students with disabilities within the LRE, and teachers were expected to provide adequate service to the students, regardless of previous training or experience.

In implementing these laws, questions soon arose as to who qualified as a person with a disability under the new laws, how IEPs should be implemented, what constituted a "free and appropriate education," and how "the least restrictive learning environment" should be defined (Mitchell & Espin, 1990). In efforts to answer these questions, the EAHCA was updated in 1990 and was renamed the Individuals with Disabilities Education Act (IDEA). IDEA replaced Public Law 94–142 (EAHCA). IDEA was amended in 1997 and reauthorized in 2004. The 2004 reauthorization of IDEA retained a commitment to equal access to quality education. The final regulations of IDEA appeared on August 14, 2006, and they acknowledged the use of research–based interventions for identifying students with learning disabilities.

The President's Commission on Excellence in Special Education (U.S. Department of Education Office of Special Education and Rehabilitative Services, 2002) examined the current practices under IDEA and offered recommendations for improvement on July 10, 2002 (House–Hrg–107–70, IDEA, Reauthorization, 2002). They made three major recommendations. First,

they recommended that expectations for all students be raised with a focus on results. Second, the Commission recommended prevention through early identification and the use of scientifically based interventions. The third recommendation encourages educators to share responsibility for student outcomes by viewing students with disabilities as general education students first (President's Commission on Excellence in Special Education, 2002). These recommendations paved the way for the improvements made in the reauthorization of IDEA and RTI. In order to understand RTI and its implications, it is essential to understand the existing model for deciding whether or not a child has a learning disability. The existing model, called the IQ–achievement discrepancy model, examines the difference between a student's cognitive skills (IQ) and academic skills (achievement). The IQ–achievement discrepancy model has been and continues to be used in most states to determine if a student has a learning disability, and to determine eligibility for special education services.

Learning Disability

Attitudes and understanding of learning disabilities have changed dramatically over the past 20 years; however, the definition of learning disability (LD) has not changed much. Kirk and Bateman (1962) were the first researchers to define LD:

> A *learning disability* refers to a retardation, disorder, or processes of speech, language reading, writing, arithmetic, or other school subjects resulting from a psychological handicap caused by a possible cerebral dysfunction and/or emotional or behavioral disturbances. It is not the result of mental retardation, sensory deprivation, or cultural or instructional factors (p. 73).

Kirk and Bateman were the first to distinguish in their definition that LD is not caused by mental retardation or environmental factors. The most current definition for LD can be found in Section 602 of the IDEA (2004). It retains some of Bateman and Kirk's concepts and wording and states:

> (30) Specific learning disability–
>
> (A) In general.—The term 'specific learning disability' means a disorder in 1 or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations.
>
> (B) Disorders included.—Such term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.
>
> (C) Disorders not included.—Such term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage. (U.S. Department of Education, 2004)

Kavale, Holdnack & Mostert (2005) pointed out that the definition for LD seems to indicate what a LD is not rather than defining what it is. Furthermore, they noted that this definition does not provide specific procedures or guidelines for identifying a LD. This may be one of the reasons why some students are inappropriately classified as having a LD. One study that examined students' classification and IQ scores found that only 14% of the children surveyed with an IQ of below 75 were classified as mentally retarded by their school districts and 44% of these students were classified as learning disabled. In addition to misclassification,

there is great concern regarding the dramatic increase in the number of students classified as learning disabled. Approximately 52% of students receiving special education services are classified as learning disabled (MacMillan & Siperstein, 2002).

The prevalence of students classified as learning disabled is one of the reasons IDEA (2004) was reauthorized. President G.W. Bush signed the reauthorization of IDEA in 2004. The reauthorization of IDEA in 2004 prompted close examinations of the processes used to identify LDs, the category that serves the largest percentage of students in special education (Garcia & Ortiz, 2008).

The IQ–Achievement Discrepancy Model

In 1977, the U.S. Department of Education defined a LD as "a severe discrepancy between achievement and intellectual ability" (as cited in Mesmer & Mesmer, p. 280). This is known as the IQ–achievement discrepancy model. In practice, this model involves administration of a psychological and educational evaluation, and examination of whether a discrepancy exists between the IQ scores and achievement scores. Bateman first introduced the IQ–achievement discrepancy notion in 1976 (as cited in Kavale et al., 2005) in a definition of LD that included the description of "an educationally significant discrepancy between estimated intellectual potential and actual level of performance related to basic disorders in the learning processes" (p. 220). The IQ–achievement discrepancy model is still used today to identify students with LDs.

There are many concerns and criticisms regarding the use of the IQ–achievement discrepancy model. Bender and Shores (2007) reported that each state seems to define and compute discrepancy differently. In addition, states vary in determining if a significant discrepancy exists and in deciding which IQ test and achievement test to use (Bender & Shores,

2007) to assess the discrepancy. These differences then lead to variations in each state's eligibility criteria for LDs.

General dissatisfaction with the discrepancy model has led policymakers to review it thoroughly, critique it, and promote alternatives, such as scientifically based instruction and progress monitoring. The IQ–achievement discrepancy model has been criticized for four major reasons (MacMillan & Siperstien, 2002; Mesmer & Mesmer, 2008). First, it assumes that a LD exists in terms of an IQ–achievement discrepancy without providing an opportunity for the student to receive additional support before being classified; this is referred to as "waiting to fail" (Vaughn & Fuchs, 2003). Second, Fuchs et al. (2003) contend that finding a discrepancy does not provide any useful information to guide instruction. Third, the IQ–achievement discrepancy model does not take other factors into account, such as lack of or poor instruction that may impact student success (Mesmer & Mesmer, 2008). Fourth, as states and local school districts rely on the IQ–achievement discrepancy model, the percentages of students identified as learning disabled increases significantly (Fuchs et al., 2003).

Based on an extensive review of LD research over the past 20 years, Ysseldyke (2005) concluded that there are many problems regarding assessment and identification procedures used to diagnose students with learning disabilities. Ysseldyke discovered that inconsistency exists among decisions made by special education teams in the field of LDs. He found that most decisions were based on students' characteristics rather than on data based assessment. Additionally, he found that many low-achieving students are classified as students with LDs. He also noted the lack of use of adequate measures for psychological process and abilities despite the availability of adequate norm-referenced tests. Last, Ysseldyke reported that task forces created by professional groups, advocacy groups, and government agencies all agreed that "there

is little empirical support for test-based discrepancy models in identification of students as LD" (p. 125). The IQ–discrepancy model does not distinguish between learning deficits caused by poor instruction and learning delays caused by biologically based deficits (Vellutino, as cited in Bender & Shores, 2007). In addition, Bender and Shores (2007) reported that using the IQ–discrepancy model results in over–identification of students with LDs.

Disproportionate Representation in Special Education

Disproportionate representation is defined as "the extent to which membership in a given (ethnic, socioeconomic, linguistic, or gender) group affects the probability of being placed in a specific disability category" (Oswald, Coutinho, Best, & Singh, 1999, p. 198). Disproportionality exists when a specific group is over– or underrepresented in a specific category. Donovan and Cross (2002) reported that part of the problem of students being over identified or under identified might be due to the various methods of measuring disproportionality.

There are three ways to measure disproportionality: (a) composition index (CI); (b) risk index (RI), also known as risk ratio; and (c) odds ratio (OR; Donovan & Cross, 2002). CI is defined as the extent to which a group is over– or underrepresented in a category compared to their proportion in the total population. For example, Donovan and Cross indicated that African American students account for 33% of students identified as mentally retarded nationally, as oppose to 17% of the school–aged population. RI compares the likelihood of students from one ethnic group identified in one special education category to the likelihood of students from another ethnic group identified within the same category. For example, Donovan and Cross reported that, at the national level, 2.64% of all African American students enrolled in the public schools are identified as mentally retarded. OR is calculated by dividing the RI of one ethnic group by the RI of a specific comparison group.

Ethnic minorities disproportionately placed in special education have been a longstanding issue. Dunn (1968) was the first researcher who pointed out the disproportionate representation of minority students in special education. His article is the earliest and most cited in the field of disproportionality research. In his article, Dunn noted that minority students were placed in special education programs at a higher rate than their Caucasian counterparts. He reported that 60% to 80% of the students who were placed in special education were from ethnic minority backgrounds, spoke English as a second language, and lived in low socioeconomic households (Dunn, 1968). Dunn was also the first to point out that minority students were presented with poor quality services, biased assessments, and unfair placement in special education settings. Dunn's research spawned many other researchers to investigate the issue of minorities' overrepresentation in special education (i.e., Artiles et al., 1998; Artiles & Trent, 1994; Coutinho, Oswald, & Best, 2002; Donovan & Cross, 2002; Garcia & Ortiz, 2002; Hosp & Reschly, 2003; Hosp & Reschly, 2004; Oswald & Best, 2002; Oswald et al., 1999). Nevertheless, minority and culturally and ethnically diverse students continue to be disproportionately referred to (Hosp & Reschly, 2003) and placed in special education programs (Donovan & Cross, 2002).

In 1973, Mercer (as cited in Hosp & Reschly, 2003) also noted that minority students were placed in special education classes disproportionately. For example, she found that in Riverside, California, Mexican American students were placed in special education classes four times more than their representation in the student population, and African American students were placed three times more. Finn (1982) was the first researcher to use the Office of Civil Rights (OCR) Compliance Report to examine the national trends of minorities in special education. For the purposes of this dissertation study, it is important to emphasize that Finn

found that African American students were overrepresented in the emotional disturbance (ED) and MR categories, and Asian American students were underrepresented in all categories of special education classes.

Overrepresentation of subgroups of children (e.g., culturally and ethnically diverse students) in certain disability categories (learning disabled, speech and language impaired, and emotionally disturbed) has been and continues to be a major problem in the United States (Artiles, Aguirre-Munoz, & Abedi, 1998; Artiles & Trent, 1994; Bender & Shores, 2007; Coutinho et al., 2002; Hosp & Reschly, 2004). Research has consistently documented that African American students are identified at a higher rate than other racial/ethnic groups as students with MR at the national level, especially compared to Caucasian students (Donovan & Cross, 2002). Data also demonstrate that African American students are at the highest risk for identification and overrepresentation of any racial/ethnic group as students with ED (Donovan & Cross, 2002). According to the U.S. Department of Education (2006), more than 2.2 million African American students are receiving special education services across the United States. Parrish (2002) reported that African American students are the most overrepresented group in special education programs in nearly every state.

Hosp and Reschly (2003) noted that it is important to examine the referral rate for assessments and interventions when trying to understand the problem of the overrepresentation of minority students in special education programs, especially since the majority of the students who are referred to special education are usually found eligible for special education services (Artiles & Trent, 1994; Ysseldyke, 2005). Hosp and Reschly conducted a meta-analysis to examine the results of 10 studies and reports and compared the odds ratio and rate ratio (also referred to as relative risk) of the referral rates for Caucasians, African Americans, and Latin

Americans. Odds ratio refers to the odds of a certain group, such as African Americans, being in a certain category, such as learning disabled (Finn, 1982). Rate ratio (relative risk) refers to the "referral rate of the first group as compared to the second group" (Hosp & Reschly, p. 73). Hosp and Reschly found that the odds ratio of referrals for African Americans and Latin Americans were greater than the odds ratio of referrals for Caucasians. When the relative risk (rate ratio) to compare groups was calculated, they found that the referral rate ratio for the comparison between African Americans and Caucasians was significant ($M = 1.32$). This means that rate of referral was significantly greater for African American students than for Caucasian students. The referral rate ratio was not significant for the comparison of Latin American and Caucasian student populations ($M = 1.06$). This means that the referral rates for Latin American and Caucasian students were similar. Hosp and Reschly's meta-analysis showed that there is variability in referrals rates among different groups.

Latin American students are over identified in some states and under identified in other states (Parish, 2002). The disproportionate number of Latin American students referred and placed in special education is typically due to misdiagnosis (i.e., Artiles et al., 2005; Klingner et al., 2005; Klingner & Harry, 2006). The majority of Latin American students are considered English language learners (ELLs), and Spanish is their primary language (Klingner et al., 2005). Latin American students are often referred to special education for lack of English language proficiency. Some researchers suggest that ELLs may need five to seven years to acquire academic language skills (Cummins, 1981). Schools struggle to distinguish between the difficulty of acquiring a second language and a language–based disorder (Rinaldi & Samson, 2008), particularly among ELLs. Klingner and Artiles (2006) attributed the problem of disproportionality of ELLs to the lack of understanding of (a) the process of acquiring second

language skills, (b) the difference between a disability and acquisition of a second language, and (c) evaluation of language dominance and proficiency versus language disability.

Klingner and Harry (2006) conducted a three–year longitudinal study on the decision–making process and special education referral process for 19 ELLs from 12 urban schools. They observed the Child Study Team meetings and placement conferences that were conducted for these 19 ELLs that ranged from kindergarten to fifth grade. The majority of the students were Latin American (n = 11) and spoke Spanish. Klingner and Harry found that confusion existed about the school district's policy regarding when an ELL could be referred to special education. For example, a psychologist indicated that students have to be English proficient before they can be referred while an assistant principal reported that is not the case. They also found that when the students were referred and evaluated there was an overreliance on test scores and little attention was given to external factors that may have contributed to the students' difficulties. Language proficiency seemed to be the sole determinant of referral. They concluded that these school teams were often not aware of the guidelines and information about rates of language acquisition.

In order to make appropriate referral decisions for ELLs, educators should be cognizant of the theories related to language acquisition. According to Cummins (1981), there are two dimensions of acquiring language: social and academic. He referred to these dimensions as: BICS (Basic Interpersonal Communication Skills) and CALP (Cognitive Academic Language Proficiency). BICS refers to conversational language acquired through social situations, and it involves mastery of pronunciation, vocabulary, and grammar (Cummins, 1981). CALP refers to the acquisition of academic language through schooling, and it involves abstract language abilities such as analyzing, synthesizing, and evaluating. Cummins stated that while it takes

about two to three years for a child to develop BICS—that is, to converse in English—it may take five to seven years for a child to acquire CALP—academic language.

The bulk of the literature on disproportionality focuses on African American and Latin American students being overrepresented in special education programs. Research regarding the disproportionate representation of minorities seems constrained by its narrow focus on certain racial and ethnic groups (Waitoller, Artiles, & Cheney, 2010). According to Waitoller et al. (2010) 40.5% of the studies reviewed related to disproportionality included African American or Latin American students. To date, there are few studies that examined the disproportionate representation of Asian American students in special education programs. Research is scarce in the investigation of the identification, assessment, and placement of Asian American students in general. Doan (2006) reported that this raises concern because Asian American students are not being identified appropriately and/or receiving the services that they may need. Additionally, Asian American students are often viewed as the "model minority" (Lee, 1996), which may influence how teachers perceive and treat them. Teachers are probably less likely to identify Asian American students as having learning problems because they are viewed as model students.

The concept of the "model minority" was first used in the *New York Times Magazine* (January 6, 1960) in "Success Story: Japanese American Style" by sociologist William Peterson (Lee, 1996). He reported that the Japanese were saved from becoming a "problem minority" because of their family values and strong work ethics. Peterson then coined the term "model minority" in his 1966 article for *US News and World Report*, in which he commended the self-achieved success of Chinese Americans. Peterson wrote, "At a time when it is being proposed that hundreds of billions be spent to uplift [African Americans] and other minorities, the nation's

300,000 Chinese Americans are moving ahead on their own with no help from anyone" (Peterson, as cited in Lee, 1996, p. 6).

William Peterson's publications and the extensive belief that Asians are inherently hardworking, intelligent overachievers (Wong & Halgin, 2006) began the "model minority" stereotype. The model minority myth portrays Asian students as a homogenous group who are hardworking and diligent, but they are a diverse group of individuals made up of different cultures (Lee, 2006; Wing, 2007; Wong & Halgin, 2006). Asian students have been referred to as "whiz kids" and "high achievers" who could succeed academically on their own (Bhattacharya, 2000; Wing, 2007). The model minority myth is probably the most pervasive stereotype for Asian students because it sets high standards for them and overlooks those who may not fit this model (Doan, 2006).

Li (2005) indicated that the "model minority" myth portrays a false representation of Asian students, and it may be potentially harmful to the students who do not fit the stereotype. Research shows that the "model minority" stereotype contradicts Asian students being underachievers or school dropouts. The National Center for Educational Statistics (NCES, 2004) reported that Asian students performed lower in reading, writing, and mathematics than Caucasians (Li, 2005). The National Assessment of Educational Progress (NAEP) reading report card (Grade 8) for 1998–2003 found that, in some states, Asian Americans did not score higher than African Americans, Latin Americans, or American Indians. For example, in Hawaii and Minnesota, only 45% to 55% of Asian American/Pacific Islanders scored at or above basic level in reading. In terms of mathematics, 46% percent of Asian/Pacific Islander students in Hawaii performed below basic level (Li, 2005). Asian American students who struggle to keep up with

their classmates are often overlooked or underserved (Doan, 2006) as a result of the prevailing model minority stereotype.

In efforts to address the issue of disproportionality in special education, the 1997 reauthorization of Individuals with Disabilities Education Act (IDEA, 1997) called attention to the importance of preventing the problems related to mislabeling and high dropout rates among minority children with disabilities. Then, under the 2004 reauthorization of IDEA (2004), the U.S. Department of Education emphasized addressing the issue of disproportionate representation of different ethnic groups in special education. Under the provisions of IDEA (2004), states must monitor disproportionate representation by ethnicity or ethnicity in disability categories and special education placements, and review local policies, practices, and procedures when disproportionate representation is found. Public Law 108–446 (IDEA, 2004) requires that states:

> ...provide for the collection and examination of data to determine if significant disproportionality is occurring within the State and the local educational agencies of the State with respect to the identification of children as children with disabilities ... and the placement in particular educational settings of such children. (20 U.S.C. [section] 1418(d)(1))

Response to Intervention

Background and Rationale

The long-time controversy regarding the eligibility criteria for LDs reached a pinnacle when IDEA (2004) first introduced the concept of using a child's response to scientific, research–based intervention to determine eligibility for a LD. The reauthorization of IDEA (2004) was the first federal law to encourage the movement away from the traditional IQ–

achievement discrepancy model of identifying LDs (Hollenbeck, 2007). The Office of Special Education and Rehabilitative Services (OSERS; U.S. Department of Education, 2004) provides specific guidelines that support the use of scientific, research–based intervention when identifying students with a learning disability. More specifically, the final regulation of the Individuals with Disabilities Education Act (IDEA) that was published on August 14, 2006, states the following regarding "Additional Procedures for Evaluating Children with Specific Learning Disabilities: Sec. 300.307 Specific Learning Disabilities,"

> (a) General. A State must adopt, consistent with Sec. 300.309, criteria for determining whether a child has a specific learning disability as defined in Sec. 300.8(c)(10). In addition, the criteria adopted by the State–
>
> (1) Must not require the use of a severe discrepancy between intellectual ability and achievement for determining whether a child has a specific learning disability, as defined in Sec. 300.8(c)(10);
>
> (2) Must permit the use of a process based on the child's response to scientific, research–based intervention; and
>
> (3) May permit the use of other alternative research–based procedures for determining whether a child has a specific learning disability, as defined in Sec. 300.8(c)(10).
>
> (b) Consistency with State criteria. A public agency must use the State criteria adopted pursuant to paragraph (a) of this section in determining whether a child has a specific learning disability.
>
> (U.S. Department of Education, 2004)

Clearly, the reauthorization of IDEA does not require nor does it eliminate the IQ–achievement discrepancy model as a basis for identifying children with LDs. Moreover, it allows, but does not require school districts to use a scientific, research–based approach to identify LDs. Nevertheless, IDEA reauthorization paved the way for the most recent educational reform policy known as RTI. The final regulations of IDEA do not authorize any one specific method for implementing RTI; however, the use of the multitiered approach to identify students with potential LDs has become increasingly prevalent in the research.

Bender and Shores (2007) indicated that, "Response to Intervention is a process of implementing high-quality scientifically validated instructional practices based on learner needs, monitoring student progress, and adjusting instruction based on the student's response" (p. 7). Researchers assert that RTI can address this four decade old issue of disproportionate representation of minority students in special education (Donovan & Cross, 2002; Fuchs & Fuchs, 2006; Klingner & Harry 2006; Orosco & Klingner, 2010). Many researchers believe that RTI has the potential to reduce and possibly eliminate the issue of disproportionality of minority students in special education that result from teacher referral biases (Bender & Shores, 2007; Donovan & Cross, 2002).

Framework for Response to Intervention

RTI is a multitiered approach that provides students with evidenced–based interventions while monitoring their progress and adjusting the level and intensity of intervention according to the students' responses to the interventions (Bender & Shore, 2007; Fletcher et al., 2004; Fuchs & Fuchs, 2006; Fuchs et al., 2003; Hollenbeck, 2007; Werts, Lambert, & Carpenter, 2009). RTI begins with the delivery of high-quality instruction in the general education classroom. Instruction is based on scientifically validated methods and data collected on individual students.

RTI is a systems approach that increases in level of intensity and frequency of instruction when the student does not respond to instruction or does not demonstrate progress in the targeted area (Pereles, Omdal, & Baldwin, 2009).

Currently, RTI is implemented in various ways with the common goal that the student progresses through tiers of support depending on his or her response to the intervention provided. Procedures vary state by state and within local districts, but the following factors are considered central tenets of RTI:

- implementing high-quality, research–based instruction in classrooms;
- conducting general screening of students to determine educational progress;
- intervening with more intense instruction for students who are not making adequate progress;
- maintaining the fidelity of instructional quality; and
- making instructional decisions based on data collected on individual progress (Fuchs et al., 2003; Werts et al., 2009).

RTI: A three–tier model. Researchers agree that a multitiered approach is fundamental to any RTI model in which struggling learners move through a progression of interventions of increased intensity (Fuchs & Fuchs, 2006; Fuchs et al., 2003; Hollenbeck, 2007; Werts et al., 2009). The level and intensity of instruction is contingent upon the student's progress and their "response to the intervention" provided. Although there is no universally accepted model for RTI, the three–tier approach (e.g., see Figure 1.) is commonly applied with some variations (Bender & Shores, 2007; Fuchs et al., 2003; Fuchs & Fuchs, 2006; National Joint Committee on Learning Disabled, 2005). The three–tier model of RTI is typically presented in a triangular figure with Tier 1 at the base of the triangle demonstrating that 80% of students are projected to

respond to Tier 1–level interventions. Students who do not respond to Tier 1 supports move up to Tier 2, which accounts for approximately 15% of the students. The peak of the triangle represents Tier 3, intensive intervention and accounts for 5% of students (Fuchs et al., 2003).

Tier 1 is referred to as the universal tier that begins with high-quality instruction for all students in general education (Fuchs & Fuchs, 2006; Fuchs et al., 2003; Mesmer & Mesmer, 2008; Pereles et al., 2009). For example, all students in the classroom participate in a 90–minute English Language Arts block daily. Screening and benchmark assessments occur at Tier 1 to determine the instructional needs of all students (Vaughn & Fuchs, 2003). Teachers implement a variety of research–based teaching strategies and approaches. Teachers use ongoing curriculum–based assessment and continuous progress monitoring to guide high-quality instruction (Fuchs & Fuchs, 2006). Students who do not meet benchmarks and do not make progress with high-quality instruction are in need of additional instruction (Hollenbeck, 2007). This transition into a more intensive level of support is referred to as Tier 2.

Tier 2 is referred to as secondary interventions that apply to students who do not respond adequately to the core curriculum (Fuchs & Fuchs, 2006) and need strategic–level interventions. These students are considered “at risk” and identified as students who need more intensive scientific–based instruction to target their individual needs. During this phase parents are informed and involved in the planning of their child’s Tier 2 intervention (National Joint Committee on Learning Disabled, 2005). The general education teacher or a specialist provides students with intense and more frequent instruction in order to improve students’ performances (Werts et al., 2009). For example, this may involve students receiving supplemental intervention several times per week in a small group. Students’ progress is monitored frequently to demonstrate either the effectiveness of intervention or the need for further support. According to

Fuchs et al. (2003), Tier 2 includes students with similar difficulties (e.g., reading fluency) who receive research–based interventions that have been standardized and shown effective for students with similar issues. It also involves a standard protocol to ensure intervention integrity. If students continue to struggle during this phase, they enter Tier 3.

Tier 3 is referred to as tertiary interventions for students who require more intensive intervention because they did not respond to the strategic level of interventions in Tier 2 (Fuchs & Fuchs, 2006; Pereles et al., 2009; Vaughn & Fuchs, 2003). More intensive and frequent interventions might be individual or small group instruction on a daily basis for 30 minutes in addition to the core curriculum. Students' progress is monitored more frequently than in Tier 2. If Tier 3 is not successful, the student is then considered a possible candidate for special education services. The student is referred to the committee on special education and a multidisciplinary team conducts a comprehensive evaluation to determine eligibility for special education services in accordance with IDEA (Fuchs & Fuchs, 2006; VanDerHeyden, Witt, & Gilbertson, 2007).

RTI is a systems approach that increases in level of intensity and frequency of instruction when the student does not demonstrate progress in the targeted area (Pereles et al., 2009). Many educators recognize the RTI framework as shift away from referring children who struggle academically for a special education evaluation to a system that incorporates methods for addressing their difficulties before referral. Effective instruction in the classroom, monitoring of progress, and the implementation of tiered interventions are all required before teachers refer students to special education (National Center for Learning Disabilities, as cited in Fuchs et al., 2003). Some researchers refer to this shift as a move from a "wait to fail" model to a model that

identifies students who need intervention as early as possible and provides effective scientific–based interventions (Fletcher et al., 2004).

Response to Intervention: Alternative to the Discrepancy Model

Fletcher et al. (2004) reviewed four consensus group reports that recommended abandoning the IQ–achievement discrepancy model and adapting the RTI approach. Because of the recent educational reforms that emphasized accountability for results and implementation of evidence–based instructional approaches, reading programs and efforts to improve reading instruction proliferated. Educational reforms also emphasized efforts to close the achievement gap for economically disadvantaged student and minority students (Fletcher et al., 2004).

Four consensus group reports influenced reading research as well as research on classification and identification of LDs: (a) the National Research Council report on minority overrepresentation in special education (Donovan & Cross, 2002), (b) a report entitled *Rethinking Special Education for A New Century* by the Fordham Foundation and the Progressive Policy Institute (Finn, Rotherham, & Hokanson, 2001), (c) the Learning Disabilities Summit by the U.S. Office of Special Education Programs (Bradley, Danielson, & Hallahan, 2002), and (d) the President's Commission on Excellence in Special Education (2002). All four reports suggested that investing in effective reading programs is important to decrease the number of special education referrals. This implies that students placed in special education may not have received adequate instruction in general education. These reports also concur that the current use of the IQ–achievement discrepancy model to identify LDs lacks a research base. In addition, a national survey conducted by the National Survey for Learning Disabilities (2002, as cited in Fletcher et al., 2004) found that 72% of teachers and 54% of parents believed that the current method of identifying and placing students with LDs took too long. Many teachers (84%)

believed that there was room for improvement in the identification process. Additionally, the IQ–achievement discrepancy model consumes significant resources, tends to be expensive, and has little relevance in guiding instruction (President's Commission on Excellence in Special Education, 2002). Unfortunately, special education has long been the only alternative to general education.

With the proposed changes in the reauthorization of IDEA, current research (Fuchs et al., 2003; Goodman & Webb, 2006) and consensus reports (President's Commission of Excellence in Special Education, 2002) strongly recommend incorporating RTI. Rather than waiting for students to meet the IQ–achievement discrepancy criteria (or "waiting to fail") in order to identify students who need help, RTI identifies students who need support as early as possible and provides it immediately (Fletcher et al., 2004). Additionally, RTI does not depend on teacher referrals, which have been criticized as biased. Research has demonstrated that boys and African Americans have been disproportionately referred to special education, often due to behavioral management difficulties (Donovan & Cross, 2002). Furthermore, the majority of students referred to special education (70% to 80%) are eventually identified as needing and placed in special education.

Fletcher et al. (2004) describe how the alternative to using the time-consuming IQ–achievement discrepancy model involves using formal progress monitoring for all students. This entails using curriculum–based assessments, benchmarks, and short reading or math probes regularly in conjunction with intervention. Employing these alternative methods provides useful information regarding how the student responds to varying levels of intervention. Then, data that demonstrates student progress or regression can be used to help determine eligibility for special education (Fletcher et al., 2004).

Parents do not have to wait for interdisciplinary teams to meet in order to implement interventions according to the RTI model; all students should receive universal instruction based on consistent data collection. The students who do not respond to this instruction then receive a more concentrated level of support, and their progress is recorded. The level of intervention is increased and refined for those students who continue to demonstrate difficulties. These interventions do not require a teacher or a parent referral; rather, they are determined solely on students' response to intervention (Fletcher et al., 2004; Fuchs et al., 2003). Ongoing progress-monitoring data inform parents and teachers when and how students respond to intervention.

The RTI approach appears to be a practical alternative to defining LDs in light of the myriad of difficulties associated with IQ–achievement discrepancy model for eligibility determination. Part of its appeal as a decision–making tool is that it can eliminate inadequate instruction as a cause of insufficient academic achievement and allow for decision–making within an ecologically valid setting (e.g., the general education classroom).

Because the RTI model is fairly new and not yet mandatory, its implementation varies across states and school districts. Some states have been using RTI for several years, other states are still training their staff, and some states have not embraced this new concept yet. Every new idea produces advocates as well adversaries. Therefore, it is wise to gain understanding of the perception of the stakeholders (i.e., teachers, administrators, and school staff) who will be responsible for implementing RTI in their schools. It is critical to examine how these stakeholders view RTI and how willing they are to try it.

Views and Implementation of RTI

Although RTI was added to IDEA in 2004 as an alternative to the discrepancy model for finding students eligible for special education services, studies have found that states are at

various stages of implementation. One study that assessed stakeholders' views and actions was conducted through the *Special Education Leadership and Quality Teacher Initiative* at the University of Colorado's BUENO Center – School of Education. The purpose of this study was to investigate the status of RTI implementation at the national level from the perspective of state directors of special education or their designees whom the authors considered to be closely involved and knowledgeable of the RTI efforts of the state (Hoover, Baca, Wexler-Love, & Saenz, 2008). This study utilized a survey to collect information from each of the 50 states and the District of Columbia. The response rate for the survey was 86% (44 of the 51 state representatives participated). Twenty–eight states reported that their state currently implemented RTI, and 16 states reported that their state was in the planning stages for RTI implementation. Respondents reported the percentage of districts within the state that currently implemented RTI. Seventeen states reported that less than 10% of the local school districts within their respective states currently used RTI. Eleven states reported that 10%–25% of the local school districts had implemented RTI. Four states responded that 26%–50% of their districts used RTI. Only one state indicated that more than 75% of their districts used RTI. Eleven states left this question unanswered or reported that they did not have the implementation statistics to answer the question. These researchers concluded that, although RTI is evident at the national level, the implementation of RTI between and within states is inconsistent. Specifically, some respondents at the state level were able to provide general knowledge about the efforts of the school districts in their states; however, in-depth knowledge of the implementation status of individual districts was lacking (Hoover et al., 2008).

The Council of Administrators of Special Education (CASE) and Spectrum K–12 (2008) conducted a study that examined RTI implementation and effectiveness in March 2007 and again

in March 2008 (Hoover et al., 2008). This study used an electronic survey, and 424 respondents participated. Participants included state directors of special education, RTI coordinators, and assistant superintendents. The researchers found that 60% of the school districts participating in the study reported that they were either piloting the RTI process, beginning to implement RTI, or currently had RTI in place. Forty–seven percent of districts reported having a defined RTI process. Additionally, the researchers discovered that the percentage of participating school districts in this study that implemented RTI increased from 44% in March 2007 to 60% in March of 2008. The majority of the districts (71%) reported using RTI to identify students who need additional support. The results also indicated that RTI was most widely implemented at the elementary level largely in the area of reading. The second purpose of this study was to examine the effectiveness of RTI, and this was measured by Adequate Yearly Progress (AYP) and the number of referrals to special education. The researchers found that 38% of the districts had sufficient data to demonstrate reported improvements in achievement as measured by AYP. Unfortunately, 62% of the districts did not have sufficient data to demonstrate whether the number of referrals to special education decreased (Hoover et al., 2008).

Based on the findings of their study of the national status of the implementation of RTI, Hoover et al. reported that a large-scale national implementation of RTI appears to be an "eventual certainty" (p. 11). Subsequently, Hoover et al. reported that the transition from the discrepancy model to a student's response to the intervention was also gaining momentum.

There are a few studies that demonstrate the success and positive outcomes from implementing RTI at the district level. In addition to providing added support for struggling learners through universal screening, early intervention, progress monitoring, and tiered level of supports, some schools and districts reported significant reductions in the numbers of children

found eligible for special education services after implementing RTI. A study conducted in Knox County, Tennessee, examined the correlation between implementing RTI and the number of students deemed eligible for special education services (McCook, 2006). After the implementation of RTI in this district, the number of students found eligible for special education services was reduced. In 1996, 11,605 of Knox County's 52,000 students were eligible for special education. By June of 2005, that number was reduced to 6,976 students eligible out of a student population of 53,000. The researcher attributed this success to the redeployment of resources, which involved reassigning 5 of the 10 educational diagnosticians for the district as pre-referral mentors. The pre-referral mentors were responsible for supporting general education through this process and with developing a "wish list" of potential scientifically based interventions for use in the general education classrooms.

Having pre-referral mentors to assist general education teachers is apparently helpful but, more importantly, teachers need to know how to implement RTI. The National Research Center on Learning Disabilities, with funding provided from the Office of Special Education Programs, conducted a large–scale experimental study in 2001 demonstrating how to implement RTI effectively (Fuchs, Compton, Fuchs, Bryant, & Davis, 2008). This was a longitudinal study of first grade students, and the target area of concern was reading. Using measures of rapid letter naming, word identification fluency, and the judgment of teachers, 6 students in each of 42 classrooms were identified as performing the lowest and were selected for secondary intervention.

A total of 252 students were assigned to one of three groups: fall tutoring, spring tutoring, or control. In the fall tutoring group, 84 students received small group tutoring for 9 weeks. Of the 84 students, only the students who were nonresponsive to instruction in the classroom in the

fall received small group tutoring for an additional 9 weeks during the spring (this was the spring tutoring group). The 84 children in the control group were matched with the nonresponders who participated in the spring tutoring group. Research assistants conducted small group tutoring that was used as the secondary intervention and involved 45–minute tutoring sessions with one to four students per small group that met four times each week outside of the general education classroom. Findings indicate that children tutored in the fall and in the spring demonstrated more academic growth than their counterparts in the control group. In addition, this study found that students who participated in the tutoring intervention performed better than students in the control group on progress monitoring measures and standardized reading tests (Fuchs et al., 2008).

Studies mentioned thus far demonstrate national and state levels of implementation of RTI and the effect of RTI on referrals. Equally important is evidence of teacher reaction to the model that they are responsible for implementing: How do they evaluate RTI compared to the traditional IQ–achievement discrepancy model? One particular study surveyed eight stakeholder groups: parents of LD children, school principals, general education teachers, LD teachers, school psychologists, and directors of special education (Mellard, Deshler, & Barth, 2004). Mellard et al. investigated factors beyond students' performance on assessments that influenced these stakeholders' decisions to classify students as learning disabled and to determine their eligibility for special education services. Additionally, this study provided information about how to improve current practices.

Mellard et al. (2004) found that stakeholders were more concerned about providing special education services for the students than they were about appropriately classifying students with a LD. Researchers also asked the stakeholders what they thought would be the best

model for identifying and classifying students with a LD. More than 50% of the stakeholders reported that an ideal model would involve early identification, child centered evaluations, and general education accountability. In terms of each group, school principals (87%) and general education teachers (84%) indicated that effectiveness of the assessment process was most important. Teachers of students with LDs (100%) reported early identification as the most essential, whereas special education directors (81%) noted that a research–based model was central. School psychologists (94%) specified that general education accountability was the most important. Parents (71%) deemed early identification and child–centered evaluations as the most significant factors for identifying students with LDs.

Even when school personnel use early identification procedures and child–centered evaluations, standardized testing results often demonstrate that students are capable of reading on or close to grade level. So why are they still failing in the classroom? How can this paradox be explained? For example, Goodman and Webb (2006) found that students who were referred to special education by their teachers were all receiving failing grades; however, they were capable of reading on grade level. This suggests that stakeholders should focus their attention on increasing teacher efficacy and motivational strategies for students. It seems that the traditional model of referring, testing, and placing students in a special education program has negatively impacted teacher efficacy by creating a process in which all struggling learners are immediately removed from their classrooms and placed in more restrictive settings (Goodman & Webb, 2006).

Teacher Efficacy

Teacher efficacy is defined as the beliefs that teachers possess about their skills and abilities to create desirable outcomes for students (Ashton & Webb, 1986; Gibson & Dembo, 1984). High levels of teacher efficacy relate to teachers' beliefs that all students can learn and that they are capable of teaching all students. Teacher efficacy originated in Bandura's (1977) construct of self-efficacy. Bandura defined self-efficacy as the "personal beliefs concerning one's capabilities to organize and implement actions necessary to learn or perform behaviors at designated levels" (Bandura, 1977, as cited in Schunk, 2004, p. 486).

Bandura (1977) posited that self-efficacy beliefs are "derived from four principal sources of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states" (p. 192). Performance accomplishments refer to past success and experiences a person has had within a particular behavioral domain. If an individual has a number of successful experiences in an area, he or she is more likely to believe in subsequent successful executions of the same or similar behaviors. Vicarious experience, also known as modeling, is described as an individual's experience with people similar to him or her who have successfully executed behavior(s) in a given domain. This can boost individuals' sense of confidence when they feel that they can accomplish the tasks in that domain. Verbal persuasion occurs when others express belief in the capabilities of an individual. These other individuals may include parents, teachers, and others who have particular influence with an individual. Verbal persuasion is the most common source of self-efficacy. The last source of information is physiological states. Individuals often judge their capabilities for performing a behavior successfully by monitoring their own physiological and emotional reactions. Positive emotional

states are associated with higher self-efficacy. Conversely, anxiety and a negative mood are correlated with lower self-efficacy (Bandura, 1997).

Self-efficacy is the confidence an individual has for performing a set of skills required to succeed at a specific task or goal (Bandura, 1986). Self-efficacy perceptions are domain–specific, which means that an individual can have high self-efficacy for the skills associated with one activity and at the same time express low self-efficacy for other domains of activity. In addition, self-efficacy is a powerful predictor and tool for changing behavior (Bandura, 1986, 1997). For example, research has well substantiated that teacher efficacy is a powerful tool for student achievement and success (e.g., Ashton & Webb, 1986; Berman et al., 1977; Dembo & Gibson, 1985; Hoy & Spero, 2005; Woolfolk & Hoy, 1990).

As a construct grounded in psychology, teacher efficacy was first introduced in two RAND Corporation evaluations of projects funded by Title III of the Elementary and Secondary Act (Armor et al., 1976; Berman et al., 1977, as cited in Dembo & Gibson, 1985). These studies assessed teacher efficacy using two items that were assessed on a 5–point Likert–type items: (a) When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment, and (b) If I really try hard, I can get through to even the most difficult or unmotivated students.

Then, the researchers (Ashton & Webb, 1986; Gibson & Dembo, 1984) turned to Bandura's (1977, 1982) cognitive social learning theory to conceptualize teacher efficacy. Bandura suggested that learning is affected by both outcome expectations and efficacy expectations. Outcome expectations are judgments about the consequences of specific behaviors in a particular situation, whereas efficacy expectations are the individual's belief that he or she is capable of achieving a certain level of performance in that situation. More simply, an outcome

expectation is a judgment of the likely consequences of an action, whereas an efficacy expectation is a judgment about the ability to perform an action (Schunk, 2004). In terms of teacher efficacy, the efficacy expectation has to do with beliefs about teachers in general, not about oneself as a teacher. Bandura indicated that outcome and efficacy expectations are interrelated. A person's judgment on how he or she will perform in a given situation is dependent largely on the outcome anticipated (Schunk, 2004).

Influenced by cognitive social learning theory (Bandura, 1977, 1986), Ashton and Webb (1986) and Gibson and Dembo (1984) postulated that there are two dimensions of teacher efficacy: teaching efficacy and personal teaching efficacy. Teaching efficacy is the belief that teachers have that they are able to change or affect student outcomes despite the impact of environmental factors beyond their control. The authors believed that the RAND Item 1 assessed this construct. Personal teaching efficacy is a particular teacher's expectation that he or she can influence or affect student learning and outcome. Gibson and Dembo believed that the RAND Item 2 measured personal teaching efficacy. However, careful examination of Bandura's notion of outcome and efficacy expectations suggests that the second item does not assess outcome expectation (Hoy & Spero, 2005; Woolfolk & Hoy, 1990). Instead, Hoy and Spero suggested using the term "general teaching efficacy" in place of the RAND Item 2.

Measurement of Teacher Efficacy

To date, there are numerous teacher efficacy scales; however, only a handful has strong reliability and validity. The most commonly used teacher efficacy scale is the Teacher Efficacy Scale (TES) by Gibson and Dembo (1984). The purpose of the TES is to measure teachers' attitudes toward working with students. There are two versions of the scale: the long form (Gibson & Dembo, 1984) and the short form (Hoy & Woolfolk, 1993). Gibson and Dembo

developed the TES long form based on Ashton and Webb's (1982) research on teacher efficacy. The long form is a 30–item Likert scale. Most research utilizes the short form of the TES, which includes 16 of the 30 original items, because these 16 items yield acceptable reliability coefficients. The TES supports Bandura's social cognitive theory and yields two constructs: personal teacher efficacy and general teacher efficacy. Personal teacher efficacy refers to a teacher's belief about his or her own ability to influence student outcome. General teacher efficacy refers to a teacher's belief about his or her own ability to affect student outcome. (Gibson & Dembo, 1984).

Over time, Woolfolk and Hoy (1990) took the 16 items from the TES developed by Gibson and Dembo (1984) and further refined the instrument. Woolfolk Hoy (2004) administered the TES to 182 undergraduate liberal arts majors (155 women and 27 men) who were enrolled in a teacher preparation program at a state university in the eastern region of the U.S. The majority of the participants were sophomores (87%) and the rest (13%) were equally divided between freshmen and seniors. Seventy percent of the students sampled were between the ages of 20 and 30. Fifty–seven percent of those sampled were preparing for a certificate in elementary education, and the remaining 43% for a certificate in secondary education.

Woolfolk Hoy (2004) posited that the TES is a measure of beliefs about the ability of teachers in general rather than a measure of outcome expectations. The TES has become the "predominant instrument in the study of teacher efficacy" (Henson, Kogan, & Vacha-Haase, 2001, p. 405) and labeled as the standard instrument in assessing teacher efficacy (Ross, as cited in Henson et al., 2001). Using the TES, researchers have been able to connect teacher efficacy to a number of variables, including student achievement (Henson et al. 2001).

More recently, researchers have turned to the Teacher's Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001) and formerly known as the Ohio State Teacher Efficacy Scale. They based the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) primarily on the conceptualization of self-efficacy theorized by Bandura (1986). The TSES (Tschannen-Moran & Woolfolk Hoy, 2001) consists of three subscales that coincide with the task of teaching: Efficacy for Student Engagement, Instructional Strategies, and Classroom Management. Using Cronbach's alpha, their studies yielded reliability estimates of .87, .91, and .90 for the subscales respectively. Construct validity of the scores was assessed by correlating the scores with two efficacy items ($r = .18, .53$, $p < .01$) from the RAND study (Armor et al., 1976) and with the constructs of *personal teaching efficacy* ($r = .64$, $p < .01$) and *general teaching efficacy* ($r = .16$, $p < .01$) from the TES (Gibson & Dembo, 1984). Tschannen-Moran and Woolfolk Hoy concluded that the TSES is reasonably reliable and valid.

A study by Heneman, Kimball, and Milanowski (as cited in Henson et al., 2001) reinforced the validity of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001). They conducted a predictive validity study on the short form of the TSES with resulting coefficient alphas for the subscale scores and total scores ranging from .75 to .90. Henson et al. (2001) conclude that, by using the TSES (Tschannen-Moran & Woolfolk Hoy, 2001), research has been able to show how teacher efficacy is related to a number of variables, including teacher experience, student characteristics, and student achievement.

Teacher Efficacy and Teacher Experience

Teacher efficacy varies with teacher experience (Hoy & Woolfolk, 1993). Teachers who have more experience teaching are more likely to have higher teacher efficacy. However, some experienced teachers may feel "burned out" rather than efficacious and new teachers may enter

the profession with high expectations that may not be attainable, thus, in turn, diminishing their sense of efficacy (Rushton, as cited in Hoy & Spero, 2005).

Hoy and Spero used multiple measures of teacher efficacy to examine the changes in teachers' efficacy from first entry into a teacher preparation program through the first year of teaching. They employed a longitudinal design to study the teacher efficacy changes of 53 students of the 1997–1998 Master's of Education cohort from a Midwestern public university. They assessed teacher efficacy by administering the RAND two–item scale (Armor, as cited in Gibson & Dembo, 1984), the TES (Gibson & Dembo, 1984), and the Teacher Self–Efficacy Scale (Bandura, 1997).

As mentioned above, the RAND scale has two items on a 5–point Likert scale: (a) When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment, and (b) If I really try hard, I can get through to even the most difficult or unmotivated students. The TES (Gibson & Dembo; 1984) scale is a 30–item scale that yields two factors: (a) personal teaching efficacy that is assumed to assess self-efficacy and (b) teaching efficacy that is assumed to assess outcome expectancy. However, Hoy and Spero indicated that the second factor did not assess outcome expectation as defined by Bandura (1986). Instead, Hoy and Spero labeled the second factor general teaching efficacy. The Teacher Self–Efficacy Scale (Bandura, 1997) is a 30–item scale that has seven subscales: efficacy to influence decision making, efficacy to influence school resources, instructional efficacy, discipline efficacy, efficacy to enlist parental involvement, efficacy to enlist community involvement, and efficacy to create a positive school climate (Hoy & Spero, 2005).

The participants in Hoy and Spero's study completed teacher efficacy scales as well as the Ohio State University Teaching Confidence Scale (OSUTCS), a 6–point scale that measures how confident teachers feel in their ability to accomplish each skill developed by Hoy and Spero, during three phases: a) before they completed most of their course work, b) at the end of the program, and c) at the end of their first year of teaching. Participants rated several sources of efficacy such as quality of teaching resources and support from colleagues, administrators, parents, and community. The authors also took other variables such as perception of mastery, task difficulty, and teaching context (SES of the class) into account.

The results of this study demonstrated that the Teacher Self–Efficacy Scale (Bandura, 1997), the TES (Gibson & Dembo, 1984), and the OSUTCS (Hoy & Spero, 2005) revealed changes in teachers' efficacy scores during the different phases. Specifically, there was a significant increase in efficacy from the time the teachers began the program to time they completed their student teaching, but efficacy declined after they completed their first year of teaching. However, teachers' scores on the OSUTCS measure that assessed teachers' confidence for each task increased and remained stable during the actual teaching experience.

In efforts to explain why efficacy decreases within the first year of teaching, Hoy and Spero (2005) suggested that perhaps novice teachers become disappointed with the gap between self-set standards and their actual performance. Thus, teachers may engage in self-protective strategies to lower their standards in order to reduce the gap. Furthermore, teachers in classrooms with high SES students and those who were more confident felt more supported and rated their teaching assignment as being less difficult than teachers in classrooms with low SES students and those who were less confident.

Teacher Efficacy and Student Characteristics

Researchers in almost every aspect of research, particularly in educational research, examine gender effects. Beaman, Wheldall, and Kemp (2006) reviewed the differential teacher attention that boys and girls received in general. Dating back to the 1970s, boys have received much attention, whether it was negative or positive, from their teachers, and "education was seen as important for mostly males" (Brophy, p. 118, as cited in Beaman et al., 2006). Kelly (as cited in Beaman et al., 2006) found that boys attracted more teacher attention than girls regardless of the teacher's gender, students' age level, students' ethnicity, and socioeconomic status or subject area. In addition, research has shown that boys tend to initiate more positive and negative interactions with their teachers than girls do, and boys receive significantly more negative feedback than girls (Irvene, as cited in Beaman et al., 2006). Furthermore, research demonstrates that teachers tend to refer boys more than girls to special education, which may be considered another form of teacher attention.

The U.S. Department of Education (National Center for Education Statistics, NCES, 2010) reported that, in 2008–2009, 13% of the public school population received special education services and, of those who received services, 39% were classified as learning disabled. According to the NCES (2007), the percentage of boys receiving special education services in kindergarten during 1998–1999 was greater than that of girls (5.3% versus 2.9%). In third grade, during the same year, boys overrepresented girls by 6.74% in special education programs (NCES, 2007).

Tournaki and Podell (2005) investigated the impact of various student characteristics and teachers' sense of efficacy on their predictions of students' academic and social success. The student characteristics included student gender, reading level, attentiveness, and behavior. The

authors randomly assigned 384 general education elementary and middle school teachers to experimental conditions where they had to read a case study and complete a nine–item Predicted Student Success (PPS) survey and the TES (Gibson & Dembo, 1984) regarding the case. The following is a case study:

> *Kate* is in the fourth grade. She lives with her parents and younger brother near the school. She has been attending public school since kindergarten. *Kate* is *reading on grade level.* She is *attentive*. She is *cooperative* and *friendly* in school. (Tournaki & Podell, 2005, p. 301)

The words in italics represented the four student characteristics that varied in each condition: gender (Kate/Mike); reading achievement (on grade level, two years below grade, below grade level due to learning disability, two years below grade levels due to a learning disability); attentiveness (attentive/inattentive); and behavior (cooperative, friendly, uncooperative, aggressive). The results revealed that teachers made more positive predictions of academic and social success for girls than for boys, for students reading on grade level than for students reading below grade level, and for attentive students than for inattentive students. Interestingly, results also revealed that teachers made more positive predictions of academic success for aggressive students than for friendly students. Last, teachers who reported themselves to be more efficacious made more positive predictions of students' academic and social success than teachers who rated themselves as less efficacious (Tournaki & Podell, 2005).

Tournaki and Podell (2005) concluded that a high sense of teacher efficacy "inoculates teachers from making negative predictions" (p. 310) about students' academic and social success. Two limitations of this study were that it involved making decisions about hypothetical situations using vignettes, and it did not consider teachers' willingness to support the student.

Teachers' decisions based on given case studies may be different from what they would actually do if they were in the situation. Furthermore, teachers may feel confident about their teaching abilities (i.e., have high efficacy), but may not be willing to behave in ways that make a difference to their students.

Baker (2005) investigated the relationship between teachers' sense of efficacy regarding classroom management skills and their readiness (ability and willingness) to implement specific behavioral plans. Baker distributed the Teacher Readiness Scale for Managing Challenging Classroom Behaviors (Baker, 2005), the Teacher Interpersonal Self–Efficacy Scale (Brouwers & Tomic, as cited in Baker, 2005), and an instrument that assessed two factors: management and consultation, to 885 teachers in central Ohio. Of the 885 teachers, 39% (N = 345) returned the surveys. Of the respondents, 47% reported that they teach in primary and elementary schools and 30% reported that they teaching middle schools and high schools. Baker used the instrument that measured management and consultation to create an overall readiness score (with two subscales: ability and willingness). He classified each teacher's readiness score according to one of the following four categories: (a) able-willing, (b) able-unwilling, (c) unable-willing, or (d) unable-unwilling.

Baker (2005) found that these teachers in central Ohio were more willing to collaborate and consult with colleagues and administrators and less willing to implement behavioral intervention plans. Teachers from primary and elementary schools were more willing and able to manage difficult behavior than teachers from middle and high schools. However, as Baker pointed out the severity of behaviors differs in elementary school versus high school. For example, a disruptive 7 year old may not be as difficult to manage as a disruptive 17 year old. Relevant to the purpose of my study, Baker also found that teachers who felt more efficacious

about managing a classroom reported themselves to be more ready (able and willing) to implement and utilize specific behavior intervention strategies when dealing with difficult students.

Socioeconomic status is yet another variable that relates to how efficacious teachers view student outcomes. Hoy and Spero (2005) found that teachers' perception of mastery was correlated with the SES of the class and with changes in efficacy. They found that the lower the SES of the class, the lower the teachers rated their mastery. Last, Hoy and Spero found that the higher the SES of the class, the greater the perception of support from colleagues, administrators, parents, and community as well as the higher the perception of their mastery.

Lower teacher efficacy has been linked to many disadvantages for student outcomes. Wilkinson and Spurlock's study (as cited in Frey, 2002) indicated that SES may be a contributing factor when making educational placement decisions. Frey found that students' SES has a relationship to special education referrals. That is, students from lower SES families are more likely to be referred to special education than students from higher SES families. Glassberg's study (as cited in Frey, 2002) found that students in more restrictive settings (e.g., small class size/nonintegrated setting rather than an inclusion/integrated type of setting) tended to live in less affluent areas. Research has shown that teacher efficacy is a mediating factor (Meijer & Foster, 1998; Soodak & Podell, 1993). High teacher efficacy and low student SES are correlated with fewer special education referrals. On the other hand, teachers who are less efficacious and work with low SES students tend to refer students to special education more often.

Teacher Efficacy and Decision to Refer to Special Education

The proportion of children served in federally supported special education programs rose between 1976 and 1977 and between 2005 and 2006 school years. In 1976–1977, 8% of children (3 to 21 year olds) in public schools were served in special education programs compared with 14% in 2005–2006 (NCES, 2007). Therefore, it is imperative to examine variables such as teacher efficacy that may have an influence on student referrals to special education.

Some studies have shown that teachers' perceived self-efficacy relates to teachers' decisions to refer students to special education (Egyed & Short, 2006; Meijer & Foster, 1988; Soodak & Podell, 1993). Soodak and Podell investigated the influence of teacher efficacy and student problem type on teachers' placement and referral decisions. They randomly assigned 192 general and special education teachers to receive a case scenario describing a student with a learning and/or behavioral problem. Each teacher was then asked to judge whether the student was appropriately placed in general education and whether he or she would refer the student to special education. Results from this study revealed that both special education teachers and general education teachers with high self-efficacy were more likely to agree with a general education placement, whereas, teachers with low self-efficacy were more likely to refer students to a special education setting. These findings are similar to those of previous research by Meijer and Foster who also found that teachers with higher self-efficacy were less likely to refer a student to special education when responding to a hypothetical vignette of a problematic child.

Frey (2002) extended the previously mentioned studies by investigating the relationship of teacher efficacy, students' SES, students' ethnicity, and educational placement recommendations for students with emotional or behavioral disorders. He randomly assigned 350 teachers to one of four case study vignettes that varied in regard to students' SES (high/low) and

students' ethnicity (Caucasian/African American). After reading the vignette, teachers indicated their recommendations for the student, which included: (a) no change, (b) increase services in the general education classroom, (c) increase services in the general education classroom and increase pull–out services, (d) change program by increasing pull–out services to at least 50%, and (e) change to a more restrictive special education setting. The teachers completed the Expanded Teacher Efficacy Scale, which Emmer and Hickman developed by expanding the 16–item TES (Gibson & Dembo, 1984) and adding items assessing teacher efficacy for classroom management and discipline. Frey (2002) indicated that "*Classroom Management/Discipline* efficacy is the degree to which a teacher believes that he or she has the skills and abilities to manage student behavior. An example of a question is 'If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly' " (Frey, 2002, p. 128).

The results from Frey (2002) demonstrated that the teachers who scored lower on the Classroom Management/Discipline factor recommended more restrictive placements than teachers who scored higher on this dimension. Teachers who scored higher on the External Influences efficacy factor also recommended more restrictive placements. Thus, results suggested that teachers who believe that they cannot control or influence student outcomes are more likely to recommend more restrictive placements. Ethnicity was not significantly related to teacher placement recommendations. In terms of SES, teachers made more restrictive recommendations for lower SES students than for higher SES students. Frey suggested that, since low SES is frequently associated with ethnicity, assignment of students with lower SES to special education might be why many school districts are cited for having a large population of minority students who are classified under special education.

This study did not indicate why teachers had different efficacy levels; nevertheless, it contributed to the evidence of a link between teachers' perceived skills and their decisions about students' educational placements. Frey (2002) suggested that schools focus on improving teacher efficacy by providing school–based consultation services for teachers, modeling effective strategies, and implementing effective behavioral plans. However, are teachers willing to utilize school–based consultation, and is teacher efficacy related to their perceptions of school–based consultation?

Dissertation Pilot Study

The purpose of this dissertation pilot study (Randall & Tryon, 2009) was to investigate the relationship between teachers' perception of school–based consultation services and teachers' self-efficacy. In addition, this study examined how teacher efficacy relates to teachers' willingness to seek school–based consultation services and their decision to refer to special education services. It was hypothesized that:

a. Teachers who perceive school–based consultation positively will express more willingness to participate in school–based consultation than teachers who perceive school–based consultation negatively.
b. Teachers who perceive school–based consultation positively will less likely decide to refer students to special education than teachers who perceive school–based consultation negatively.
c. Teachers with high levels of *general/personal* teacher self-efficacy will perceive school–based consultation services positively and will express more willingness to participate in school–based consultation than teachers with low levels of *general/personal* teacher self-efficacy.

d. Teachers with high levels of *general/personal* teacher self-efficacy will less likely decide to refer the hypothetical students to special education (based on vignettes) than teachers with low levels of *general/personal* teacher self-efficacy.

The predictor variables were teachers' perception of school–based consultation and teacher efficacy. The criterion variables were teachers' willingness to seek/participate in school–based consultation and teachers' referral choices. We predicted that teachers who scored high on the TES (Gibson & Demo, 1984) would perceive school–based consultation positively, and that teachers who scored lower on the TES would perceive school–based consultation negatively. In terms of referrals, we asked teachers to read hypothetical vignettes of students that presented with behavioral and academic problems and indicate one of the following referral choices: (a) school psychologist for consultation, (b) school administrator, (c) another teacher, (d) try to handle within the class using strategies, (e) special education referral or (f) no referral/not applicable. Overall, we hypothesized that teachers who have high self-efficacy would perceive school–based consultation positively, thus, in turn, making fewer special education referrals and more referrals for school–based consultation–type services.

The sample population consisted of 28 teachers from a suburban school district who completed and returned the surveys. Of the 28 surveys completed, the majority of the participants were female teachers ($N = 25$, 89%) whereas only three male teachers participated (3%). In addition, 20 out of the 28 (71%) participants indicated that they were currently teaching general education and eight (29%) reported that they were currently teaching special education. Fifty–seven percent were Caucasian ($n = 16$), 21% Black ($n = 6$), 4% Hispanic ($n = 1$), and 18% ($n = 5$) failed to identify themselves. The number of years employed in education varied from

four years to 38 years, and the number of years employed in the school district ranged from two years to 30 years. Grade level taught varied from pre–kindergarten to eighth grade.

The teachers (participants) completed a packet that included the following: (a) a cover letter explaining the purpose of this anonymous pilot study, (b) TES, (c) Survey of Psychological Services and (d) four vignettes. The packet of questionnaires took approximately 30 minutes to complete. We requested that teachers complete the questionnaires within two weeks.

The TES developed by Gibson and Dembo (1984) was used to assess teachers' self-efficacy. The TES is a 30–item measure of teacher efficacy that consists of two factors: personal teaching efficacy and general teaching efficacy. Personal teaching efficacy "reflects the teachers' sense of personal responsibility in student learning and/or behavior and corresponds to Bandura's self-efficacy dimension" (Gibson & Dembo, 1984, p. 573). General teaching efficacy refers to "the belief that any teacher's ability to bring about change is limited by factors external to the teacher" (Gibson & Dembo, 1984, p. 574).

We assessed teachers' perception of school–based consultation by using the Survey of Psychological Services from School Psychology Perceptions Survey (SPPS; Gilman & Gabriel, 2004). The SPPS assesses how likely teachers are to use school–based consultation services, and how often and how helpful they find it to be. It also measures teachers' perception of how frequently school psychologists engage in particular tasks such as psychological evaluation for special education services, consultation with parents/teachers, in–services training, counseling, or crisis intervention. Last, the survey asks respondents to indicate the areas (i.e., psychological evaluation for special education services, consultation with parents/teachers, parent workshops, in–services training, counseling, or crisis intervention) in which they would like to see more or less involvement from the school psychologist.

In addition, we used four vignettes created by Green (2006) to assess teachers' likelihood of seeking school–based consultation services on a 4–point Likert–type scale, with a score of one being *very unlikely to seek school–based consultation services* and a score of four indicating *very likely to seek school–based consultation*. In addition, each vignette asked teachers to specify from whom they would be likely to seek assistance for the student in the vignette by circling an option (i.e., school psychologist, school counselor, school social worker, school administrator, teachers, and parent/guardian) and to fill in a blank if their choice was not a listed option. Last, for each vignette, we asked teachers to indicate whether a special education referral was warranted or not. Vignette 1 involved a student who is struggling in one particular subject area. Vignette 2 described a student who does not interact with peers, and Vignette 3 described a student as having difficulty acquiring new academic skills. Vignette 4 portrayed a student with some behaviors that were out of character.

We measured referral to special education dichotomously by teachers' responses of either "yes" they would refer the student to special education or "no" they would not refer the student to special education based on four vignettes. A total score of four indicated that the teacher referred all four students to special education, whereas a total score of zero indicated that the teacher did not refer any of the students to special education based on the vignettes. The mean score for total number of special education referrals was 1.37 (SD = .74), suggesting that teachers in general were less likely to refer students to special education than refer to school based consultation. Two items on a 4–point Likert type scale measured teachers' perception of school based consultation, with one representing negative perception of school–based consultation services and four representing a positive perception of school–based consultation services. The mean score for the total perception of school–based consultation services was 8.96 (SD = 1.53),

indicating that teachers in general rated school–based consultation services positively. Following each of the four vignettes, participants rated their willingness to seek school–based consultation services. These four items were measured on a 4–point Likert type scale with a one indicating *unlikely* and four indicating *likely*. The mean score for total willingness to seek school–based consultation services was 28.96 (SD = 5.34), suggesting that, in general, teachers were more likely to seek school–based consultation services than refer students to special education.

In order to examine the relationships among teacher efficacy, teachers' perception of school–based consultation services, teachers' willingness to seek school–based consultation, and decision to refer to special education, we (Randall & Tryon, 2009) used Pearson product moment correlations. Results indicated that teachers' perception of school–based consultation and teachers' willingness to seek school–based consultation were significantly correlated, $r(26) = .64$, $p < .001$. This suggests that teachers who perceived school–based consultation positively were more likely to seek it.

The two independent variables, teacher efficacy and teachers' perception of school–based consultation, were not significantly related, $r(26) = .09$, $p >$. 05. Willingness to seek school–based consultation and special education referrals were not significantly correlated, $r(25) = .33$, $p > .05$. There was a negative but nonsignificant relationship between willingness to seek school–based consultation and teacher efficacy, $r(26) = –.35$, $p > .05$. Although, willingness to seek school–based consultation and teacher efficacy were not significantly correlated, the negative correlation is interesting as, in contrast to the hypothesis, the findings demonstrated that teachers who reported higher teacher efficacy were less likely to seek school–based consultation services. In addition, teachers' perception of school–based consultation was not significantly related to special education referrals, $r(25) = .36$, $p > .05$. This finding was also contrary to the hypothesis,

and suggests that teachers who perceive school consultation positively are more likely to refer students to special education. Last, teacher efficacy and special education referral were not significantly correlated, $r(25) = .12$, $p > .05$, perhaps because of a small sample size.

In addition, to running correlations, we conducted a multiple regression analysis to evaluate how well teachers' perception of school–based consultation, teacher efficacy, and the number of years employed as an educator predicted teachers' willingness to seek school–based consultation. The predictor variables were teachers' perception of school bases consultation, teacher efficacy, and the number of years employed as an educator, while the criterion variable was teachers' willingness to seek school–based consultation. The linear combination of the predictor variables was significantly related to teachers willingness to seek school–based consultation, $F(3, 24) = 14.34$, $p = .001$. The multiple correlation coefficient was .80, indicating that approximately 64% of variance of teachers' willingness to seek school–based consultation was accounted for by the linear combination of the predictors variables: teachers' perception of school–based consultation, teacher efficacy, and the number of years employed as an educator.

Results from the pilot study confirmed the first hypothesis, indicating that teachers who perceive school–based consultation positively would express more willingness to participate in school–based consultation than teachers who perceive school–based consultation negatively. The results did not support the second hypothesis of a significant negative relationship between teachers' perception of school–based consultation and their decision to refer students to special education (based on vignettes). Instead, the findings suggested that teachers who perceived school–based consultation positively are more likely to refer students to special education than teachers who perceived school–based consultation negatively. Teachers may have felt the need to consult with the school psychologist prior to referring a student to special education, as this

seems to be the common practice in many school districts. In addition, it is a common practice for teachers to refer students to child study teams or other building–based teams prior to referring students to special education; therefore, teachers may think of this as consultation.

In terms of the third hypothesis, teacher efficacy and teachers' perception of school–based consultation were not related. This demonstrated that the predictor variables are not correlated and are independent of each other. Interestingly, however, in contrast to the fourth hypothesis, there was a slightly negative relationship between willingness to seek school–based consultation and teacher efficacy. Teachers with higher levels of teacher efficacy expressed less willingness to participate in school–based consultation services than teachers with lower levels of teacher efficacy. This implies that teachers who believe that they possess the skills to create desirable outcomes for students are less likely to seek school consultation services.

The findings from the pilot study (Randall & Tryon, 2009) seem to contradict Gutkin and Ajchenbaum's (1984) contention that teachers who preferred consultation services rather than testing referral services were those who felt a better sense of control over student problems. Perhaps efficacious teachers believe that they can handle the problem without referring to consultation services or special education. On the other hand, teachers who have high efficacy may not perceive the utility of school–based consultation services and may view them as time consuming or not effective. As a result, they may not seek consultation services that could benefit students.

The results from the pilot study (Randall & Tryon, 2009) suggest that efficacious teachers are less likely to refer to school–based consultation or special education because they feel that they can handle the student's problem. Since RTI mostly involves the classroom teacher implementing research–based interventions in the classroom (handling the problem without

referring to special education/school–based consultation), it would be interesting to examine if efficacious teachers would prefer to use RTI versus referring to special education.

Statement of the Problem

In order for schools to help students demonstrate success in academic achievement, teachers should feel efficacious about their ability to teach all students and be willing to implement instruction responsive to the needs of all learners. IDEA 2004 offers an opportunity to use RTI to target the identification of students who are challenged in academic areas and provide them early intervening services and remediation. RTI has emerged in the current era of educational reform as both a promising practice and a source of hope for meeting the academic needs of students who struggle to learn.

RTI has proven to increase academic achievement through effective instruction and intervention and reduce the rate of special education referrals (Fuchs et al., 2003; Mellard, 2004; Pereles et al., 2009). Nevertheless, those who are primarily responsible for implementing RTI (i.e., general and special education teachers) may be skeptical about adapting to this new educational reform, and they may resist putting it into practice. While the regulations stipulate that states may choose to utilize RTI or the discrepancy model to determine whether students meet criteria for LD and to determine eligibility for special education services, it is valuable to investigate which method teachers prefer and find more feasible and effective.

Since past and current literature regarding special education referrals demonstrates that a teacher's referral to special education most often results in placement of the student in special education (Hosp & Reschly, 2004; MacMillan & Reschly, 1998), it is especially important to examine variables such as student characteristics (i.e., gender and ethnicity) that may be related to teacher referrals or their use of RTI. For example, Wehmeyer and Schwartz (2001) found that

teachers were more likely to refer male students for a special education evaluation than they were to refer female students. In term of ethnicity, Artiles et al. (1998) found that teachers were more likely to refer African American students than Caucasian students for a special education evaluation.

In addition, research continues to demonstrate the positive effects of high teacher efficacy. One positive effect is that teachers who are efficacious are less likely to refer students to special education. Along the same line of research pertaining to teacher efficacy, student characteristics, and teachers' decisions to refer to special education (Meijer & Foster, 1998; Soodak & Podell, 1993), it is possible that teachers' decisions to use RTI may relate to teacher efficacy and/or student characteristics such as gender and/or ethnicity.

Based on the literature review, it is apparent that teachers' decisions to refer students to special education are related to teacher efficacy and student characteristics (e.g., gender and ethnic background). To date, research has not examined the relationship between teacher efficacy and teachers' decisions to use RTI. Teacher efficacy may inadvertently contribute to teachers' decisions to utilize RTI versus referring to special education immediately. In turn, efficacious teachers may be more likely to implement tiered–level interventions than refer students to special education. Additionally, given the significance that student characteristics (gender and ethnicity) have on teachers' decisions to refer students to special education, it is important to examine if the same student characteristics relate to teachers' decisions to use RTI.

The purpose of this study was threefold. The main purpose was to examine the relationship between teacher efficacy and teachers' decisions to use RTI versus referring to special education. Second, I examined the relationship between student characteristics (gender and ethnicity) and teachers' decisions to use RTI versus referring to special education. Last,

taken together, I investigated how teacher efficacy and student characteristics (gender and ethnicity) relate to teachers' decisions to implement RTI versus refer to special education immediately.

Hypotheses

This study investigated the following research questions and hypotheses:

Research Question 1: What is the relationship between teacher efficacy and teachers' decisions to use RTI versus refer to special education for a student who is struggling academically?

H01: Teacher efficacy will be positively related to teachers' decisions to use of RTI.

H02: Teacher efficacy will be negatively related to teachers' decisions to referral to special education.

Research Question 2: What is the effect of a student's gender on teachers' decisions to use RTI versus referring to special education?

H03: Teachers will be more likely to use RTI for female students than for male students.

H04: Teachers will be more likely to refer male students to special education than female students.

Research Question 3: What is the effect of a student's ethnicity on teachers' decisions to use RTI versus referring to special education?

H05: Teachers will be more likely to refer African American students to special education than Latin American, Caucasian, or Asian American students.

H06: Teachers will be less likely to refer African American students to RTI than Latin American, Caucasian, or Asian American students.

Research Question 4: What is the effect of a student's gender and ethnicity, taken together, on teachers' decisions to use RTI versus refer to special education?

H07: Teachers will be more likely to use RTI when they read a case study of a Caucasian female or Asian American female student than when they read a case study of an African American or Latin American male student.

H08: Teachers will be more likely to refer to special education when they read a case study of an African American or a Latin American male student than when they read a case study of a Caucasian or Asian American female student.

Research Question 5: What are the relationships among teacher efficacy, student's gender, and teachers' decisions to use RTI versus refer to special education?

H09: Teachers with higher levels of teacher efficacy who read a case study of a male student struggling in reading will be more likely to use RTI than teachers with lower levels of teacher efficacy.

H10: Teachers with higher levels of teacher efficacy who read a case study of a female student struggling in reading will be more likely to use RTI than teachers with high levels of teacher efficacy who read a case study of a male student.

Research Question 6: What are the relationships among teacher efficacy, student's ethnicity, and teachers' decisions to use RTI versus refer to special education?

H11: Teachers with higher levels of teacher efficacy who read a case study of an African American or Latin American student struggling in reading will be more likely to use RTI than teachers with lower levels of teacher efficacy who read the same case studies.

H12: Teachers with higher levels of teacher efficacy who read case studies of an Asian American or a Caucasian student struggling in reading will be more likely to use RTI than teachers with lower levels of teacher efficacy who read the same case studies.

Research Question 7: What are the relationships among teacher efficacy, student's gender and ethnicity, and teachers' decisions to use RTI versus refer to special education?

H13: Teachers will refer African American male students to special education more often than they refer either students of any other ethnicity or female students.

These hypotheses were based on extensive research demonstrating that males are more likely to be referred to special education than females (Donovan & Cross, 2002; Oswald et al., 2003; Wehmeyer & Schwartz, 2001), and African American students are more likely to be referred to special education than Caucasian students (Artiles et al., 1998; Chang, 2003; Hosp & Reschly, 2004; Losen & Orfield, 2002; MacMillan & Reschly, 1998). In addition, the purpose of incorporating the Asian American student as a manipulated variable is because this ethnic group, based on the "model minority" misconception is usually underrepresented in special education programs (Chang, 2003).

CHAPTER 3: Methodology

This study examined how teacher efficacy relates to teachers' decisions to implement RTI versus referring students to special education. In addition, the relationship between student characteristics (gender and ethnicity) and teacher efficacy on teachers' decisions to use RTI versus referring students to special education was explored. This chapter presents the methodology of this study beginning with participation selection, demographic information, and characteristics of the teachers who participated in this study. In addition, this chapter describes the instruments used to assess teacher efficacy, the case study presented to participants, and the questions used to measure teachers' referral decisions. This is followed by study procedures and data analysis.

Participant Selection

First, I received approval from the Institutional Review Board of the City University of New York, Graduate School and University Center. Then, I solicited participation from teachers. First, I sent an email (see Appendix A) to my personal contacts asking them for their participation and/or asking them to forward my message to their contacts. My personal contacts included friends and classmates who are teachers and/or who work in schools. The email contained a link to my anonymous survey on SurveyMonkey (https://www.surveymonkey.com/s/Survey4Teachers.)

I also solicited participation using Facebook (http://www.facebook.com) and LinkedIn (http://www.linkedin.com). Facebook limits the number of characters to be posted to 420; therefore, I posted the following message for my personal contacts to see:

> I am currently working on my dissertation for my doctorate. My study involves teachers completing an anonymous survey online. If you are a K–sixth grade teacher, please

consider completing my survey and/or repost this link: https://www.surveymonkey.com/s/Survey4Teachers. The survey is anonymous and takes 10 minutes to complete. If you complete the survey, you may enter to win a $25 Amazon.com gift card. Thank you!

In addition, I solicited participation using Twitter. I created a public Twitter account and posted a link to the survey on that account. Twitter limits the number of characters that can be posted to 140; therefore, I posted the following abbreviated message: "K–6th grade teachers: Please check out my survey on special education referrals and RTI at: https://www.surveymonkey.com/s/Survey4Teachers

I also created a flier (see Appendix B) and emailed it to various school districts and schools. I conducted an Internet search for state education departments, visited various school districts' websites, and searched for public email listings of principals and teachers at individual schools. In addition to these methods, I communicated with a union representative from New York State United Teachers (M. Awade, personal communication, January 26, 2011), who advised me to write a letter (see Appendix C) to the union presidents and local union offices to request if they would be willing to post the link to my survey on their union websites. I mailed this letter to Randi Weingarten, President of the American Federation of Teachers (AFT), AFL–CIO Union, and to Richard C. Iannuzzi, President of the New York State United Teachers (NYSUT). The AFT responded to my request (see copy of the letter dated November 29, 2011, in Appendix D), but indicated that the AFT "does not make it a practice to allow researcher polling" on their website.

Participation was strictly voluntary and anonymous. No identifying data were collected from the participants. I was not able to identify who read the email that I sent or the Facebook,

Twitter, or LinkedIn posts. In addition, I set up my SurveyMonkey account so that Internet Protocol (IP) addresses were not collected from the computers used to look at or complete the surveys. Therefore, I did not know who clicked on the link to the survey or who completed the survey.

There were no risks or benefits from participating in this study. In addition, there was no compensation for participation. However, as a small token of my appreciation for participating, the teachers had an opportunity to submit their email address in a drawing to win one of three $25 Amazon.com gift cards. Their email addresses were not connected to their survey responses.

Descriptive Statistics

Descriptive statistics were computed for the entire sample. Participants were kindergarten through 12th grade general and special education teachers across the United States. Although I expected to obtain approximately 300 participants, I obtained a total sample size of only 147 (49% of the targeted number). Of the 147 who began the survey, 134 (91.2%) completed the entire survey.

Table 1 displays a summary of participants' demographic information including their gender and ethnicity. Female teachers (84.3%, $n = 113$) comprised the majority of the sample, while male teachers comprised 15.7% ($n = 21$). The mean age of the participants was 39.6 years ($SD = 10.46$) and their ages ranged from 20 to 66 years.

The National Center for Education Information (NCEI) surveys teachers each year to provide demographic information that reflects the distribution of teachers in the United States. According to the Profile of Teachers in the U.S. 2011 (NCEI), and similar to this study, majority of the teachers in the U.S. are females (84%) and 16% are males.

Of the 134 participants in this study, 77.6% (*n* = 104) identified as Caucasian, 10.4% (*n* = 14) as African American, 6.0% (*n* = 8) as Hispanic, 3.0% (*n* = 4) as Asian Indian, 2.2% (*n* = 3) as Asian, and 0.7% (*n* =1) as Native American/American Indian. Similarly, the NCEI reported that the majority of the teachers in the U.S. are White (84%), while 7% are Black, 6% are Hispanics, and 4% are other.

Table 1 also displays a summary of the participants' educational characteristics including highest degree earned, teacher certification, and the type of classroom they currently teach. The majority of the teachers reported that they have a master's degree (*n* = 57, 42.5%) or a master's plus 30 credits (*n* = 50, 37.3%). The remainder of the participants reported that they have a bachelor's degree (*n* = 16, 11.9%), educational specialist degree (*n* = 6, 4.5%), or doctorate (n = 5, 3.7%). In comparison to the NCEI report, the majority of teachers in the U.S. hold a master's degree in Education (43%) followed by 29% who hold a bachelor's degree in Education. The participants' responses to the questions regarding teacher certification were recoded into three categories: general education only, special education only, and dual (general and special education). The majority of the teachers reported holding only a general education teacher certification (*n* = 79, 59.0%).

In terms of the type of classroom taught, the majority of the participants (59.7%, *n* = 80) reported that they were currently teaching a general education class. Furthermore, 11.9% (*n* = 16) reported that they were teaching a collaborative/co–teaching/inclusion class, 14.9% (*n* = 20) reported that they were teaching a special education class, and 13.4% (*n* = 18) reported teaching a small group or individual students.

Respondents reported the number of years they have been teaching and the number of years they have been employed as a teacher in their current school. Their mean numbers of years

teaching in a school setting was 12.98 (*SD* = 10.46). The mean number of years employed at their current school was 8.48 *(SD* = 7.51).

Table 1
Summary of Participants' Demographic Information

Demographic	Variable	*n*	%
Gender	Male	21	15.7
	Female	113	84.4
Ethnicity	Caucasian	104	76.6
	African American	14	10.4
	Hispanic	8	6.0
	Asian Indian	4	3.0
	Asian/Asian American	3	2.2
	Native American/ American Indian	1	0.7
Degree	Master's	57	42.5
	Master's plus 30	50	37.3
	Bachelor's	16	11.9
	Educational Specialist	6	4.5
	Doctorate	5	3.7
Teacher Certification	General Education	79	59.0
	Special Education	18	13.4
	Dual	37	27.6
Classroom	General Education	80	59.7
	Special Education	20	14.9
	Collaborative/Co–teaching Inclusion	16	11.9
	Individual/Small Group	18	13.4

Note. $N = 134$.

Table 2 shows a summary of the states where the participants reside and teach. The majority of the teachers reported residing and teaching in New York (n = 87, 64.9%).

Table 2
Participants' Residing and Teaching State

State	*n*	*%*
AR	1	.7
CA	1	.7
FL	3	2.2
GA	8	6.0
ID	1	.7
LA	3	2.2
MA	1	.7
MI	5	3.7
NC	1	.7
NJ	3	2.2
NV	1	.7
NY	87	64.9
OH	5	3.7
OR	1	.7
PA	1	.7
TN	2	1.5
TX	1	.7
WV	7	5.2

Note. N = 134.

Table 3 shows the grade levels the participants reported to teach. Participants were asked to check all that apply because teachers may teach more than one grade level. The majority of the teachers who completed the survey reported teaching second through fifth grades.

Table 3
Grade Levels Taught by Participants

Grade Level	*n*	%
Pre–Kindergarten	6	4.1
Kindergarten	31	21.1
1st grade	42	28.6
2nd grade	49	33.3
3rd grade	40	27.2
4th grade	49	33.3
5th grade	50	34.0
6th grade	28	19.0
7th–8th grade	13	8.8
9th–12th grade	7	4.8

Note. Percentages add to more than 100 because respondents could choose more than one option.

Table 4 shows a summary of the participants' school settings, including the type of school, type of student population, and type of community. The majority of the participants work in an urban community (n = 62, 46.3%), and in a public school (n = 114, 85.1%) with both general and special education students (n =101, 75.4%).

Table 4
Participants' School Settings

Demographic	Variable	*n*	%
Type of School	Public	114	85.1
	Private	12	9.0
	Charter	6	4.5
	Religious	2	1.5
Student Population	General Education	27	20.1
	Special Education	6	4.5
	Both General & Special Education	101	75.7
Type of Community	Urban	62	46.3
	Suburban	46	33.3
	Rural	26	19.4

Note. $N = 134$.

Instruments

The instruments described below were taken together and placed on an anonymous survey online (https://www.surveymonkey.com/s/Survey4Teachers). See Appendix E to review the entire survey that participants completed. I created the first two parts of the survey to obtain general information about the teachers' demographics and their knowledge of special education and RTI. I added the questions from the TSES (Tschannen-Moran & Woolfolk Hoy, 2001). I received permission from A. Woolkfolk Hoy (personal communication, March 22, 2011). I also created a case study that describes a student who is struggling in reading, and I developed questions that pertain to the case study. Each section of the online survey is presented in Appendices F–J for further review.

Demographic Questions. The first section (see Appendix G) of the survey consisted of demographic questions and respondent characteristics. Participants answered questions pertaining to their background information such as their gender, age, ethnicity, or ethnicity; highest degree earned; years of experience teaching and certification; grade level, type of school, student population, city, state and type of community setting where they teach.

Teacher Questionnaire. The next section (see Appendix H) of the survey assessed teachers' knowledge of special education and RTI. The first three questions asked teachers about their familiarity with special education and RTI, and asked them to choose from one of the following options: *not at all, somewhat, moderately, familiar, really familiar*. The following three questions asked the teachers whether the state education department where they teach uses RTI, whether their school district uses RTI, and if they are using RTI in their classrooms. Next, there were two questions regarding training and professional development. The teachers were asked to rate their level of training in special education and RTI, and they were able to choose one from the following options: *none, know/read about it, some, several or lots*.

Teachers' Sense of Teacher Efficacy Scale (TSES; Tschannen-Moran & Woolfolk Hoy, 2001). I used the TSES developed by Tschannen-Moran and Woolfolk Hoy (2001; see Appendix I) and incorporated it into my online survey. I obtained permission to use this survey from A. Woolfolk Hoy (personal communication, March 25, 2011). The TSES (Tschannen-Moran & Woolfolk Hoy, 2001) assesses teacher efficacy. The TSES is also known as the Ohio State University Teacher Efficacy Scale because it was developed at Ohio State University. The authors (Tschannen-Moran & Woolfolk Hoy, 2001) refer to the scale as the TSES. I chose to use the TSES because, although the TES (Gibson & Dembo, 1984) is the most widely used instrument in the field of teacher efficacy scale, it is a relatively outdated instrument. Therefore, I

decided that an updated measure, such as the TSES long form, would be more appropriate for my study.

There are two versions of TSES (Tschannen-Moran & Woolfolk Hoy, 2001): a long version that consists of 24 items and a short form that consists of 12 questions. I used the long form because it has better reliability. The TSES has three subscales: (a) Efficacy for Instructional Strategies, (b) Efficacy for Classroom Management, and (c) Efficacy for Student Engagement. The items that measure Efficacy for Instructional Practices are items 7, 10, 11, 17, 18, 20, 23, and 24. The items that measure Efficacy for Classroom Management are 3, 5, 8, 13, 15, 16, 19, 21, and the items that measure Efficacy for Student Engagement are 1, 2, 4, 6, 9, 12, 14, and 22. The following are sample items for each subscale: (a) *Efficacy for Instructional Strategies,* "To what extent can you use a variety of assessment strategies?" (b) *Efficacy for Classroom Management,* "How much can you do to control disruptive behavior in the classroom?" and (c) *Efficacy for Student Engagement,* "How much can you do to get students to believe they can do well in schoolwork?" (Tschannen-Moran & Woolfolk Hoy, 2001).

Participants responded to TSES (Tschannen-Moran & Woolfolk Hoy, 2001) items on a Likert–type scale ranging from 1 (*nothing*) to 9 (*a great deal*). I computed the three subscale scores by calculating the unweighted mean of the responses to the items assigned to each factor. The higher the total score for each domain (highest score = 72 points), the more efficacious the teacher is considered, and the lower the total score (lowest score = 8) is for each domain, the less efficacious the teacher is considered. The authors of the TSES provide instructions for scoring the TSES (see Appendix L).

Tschannen-Moran & Woolfolk Hoy (2001) showed that the TSES is a reliable and valid instrument for measuring teacher efficacy. The reliabilities estimates of the three subscales on

the long form are as followed: for engagement 0.87, for instruction 0.91, and for management 0.90. The reliabilities estimates of the three subscales on the short form are as followed: for engagement 0.81, for instruction 0.86, and for management 0.86. The alpha reliability coefficient for the overall TSES is 0.91(Tschannen-Moran & Woolfolk Hoy, 2001). The construct validity of TSES was assessed by correlating the TSES scores with the two RAND study (Armor et al., 1976) efficacy items ($r = .18, .53, p < .01$) and with the constructs of *personal teaching efficacy* ($r = .64, p < .01$) and *general teaching efficacy* ($r = .16, p < .01$) from the TES (Gibson & Dembo, 1984).

This study found Cronbach's alphas of .89 for Student Engagement, .92 for Instructional Strategies, and .92 for Classroom Management. This indicates that the subscales are highly reliable, and that the subscales measured what they intended to measure.

Case study. Responses to the case study measured teachers' decisions to refer to special education and their decision to use RTI. Based on my professional experience as a certified school psychologist, and after asking three teachers for their feedback, I created the case study (see Appendix J) to show that reading was the target problem and that there were no other issues (i.e., medical, behavioral, or familial) related to the student's reading difficulties. I wanted to ensure that there were no confounding variables. There were a total of eight versions of the case study. I set up the survey using SurveyMonkey so that each participant received one case study about a student who is struggling in reading. The case studies were identical with the exception of the student's name representing the gender (male or female) and the student's ethnicity (African American, Asian American, Caucasian or Latin American). In each case study, the student's gender and ethnicity differed. I used the following male and female names for African

American, Asian American, Caucasian, and Latin American students, respectively: Jamal/Tashika, Xue/Mei-Ling, Mike/Sally, and Julio/Marisol.

This study investigated teachers' responses to eight cases that manipulated the student's gender and ethnicity. Each participant received only one of the eight cases that vary according to gender and ethnicity (see above), and it was randomly assigned. I counterbalanced the presentation of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) and the case study to preclude order effects.

Teachers' referral decisions. After reading the case study, the teachers answered 17 questions (see Appendix J) pertaining to the case study. The first 12 questions involved the teachers' choice of either (a) use of RTI or (b) referral to special education, for example, "Regardless of what is customary in your school district, would you utilize RTI for this student or refer this student to special education?" In addition, teachers responded to questions regarding what they think their school district would prefer them to do for the student portrayed in the case study (use RTI or refer to special education). Other questions included, for example, if they think referring to special education or using RTI would increase the student's reading skills, which method they think would be most effective, which method would identify effective interventions for the student, and which method they think should be used to identify if the student has a learning disability. Refer to Appendix J for further questions that assessed teachers' decisions about whether to use RTI or refer to special education.

The next five questions required teachers to answer dichotomous questions and open-ended questions. They answered whether they would refer the student portrayed in the case study to special education or not, followed by an open-ended question: "Why would you/wouldn't you refer this student to special education?" Then, teachers indicated whether they think the student

in the case study would qualify for special education services or not. Lastly, the teachers answered the following question, “Which method does your school district use to identify or classify students with a Learning Disability?” (a) the IQ–achievement discrepancy model, (b) Response to Intervention (RTI), (c) Both, or (d) Other (please specify). See Appendix J for sample case study and questions. Each specific case study with the student’s name, gender and ethnicity stated can be found at the end of the survey in Appendix E.

Procedures

I solicited participants from Twitter, Facebook, LinkedIn, and via email, and by posting fliers in public places. These methods of soliciting participants included a brief overview of my study, and it directed teachers to either click on or type in the link to my anonymous survey (https://www.surveymonkey.com/s/Survery4Teachers).

SurveyMonkey is an online research–based web server with secure 128–bit data encryption designed to facilitate the distribution and collection of survey data. SurveyMonkey allows for hyperlinks to be distributed to potential participants via e-mail and for responses to be exported as SPSS files. Additionally, the software has several features that are important for my study. The software allowed me to set up the survey so that respondents could only submit one survey per computer; this avoided duplicate responses. The software also allowed me to set up the survey so that participants were randomly assigned to read one of the eight case studies.

Once the participants clicked on or typed in the survey link, they were connected to the first page of the survey that described the intent of the research study, the time it would take to complete the survey, and that their participation was voluntary (see Appendix F). Each participant’s decision to complete the questionnaire was considered that participant’s informed consent. The first page of the survey explained that the study was anonymous and that, as the

principal investigator, I did not have access to any identifying information. This precluded the need to code the data for confidentiality.

The first series of questions asked for demographic information (Appendix G), such as gender, ethnicity, and age range. The next set of demographic questions asked the teachers about their highest earned degree, certification, and number of years teaching, current teaching position, and grade(s) taught. The next series of questions (see Appendix H) assessed the teachers' knowledge and familiarity of special education and RTI. Then, the teachers completed the TSES (Tschannen-Moran & Woolfolk Hoy, 2001; see Appendix I), which assessed teacher efficacy. Last, the teachers read one case study about a student who is struggling with reading and answered several questions pertaining to student portrayed in the case study (see Appendix J).

At the end of the survey, I thanked the respondents for participating and completing the survey (see Appendix K). I informed them after they clicked "submit" they would be directed to a separate webpage that was not connected to their survey responses and, if they wished, they could enter their email address in a drawing to win one of three $25 Amazon.com gift cards. I assured the participants that their email address would not be connected to their survey responses.

Data Analyses

I used various statistical methods to test the hypotheses in this study. First, I used descriptive statistics to measure the demographic variables, including teachers' age, gender, years of experience, ethnicity, education, and certifications. In addition, I used descriptive statistics to assess teachers' level of training and knowledge of special education and RTI. I used cross tabulations and correlation analysis for preliminary analysis of the research questions.

The major analyses of this dissertation consisted of chi-square tests of independence and multiple logistic regressions to examine the relationships among student characteristics (gender and ethnicity), teacher efficacy, and teachers' decisions to use RTI versus referring to special education. I adopted procedures employed in previous teacher efficacy studies (Meijer & Foster, 1998; Podell & Soodak, 1993; Soodak & Podell, 1993) that used vignettes (case studies) and manipulated the etiology of the student's academic difficulties and socioeconomic status. Instead of manipulating the student's academic difficulties and socioeconomic status, I manipulated the student's gender and ethnicity.

The criterion (dependent) variable was the teacher's decision to use RTI or refer to special education for the hypothetical student presented in the case study. The predictor (independent) variables were: (a) student's gender (male, female), (b) student's ethnicity (Asian American, African American, Caucasian or Latin American) manipulated in each case study, and (c) teacher's level of efficacy (assessed by using the TSES; Tschannen-Moran & Woolfolk Hoy, 2001).

CHAPTER 4: Results

This chapter presents the results of the research questions and hypotheses regarding the relationships among teacher efficacy, student characteristics, and teacher's decision to use RTI versus referring to special education. This chapter begins with the descriptive statistics followed by the psychometric properties of the instruments. In addition, this chapter presents preliminary analysis using correlations among variables. This is followed by the analysis of the seven research questions, which are examined using chi-square tests of independence, binary logistic regressions, and multiple logistic regressions. This chapter concludes with supplementary analysis.

Descriptive Statistics

Teacher efficacy. The Teachers' Sense of Teacher Efficacy Scale (TSES; Tschannen-Moran and Woolfolk Hoy, 2001) has three subscales: Student Engagement, Instructional Strategies, and Classroom Management. Table 5 shows the respondents' ratings on each subscale, where higher scores correspond to teachers' feelings of higher teacher efficacy. Teacher Efficacy subscales scored from 1 for *nothing* to 9 for *great deal*. Because the highest possible score is 9 for each subscale, table figures show that most teachers rated themselves highly on feelings of teacher efficacy in all domains.

Table 5
Teachers' Sense of Teacher Efficacy Subscales

Subscales	*M*	*SD*	*Range*
Student Engagement	7.04	1.15	1 – 9
Instructional Strategies	7.36	1.05	1 – 9
Classroom Management	7.46	1.06	1 – 9

Note. $N = 134$.

The Student Engagement, Instructional Strategies, and Classroom Management teacher efficacy subscales for this study were found to be normally distributed using a Kolmogorov–Smirnov test ($p > .05$). Additionally, the alpha coefficients for Student Engagement, Instructional Strategies, and Classroom Management were, respectively, $\alpha = .90$, $\alpha = .92$, and $\alpha = .92$. This suggests that the items on the subscales are highly consistent and the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) is a reliable scale.

Participants' knowledge of RTI and special education. To assess participants' level of knowledge of RTI and special education, the questionnaire contained questions about their familiarity with and training in each domain. One part of the questionnaire asked about their familiarity with special education, the traditional refer–test model, and RTI. Another section of the questionnaire asked about their level of training in special education and RTI. Table 6 shows that most respondents were very familiar (43.1%, $n = 56$) with special education, moderately familiar (30.6%, $n = 41$) with the traditional refer–test model, and moderately familiar (40.9%, $n = 54$) with RTI.

Table 6
Participants' Familiarity with Special Education and RTI

Demographic	Variable	*n*	%
Familiar with Special Education	Not at all	1	0.8
	Somewhat	29	22.3
	Moderately	44	33.8
	Very	56	43.1
Familiar with Traditional Refer–test model	Not at all	31	23.1
	Somewhat	36	26.9
	Moderately	41	30.6
	Very	26	19.4
Familiar with RTI	Not at all	12	9.1
	Somewhat	30	22.7
	Moderately	54	40.9
	Very	36	27.3

Note. $N = 134$. Range = 1–4.

Table 7 demonstrates that most respondents have had one or more academic courses in special education (65.6%, $n = 86$), and one– to two–day workshops on RTI (34.8%, $n = 46$).

Table 7
Participants' Training in Special Education and RTI

Demographic	Variable	*n*	%
Training on Special Education	None	14	10.7
	1–4 hours	15	11.5
	1–2 day workshop	13	9.9
	1–2 week long training	3	2.3
	1 or more academic courses	86	65.6
Training on RTI	None	30	22.7
	1–4 hours	32	24.2
	1–2 day workshop	46	34.8
	1–2 week long training	9	6.8
	1 or more academic courses	15	11.4

Note. $N = 134$.

To further assess respondents' knowledge of RTI, I asked them to define RTI by choosing the best response from the multiple-choice options, and they were able to check all that apply. Table 8 shows the breakdown of how respondents defined RTI. The plurality of the respondents indicated that RTI can be best described as a prereferral intervention (26.6%, $n = 92$) or Instructional Support Team (22.0%, $n = 76$). RTI is a tiered–level assessment–intervention approach, and this was not one of the multiple-choice options; however, only 5.2% ($n = 7$) of the respondents indicated "none of the above."

Table 8
Respondents' Definitions of RTI

Variable	*n*	%	% of cases
Functional Behavioral Assessment/ Functional Behavioral Plan	63	18.2	53.8
Child Study Team	57	16.5	48.7
Pre–referral Intervention	92	26.6	78.6
Parent–Teacher Conference	38	11.0	32.5
Instructional Support Team	76	22.0	65.0
Refer–test place	20	5.8	17.1
None of the Above	7	5.2	–
I don't know	13	9.7	–

Note. $N = 117$. Seventeen participants skipped this question. Percentages of cases add to more than 100, because participants were able to choose more than one option.

Participants were also asked whether the state education department and school district where they teach requires them to use RTI, and whether they actually use RTI. Table 9 shows that a majority of respondents reported that their state education departments (56.0%) and school districts (64.2%) require them to use RTI, and a majority of the participants reported using RTI (55.2%).

Table 9
RTI Required by States, School Districts, and use of RTI

Demographic	Variable	*n*	%
State Education Department Require use of RTI	Yes	75	56.0
	No	17	12.7
	Don't Know	42	31.3
School District Using RTI	Yes	86	64.2
	No	17	12.7
	Don't know	31	23.1
Participants Using RTI	Yes	74	55.2
	No	47	35.1
	Don't Know	13	9.7

Note. $N = 134$.

Descriptive statistics for the case studies. There were a total of eight hypothetical case studies. Because this study was a web-based survey, and survey monkey has a feature that allows for randomization, I was able to set up the survey so that each participant randomly received one of the eight case studies. The case study presented a student who was struggling academically, but the gender and the ethnicity of the student varied. Table 10 shows the breakdown of the case studies by gender and ethnicity of the student described in the case that participants completed.

Table 10
Breakdown of Case Studies Completed According to Student's Gender and Ethnicity

Student Ethnicity	Student Gender	n[a]	%
Caucasian	Male	16	11.9
	Female	16	11.9
African American	Male	18	13.4
	Female	21	15.7
Asian American	Male	20	14.9
	Female	20	14.9
Latin American	Male	12	9.0
	Female	11	8.3

Note. $N = 134$.
[a]Specifies the number of respondents who received the case study.

Teacher decision to use RTI versus special education. After reading the hypothetical case study, the respondents answered the main question (Case Study Question 1) for this study: "Regardless of what is customary in your school, would you use RTI for this student or refer this student to special education?" I used this question as the criterion (dependent) variable for this study.

I used the other questions as filters and analyzed them separately from the research questions and hypotheses. These analyses are presented in the latter section of this chapter. Table 11 shows that the majority of the respondents indicated that they would use RTI (71.6%) versus refer to special education (28.4%) regardless of what is customary in their school districts.

Table 11

Teachers Decision to use RTI versus Refer to Special Education

Question #	Variable	*n*	%
1[a]	Use RTI	96	71.6
	Refer to Special Education	38	28.4
2	Use RTI	99	73.9
	Refer to Special Education	35	26.1
3	Use RTI	103	76.9
	Refer to Special Education	31	23.1
4	Use RTI	91	67.9
	Refer to Special Education	43	32.1
5	Use RTI	94	70.1
	Refer to Special Education	40	29.9
6	Use RTI	104	77.6
	Refer to Special Education	30	22.4
7	Use RTI	60	44.8
	Refer to Special Education	74	55.2
8	Use RTI	98	73.1
	Refer to Special Education	36	26.9
9	Use RTI	93	69.4
	Refer to Special Education	41	30.6
10	Use RTI	91	67.9
	Refer to Special Education	43	32.1
11	Use RTI	89	66.4
	Refer to Special Education	45	33.6
12	Use RTI	81	60.4
	Refer to Special Education	53	39.6

Note: $N = 134$

[a]Criterion variable.

Correlations Among Variables

Table 12 shows the Pearson *r*, two-tailed correlations among the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) subscales (student engagement, instructional strategies, and classroom management) and the criterion, which was teachers' decisions to use RTI versus refer to special education. Teachers' scores on each of the TSES scales were significantly and positively correlated with each other. Specifically, the correlation between student engagement and instructional strategies was positive and significant, $r = .78$, $p < .01$, indicating that higher levels of teacher efficacy in student engagement were associated with high levels of teacher efficacy in instructional strategies. Similarly, the correlation between classroom management and student engagement was positive and significant, $r = .71$, $p < .01$, indicating that greater feelings of teacher efficacy in classroom management were associated with greater feelings of teacher efficacy in student engagement. In addition, the correlation between classroom management and instructional strategies was positive and significant, $r = .76$, $p < .01$, indicating that greater feelings of teacher efficacy in classroom management were associated with greater feelings of teacher efficacy in instructional strategies.

Only one of the teacher efficacy subscales, however, related significantly to teachers' decisions regarding the case study student. The correlation between student engagement and teacher decision was positive and significant, $r = .18$, $p = < .05$, indicating that higher teacher–rated student engagement was associated with a greater likelihood of using RTI versus referring to special education.

Table 12
Correlations Between Teacher Efficacy Scale Scores and Teacher Referral Decision

	1	2	3	4
1. Student Engagement	–			
2. Instructional Strategies	0.78***	–		
3. Classroom Management	0.71***	0.76***	–	
4. Teacher Decision[a]	0.18**	0.15	0.12	–

Note. $N = 134$
[a]Dependent/criterion variable and included in logistic regression models
***$p < .01$ (2-tailed) **$p < .05$ (2-tailed)

Analysis of Research Questions and Hypotheses

Research Question One: What is the relationship between teacher efficacy and teachers' decisions to use RTI versus referring to special education? I analyzed the relationship between teacher efficacy and teachers' decisions to use RTI versus refer to special education by running a binary logistic regression between teacher efficacy scores and their answers to the first question ("Regardless of what is customary in your school district, would you use RTI or refer this student to special education?") after the case study regarding teacher referral choice. The analysis included three dimensions of teacher efficacy: Student Engagement, Instructional Strategies, and Classroom Management as predictor variables. Teachers' decisions to use RTI versus special education was the criterion variable, which I coded as 0 for special education referral and 1 for RTI for all the analyses including the correlations in Table 12.

Student Engagement. There was a significant relationship between Student Engagement teacher efficacy and teacher's decisions to use RTI versus refer to special education, $\chi^2 (1, N = 134) = 4.30$, $p < .05$. Student engagement teacher efficacy refers to teachers' beliefs about how much they can do to get students to believe that they can achieve in schoolwork. The significant

relationship suggests that teachers with high ratings of student engagement teacher efficacy were more likely to choose RTI and less likely to refer to special education. As the Student Engagement teacher efficacy score increases, the odds of using RTI versus referring to special education increases by a factor of 1.42 (= $e^{.35}$; see Table 13).

Instructional Strategies. There was a significant relationship, although not at the customary $p < .05$ level, between Instructional Strategies teacher efficacy and teachers' decisions to use RTI versus refer to special education, χ^2 (1, $N = 134$) = 2.90, $p < .10$. Instructional strategies teacher efficacy refers to teachers' beliefs about how much their teaching methods can improve students' achievement skills. The significant relationship indicates that teachers' sense of efficacy about their instructional strategies was related to their decision to use RTI versus refer to special education. As Instructional Strategies teacher efficacy score increases, the odds of using RTI versus referring to special education increases by a factor of 1.37 (= $e^{.31}$; refer to Table 13)

Classroom Management. There was no significant relationship between Classroom Management teacher efficacy and teachers' decisions to use RTI versus refer to special education, χ^2 (1, $N = 134$) = 2.03, $p > .05$. Classroom Management teacher efficacy refers to teachers' beliefs about how much they can do to manage a classroom. The nonsignificant relationship indicates that teachers' sense of efficacy about their classroom management skills was not related to their decisions to use RTI versus refer to special education.

The results of the logistic regression partially supported the first research question and related hypotheses. Table 13 provides the details of this analysis.

Table 13
Logistic Regression Analysis for Teacher Efficacy Variables Predicting Teachers' Decisions to use RTI versus Refer to Special Education

Predictors	*B*	SE *B*	*df*	e^B	χ^2
Teacher Efficacy[a]					
Student Engagement	.35**	.17	1	1.42	4.30
Instructional Strategies	.31*	.19	1	1.37	2.90
Classroom Management	.26	.18	1	1.29	2.03

Note. $N = 134$.
[a]Variables entered one at a time.
** $p < .05$ * $p < .10$

Research Question Two: What is the effect of student's gender on teachers' decisions to use RTI versus referring to special education? I performed a chi-square test of independence to examine the relationship between the two dichotomous variables: student's gender and teachers' decisions to use RTI versus refer to special education. Because student's gender is a nominal variable, I coded male as 0 and female as 1. Then, I ran the chi-square test using student gender with teachers' decisions. The relationship between these variables was not significant, χ^2 (1, $N = 134$) = 1.08, $p > .05$, indicating that there was no relationship between a student's gender and a teacher's decision to use RTI versus special education.

An examination of the Table 14 shows that teachers' decisions to use RTI for male students (76%) and female students (68%) did not differ from the null hypothesis distribution. In addition, the teachers' decisions to refer male students to special education (24%) and female students to special education (32%) did not differ from the null hypothesis distribution.

Table 14
Effect of Student's Gender on Teachers' Decisions to Use RTI versus Refer to Special Education

			Teacher's Referral Decisions		
			Use RTI	Refer Special Education	Total
Student Gender	Male	Count	50	16	66
		Expected	47.3	18.7	65
		%	75.8	24.2	100
	Female	Count	46	22	68
		Expected	48.7	19.3	68
		%	67.6	32.4	100
		Total	96	38	134

Note. $N = 134$.
O cells (0%) have expected count less than 5.

Research Question Three: What is the effect of student's ethnicity on teachers' decisions to use RTI versus referring to special education? I performed a chi-square test of independence to examine the relationship between student's ethnicity and teachers' decisions to use RTI versus refer to special education. The relationship between student's ethnicity and teachers' decisions to use RTI versus refer to special education was not significant, χ^2 (3, $N = 134$) = 0.34, $p > .05$.

The ethnicity of the student in the case study was not related to the teachers' decisions to use RTI versus refer to special education. An examination of the Table 15 shows that teachers' decisions to use RTI for Caucasian students (69%), Asian American students (73%), African American students (74%), or Latin American students (70%) did not differ from the null hypothesis distribution.

Table 15
Crosstabulations of Student's Ethnicity and Teachers' Decisions

Student Ethnicity		Use RTI	Refer to Special Education	Total
Caucasian	Count	22	10	32
	Expected	22.9	9.1	32
	%	68.8	31.3	100
Asian American	Count	29	11	40
	Expected	28.7	11.3	40
	%	72.5	27.5	100
African American	Count	29	10	39
	Expected	27.9	11.1	39
	%	74.4	25.6	100
Latin American	Count	16	7	23
	Expected	16.5	6.5	23
	%	69.6	30.4	100
	Total	96	38	134

Note. $N = 134$.
0 cells (0%) have expected count less than 5.

Research Question Four: What is the effect of student's gender and ethnicity, taken together, on teachers' decisions to use RTI versus referring to special education? I used two chi-square tests to test for a relationship among student's gender, student's ethnicity, and the teachers' RTI versus special education decisions. One chi-square test was for case studies containing female students only and the other chi-square test for male students only. These tests were not significant, χ^2 (3, $N = 134$) = 0.21, $p > .05$ and χ^2 (3, $N = 134$) = 1.73, $p > .05$.

The student's gender and ethnicity was not related to the teachers' decisions to use RTI versus refer to special education. Further, Table 16 shows that the data caused a violation of the Pearson's chi-square assumption because 50% of cells contained expected counts of less than five. This indicates that the results for this analysis should be interpreted with caution.

Table 16

Crosstabulations of Student's Gender, Ethnicity, and Teachers' Decisions

Student Gender	Student Ethnicity		Use RTI	Refer to Special Education	Total
Female[a]					
	Caucasian	Count	11	5	16
		Expected	10.8	5.2	16
		%	68.8	31.3	100
	Asian American	Count	13	7	20
		Expected	13.5	6.5	20
		%	65.0	35.0	100
	African American	Count	14	7	21
		Expected	14.2	6.8	21
		%	66.7	33.3	100
	Latin American	Count	8	3	11
		Expected	7.4	3.6	11
		%	72.7	27.3	100
		Total	46	22	68
Male[b]					
	Caucasian	Count	11	5	16
		Expected	12.1	3.9	16
		%	68.8	31.3	100
	Asian American	Count	16	4	20
		Expected	15.2	4.8	20
		%	80.0	20.0	100
	African American	Count	15	3	18
		Expected	13.6	4.4	18
		%	83.3	16.7	100
	Latin American	Count	8	4	12
		Expected	9.1	2.9	12
		%	66.7	33.3	100
		Total	50	16	66

Note. $N = 134$.

[a]1 cell has expected count less than 5.

[b]4 cells have expected counts less than 5.

Research Question Five: What are the relationships between teacher efficacy, student's gender, and teachers' decisions to use RTI versus refer to special education?

I used a multinomial logistic regression to explore the relationship between teacher efficacy, student's gender, and teachers' decisions to use RTI versus refer to special education. I constructed the model using student gender as a factor and each of the teacher efficacy scales (Student Engagement, Instructional Strategies, and Classroom Management), one at a time, as covariates, and the RTI versus special education decision as the dependent variable.

Student Engagement. There was a significant relationship, although not at the customary $p < .05$ level, between Student Engagement teacher efficacy, student's gender, and teachers' decisions to use RTI versus refer to special education, $\chi^2 (2, N = 134) = 5.51, p = .064$.

Instructional Strategies. There was no statistical significance for the relationship between teacher efficacy of instructional strategies, student's gender and teachers' decisions to use RTI versus refer to special education, $\chi^2 (2, N = 134) = 3.92, p > .05$.

Classroom Management. There was no statistical significance for the relationship between teacher efficacy for classroom management, student's gender, and teachers' decisions to use RTI versus refer to special education, $\chi^2 (2, N = 134) = 3.03, p > .05$.

Table 17 provides the results of the multinomial regressions, and shows that the hypotheses related to question five were partially supported.

Table 17

Logistic Regression Analysis for Teacher Efficacy Variables and Student's Gender Predicting Teachers' Decisions to use RTI versus Refer to Special Education

Predictors	*B*	SE *B*	*df*	e^B	χ^2
Student Engagement	–.36**	.17	1	.70	4.53
Male[a]	–.43	.40	1	.65	1.22
Final Model –2Log Likelihood	110.34		2		5.51*
Instructional Strategies	–.32**	.19	1	.73	2.94
Male[a]	–.40	.40	1	.67	1.03
Final Model –2Log Likelihood	104.92		2		3.92
Classroom Management	–.26	.18	1	.77	2.05
Male[a]	–.39	.39	1	.68	1.00
Final Model –2Log Likelihood	96.95		2		3.03

Note. e^B = exponential *B*.
Student Gender coded as 1 for female and 0 for male.
[a]Reference group is female students.
**$p < .05$ *$p < .10$

Research Question Six: What are the relationships between teacher efficacy, student's ethnicity, and teachers' decisions to use RTI versus refer to special education? I used a multinomial logistic regression to examine this question. I constructed the model using student's race as a factor and each of the teacher efficacy scales (Student Engagement, Instructional Strategies, and Classroom Management), one at a time, as covariates, and the RTI versus special education decision as the dependent variable.

Student Engagement. There was no statistical significance between Student Engagement teacher efficacy, student's ethnicity and teachers' decisions to use RTI versus refer to special education, χ^2 (4, $N = 134$) = 4.82, $p > .05$.

Instructional Strategies. There was no statistical significance between Instructional Strategies teacher efficacy, student's ethnicity and teachers' decisions to use RTI versus refer to special education, χ^2 (4, N = 134) = 3.33, p > .05.

Classroom Management. There was no statistical significance between Classroom Management teacher efficacy, student's ethnicity and teachers' decisions to use RTI versus refer to special education, χ^2 (4, N = 134) = 2.42, p > .05.

The multinomial logistic regression did not support the hypotheses related to question six of this research study. Table 18 provides the results of the multinomial regressions and shows that the hypotheses related to question six were not supported.

Table 18

Logistic Regression Analysis for Teacher Efficacy Variables and Student's Ethnicity Predicting Teachers' Decisions to use RTI versus Referring to Special Education

Predictors	*B*	SE *B*	*df*	e^B	χ^2
Student Engagement	– .36**	.17	1	.70	
Caucasian	– .04	.60	1	.96	
Asian American	– .16	.58	1	.85	
African American	– .37	.60	1	.69	
Final Model –2Log Likelihood	121.89		4		4.82
Instructional Strategies	– .33*	.19	1	.72	
Caucasian	– .01	.60	1	.99	
Asian American	– .12	.58	1	.89	
African American	– .32	.60	1	.73	
Final Model –2Log Likelihood	122.54		4		3.33
Classroom Management	– .27	.18	1	.15	
Caucasian	– .02	.60	1	.97	
Asian American	– .13	.58	1	.83	
African American	– .31	.59	1	.73	
Final Model –2Log Likelihood	112.15		4		2.42

Note. e^B = exponential *B* (odds ratio).
Latin American case study is set to zero because it is redundant.
**$p < .05$ *$p < .10$

Research Question Seven: What is the relationship between teacher efficacy, student's gender and ethnicity, and teachers' decisions to use RTI versus refer to special education? I used three multinomial logistic regressions to examine this question. I constructed the models using student race and student gender as factors, each of the teacher efficacy scales (Student Engagement, Instructional Strategies, and Classroom Management), one at a time, as covariates, and the RTI versus special education decision as the dependent variable. No statistical significance resulted from any of the three tests (Student Engagement: χ^2 (5, N = 134) = 6.14, p > .05; Instructional Strategies: χ^2 (5, N = 134) = 4.45, p > .05; Classroom Management: χ^2 (5, N = 134) = 3.50, p > .05. This indicates that the hypotheses related to research question seven were not supported (also see Table 19).

It is important to mention that I also analyzed the data by collapsing the models and inputting the teacher efficacy subscale scores all at once as covariates. However, this method of analysis did not produce significant results. I then chose instead to construct the models by inputting the subscales one at a time as covariates because the authors of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) suggest that the subscales should be examined separately from each other. Thus, I thought that it would be more appropriate to analyze the subscales as separate models.

Table 19

Logistic Regression Analysis for Teacher Efficacy Variables and Student's Gender and Ethnicity Predicting Teachers' Decisions to use RTI versus Referring to Special Education

Predictors	*B*	SE *B*	*df*	e^B	χ^2
Student Engagement	– .38**	.18	1	.68	
Male[a]	– .46	.40	1	.63	
Caucasian	– .04	.61	1	.96	
Asian American	– .17	.59	1	.85	
African American	– .41	.61	1	.67	
Final Model –2Log Likelihood	136.70		5		6.14
Instructional Strategies	– .33*	.19	1	.72	
Male[a]	– .42	.40	1	.66	
Caucasian	– .02	.60	1	.99	
Asian American	– .13	.58	1	.88	
African American	– .36	.60	1	.70	
Final Model –2Log Likelihood	133.79		5		4.45
Classroom Management	– .28	.19	1	.76	
Male[a]	–. 41	.39	1	.67	
Caucasian	– .02	.60	1	.98	
Asian American	– .13	.58	1	.88	
African American	– .34	.60	1	.71	
Final Model –2Log Likelihood	133.57		5		3.50

Note. e^B = exponential *B* (odds ratio).
Student Gender coded as 1 for female and 0 for male.
[a] Reference group is female students.
Latin American case study is set to zero because it is redundant.
**$p < .05$ *$p < .10$

Supplementary Analyses

To further explore the differences between respondents who use RTI versus refer to special education, I compared the teachers' responses concerning their level of knowledge and training in RTI and special education. I also compared two questions that assessed teachers' decisions to use RTI versus refer to special education to check whether teachers were consistent when making referral decisions. In addition, I examined the relationships among the 12 case study questions.

Level of familiarity with and training in RTI and special education. I used Pearson *r*, two-tailed correlations to assess the relationships among teachers' familiarity with and training in RTI and special education and teachers' decisions to use RTI versus refer to special education. Teachers' level of familiarity with RTI and special education were positive and significantly correlated with teachers' level of training in RTI and special education (see Appendix M). Only one of the questions ("How familiar are you with RTI?") was positive and significantly correlated with the teacher's decisions to use RTI versus refer to special education, $r = .25$, $p = < .01$. This suggests that the more familiar teachers were with RTI the greater the likelihood that they would use RTI versus referring to special education.

Consistency of teachers' referral decisions. To assess whether teachers' referral decisions were consistent, I used cross tabulations and ran a chi-square test of independence to examine the relationship between two questions: "Regardless of what is customary in your school district, would you use RTI or refer this student to special education?" (The first question after the case study) and "Would you refer this student to special education?" The results show that the relationship between these two questions was statistically significant, χ^2 (1, $N = 134$)

= 25.47, $p < .01$ indicating that there was a difference between teachers' responses to these two questions.

Table 20 shows that 37 teachers who reported that they would use RTI also reported that they would refer the student to special education when given the free choice. Furthermore, five teachers who reported that they would refer to special education also reported that they would not refer to special education when given the free choice. This shows that there are discrepancies within teachers' referral decisions.

Table 20
Crosstabulations of Teachers' Referral Decisions

			Would you refer this student to special education?		
			Yes	No	Total
Use RTI vs. Refer to Special Ed	Use RTI	Count	37	59	96
		Expected	50.1	45.9	96
	Refer to Special Ed	Count	33	5	38
		Expected	19.9	18.1	38
		Total	70	64	134

Note: N = 134.
0 cells (0%) have expected count less than 5.

Correlations among case study questions. Respondents received a total of 12 dichotomous questions after the case study. The purpose of these questions was to assess whether teachers would use RTI or refer to special education for the particular student portrayed in the case study. The main question for this study was the first question, "Regardless of what is customary in your school district, would you use RTI for this student or refer this student to special education?" This was the criterion variable. The other 11 questions were used as filters

and for additional analyses. I conducted Pearson *r*, two-tailed correlations to analyze the relationship between the 12 case study questions. Results show that many of the answers to the questions were significantly correlated with one another with the exception of question 12 (see Appendix N).

The criterion variable (case study Question 1) was positive and significantly correlated with question 2 ("What do you think your school district would want you to do in this case?"), Question 3 ("Which method do you think would help increase the student's reading skills?"), Question 9 ("In your opinion, which method is more feasible?") and Question 12. This suggests that teacher's decisions to use RTI versus referring to special education is positively related to what their school district would want them to do, which method they think would help the student's reading skills, and which method they think is more practical. The criterion variable was negative and significantly correlated with the remaining case study questions (see Appendix N).

In addition, I ran a Cronbach's alpha to analyze the psychometric properties of the 12 questions. Cronbach's alpha measures how closely related a set of items are as a group; it is a measure of internal consistency. The widely accepted social science cut-off for Cronbach's alpha is .70 or higher in order for items to be considered as a possible underlying (or latent) construct. I found that the Cronbach's alpha for the 12 case study questions was .76, suggesting that these questions have relatively high internal consistency. The case study questions that I created may be an underlying latent variable; however, this does not mean that the questions are unidimensional. Factor analysis is a method to determine the dimensionality of a scale, but that is beyond the scope of this study.

Summary of Results Related to the Study's Research Questions

Table 21 summarizes the results of tests of the study's research questions. Readers will note that only two of the seven questions received partial support.

Table 21

Summary of Research Findings

Research Question	Supported/ Not Supported
1. What is the relationship between teacher efficacy and teachers' decisions to use RTI versus refer to special education?	Partially Supported
2. What is the effect of student's gender on teachers' decisions to use RTI versus refer to special education?	Not Supported
3. What is the effect of student's ethnicity on teachers' decisions to use RTI versus refer to special education?	Not Supported
4. What is the effect of student's gender and ethnicity, taken together on teachers' decisions to use RTI versus referring to special education?	Not Supported
5. What is the relationship between teacher efficacy, student's gender and teachers' decisions to use RTI versus referring to special education?	Partially Supported
6. What is the relationship between teacher efficacy, student's ethnicity, and teachers' decisions to use RTI versus refer to special education?	Not Supported
7. What is the relationship between teacher efficacy, student's gender and ethnicity, and teachers' decisions to use RTI versus referring to special education?	Not Supported

Chapter 5: Discussion

The purpose of this study was to examine the relationships among teacher efficacy, student characteristics (gender and ethnicity), and teachers' decisions to use RTI versus refer to special education. In this final chapter, I will summarize and discuss the major study results in light of existing research. I will present the implications of the findings and the limitations of this study. Last, I will provide suggestions for future research.

Summary of Results and Key Findings

The results demonstrated that, in general, the sample teachers chose to use RTI versus refer to special education. Furthermore, teachers who reported high teacher efficacy for student engagement were more likely to use RTI and less likely to refer to special education than teachers who reported lower student engagement teacher efficacy. There was also a trend for higher teacher efficacy for instructional strategies to be associated with a preference for RTI. Efficacy for classroom management was not related to teachers' decisions to use RTI versus refer to special education.

Contrary to my predictions, teachers' referral decisions did not relate to either students' gender or ethnicity. However, when teacher efficacy was considered in the equation, the relationship between teacher efficacy for student engagement, student's gender, and teachers' decisions to use RTI versus refer to special education was significant. Teachers who reported high on teacher efficacy were more likely to use RTI for female students than for male students.

This study produced an unexpected outcome. Many of the teachers who reported that they would use RTI regardless of what is customary in their school district also indicated that they would refer the student to special education. The teachers must have not realized that these questions were similar in nature. These contradictory endorsements indicate that readers should

view these results with caution. It also suggests that teachers may be uncertain and, therefore, inconsistent when making referral decisions.

Teacher efficacy and use of RTI versus special education referral. The results from this study replicate and support those of previous studies that show the effects of teacher efficacy on special education referrals (Gibson & Dembo, 1985; Egyed & Short, 2006; Meijer & Foster, 1998; Podell & Soodak, 1993; Soodak & Podell, 1993; Soodak & Podell, 1997; Tejeda-Delgado, 2009; Tournaki & Podell, 2005; Woolfolk & Hoy, 1990). That is, efficacious teachers are less likely to refer students to special education. Specifically, along the same line of previous research (e.g., Meijer & Foster, 1998; Tournaki & Podell, 1993), the present research findings demonstrate that teachers with higher teacher efficacy in the student engagement and instructional strategies domains were more likely to use RTI and less likely to refer the hypothetical student to special education. Because RTI involves teacher delivery of high-quality instruction in the general education classroom (e.g., Fuchs et al., 2003; Pereles et al., 2009; Werts et al., 2009), it is important for teachers to possess high efficacy in instructional strategies. To the extent that self-efficacy relates to performance, teachers who do not have confidence in their ability to use instructional strategies or to keep their students engaged in the classroom instruction may not be able to carry out RTI interventions (Nunn & Jantz, 2009).

Classroom management teacher efficacy, however, was not related to the use of RTI versus referral to special education. This may be in part due to the type of problem behavior described in the study's vignettes. The student described in this study was struggling academically (in reading), not struggling behaviorally. Teachers' classroom management efficacy may not be as important for students who need academic support as opposed to behavioral support. Instead, teacher efficacy in student engagement and instructional strategies

are essential factors related to teachers' referral decisions. The current findings provide evidence that efficacy beliefs are domain–specific (Bandura, 1986) and, in this study, related to teachers' referral decisions for students who struggle academically.

These results are also promising because they demonstrate that teachers prefer to use RTI in their classrooms for students who are struggling academically. This represents a positive shift in the teacher referral paradigm, moving away from referring students immediately to special education and moving toward using research–based interventions. Teachers seem to be more willing to use RTI than to refer students to special education when their students have academic problems.

Student gender and use of RTI versus special education referral. The results from this study do not support the hypothesis that student gender is related to teachers' decisions to use RTI versus refer to special education. The results are not in agreement with those of previous studies (Donovan & Cross, 2002) that have demonstrated that male students are more likely to be referred to special education than female students. Instead, the results demonstrated that teachers are equally likely to use RTI for both male and female students. The student's gender alone did not influence or affect teachers' referral decisions.

However, when teacher efficacy was considered in the equation along with student's gender, the results showed a trend towards significance. Thus, this study supported previous research that demonstrated that low teacher efficacy was related to more male students being referred to special students than their female counterparts (Oswald et al., 2003; Wehmeyer & Schwartz, 2001). The current results demonstrate that teachers who are efficacious are more likely to use RTI for female students than for male students. In addition, teachers who have low teacher efficacy are more likely to refer male students to special education than female students.

In sum, teacher efficacy and student's gender, taken together, are related to teachers' referral decisions. As other researchers have demonstrated, this study shows that teacher efficacy is a powerful predictor of teachers' behavior toward students who have academic difficulty (e.g., Ashton & Webb, 1986; Berman et al., 1977; Dembo & Gibson, 1985; Hoy & Spero, 2005; Woolfolk & Hoy, 1990).

Student ethnicity and use of RTI versus special education referral. Similar to previous research (Frey, 2002; Tobias, Zibrin, and Menell, 1983), this study found that teachers' decision to refer to special education was not related to student's ethnicity. Although the relationships among teacher efficacy, student's ethnicity, and teachers' decisions to use RTI versus refer to special education was not significant, the results are noteworthy because they demonstrate that teachers in this study did not make referral decisions based on a student's ethnicity. Instead, teachers decided to use RTI for students regardless of their ethnicity. The results of this study did not support those of previous studies (e.g., Artiles et al., 1998; Artiles & Trent, 1994) or provide evidence for the long time controversy of disproportionate referrals of African American students to special education compared to Caucasian students (e.g., Donovan & Cross, 2003; Hosp & Reschly, 2004). In addition, the current study results also did not support previous research that showed that Latin American students are more likely than Caucasian students to be referred to special education (e.g., Artiles & Trent, 1994; Liu et al., 2008; Ysseldyke, 2005). Lastly, the current study did not demonstrate the "model minority" myth (Peterson as cited in Lee, 1996; Wing, 2007; Wong & Halgin, 2006) or the concern that Asian American students are overlooked (e.g., Doan, 2006; Li, 2005) because teachers were just as likely to report that they would provide Asian American students with RTI as they were to provide RTI for African American, Latin American, and Caucasian students. These results

demonstrate that, in this sample, teacher referral decisions were not related to student's ethnicity. Thus, it seems that these teachers may be aware of multicultural issues and practice cultural sensitivity when making referral decisions.

Implications

Special education eligibility that includes the use of IQ–achievement discrepancy model requires a significant amount of time and fiscal resources and provides little information to guide intervention (President's Commission on Excellence in Special Education, 2002). School psychologists spend the majority of their time conducting assessments for the committee on special education to determine eligibility for special education services (Fagan & Wise, 2000). However, since many state education departments and school districts are moving away from the IQ–achievement discrepancy model and moving toward using RTI, there should be a decrease in the use of the IQ–achievement discrepancy model and a decrease in special education referrals. The reauthorized Individuals with Disabilities Education Act (IDEA, 2004) allows states to discontinue the use of an IQ–achievement discrepancy formula to identify students with learning disabilities and permits the use of RTI criteria as part of the special education identification process. This represents a dramatic shift in how disabilities are conceptualized, and this shift has the potential to reduce disproportionate representation of different ethnic groups referred and placed in special education (Donovan & Cross, 2002; Fuchs & Fuchs, 2006; Hollenbeck, 2007).

The dissertation study sought to investigate teachers' decisions to utilize RTI with different ethnic and gender groups, and contribute to the research on promoting culturally responsive interventions for all students. The current study found that, in general, teachers were more likely to decide to use RTI than to refer to special education for the hypothetical student described in the vignette regardless of the student's ethnicity or gender. However, the majority of

the teachers reported that they had one or more academic courses in special education (65.6%), but only one– to two–day workshops on RTI (34.8%). This demonstrates the need for teacher education programs to endorse courses in research based instruction and RTI systems level delivery. Additionally, state education department and school districts should continue to offer professional development opportunities to ensure that teachers understand the underpinnings of RTI, and that they are equipped to use research based instructional strategies.

Results from this study suggest that teachers are willing to use research–based methods in their classrooms rather than immediately referring students to special education. This impacts their roles in the classroom. According to the RTI model, general education teachers will be primarily responsible for instruction, monitoring, and advancement through the tiers. Furthermore, professionals that formerly spent time administering IQ tests will take on responsibilities focused more on intervention–related assessment (Fagan & Wise, 2007; Fletcher et al., 2004).

This, in turn, impacts the roles and responsibilities of school psychologists. School psychologists may soon be required to conduct fewer special education assessments and instead conduct more curriculum–based assessments (CBA) related to RTI. Since assessment and progress monitoring are fundamental to RTI, school psychologists would play a valuable part in providing consultation regarding the assessment system. School psychologists would be able to assist in selecting valid and reliable assessment tools, and assist teachers in interpreting scores.

The roles of school psychologists are shifting from being special education evaluators to being consultants and evaluators of research–based interventions and programs (Fagan & Wise, 2007), but teachers may not be aware of this change. Some teachers continue to view school

psychologists as evaluators for special education. For example, for the open–ended question in this study, "Please define RTI in your own words," a teacher commented:

> It is a great tool if you can sift through all the paper work. I feel like they make it so hard for teachers to finish the paperwork that it causes us to give up and send students through. It is also discouraging when your school psychologist doesn't want to test children who are not progressing through RTI like they should.

Therefore, training and courses in RTI and researched based instruction should be paramount in both school psychology and teacher education programs. In addition, professional development and in–service training is essential to promote this paradigm shift, moving away from the refer–test model to a prevention and scientifically based intervention model (Bender & Shore, 2007; Fuchs & Fuchs, 2006; Mellard, 2004).

Research shows that a majority of students who are referred for special education evaluation are eventually found eligible for special education services (Hosp & Reschly, 2004; MacMillan & Reschly, 1998). Since teachers are one of the primary referral sources, it is imperative to assess the different factors that relate to teachers referring students to special education. Researchers have found that teacher efficacy is related to teacher referrals (Egyed & Short, 2006; Frey, 2002; Meijer & Foster, 1998; Soodak & Podell, 1993; Tournaki & Podell, 2005). Teacher efficacy is defined as the beliefs that teachers possess about their skills and abilities to create desirable outcomes for students (Ashton & Webb, 1986; Gibson & Dembo, 1984). Along the same line of research, I found that teacher efficacy in student engagement and instructional practices related to teachers' decisions to use RTI versus refer to special education. Teachers who reported high teacher efficacy in student engagement and instructional strategies were more likely to use RTI and less likely to refer to special education. This finding suggests

that school districts should invest in professional development opportunities for teachers to promote teacher efficacy, particularly in instructional strategies and student engagement. In addition, professional development opportunities in RTI and research–based interventions that increases teachers' beliefs about their instructional practices are essential elements to positive student outcomes.

In contrast to previous research (Artiles et al., 1998; Artiles & Trent, 1994; Chang, 2003; Hosp & Reschly, 2004), this study did not find evidence of disproportionate referrals to special education of minority students. I found that, regardless of student's ethnicity, teachers were more likely to use RTI than to refer to special education. The results of this study were similar to those of Frey (2002) and Tobias et al (1983) who found that teacher referral decisions were not attributable to student's ethnicity.

Limitations

There were several limitations in this study that need to be taken into account. First, the small sample size may have precluded some significant results. I was hoping to obtain a larger number of participants because I used a web-based survey, and I tried multiple methods to recruit participants, including searching the internet for numerous state education departments, school district websites, and teachers' email addresses. I posted the survey link in teacher blogs, chat rooms, and on Facebook, and emailed teacher education programs and my personal contacts. I also created a public twitter account in order to recruit participants. I was surprised to obtain such a small sample size ($N = 134$). Additionally, the majority (64.97%) of the participants reported that they teach in the New York State. This may have occurred due to snowball sampling. For future research, I would recommend attending teacher conferences to recruit teacher participants.

The second limitation of this study was that it consisted of hypothetical case studies. I used hypothetical case studies to portray students who were struggling academically and to manipulate student ethnicity and gender, similar to research design in previous studies (e.g., Egyed & Short, 2006; Meijer & Foster, 1988; Podell & Soodak, 1993; Soodak & Podell, 1993). However, the use of hypothetical scenarios can impact the generalizability and external validity of the findings. Hypothetical case studies do not depict the exact situations within the actual context. Participants may have difficulty identifying with the student presented in the case study, and this can impact their responses or behaviors.

Additionally, the hypothetical case study presented in this study may not have represented typical cases that teachers usually encounter, which are more complicated and ambiguous. Respondents' comments suggest weaknesses in the presentation of the hypothetical case study. Analysis of the participants' comments shows that the hypothetical case studies might not have presented enough information for teachers to make an informed decision. One teacher's comment was, "There was not enough information regarding the interventions used for this student." Another teacher stated, "It is difficult to make a decision based on so little information." Another example of a teacher's comment is, "We have to try different strategies and interventions before we can refer to special education."

The third limitation of this study is that teachers might have responded in socially desirable manner because they were aware of being surveyed. The fact that majority of the teachers reported that they would use RTI versus refer to special education for almost all of the 12 questions that were presented after the case study raised questions about socially desirable responding. In addition, it was difficult to gauge from this data how well the teachers in this study really know RTI; however, teachers still chose RTI versus referring to special education.

Research shows that teachers tend to refer struggling students to special education (Hosp & Reschly, 2004; MacMillan & Reschly, 2002). This suggests evidence of the Hawthorne effect. That is, participants change their performance or behavior in response to being studied and not in response to the experimental manipulation. In other words, participants may report what they are *supposed to do*, and not what they would *actually do* in that situation.

The fourth limitation of this study was the use of self-reports to measure teacher efficacy. Teachers, in general, rated themselves high on all three subscales of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001). Self-reports are prone to individual biases and exaggeration of responses. More significant results could be possible if more objective measures of teacher efficacy are used. In addition, the results demonstrated that the TSES subscales were highly correlated. Collinearity of the TSES subscales may have limited significant findings.

The fifth limitation to consider is that the criterion variable was measured by using only one item ("Regardless of what is customary in your school district, would you utilize RTI or refer to special education?") to assess teachers' referral decisions. Although, there were 12 questions that followed the case study, I analyzed only one of the questions in relation to teacher efficacy and student characteristics. The remaining 11 questions were filter questions.

Directions for Future Research

In my professional experience as a school psychologist, teachers often times report using numerous interventions for the students who concern them but provide minimal to no evidence that demonstrate these interventions or the students' progress. Nevertheless, they request a referral to special education. The current study demonstrated that, in general, the majority of the teachers reported that they would use RTI versus refer to special education. However, when they were asked, in a latter question, if they would refer the student to special education, a majority of

them reported that they would. This suggests that teachers tend to be inconsistent in making referral decisions and may need training in this area. Additionally, teachers indicate that they would use RTI, but this does not mean that they are actually implementing RTI. Future research is recommended to examine the relationship of teachers' referral decisions and teachers' integrity in the implementation of RTI. In addition, although teachers are willing to use RTI, they may not know exactly how to implement RTI. Consequently, a student may be a nonresponder due to the teacher's lack of training or failure to implement RTI. Future research should assess more completely teachers' knowledge of RTI. Additionally, future research should explore the effects of teachers' understanding of and training in RTI on their integrity of implementing RTI.

Special education has been the only alternative to general education for many years. With limited resources and interventions, teachers sometimes resort to referring students to special education. For future research, I would examine how variables such as resources and interventions available in schools, teacher's understanding of and training in RTI, and parent's knowledge of RTI are related to teacher referral decisions.

Although the hypothetical case study in the current study indicates, "the teacher implemented some strategies in the classroom and met with the parents several times," some teachers commented on the need to implement more interventions before referring to special education. For future studies, I would recommend using a hypothetical case study that provides more information such as the student's age, family's socio-economic status, and the multiple strategies attempted by the teacher. In addition, future studies should incorporate more ambiguous hypothetical cases that emulate student problems that teachers confront on a daily basis in the classroom setting. It would also be beneficial to pilot the hypothetical case study using a focus group with a panel of experts.

Another suggestion is using a video clip that can be viewed on the computer to demonstrate the hypothetical scenario or case study. Ultimately, because the uses of hypothetical scenarios possess a threat to the external validity of the findings, I would recommend using actual cases for future research. Specifically, I suggest collecting and analyzing the school records of students who are struggling academically and examining the relationship between these students' characteristics, use of RTI, and teacher referral decisions.

A plethora of research has demonstrated that high teacher efficacy is related to positive student outcomes (e.g., Egyed & Short, 2006; Meijer & Foster, 1988; Tschannen-Moran et al., 1998; Woolfolk & Hoy, 1993). The findings from this study replicate previous research (e.g., Meijer & Foster, 1988; Soodak & Podell, 1993). The results demonstrate that two subscales (Student Engagement and Instructional Strategies) of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) were related to teachers' decisions to use RTI rather than refer to special education. This shows that teacher efficacy is domain specific (Bandura, 1997). RTI consists of tiered–level interventions that are specific to the needs of the students (Fuchs & Fuchs, 2006). Based on the literature review and the current findings, for future research I would recommend developing an RTI–teacher efficacy scale in order to assess teachers' beliefs about their skills in implementing RTI in their classrooms. After validating and piloting the new scale, I would use this instrument to examine the effects of teacher training programs of RTI, teachers' RTI–teacher efficacy, and student outcomes (e.g., academic performance).

This findings of this study do not support previous research that demonstrate the relationship between student's gender and ethnicity, teacher efficacy, and teacher referral decisions. This may be in part due to using only one item for the criterion variable and the collinearity of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) subscales. Future research

should use a several–item scale to measure teachers' decisions to use RTI versus refer to special education. One possibility is to consider using some (or all) of the 12 case study questions that I created. For future research I recommend conducting a factor analysis of the 12 case study questions to determine the dimensionality of the several–item scale. In addition, I recommend using a teacher efficacy measure with items that are less highly correlated with one another.

Conclusion

There has been a longstanding concern about the problem of gender and ethnic disproportionality in special education programs (Hosp & Reschly, 2003; MacMillan & Reschly, 1998). Studies have shown that male students are generally more likely to be referred and placed in special education programs than female students (e.g., Oswald, et al., 2003; Wehmeyer & Schwartz, 2001). Additionally, African American and Latin American students are more likely to be referred (Hosp & Reschly, 2003) and placed in special education than their Caucasian counterparts (e.g., Artiles, Aguirre-Munoz, & Abedi, 1998; Artiles & Trent, 1994; Coutinho et al., 2002; Donovan & Cross, 2002). These two important points were taken into consideration as this dissertation study examined that decisions concerning how teachers use RTI versus referring to special education may be influenced by student characteristics such as their gender and ethnicity. Contrary to previous studies, this study did not find evidence to support the relationship between a student's gender and ethnicity and teachers' decisions to refer to special education. However, when teacher efficacy was considered in the equation, this study found that teachers who reported higher teacher efficacy were more likely to use RTI for female students than for male students.

Recent efforts have been made by IDEA (2004) to ameliorate the problem of disproportionality in special education (Fuchs et al., 2003). IDEA (2004) encourages school

districts to move away from the traditional methods of special education and move toward alternative research–based methods to help struggling students (Kavale et al., 2005). This initiative is called Response to Intervention (RTI). RTI is a multitiered, research–based approach to assess and provide intervention for struggling students (Fuchs & Fuchs, 2006). This study is unique because it is the first study to examine the effect of student's gender and ethnicity on teachers' decisions to refer to special education or use RTI. Studies have shown that a student's gender and ethnicity is related to special education referral decision (e.g., Coutinho et al., 2002; Frey, 2002; Hosp & Reschly, 2003; Wehmeyer & Schwartz, 2001) but no studies have examined RTI within this context.

This study added to the research on the relationship between teacher efficacy, student characteristics, and special education referral (Meijer & Foster, 1998; Podell & Soodak, 1993; Soodak & Podell, 1993; Tournaki & Podell, 2005). This study was also the first to examine how teacher efficacy is related to teachers' decisions to employ RTI for students who are struggling in reading. Research has already demonstrated that teachers with high levels of teacher efficacy are less likely to refer students to special education than teachers with low levels of teacher efficacy (e.g., Meijer & Foster, 1998; Podell & Soodak, 1993; Soodak & Podell, 1993; Tejeda-Delgado, 2009). So what do the efficacious teachers do when they do not refer to special education? The current study found that teachers use RTI.

Similar to the findings from this study, the pilot study (Randall & Tryon, 2009) for this dissertation found that greater teacher efficacy was associated with a lower likelihood of referral of the student (portrayed in the case study) to special education. In addition, the pilot study found that teacher efficacy was negatively related to teacher utilization of school–based consultation. The assumption was that teachers who are efficacious believe that they can handle the problem

without the support from special education or school–based consultation. Because RTI is heavily based on research–based interventions applied in classroom by the classroom teacher, I hypothesized that efficacious teachers would be more likely to use RTI for a student who is struggling in reading than to refer that student to special education immediately. Utilizing a response to intervention approach can be considered a way for the teacher to 'handle the students' problem' themselves. The current study found that the more efficacious teachers believed they were in student engagement and instructional strategies the more likely they were to decide use RTI rather than to refer the student to special education.

This study demonstrated promising results related to teachers efficacy and teachers' decisions to use RTI. Future research is encouraged to develop an RTI teacher efficacy scale and examine teachers' integrity of implementing of RTI, and the barriers (such as limited resources and administrative support) that may preclude teachers from implementing RTI.

Appendix A

Email to Teachers

Hi, my name is **Archna Randall,** and I am student in the Educational Psychology Ph.D. Program at The Graduate Center of the City University of New York (CUNY). I am asking you to please participate in my dissertation study. The purpose of my study is to obtain information from K–6th grade teachers' and their knowledge of and beliefs about special education referrals and Response to Intervention (RTI). Participation in this study is strictly anonymous and voluntary!

If you agree to participate, you will be asked to complete an anonymous survey on–line. This will involve completing a demographic questionnaire, a 24– item rating scale about your beliefs as a teacher, and questions regarding a student portrayed in a case study. This will take only 10 minutes of your time.

At the end of the study, you may choose to submit your email address in a drawing for three $25 Amazon.com gift cards. Your responses will not be connected to your email address.

I would be grateful if you would fill out my survey and/or forward this email to teachers you know who may be interested. The survey can be found at the following link: https://www.surveymonkey.com/s/Survey4Teachers

If you have any questions about this research, you may contact me at arandall@gc.cuny.edu or (914) 665–5394. You may also contact my advisor, Dr. Georgiana Tryon, at gtryon@gc.cuny.edu or (212) 817–8293. If you have questions about your rights as a participant in this study, you may contact Kay Powell, Institutional Review Board (IRB) Administrator, CUNY Graduate Center, at kpowell@gc.cuny.edu or (212) 817–7525.

Thank you!

Appendix B

Flier

Attention Teachers: Chance to Win 1 of 3 *$25 Amazon.com gift cards.*

Follow the link below for more information and to complete the survey:

http://www.surveymonkey.com/s/Survey4Teachers

The survey is anonymous and takes only 10 minutes to complete. If you complete the survey, you may enter a drawing to win one of three $25 Amazon.com gift cards.

This study is being conducted in order to meet the requirements of graduation for my doctorate in educational psychology at the City University of New York (CUNY) Graduate Center and may contribute to the research literature on Response to Intervention (RTI). If you have any questions about this study contact Archna Randall at: arandall@gc.cuny.edu

com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/Survey4 Teachers
www.surveymonkey. com/s/SurveyFor

Thank you for your interest in my study!

Appendix C

Letter to Union Presidents

American Federation of Teachers, AFL–CIO
555 New Jersey Ave., N.W.
Washington, DC 20001

Sept. 27th, 2011

Dear Ms. Weingarten,

It is with great honor that I write to you, and I thank you in advance for taking the time out to read this letter.

My name is Archna Randall, and I am an AFT member. I am an employee of the Mount Vernon City School District as a certified school psychologist at Edward Williams Elementary School. In addition, I am a part–time graduate student at the Graduate Center, CUNY pursuing my doctorate in Educational Psychology. I am currently working on my dissertation, and I am writing to you to request for your support.

Being a proud member of the Mt. Vernon City School District in New York and the AFT for the past eight years has been a great opportunity. I am aware of the strengths and weaknesses of school policy, and I would like to gain further insight on how to build on the strengths. Research has already demonstrated that teacher efficacy is related to positive student outcomes; particularly efficacious teachers are more successful at meeting their students' needs. Now with the new educational reform: Response to Intervention (RTI) in effect in many school districts, it is essential to examine how efficacious teachers perceive this new practice.

The purpose of my study is to examine the relationship of teacher efficacy and their decisions to use RTI versus referring to special education services. If teachers agree to volunteer, they will be asked to complete an anonymous survey on–line. They will not be asked to provide their name for any reason, and there are no risks for their participation in this study. Furthermore, this study does not involve student participation.

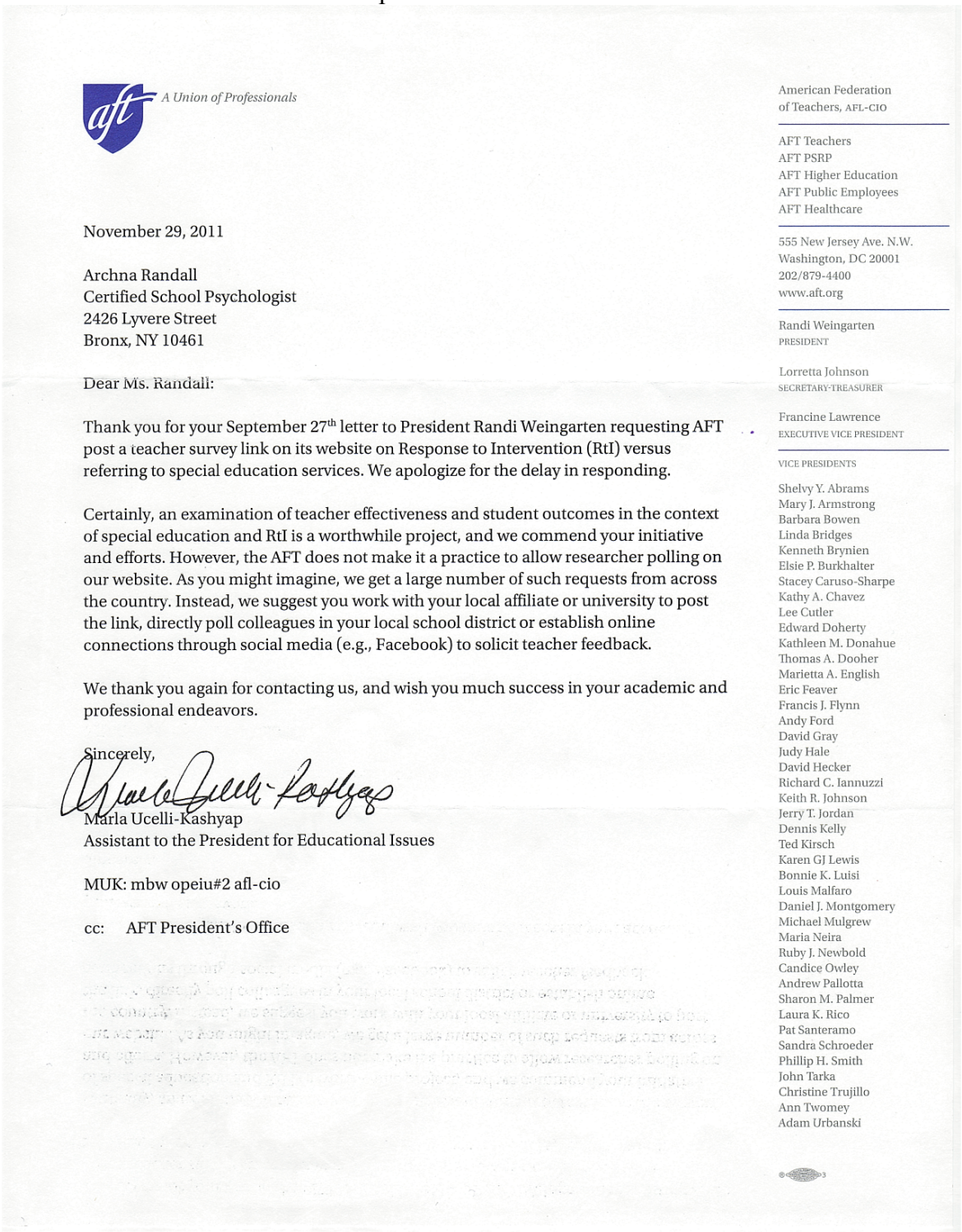
I am requesting for your permission to allow me to post a link on the AFT website to encourage teachers to participate in my research study. Please click on the following link: https://www.surveymonkey.com/s/Survey4Teachers or refer to the enclosed hard copy to review the survey.

If you have any questions about this research project, please feel free to contact me at: (718) 513–1115 or arandall@gc.cuny.edu. If you have questions about the rights of the participants in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817–7525, kpowell@gc.cuny.edu. Thank you for time and support.

Sincerely,

Archna Randall, M.A.
Certified School Psychologist

Appendix D
Response Letter from AFT



A Union of Professionals

American Federation
of Teachers, AFL-CIO

AFT Teachers
AFT PSRP
AFT Higher Education
AFT Public Employees
AFT Healthcare

555 New Jersey Ave. N.W.
Washington, DC 20001
202/879-4400
www.aft.org

November 29, 2011

Archna Randall
Certified School Psychologist
2426 Lyvere Street
Bronx, NY 10461

Dear Ms. Randall:

Thank you for your September 27th letter to President Randi Weingarten requesting AFT post a teacher survey link on its website on Response to Intervention (RtI) versus referring to special education services. We apologize for the delay in responding.

Certainly, an examination of teacher effectiveness and student outcomes in the context of special education and RtI is a worthwhile project, and we commend your initiative and efforts. However, the AFT does not make it a practice to allow researcher polling on our website. As you might imagine, we get a large number of such requests from across the country. Instead, we suggest you work with your local affiliate or university to post the link, directly poll colleagues in your local school district or establish online connections through social media (e.g., Facebook) to solicit teacher feedback.

We thank you again for contacting us, and wish you much success in your academic and professional endeavors.

Sincerely,

Marla Ucelli-Kashyap
Assistant to the President for Educational Issues

MUK: mbw opeiu#2 afl-cio

cc: AFT President's Office

Appendix E

Online Survey

Teacher Survey

1. Consent

Thank you for your interest in my survey!

My name is Archna Randall, and I am graduate student in the Educational Psychology Ph.D. Program at The Graduate Center of the City University of New York (CUNY), and the Principal Investigator of this study. The purpose of my study is to obtain information from Kindergarten - 6th grade teachers about their knowledge of and beliefs about special education referrals and Response to Intervention (RTI). There will be approximately 300 participants taking part in this study.

If you are at least 21 years old and a Kindergarten - 6th grade teacher and decide to participate, you will be asked to complete an anonymous survey. This will involve completing a demographic questionnaire, and a 24- item rating scale about your beliefs as a teacher. In addition, you will read one short case study and answer questions regarding the student portrayed in the case study.

This survey will take approximately 10 minutes to complete. Your participation is strictly anonymous. You will not provide your name or any identifying information. In addition, IP addresses will be masked so that your identity is protected, and all data will be encrypted. All information gathered will be kept strictly confidential, and will be stored in a locked file cabinet, to which only I, and my advisor, will have access. In addition, your participation is voluntary. At any time you can refuse to answer any questions and exit from this survey.

There are no risks for participating in this study. Additionally, there is no cost or compensation for you to participate in this study. As a token of my appreciation for completing this survey, I will have a drawing for three $25 Amazon.com gift cards. At the end of the study, you may choose to submit your email address in the drawing. Your responses will not be connected to your email address.

I may publish the results of the study, but the names of people, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research project please contact me, Archna Randall at (917) 374-9234 or arandall@gc.cuny.edu, or you can contact my advisor, Dr. Georgina Shick Tyron at (212) 817-8293 or gtryon@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817-7525, kpowell@gc.cuny.edu. IRB# 11-03-078-0135.

Clicking the "Next" button will indicate that you are at least 21 years old and that you agree to participate in this study.

Thank you for your participation!

Teacher Survey

2. Demographics

***1. What is your gender?**

- ◯ Male
- ◯ Female

***2. What is your age?**

***3. What is your racial/ethnic background?**

- ◯ Asian/Asian-American
- ◯ Asian-Indian
- ◯ Black/African-American
- ◯ Hispanic/Hispanic-American
- ◯ Native Hawaiian/Other Pacific Islander
- ◯ Native American/American Indian
- ◯ White/Caucasian

Other (please specify)

***4. What your highest level of education/degree?**

- ◯ Bachelor's
- ◯ Master's
- ◯ Master's plus 30
- ◯ Educational Specialist
- ◯ Doctorate

Other (please specify)

***5. How many years have you been teaching in a school setting?**

***6. How many years have you been employed as a teacher at your current school?**

Teacher Survey

***7. What kind of teacher certification do you hold?**

- [ ] General Education Grades K-12
- [ ] General Education Elementary School only
- [ ] General Education Secondary School only
- [ ] Special Education Grades K-12
- [ ] Special Education Elementary School only
- [ ] Special Education Secondary School only

Other (please specify)

***8. In what kind(s) of classroom(s) do you currently teach?**

- ◯ General education
- ◯ Special education class
- ◯ Collaborative/Co-teaching/Inclusion
- ◯ Individual or small group instruction

Other (please specify)

***9. Which grade level do you teach? (Please check all that apply)**

- [ ] Pre-Kindergarten
- [ ] Kindergarten
- [ ] 1st
- [ ] 2nd
- [ ] 3rd
- [ ] 4th
- [ ] 5th
- [ ] 6th
- [ ] 7-8th
- [ ] 9-12th

Teacher Survey

***10. What type of school do you teach in?**

- ◯ Public
- ◯ Charter
- ◯ Private
- ◯ Religious

Other (please specify)

***11. What kind of student population does the school that you currently work in serve?**

- ☐ General Education
- ☐ Special Education
- ☐ Both General Education and Special Education

Alternative or specialized setting (please specify)

12. In which state do you teach?

City/Town:

State:

***13. In what kind of setting/community is the school that you currently teach in located?**

- ◯ Urban
- ◯ Suburban
- ◯ Rural

Other (please specify)

Teacher Survey

3. Knowledge of Special Education and RTI

***1. Please provide your candid response to the following questions:**

	Not at all	somewhat	moderately	very
How familiar are you with special education?	◯	◯	◯	◯
How familiar are you with the traditional refer-test (IQ-achievement discrepancy) model?	◯	◯	◯	◯
How familiar are you with Response to Intervention (RTI)?	◯	◯	◯	◯

***2. Does the state education department that you are currently teaching in require school districts to use Response to Intervention (RTI)?**

◯ No

◯ Yes

◯ Don't know

If you answered yes, which state education department do you work under?

***3. Is your school district currently using Response to Intervention (RTI)?**

◯ yes

◯ no

◯ don't know

***4. Are you currently using Response to Intervention (RTI)?**

◯ yes

◯ no

◯ don't know

Teacher Survey

4. Training

Please provide your candid response to the following questions:

***1. Training/Professional Development**

	none	1-4 hours	1-2 day workshop	1-2 week long training	1 or more academic course(s)
How much training have you had on special education?	◯	◯	◯	◯	◯
How much training have you had on Response to Intervention (RTI)?	◯	◯	◯	◯	◯

***2. Based on your knowledge, Response to Intervention (RTI) can be described best as (check all that apply):**

- ☐ Functional Behavioral Assessment/Behavioral Intervention Plan
- ☐ Child Study Team meeting
- ☐ Pre-referral Intervention
- ☐ Parent-Teacher Conference
- ☐ Instructional Support Team
- ☐ Refer-test-place
- ☐ None of the Above
- ☐ I don't know

3. Please define Response to Intervention in your own words.

Teacher Survey

5. Teacher Questionnaire

***1. The following questions are designed to help gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below.**

	Nothing (1)	(2)	Very Little (3)	(4)	Some Influence (5)	(6)	Quite A Bit (7)	(8)	A Great Deal (9)
How much can you do to get through the most difficult students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to help your students think critically?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to control disruptive behavior in the classroom?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to motivate students who show low interest in school work?	◯	◯	◯	◯	◯	◯	◯	◯	◯
To what extent can you make your expectations clear about student behavior?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to get students to believe they can do well in school work?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How well can you respond to difficult questions from your students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How well can you establish routines to keep activities running smoothly?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to help your students value learning?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you gauge student comprehension of what you have taught?	◯	◯	◯	◯	◯	◯	◯	◯	◯
To what extent can you craft good questions to your students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to foster student creativity?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to get children to follow classroom rules?	◯	◯	◯	◯	◯	◯	◯	◯	◯

Teacher Survey

6. ContinueTeacher Questionnaire

***1. Please continue to indicate your honest opinion about each of the statements below.**

	Nothing (1)	(2)	Very Little (3)	(4)	Some Influence (5)	(6)	Quite A Bit (7)	(8)	A Great Deal (9)
How much can you do to improve the understanding of a student who is failing?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to calm a student who is disruptive or noisy?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How well can you establish a classroom management system with each group of students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you do to adjust your lessons to the proper level for individual students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you use a variety of assessment strategies?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How well can you keep a few problem students from ruining an entire lesson?	◯	◯	◯	◯	◯	◯	◯	◯	◯
To what extent can you provide an alternative explanation or example when students are confused?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How well can you respond to defiant students?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How much can you assist families in helping their children do well in school?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How well can you implement alternative strategies in your classroom?	◯	◯	◯	◯	◯	◯	◯	◯	◯
How well can you provide appropriate challenges for very capable students?	◯	◯	◯	◯	◯	◯	◯	◯	◯

Teacher Survey

7. Copy of page: Case Study

Please read the following case study regarding a student who is struggling academically. Then, answer the questions pertaining to the case study as if the student was in your class.

***1. Sally is a Caucasian female student in the 3rd grade who is struggling in reading. She was born in the United States. There are no medical concerns. She is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. Sally is attentive, cooperative and she puts forth effort on all tasks. There are no familial issues. Both of her parents are involved and concerned about her reading difficulties. The Child Study Team met to discuss these concerns. The teacher implemented some strategies in the classroom and met with her parents several times, but Sally's reading has not improved.**

Respondents: 12.5%

***1. Mei-Ling is an Asian-American female student in the 3rd grade who is struggling in reading. She was born in the United States, and she speaks English fluently. There are no medical concerns. She is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. Mei-Ling is attentive, cooperative and she puts forth effort on all tasks. There are no familial issues. Both of her parents are involved and concerned about her reading difficulties. The Child Study Team met to discuss these concerns. The teacher implemented some strategies in the classroom and met with her parents several times, but Mei-Ling's reading has not improved.**

Respondents: 12.5%

***1. Tashika is an African-American female student in the 3rd grade who is struggling in reading. She was born in the United States. There are no medical concerns. She is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. Tashika is attentive, cooperative and she puts forth effort on all tasks. There are no familial issues. Both of her parents are involved and concerned about her reading difficulties. The Child Study Team met to discuss these concerns. The teacher implemented some strategies in the classroom and met with her parents several times, but Tashika's reading has not improved.**

Respondents: 12.5%

***1. Marisol is a Latin-American female student in the 3rd grade who is struggling in reading. She was born in the United States, and she speaks English fluently. There are no medical concerns. She is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. Marisol is attentive, cooperative and she puts forth effort on all tasks. There are no familial issues. Both of her parents are involved and concerned about her reading difficulties. The Child Study Team met to discuss these concerns. The teacher implemented some strategies in the classroom and met with her**

Teacher Survey

parents several times, but Marisol's reading has not improved.

Respondents: 12.5%

***1. Mike is a Caucasian male student in the 3rd grade who is struggling in reading. He was born in the United States. There are no medical concerns. He is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. Mike is attentive, cooperative and he puts forth effort on all tasks. There are no familial issues. Both of his parents are involved and concerned about his reading difficulties. The Child Study Team met to discuss these concerns. The teacher implemented some strategies in the classroom and met with the parents several times, but Mike's reading has not improved.**

Respondents: 12.5%

***1. Xue is an Asian-American male student in the 3rd grade who is struggling in reading. He was born in the United States, and he speaks English fluently. There are no medical concerns. He is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. Xue is attentive, cooperative and he puts forth effort on all tasks. There are no familial issues. Both of his parents are involved and concerned about his reading difficulties. The Child Study Team met to discuss these concerns. The teacher implemented some strategies in the classroom and met with his parents several times, but Xue's reading has not improved.**

Respondents: 12.5%

***1. Julio is a Latin-American male student in the 3rd grade who is struggling in reading. He was born in the United States, and he speaks English fluently. There are no medical concerns. He is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. Julio is attentive, cooperative and he puts forth effort on all tasks. There are no familial issues. Both of his parents are involved and concerned about his reading difficulties. The Child Study Team met to discuss these concerns. The teacher implemented some strategies in the classroom and met with his parents several times, but Julio's reading has not improved.**

Respondents: 12.5%

***1. Jamal is an African-American male student in the 3rd grade who is struggling in reading. He was born in the United States. There are no medical concerns. He is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. Jamal is attentive, cooperative and he puts forth effort on all tasks. There are no familial issues. Both of his parents are involved and concerned about his reading difficulties. The Child Study Team met to discuss these concerns. The teacher implemented some strategies in the classroom and met with his parents several times, but Jamal's reading has not improved.**

Respondents: 12.5%

Teacher Survey

	use RTI	refer to Special Education
Regardless of what is customary in your school district, would you use RTI for this student or refer this student to special education?	◯	◯
The parents in this case study would probably prefer that you as the teacher:	◯	◯
What do you think your school district would want you to do in this case?	◯	◯
In your opinion which is more time consuming?	◯	◯
Which method do you think should be used to identify whether this child has a learning disability or not?	◯	◯
Which method do you think would help increase this student's reading skills?	◯	◯
In your opinion, which method is more feasible?	◯	◯
Which method do you think this student will respond to better?	◯	◯
Which method do you think would help the student improve in all subject areas?	◯	◯
In your opinion, which method is more appropriate to meet this student's needs?	◯	◯
Which method do you think would be most effective?	◯	◯
In your opinion, which method should be used to identify effective interventions for this student?	◯	◯

Other (please specify)

***2. Would you refer this student for a special education referral?**

◯ Yes

◯ No

Other (please specify)

3. Why would you/why wouldn't you refer this student to special education?

***4. Do you think that this student would be eligible for special education services?**

◯ yes

◯ no

Other (please specify)

5. Why or Why not?

Teacher Survey

6. Which method does your school district use to identify/classify students with a Learning Disability?

- ◯ the IQ-achievement discrepancy model
- ◯ Response to Intervention (RTI)
- ◯ both

Other (please specify)

7. Please feel free to comment on the case study or any other part of this survey.

Teacher Survey

8.

Thank you for participating in my study!

If you have any questions, please feel free to contact me at: arandall@gc.cuny.edu.

Please click "Submit" to ensure that your responses are recorded.

After clicking "Submit", you will be connected to another webpage that is NOT connected to your survey responses. If you wish, you may enter your email address to be entered in a drawing for one of three $25 Amazon.com gift cards.

YOUR EMAIL ADDRESS WILL NOT BE LINKED TO YOUR SURVEY RESPONSES.

Appendix F

Informed Consent

Thank you for your interest in my survey!

My name is Archna Randall, and I am graduate student in the Educational Psychology Ph.D. Program at The Graduate Center of the City University of New York (CUNY), and Principal Investigator of this study. The purpose of my study is to obtain information from K– 6th grade teachers about their knowledge of and beliefs about special education referrals and Response to Intervention (RTI). There will be approximately 300 participants taking part in this study.

If you are at least 21 years old and a K– 6th grade teacher and decide to participate, you will be asked to complete an anonymous survey. This will involve completing a demographic questionnaire, and a 24– item rating scale about your beliefs as a teacher. In addition, you will read one short case study and answer questions regarding the student portrayed in the case study.

This survey will take approximately 10 minutes to complete. Your participation is strictly anonymous. You will not provide your name or any identifying information. In addition, IP addresses will be masked so that your identity is protected, and all data will be encrypted. All information gathered will be kept strictly confidential, and will be stored in a locked file cabinet, to which only I, and my advisor, will have access. In addition, your participation is voluntary. At any time you can refuse to answer any questions or exit from this survey.

There are no risks for participating in this study. Additionally, there is no cost or compensation for you to participate in this study. As a token of my appreciation for completing this survey, I will have a drawing for three $25 Amazon.com gift cards. At the end of the study, you may choose to submit your email address in the drawing. Your responses will not be connected to your email address.

I may publish results of the study, but names of people, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research project please contact me, Archna Randall at (917) 374–9234 or arandall@gc.cuny.edu, or you can contact my advisor, Dr. Georgina Shick Tyron at (212) 817–8293 or gtryon@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817–7525, kpowell@gc.cuny.edu.

Clicking the “Next” button will indicate that you are at least 21 years old and that you agree to participate in this study.

Thank you for your participation!

Appendix G

Teacher Demographic Questionnaire

1. What is your gender? Male _____ Female_____
2. What is your age? _____
3. What is your racial/ethnic group?
    a) Asian/Asian American
    b) Asian Indian
    c) Black/African American
    d) Hispanic/Latino
    e) Native American/American Indian
    f) Native Hawaiian/Pacific Islander
    g) White/Caucasian
    h) Other (Please Specify) _____
4. What your highest level of education/degree?

    B.A./B.S. _____ Masters_____ Master Plus 30

    Educational Specialist (Ed.S.) _____ Doctorate _____

    Other (please describe) _____
5. How many years have you been of teaching in a school setting?_____
6. How many years have you been employed at your current school?_____
7. What kind of teacher certification do you hold? (Please check all that apply)
    a. General Education Grades K–12
    b. General Education Elementary School only
    c. General Education Secondary only
    d. Special Education Elementary K–12

e. Special Education Elementary only

f. Special Education Secondary only

g. Other (please specify)

8. In what kind(s) of classroom(s) do you currently teach? (Please check all that apply)

a. General Education

b. Special Education

c. Collaborative/Co–Teaching/Inclusion

d. Individual or small group instruction

e. Other (please specify) _____

9. Which grade level do you teach?

a. Pre–Kindergarten

b. Kindergarten

c. 1st

d. 2nd

e. 3rd

f. 4th

g. 5th

h. 6–8th

i. 9–12th

10. What type of school do you teach in?

a. Public

b. Charter

c. Private

d. Religious

11. What kind of student population does the school that you currently work in serve?

    a. General Education only

    b. Special Education only

    c. Both general education and special education

    d. Alternative or specialized setting (Please specify)

12. In which state do you teach? City/town_____ State _____

13. In what kind of setting/community is the school that you currently teach in located?

    a. Urban

    b. Suburban

    c. Rural

    d. Other (please specify)

Appendix H

Teacher Questionnaire

Knowledge of Special Education and RTI

1. Please provide your candid responses to the following questions:

   How familiar are you with special education?

   Not at all somewhat moderately very

   How familiar are you with the traditional refer–test (IQ–achievement discrepancy) model?

   Not at all somewhat moderately very

   How familiar are you with Response to Intervention (RTI)?

   Not at all somewhat moderately very

2. Does the state education department that you are currently teaching in require school districts to use Response to Intervention (RTI)?
   a. No
   b. Yes
   c. Don't Know

   If you answered yes, which state education department do you work under?

3. Is your school district currently using Response to Intervention (RTI)?
   a. Yes
   b. No
   c. Don't Know

4. Are you currently using Response to Intervention (RTI) with your student(s)/ in your classroom?
   a. Yes
   b. No

c. Don't Know

Training/Professional Development

Please provide your candid response to the following questions:

1. How much training have you had on special education?

None 1–7 hours 1–2 day training 1 week long 1 or more college credits

2. How much training have you had on Response to Intervention (RTI)?

None 1–7 hours 1–2 day training 1 week long 1 or more college credits

Appendix I

Teachers' Sense of Efficacy Scale

Teacher Beliefs Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.	How much can you do? Nothing		Very Little		Some Influence		Quite A Bit		A Great Deal
1. How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5. To what extent can you make your expectations clear about student behavior?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7. How well can you respond to difficult questions from your students ?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9. How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10. How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12. How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14. How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
16. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17. How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19. How well can you keep a few problem students form ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
21. How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
22. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
23. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
24. How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

From: Teacher efficacy: Capturing an elusive construct, by Tschannen-Moran & Woolfolk Hoy, 2001. Teaching and Teacher Education, 17, 783-805. Copyright by Tschannen-Moran & Woolfolk Hoy. Permission granted by the author March 24th, 2011.

Appendix J

Sample Case Study and Questions

1. Please read the following case study imagining the student in the case study is from your current classroom and answer the questions below the vignette.

(*Student's name*) is an *African American/Asian American/Caucasian/Latin American male/female* student in the 3rd grade who is struggling in reading. *He/She* was born in the United States. There are no medical concerns. *He/She* is receiving failing grades in all subject areas except for math computation. There are no behavioral concerns. *He/She* is attentive, cooperative and he/she puts forth effort on all tasks. There are no familial issues. Both of *his/her* parents are involved and concerned about his/her reading difficulties. The teacher implemented some strategies in the classroom and met with the parents several times, but (*Student name's*) reading has not improved.

Regardless of what is customary in your school district, would you use RTI for this student or refer this student to special education?

use RTI refer to special education

What do you think your school district would want you to do in this case?

use RTI refer to special education

Which method do you think would help increase this student's reading skills?

use RTI refer to special education

Which method do you think would help the student improve in all subject areas?

use RTI refer to special education

Which method do you think would be most effective?

use RTI refer to special education

In your opinion, which method should be used to identify effective interventions for this student?

use RTI refer to special education

Which method do you think should be used to identify whether this child has a learning disability or not?

use RTI refer to special education

Which method do you think this student will respond to better?

use RTI refer to special education

In your opinion, which method is more feasible?

use RTI refer to special education

In your opinion, which method is more appropriate to meet this student's needs?

use RTI refer to special education

The parents in this case study would probably prefer that you as the teacher:

use RTI refer to special education

In your opinion which is more time consuming?

use RTI refer to special education

2. Would you refer this student for a special education referral?
    a. Yes
    b. No

Other (please specify) _____

3. Why would you/wouldn't you refer this student to special education?

4. Do you think that this student would be eligible for special education services?
    a. Yes
    b. No
5. Why or Why not?

6. Which method does your school district use to identify/classify students with a Learning Disability?
    a. The IQ–achievement discrepancy model
    b. Response to Intervention (RTI)
    c. Both
    d. Other (please specify)

Thank you for participating in my study!

If you have any questions, please feel free to contact me at: arandall@gc.cuny.edu.

Please click "Submit" to ensure that your responses are recorded.

After clicking "Submit", you will be connected to another webpage that is NOT connected to your survey responses. If you wish, you may enter your email address to be entered in a drawing for one of three $25 Amazon.com gift cards.

YOUR EMAIL ADDRESS WILL NOT BE LINKED TO YOUR SURVEY RESPONSES.

Appendix K

Drawing for Gift Card

Thank you for completing the survey!

If you would like to participate in a drawing for one of three $25 Amazon.com gift cards please enter your email address below:

Your email address will not be connected to your survey.

Appendix L

Directions for Scoring the Teachers' Sense of Efficacy Scale[1]

Developers: Megan Tschannen-Moran, College of William and Mary
Anita Woolfolk Hoy, the Ohio State University

Construct Validity

For information the construct validity of the Teachers' Sense of Teacher Efficacy Scale, see:

Tschannen-Moran, M. & Woolfolk, Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. Teaching and Teacher Education, 17, 783–805.

Factor Analysis

It is important to conduct a factor analysis to determine how your participants respond to the questions. We have consistently found three moderately correlated factors: Efficacy in Student Engagement, Efficacy in Instructional Practices, and Efficacy in Classroom Management, but at times the makeup of the scales varies slightly. With preservice teachers we recommend that the full 24–item (or 12–item short form) be used because the factor structure often is less distinct for these respondents.

Subscales Scores

To determine the Efficacy in Student Engagement Efficacy in Instructional Practices, and Efficacy in Classroom Management subscale scores, we compute unweighted means of the items that load on each factor. Generally these groupings are:

Long Form

Efficacy for Student Engagement:	Items 1, 2, 4, 6, 12, 14, 22
Efficacy in Instructional Strategies:	Items 7.10, 11, 17, 18, 20, 23, 24
Efficacy for Classroom Management	Items 3, 5, 8, 13, 15, 16, 19, 21

Short Form

Efficacy for Student Engagement:	Items 2, 3, 4, 11
Efficacy in Instructional Strategies:	Items 5, 9, 10, 12
Efficacy for Classroom Management	Items 1, 6, 7, 8

Reliabilities

In Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education, 17,* 783–805.

Because this instrument was developed at the Ohio State University, it is sometimes referred to as the *Ohio State Teacher Efficacy Scale* (OSTES). We prefer the name, *Teachers' Sense of Efficacy Scale (TSES)*.

1

Woolfolk Hoy, A. Directions for Scoring the Teachers' Sense of Efficacy Scale. Retrieved from http://people.ehe.osu.edu/ahoy/research/instruments/

Appendix M

Table of Correlations Among Familiarity and Training in RTI and Special Education and Teacher Referral Decisions

	1	2	3	4	5	6
1. How familiar are you with special education?	–					
2. How familiar are you with RTI?	.61**	–				
3. How familiar are you with the traditional refer–test model?	.73**	.60**	–			
4. How much training have you had on special education?	.57**	.32**	.39**	–		
5. How much training have you had on RTI?	.50**	.57**	.43**	.38**	–	
6. Teacher Referral Decision[a]	.13	.25**	.09	.13	.12	–

[a]Criterion variable: use RTI or refer to special education.
**$p < .01$ (2–tailed), *$p < .05$ (2–tailed)

Appendix N

Table of Correlations Among the Case Study Questions

	1[a]	2	3	4	5	6	7	8	9	10	11	12
1.	–											
2.	.20*	–										
3.	.63**	.20*	–									
4.	–.63**	.21*	.50*	–								
5.	–.78**	.21*	.61**	.60**	–							
6.	–.54**	.25**	.51**	.48**	.55**	–						
7.	–.47**	.13	.35**	.36**	.47**	.30**	–					
8.	–.67**	.25**	.67**	.63**	.78**	.64**	.34**	–				
9.	.66**	.34**	.44**	.48**	.59**	.54**	.46**	.49**	–			
10.	–.77**	.25**	.61**	.69**	.74**	.51**	.36**	.74**	.58**	–		
11.	–.53**	.26**	.32**	.43**	.47**	.38**	.29**	.43**	.39**	.43**	–	
12.	.20*	.04	–.08	–.13	–.13	.04	.02	–.08	–.17*	–.13	.04	–

[a]Criterion variable: use RTI or refer to special education.
**$p < .01$ (2–tailed), *$p < .05$ (2–tailed)

1. Regardless of what is customary in your school district, would you use RTI for this student or refer this student to special education?
2. What do you think your school district would want you to do in this case?
3. Which method do you think would help increase this student's reading skills?
4. Which method do you think would help the student improve in all subject areas?
5. Which method do you think would be most effective?
6. In your opinion, which method should be used to identify effective interventions for this student?
7. Which method do you think should be used to identify whether this child has a learning disability or not?
8. Which method do you think this student will respond to better?
9. In your opinion, which method is more feasible?
10. In your opinion, which method is more appropriate to meet this student's needs?
11. The parents in this case study would probably prefer that you as the teacher:
12. In your opinion which is more time consuming?

Figure 1. Response to Intervention Pyramid

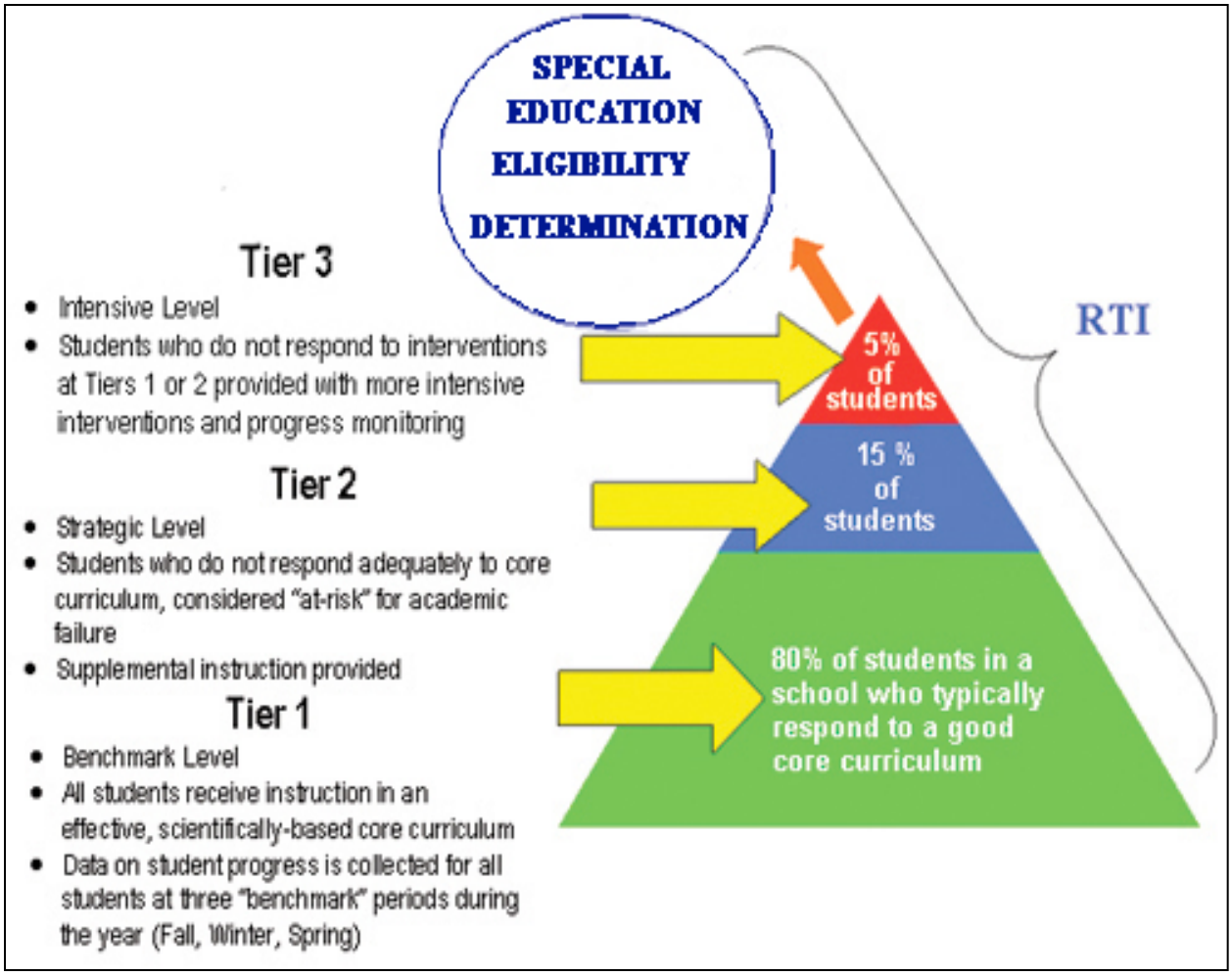


Figure 1. RTI Pyramid. Retrieved from http://www.lehigh.edu/education/mp3/rti/rti.htm

References

Ashton, P. (1984). Teacher efficacy: A motivational paradigm for effective teacher education. *Journal of Teacher Education*, *35(5),* 28–32. doi: 10.1177/002248718403500507

Ashton P. T., & Webb, R. B. (1986). *Making a difference: Teacher's sense of efficacy and student achievement.* New York: Longman.

Artiles, A. J., Aguirre-Munoz, Z., & Abedi, J. (1998). Predicting placement in disability programs: Do predictors vary by ethnic group? *Exceptional Children, 64,* 543–559.

Artiles, A. J., Rueda, R., Salazar, J. J., & Higareda, I. (2005). Within–group diversity in minority disproportionate representation: English language learners in urban school districts. *Exceptional Children, 71,* 283–300.

Artiles, A. J., & Trent, S. C. (1994). Overrepresentation of minority students in special education: A continuing debate. *The Journal of Special Education, 27,* 410–437.

Bhattacharya, G. (2000). The school adjustment of south Asian immigrant children in the United States. *Adolescence*, *35,* 77–85.

Baker, P. H. (2005). Managing student behavior: how ready are teachers to meet the challenge? *American Secondary Education, 33,* 51–63.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior. *Psychological Review, 84,* 191–215.

Bandura, A. (1986). *Social Foundation of Thoughts and Action: A Social Cognitive Theory.* Englewood Cliffs, N.J.: Prentice–Hall.

Bandura, A. (1997). *Self–efficacy: The exercise of control.* New York: Freeman.

Beaman, R., Wheldall, K., & Kemp, C. (2006). Differential teacher attention to boys and girls in the classroom. *Educational Review, 58,* 339–366. doi: 10.1080/00131910600748406.

Bender, W. N., Shores, C. F. (2007) *Response to Intervention: A Practical Guide for Every Teacher.* Thousand Oaks, CA: Corwin Press.

Chang, D. (2003). The effects of ethnicity and problem type on teachers' assessment of student behavior. *Journal of Consulting and Clinical Psychology, 71,* 235–242. doi: 10.1037/0022–006X.71.2.235

Cousins, J. B., & Walker, C. A. (2000). Predictors of educators' valuing of systemic inquiry in schools. *Canadian Journal of Program Evaluation (Special Issue),* 25–53.

Coutinho, M. J., Oswald, D. P., & Best, A. M. (2002). The influence of sociodemographics and gender on the disproportionate identification of minority students as having learning disabilities. *Remedial Special Education, 23,* 49–59.

Cummins, J. (1981). Empirical and theoretical underpinnings of bilingual education. *Journal of Education, 163(1),*16–29.

Dembo, M. H., & Gibson, S. (1985). Teachers' sense of efficacy: An important factor in school improvement. *The Elementary School Journal, 86,* 73–184.

Doan, K. (2006). A sociocultural perspective on at–risk Asian American students. *Teacher Education and Special Education, 29,*157–167. doi: 10.1177/088840640602900302

Donovan M. S., & Cross, C. T. (Eds.). (2002). *Minority Students in Special and Gifted Education.* Washington, DC: National Academy Press.

Dunn, L. M. (1968). Special education for the mildly mentally retarded: Is much of it justifiable? *Exceptional Children, 23,* 5–21.

Egyed, C. J., & Short, R. J. (2006). Teacher self–efficacy, burnout, experience, and decision to refer a disruptive student. *School Psychology International, 27,* 462–474. doi: 10.1177/0143034306070432

Fagan, T. K., & Wise, P. S. (2000). *School psychology: Past, present, and future* (2nd ed.). Bethesda, MD: National Association of School Psychologists Publications. [e–book]. doi: 10.1177/0002764206296456

Feistritzer, C. E. (2011). *Profile of teachers in the U.S. 2011.* Washington, D.C.: National Center for Educational Information. Retrieved from www.ncei.com/Profile_Teachers_US_2011.pdf.

Finn, J. D. (1982). Patterns in special education placement as revealed by the OCR surveys. In K. A. Heller, W. H. Holtzman & S. Messick (Eds.), *Placing children in special education: A strategy for equity* (pp. 322–381). Washington, DC: National Academy Press.

Fletcher, J., Coulter, W., Reschly, D., & Vaughn, S. (2004). Alternative approaches to the definition and identification of learning disabilities: Some questions and answers. *Annals of Dyslexia*, *54,* 304–331. doi: 10.1007/s11881–004–0015–y

Frey, A. (2002). Predictors of placement recommendations for children with behavioral or emotional disorders. *Behavioral Disorders, 27,* 126–136.

Fuchs, D., Compton, D. L., Fuchs, L. S., Bryant, J., & Davis, G. N. (2008). Making "secondary intervention" work in a three–tier responsiveness–to–intervention model: Findings from the first–grade longitudinal reading study of the National Research Center on Learning Disabilities. *Reading and Writing, 21*, 413–436.

Fuchs, D., & Fuchs, L. S. (2006). Introduction to response to intervention: What, why and how valid is it? *Reading Research, 41,* 93–99. doi: 10.1598/RRQ.41.1.4

Fuchs, D., Mock, D., Mock, D., & Young, C. L. (2003). Responsiveness–to–intervention: Definitions, evidence, and implications for the learning disabilities construct. *Learning Disabilities Research and Practice, 18,* 157–171. doi: 10.1111/1540–5826.00072

Garcia, S., & Ortiz, A. (2008). A framework for culturally and linguistically responsive design of response–to–intervention models. *Multiple Voices for Ethnically Diverse Exceptional Learners*, *11,* 24–41.

Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 30,* 52–64. doi: 10.1037/0022–0663.76.4.569

Gilman, R., & Gabriel, S. (2004). Perceptions of school psychological services by education professionals: Results from a multi–state survey pilot study. *School Psychology Review, 33,* 271–286.

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

Gutkin, T. B., & Ajchenbaum, A. (1984). Teachers' perceptions of control and preferences for consultative services. *Professional Psychology: Research and Practice, 15,* 565–570.

Henson, R. K., Kogan, L. R., & Vacha-Haase, T. (2001). A reliability generalization study of the teacher efficacy scale and related instruments. *Educational and Psychological Measurement, 61,* 404–420. doi: 10.1177/00131640121971284

Hollenbeck, A. (2007). From IDEA to implementation: A discussion of foundational and future responsiveness–to–intervention research. *Learning Disabilities Research & Practice, 22,* 137–146. doi: 10.1111/j.1540–5826.2007.00238.x

Hoover, J. J., Baca, L., Wexler–Love, E., & Saenz, L. (2008, August). *National implementation of response to intervention (RTI): Research summary*. Retrieved from: http://www.nasdse.org/Portals/0/NationalImplementationofRTI–ResearchSummary.pdf

Hosp, J. L., & Reschly, D. J. (2003). Referral rats for intervention or assessments: meta–analysis of racial differences. *Journal of Special Education, 37,* 67–80. doi: 10.1177/00224669030370020201

Hosp, J. L., & Reschly, D. J. (2004). Disproportionate representation of minority students in special education: Academic, demographic, and economic predictors. *Exceptional Children, 70,* 185–9.

Hoy, A., & Spero, R. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching & Teacher Education, 21,* 343–356. doi: 10.1016/j.tate.2005.01.007

Individuals with Disabilities Education Act (IDEA). Amendments 1997. Public Law 118–446. U.S. Office of Special Education Programs.

Individuals with Disabilities Education Improvement Act (IDEA) of 2004, Public Law 108–446, 20 U.S.C. §§ 1400 *et seq.*

Jacob–Timm, S., & Hartshorne, T. S. (1994). Section 504 and school psychology. *Psychology in the Schools, 31,* 26–39. doi: 10.1002/1520–6807

Kavale, K. A., Holdnack, J. A., & Mostert, M. P. (2005). Responsiveness to intervention and the identification of specific learning disability: A critique and alternative proposal. *Learning Disability Quarterly, 28,* 2–16.

Kirk, S. A., & Bateman, B. (1962). Diagnosis and remediation of learning disabilities. *Exceptional Children, 29,* 73–78.

Klingner, J. K., & Artiles, A. J. (2006). English language learners struggling to learn to read: Emergent scholarship on linguistic differences and learning disabilities (Overview of special issue). *Journal of Learning Disabilities, 39,* 386–389. doi: 10.1177/00222194060390050101

Klingner, J., Artiles, A., Kozleski, E., Harry, B., Zion, S., Tate, W., Zamora Durán, G., & Riley, D. (2005). Addressing the Disproportionate Representation of Culturally and Linguistically Diverse Students in Special Education through Culturally Responsive Educational Systems. *Education Policy Analysis Archives, 13,* 1–43. Retrieved from http://epaa.asu.edu/ojs/article/view/143/269

Klingner, J. K., & Edward, P. (2006). Cultural considerations with response to intervention models. *Reading Research Quarterly, 41,* 108–117. doi: 10.1598/RRQ.41.1.6

Klingner, J. K., & Harry, B. (2006). The Special Education Referral and Decision–Making Process for English Language Learners: Child Study Team Meetings and Placement Conferences. *Teachers College Record*, *108,* 2247–2281. Retrieved from http://www.colorado.edu/education/faculty/janetteklingner/Docs/Klingner%20&%20Harry_The%20Special%20Education%20Referral%20and%20Decision–Making%20Process.pdf

Lee, S. J. (1996). *Unraveling the "model minority stereotype": Listening to Asian American youth.* New York: Teachers College Press.

Lee, S. J. (2006). Additional complexities: Social class, ethnicity, generation, and gender in Asian American student experiences. *Ethnicity, Ethnicity & Education, 9,* 17–28.

Li, G. (2005). Other people's success: Impact of 'model minority myth on underachieving Asian students in North American. *Journal of Educational Psychology, 2,* 69–86. Retrieved from https://www.msu.edu/~liguo/file/KEDI%20Journal–Guofang%20Li%202005%5B1%5D.pdf

Liu, Y., Ortiz, A. A., Wilkinson, C. Y., Robertson, P., & Kushner, M. I. (2008). From Early Childhood Special Education to Special Education Resource Rooms: Identification, Assessment, and Eligibility Determinations for English Language Learners with Reading–Related Disabilities. *Assessment for Effective Intervention, 33,* 177–187. doi: 10.1177/1534508407313247

Losen, D., & Orfield, G. (2002). *Racial Inequity in Special Education*. Cambridge, MA: Harvard Education Publishing Group.

MacMillan, D. L., & Reschly, D. J. (1998). Overrepresentation of minority students: The case for greater specificity or reconsideration of the variables examined. *The Journal of Special Education, 32,* 15–24. doi: 10.1177/002246699803200103

MacMillan D. L. & Siperstien, G. N. (2002). Learning disabilities as operationally defined by schools. In R. Bradely, L. Danielson, & D. Hallahan (Eds.), *Identification of disabilities: Research to practice* (pp. 520-586). Mahwah NJ: Erlbaum.

McCook, J. E. (2006). *The RTI guide: Developing and implementing a model in your schools.* West Palm Beach, FL: LRP Publications.

Meijer, C. J. W., & Foster, S. F. (1998). The effect of teacher self–efficacy on referral chance. *Teaching and Teacher Education, 12,* 385–400. doi: 10.1177/002246698802200309

Mellard, D. (2004). *Understanding Responsiveness to Intervention in Learning Disabilities Determination.* (*NRCLD Report).* Retrieved from http://www.nrcld.org/about/publications/papers/mellard.html.

Mellard, D., Deshler, D., & Barth, A. (2004). LD identification: It's not simply a matter of building a better mousetrap. *Learning Disability Quarterly*, *27,* 229–242.

Mesmer, E., & Mesmer, H. (2008). Response to Intervention (RTI): What teachers of reading need to know. *Reading Teacher*, *62*, 280–290. doi: 10.1598/rt.62.4.1

Mitchell, Y. L., Espin, C. A. (1990). The handicapped children's protection act of 1986: Time to Pay the Piper? *Exceptional Children (Special Issue)*, *56.*

National Joint Committee on Learning Disabilities (2005). Responsiveness to Intervention and Learning Disabilities. Retrieved from http://www.ldonline.org/article/Responsiveness_to_Intervention_and_Learning_Disabilities?theme=print

National Association of State Directors of Special Education. (2007). Response to Intervention, A Joint Paper by the National Association of State Directors of Special Education and the Council of Administrators of Special Education. Retrieved from: www.nasdse.org/projects.cfm?pageprojectid=23

New York State Education Department.(2008). *Re: Implementation of Response to Intervention Programs.* (NY State Education Department Memorandum) Retrieved from http://www.vesid.nysed.gov/specialed/publications/policy/RTI.htm

Nunn, G. D., & Jantz, P. B. (2009). Factors within response to intervention implementation training associated with teacher efficacy beliefs. *Education, 129,* 599–607.

Oswald, D. P., Best, A. M., Coutinho, M. J., & Nagle, H. (2003). Trends in the special education identification rates of boys and girls: A call for research and change. *Exceptionality, 11,* 223–227. doi: 10.1207/S15327035EX1104_3

Oswald, D. P., Coutinho, M. J., Best, A. M., Singh, N. N. (1999). Ethnic representation in special education: The influence of school–related economic and demographic variables. *Journal of Special Education, 32,* 194–206. doi: 10.1177/002246699903200401

Orosco, M., & Klingner, J. (2010). One school's implementation of RTI with English language learners: "referring into RTI". *Journal of Learning Disabilities, 43,* 269–288. doi: 10.1177/0022219409355474

Parrish, T. (2002). Disparities in the identification, funding, and provision of special education. In D. J. Losen & G. Orfield (Eds.), *Racial inequity in special education* (pp. 15–38). Cambridge, MA: Harvard Education Press.

Pereles, D. A., Omdal, S., & Baldwin, L. (2009). Response to intervention and twice–exceptional learners: A promising fit. *Gifted Child Today 32,* 40–51.

Podell, D., & Soodak, L. (1993). Teacher efficacy and bias in special education referrals. *Journal of Educational Research, 86,* 247–253.

President's Commission on Excellence in Special Education (2002). *A new era: Revitalizing special education for children and their families.* Washington, DC.

Randall, A., & Tryon, G. S. (2009). Teachers' perception of school–based consultation, teacher efficacy and willingness to consult versus refer to special education. Unpublished Manuscript, City University of New York: Graduate School and University Center.

Rand Reading Study Group (2002). *Reading for understanding*. Santa Monica, CA: Rand Corporation. www.rand.org/multi/achievementforall/

Rehabilitation Act of 1973, 29 U.S.C. § 701 et seq.

Reschly, D. J., & Hosp, J. L. (2004). State SLD identification policies and practices.

Learning Disability Quarterly, 27(4), 197–213.

Rinaldi, C., & Samson, J. (2008). English Language Learners and Response to Intervention: Referral Considerations. *TEACHING Exceptional Children*, *40*, 6–14.

Schunk, D. H. (2004). *Learning Theories: An educational perspective* (4th Ed.). Upper Saddle River, NJ: Prentice–Hall.

Soodak, L. C., & Podell, D. M. (1993). Teacher efficacy and student problem as factors in special education. *Journal of Special Education, 27,* 66–81. doi: 10.1177/002246699302700105

Tejeda–Delgado, M. (2009). Teacher efficacy, tolerance, gender, and years of experience and special education referrals. *International Journal of Special Education*, *24*, 11.

Tournaki, N., & Podell, D. (2005). The impact of student characteristics and teacher efficacy on teachers' predictions of student success. *Teaching & Teacher Education*, *21*, 299–314. doi: 10.1016/j.tate.2005.01.003

Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202–248. doi: 10.2307/1170754

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive concept. *Teaching and Teacher Education, 17*, 783–805. doi: 10.1016/S0742–051X(01)00036–1

Tobias, S., Zibrin, M., & Menell, C. (1983). Special Education referrals: Failure to replicate student–teacher ethnicity interaction. *Journal of Educational Psychology*, *75*, 705–707. doi: 10.1037/0022–0663.75.5.705

United States Department of Education, Office of Special Education and Rehabilitative Services, (2002). *A new era: revitalizing special education for children and their families.* Washington, DC, 2002. Retrieved from http://www.ed.gov/inits/commissionsboards/whspecialeducation/

United States Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs. (2006). *26th annual (2004) report to congress on the implementation of the individuals with disabilities education act, vol. 2.* Washington, D.C.: Author.

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*, 225–56. doi: 10.1016/j.jsp.2006.11.004

Vaughn, S., & Fuchs, L. S. (2003). Redefining learning disabilities as inadequate response to instruction: The promise and potential problems. *Learning Disabilities Research and Practice, 18*, 157–171. doi: 10.1111/1540–5826.00070

Vaughn, S., Linan–Thompson, S., & Hickman, P. (2003). Response to instruction as a means of identifying students with reading/learning disabilities. *Exceptional Children, 69,* 391–409.

Waitoller, F., Artiles, A. J., & Cheney, D. A. (2010). The miner's canary: a review of overrepresentation research and explanations. *The Journal of Special Education, 44,* 29–49. doi: 10.1177/0022466908329226

Wehmeyer, M. L., & Schwartz, M. (2001). Disproportionate representation of males in special education services: biology, behavior, or bias? *Education and Treatment of Children, 24*, 28–45.

Werts, M. G., Lambert, M., Carpenter, E. (2009). What special education directors say about RTI? *Learning Disability Quarterly, 32,* 245–254

Wing, J. (2007). Beyond black and white: The model minority myth and the invisibility of Asian American students. *Urban Review: Issues and Ideas in Public Education*, *39*, 455–487.

Woolfolk Hoy, A. (2004, April). *What do teachers need to know about self–efficacy?* Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Woolfolk Hoy, A., & Burke–Spero, R. (2005). Changes in efficacy during the early years of teaching. A Comparison of four measures. *Teaching and Teacher Education*, *21*, 343–356. doi: 10.1016/j.tate.2005.01.007

Woolfolk, A. E., & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal Educational Psychology, 82,* 81–91.

Wong, F., & Halgin, R. (2006). The model minority: Bane or blessing for Asian Americans? *Journal of Multicultural Counseling and Development, 34,* 38–49.

Ysseldyke, J. (2005). Assessment and Decision Making for Students with Learning Disabilities: What If This Is as Good as It Gets? *Learning Disability Quarterly, 28,* 125–128.

Zirkel, P. (2009). Legal eligibility of students with learning disabilities: consider not only RTI but also [section] 504. *Learning Disability Quarterly,* March 22, 2009. Retrieved from http://www.thefreelibrary.com/_/print/PrintArticle.aspx?id=200395205