Examining Teachers’ Sense of Efficacy and Their Decisions in Regard to Referral and Placement

Ayse Dilsad Yakut

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EXAMINING TEACHERS’ SENSE OF EFFICACY AND THEIR DECISIONS IN REGARD TO REFERRAL AND PLACEMENT

A Dissertation Presented

by

AYSE DILSAD YAKUT

Submitted to the Graduate School of the University of Massachusetts Amherst in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2018

Education
EXAMINING TEACHERS’ SENSE OF EFFICACY AND THEIR DECISIONS IN REGARD TO REFERRAL AND PLACEMENT

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I knew that pursuing a doctoral degree would not be an easy task. But it has been worth it to be involved in this Ph.D. journey since this has been the most enriching experience of my life. I would like to express my sincere thanks to several individuals below who assisted me at every point to achieve my goals during the four years of my doctoral degree.

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Last but not least, I would like to extend my appreciation to my dearest family: my parents and my brothers for their love and support throughout my doctoral degree and my life in general. Special thanks to my family for having the faith in my decisions and inspiring me in the importance of a good education.
ABSTRACT

EXAMINING TEACHERS’ SENSE OF EFfICACY AND THEIR DECISIONS IN REGARD TO REFERRAL AND PLACEMENT

MAY 2018

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One factor that can influence identification of students with disabilities is teachers’ decisions to refer a student for special education services. Both teacher and student characteristics can influence teachers’ decision making. As evidenced in research and theory, teacher characteristics of efficacy influences teachers’ classroom practices, student outcome, and teachers’ perceptions about working with students with disabilities, which might also influence teachers’ decisions to refer students for special education evaluation. As a primary purpose, I examined whether elementary education teachers’ sense of efficacy predicts their decisions to refer a student for special education evaluation and their decisions to place a student in a special education classroom in Turkey. As a secondary purpose, I examined teacher demographic characteristics (i.e. teachers’ educational degree, teachers’ gender, years of teaching experience, and in-service training), student characteristics (i.e. students’ gender and problem type), and teachers’ decisions in regard to referral and placement. This study included data analysis from 264 elementary school teachers with a response rate of 85.2% from one town of a
metropolitan city in the East Marmara region of Turkey. I used the Teachers’ Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001) to examine teachers’ sense of efficacy. I also developed the Teachers’ Decisions in Regard to Referral Measure (TDRRM) to examine teachers’ decisions in regard to referral and placement. Results indicated: (a) there was evidence that some factors of teacher efficacy and some demographic characteristics predicted respondents’ decisions, (b) there was a difference in the ways teachers responded to the cases based on the problem type. Limitations and implications for future research were discussed.

**Key terms:** teacher efficacy, referral, special education evaluation, placement
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CHAPTER 1

INTRODUCTION

There have been increased efforts to ensure the rights of individuals with disabilities in Turkey. Many resources have been dedicated in Turkey to this effort, as evidenced in special education policy and investments in special education. State-reported data indicates that there has been an increase in the number of students identified with disabilities since 2011 in Turkey (National Education Statistics [Milli Egitim Istatistikleri], 2016). Classroom teachers play a pivotal role in determining whether to refer or not refer a student who is suspected of having a disability for special education evaluation. If a student is found to be eligible for special education services, the next step is deciding where students should receive their education, placement in one of the following: a) placement in a general education classroom; b) placement in a special education classroom; or c) placement in a separate school for students with special needs. Understanding the variables that influence a teacher’s decision to refer a student for special education evaluation and influence teachers’ beliefs about where students should be placed is critical.

Educational Policy in Turkey

To ensure the educational rights of people with disabilities in Turkey, several provisions were included in the Constitution of the Republic of Turkey (Turkiye Cumhuriyeti Anayasasi [T.C. Ana.], 1982). Article 42 of the T.C. Ana (1982) ensures the right of free compulsory education for everyone and it stipulates that “no one shall be deprived of the right of education”. Since 2012, compulsory education includes four years of primary education, four years of lower secondary education, and four years of
upper secondary education. Article 42 further declares the state will provide scholarships and supports to enable students who have financial needs to continue their education. In addition, the state will take measures of rehabilitation for people who are in need of special education services (T.C. Ana. M.42.).

Since the ratification of the Constitution, the Republic of Turkey has passed laws to provide further rights to individuals with disabilities. The Children with Special Education Need Act (Ozel Egitime Muhtac Cocuklar Kanunu), enacted in 1983, stressed to identification and location of students with disabilities and further emphasized the necessity of educating students with disabilities in the same school building as their peers without disabilities. The Decree Law No: 573 on Special Education (Ozel Egitim Hakkında Kanun Hukmunde Kararname), issued in 1997, arranges services for individuals with special needs. The law created “principles of special education”, which include (a) providing special education services that align with the individual’s interests, desires, competences, and abilities; (b) accessing education at earlier ages; (c) providing services without separating the individual to the greatest extent possible; (d) cooperation between all organizations to ensure the individual’s education; (e) implementing individualized educational plan (IEP); and (f) ensuring the parent participation. It also emphasized the evaluation of the educational performance and developmental characteristics of students in diagnosing a disability, planning educational services, and determining placement of students.

Since the ratification of the Constitution, the Republic of Turkey has also created the regulation to provide further details on the rights of individuals with disabilities. The Special Education Services Regulation (Ozel Egitim Hizmetleri Yönetmeliği), enacted in
2000, and amended a number of times, created 14 disability categories. The regulation also specified that in diagnosing a disability, the Research and Counseling Centers should use objective standardized measures, and should consider medical reports, educational performance, the cognitive, physical, psychological, and social characteristics of the individuals, and their needs. The regulation also used the term “least restrictive environment” in regard to the placement of the students. Finally, it requires parent participation in the evaluation and placement decisions of students.

The Ministry of National Education is responsible for the supervision of the education system in Turkey. As stated in Law 3797 issued in 1992, the duties of the Ministry of National Education are to: a) plan, program, implement, and monitor education and training services for teachers and students in educational institutions; b) draw up curricula and education programs collaboratively; and c) organize and implement education and training services for citizens. One way for the Ministry of National Education (Milli Egitim Bakanligi [MEB]) to achieve these goals is through the publication of an annual report, entitled the National Education Statistics, to showcase important initiatives in education and provide useful information about services and supports for students with disabilities. This report includes the number of students identified with disabilities by year, gender, and disability categories. The 2015 National Education Statistics Report (Milli Egitim Istatistikleri, 2016) indicated that there was an increase in the number of students identified with disabilities from 2010 to 2015 and more male students were identified for special education than female students in each year since 2011 (i.e. 2011-2015). One of the largest unions in Turkey evaluated the results of this report and concluded that female students might be at a disadvantage when
it comes to accessing special education services (Egitime Bakis Izleme ve Degerlendirme Raporu, 2016). Given the steady and potentially disproportionate growth in special education population in Turkey, examining what factors influence the identification of students for special education services is essential to ensure the educational rights of individuals with disabilities and increase accountability for providing special education services emphasized in the Turkish Constitution and laws.

**Factors That Influence Identification of Students with Disabilities**

During the referral process a teacher’s accuracy in identifying the problem a child is experiencing is critical in providing appropriate services for the student with special needs (Schwartz, Wolfe, & Cassar, 1997). Variables irrelevant to a student’s suspected disability can influence teachers’ decisions about referrals (Schwartz et al., 1997), including teachers’ beliefs (Jordan, Lindsay, & Stanovich, 1997). Accuracy starts with the individual who makes a referral (Schwartz et al., 1997) and most of the referrals for special education evaluation are initiated by classroom teachers (Gottlieb, Gottlieb, & Trongone, 1991).

There is limited information on the referral process in Turkey; research from the US suggests that the referral process generally begins when a classroom teacher becomes concerned about a student’s academic and/or behavioral performance (Algozzine, Christenson, & Ysseldyke, 1982; Ysseldyke, 2001). When a student falls behind as compared to his or her classmates, the student should be referred to an external resource who has a special expertise in identifying the potential problems (Jordan, Kircaali-Iftar, & Diamond, 1993). Referral is generally followed by a psychoeducational assessment that either confirms or disconfirms a student’s eligibility for special education services.
(Jordan et al., 1993). The referral-to-placement process in Turkish schools follows a similar structure, which consists of educational diagnosis-evaluation, placement, individualized educational program, and monitoring. Classroom teachers are responsible for initiating the process in Turkey.

Teachers play a key role in the referral process. They act as the main informants about a child’s behaviors, academic performance, and progress in the classroom and they are initial gatekeepers in the identification of students with special needs (Zirkel, 2015). Drawing on research from the US, one of the earliest studies examining referral-to-placement indicated that there is a high probability of being eligible once a student is referred for special education services (Algozzine et al., 1982). Although there have been significant changes over the years in the assessment and referral process for students at risk, a replication of the study was consistent with earlier findings (Ysseldyke, Vanderwood, & Shriner, 1997). Results indicated nearly 90% to 92% of referred students were evaluated and 70% to 74% of evaluated students were also found eligible for special education services (Ysseldyke et al., 1997). There are some publications that focus on the referral process in Turkey, but no studies examining the referral process; therefore, it is crucial to study what factors (i.e. teacher and student characteristics) influence whether or not to refer students for special education services in Turkey.

Blanchett (2006) suggested that the referral process can be subjective, when individuals’ judgements are used for the determination of eligibility. This subjectivity can arise for many reasons. First, factors that influence teachers to refer or not refer a student might vary because of the teachers’ ability to overcome difficult situations (e.g. Bandura, 1977, 1986). Second, teachers’ decision-making process is complex and might be
influenced by teachers’ beliefs (Clark & Peterson, 1986). Lastly, teachers’ abilities to accurately identify factors in a child’s performance can vary based on teachers’ characteristics (e.g. perceptions, experiences) and student’ characteristics (Sudkamp, Kaise, & Moller, 2012). Inaccuracy in the referral process can lead to disproportionality in certain types of disability categories. Studies of disproportionality have examined high-incidence disability categories such as learning disabilities (LD), mild mental retardation, emotional disabilities, and speech-language impairments; these categories include the majority of the students who receive special education services in the USA (Sullivan, 2011). While many factors are implicated in disproportionality, no single factor alone can explain the phenomenon (Sullivan, 2001). Referral is an important component for the determination of eligibility and both student characteristics and teacher characteristics influence teachers’ decisions in regard to referral.

Student characteristics, such as academic problems (Abidin & Robinson, 2002; Lloyd, Kauffman, Landrum, & Roe, 1991), behavioral challenges (Abidin & Robinson, 2002; MacMillan, Gresham, Lopez, & Bocian, 1996; Pas, Bradshaw, Hersfeldt, & Philip, 2010), gender (Abidin & Robinson, 2002; Anderson, 1997; Lloyd et al., 1991; Pas et al., 2010), race (Andrews, Wisniewski & Mulick, 1997), age (Andrews et al., 1997), season of birth (Wallingford & Prout, 2000), and socioeconomic status (Abidin & Robinson, 2002; Meijer & Foster, 1988; Podell & Soodak, 1993) can influence a teacher’s decision to refer a student. The factors that classroom teachers use to determine which students to refer for evaluation are wide-ranging. However, Abidin and Robinson (2002) indicated that teachers’ judgments about the presence of academic and/or behavioral problems of students are the best predictors of teachers’ decisions in regard to referral.
While researchers investigated an array of student characteristics, only a few studies examined teacher characteristics and their decisions about referral and placement. These characteristics include: teachers’ sense of efficacy (Egyed & Short, 2006; Hughes, Baker, Kemenoff, & Hart, 1993; Pas et al., 2010; Meijer & Foster, 1988; Podell & Sodak 1993; Soodak & Podell, 1993; Soodak & Podell, 1994), tolerance (Tejeda-Delgado, 2009), and burnout (Egyed & Short, 2006). While there is not a single model that adequately captures the complexity of the thought processes in teacher decision making (Clark & Peterson, 1986), several models (e.g. Clark & Peterson, 1986; Dembo & Gibson, 1985) suggested that teacher efficacy is a crucial factor related to decision making.

**Teacher Efficacy**

Self-efficacy is defined as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (Bandura, 1986, p.391). Albert Bandura first described the theory of self-efficacy in 1977. Bandura’s theory (Bandura, 1977, 1981, 1986) has inspired many researchers to develop different models of teacher efficacy (Ashton & Webb, 1986; Gibson & Dembo, 1984; Woolfolk & Hoy, 1990; Tschanen-Moran, Hoy, & Hoy, 1998). Dembo & Gibson (1985) defined teachers’ sense of efficacy as “the extent to which teachers believe they can affect student learning” and researchers found two dimensions of teacher efficacy such as teaching efficacy and personal teaching efficacy that might contribute to teaching practice (Gibson & Dembo, 1984). The topic of efficacy is a broad topic in education; therefore, more extensive information about relevant theories of efficacy and teacher efficacy is provided in Chapter 2.
Teacher efficacy is a multi-dimensional construct (Guskey & Passaro, 1994; Soodak & Podell, 1993) that can influence teachers’ practice, student outcomes, teachers’ perceptions about students, and teachers’ decisions in regard to referral. This multi-dimensional construct requires one to understand the distinctions between teachers with high efficacy and teachers with low efficacy (Woolfolk & Hoy, 1990). The following paragraphs present these distinctions in three areas of research: teachers’ classroom practices, student outcomes, and teachers’ perceptions about teaching and their students.

Teachers’ sense of efficacy predicts teachers’ classroom practice such as classroom management (Ashton, Webb, & Doda, 1983; Ashton & Webb, 1986; Gibson & Dembo, 1984; Woolfolk & Hoy, 1990), instructional practices (Brownell & Pajares, 1999; Gibson & Dembo, 1984; Guskey, 1987), their behaviors in the classrooms such as goals they build (Tschannen-Moran et al., 1998), and their planning and organization (Allinder, 1994). There is a link between teachers’ efficacy and their classroom practices. Teachers who have a greater sense of efficacy are more likely to deal with obstacles (Gibson & Dembo, 1984), implement student-centered strategies (Allinder, 1994), be attentive to students’ needs and respond positively to the students’ needs (Ashton et al., 1983), and utilize effective instructional practices in their classrooms (Gibson & Dembo, 1984) that can be predictive on student outcomes.

There is a strong relationship between teachers’ classroom practices and student outcomes (Connor, Son, Hindman, Morrison, 2005). Teachers with different levels of efficacy engage differently in their classroom practices that can impact student outcomes. Teachers’ sense of efficacy predicts several student outcomes such as achievement (Allinder, 1994; Ashton, et al., 1983; Bandura, 1993, 1997; Caprara, Barbaranelli, Steca,
& Malone, 2006; Ross, 1992; Tournaki & Podell, 2005), motivation (Woolfolk, Rossoff, & Hoy, 1990), and student engagement (Tschannen-Moran et al., 1998). Research in teacher efficacy has strengthened the relationship suggesting that teachers with higher efficacy tend to produce more positive student outcomes such as higher achievement, more positive behaviors, higher motivation, and more engagement in classroom activities.

Research indicated that teachers’ sense of efficacy influences teachers’ attitudes toward teaching (Ashton, 1984; Gibson & Dembo, 1984; Guskey, 1987), teachers’ enthusiasm for teaching (Allinder, 1994), teachers’ perceptions about learning and behavioral problems of students (Brownell & Pajares, 1999; Meijer & Foster, 1988), teachers’ motivation (Ashton et al., 1983), and their persistency with working with students at risk or students with disabilities (Brownell & Pajares, 1999; Gibson & Dembo, 1984; Soodak, Podell, Lehman, 1998). Teachers who perceive themselves as successful in instructing students with academic and behavioral challenges are more willing to include these students in their classrooms (Brownell & Pajares, 1999) and more persistent in working with these students in their classrooms rather than referring students for special education (Jordan et al., 1997). Teacher efficacy, can influence both teachers’ perceptions about themselves and their students, thus it might predict their decisions regarding referral and their beliefs about students’ placement.

Teacher efficacy is the center of teacher effectiveness (Bray-Clark & Bates, 2003) which is highly related to teachers’ decision making (Clark & Peterson, 1986). Teachers are continuously making decisions in their classrooms (Clark & Lampert, 1986) including the decision to refer and place students. Many studies examined teachers’ sense of
efficacy and their decisions to refer students for special education evaluation or the
decisions of placement (Egyed & Short, 2006; Frey, 2002; Hill, Baldo, D’Amato, 1999;
Hughes et al., 1993; Meijer & Foster, 1988; Pas et al., 2010; Podell & Soodak, 1993;
Soodak & Podell, 1993; Tejeda-Delgado, 2009). Results indicated teacher efficacy has a
pivotal role on teachers’ decision making in regard to referral (Meijer & Foster, 1988;
Hughes et al., 1993; Podell & Soodak 1993) and appropriateness of regular education
placement (Frey, 2002; Soodak & Podell, 1993).

While a few researchers investigated teachers’ sense of efficacy and referral, there
are only two studies examining teachers’ efficacy and teachers’ placement
recommendations. Substantial research efforts have been made to explore teachers’
beliefs about mainstreaming or inclusion of students with disabilities. While inclusion
refers to the practice of educating students with disabilities in general education setting
and ensuring students’ access to the general education curriculum, mainstreaming is a
term that refers to the physical placements of students within a general education setting
particularly examined the studies that have been conducted between 1958 and 1995 to
explore general education teachers’ attitudes about mainstreaming or inclusion of
students with disabilities. Results indicated that 65% of the teachers supported the
concept of mainstreaming or inclusion of students with disabilities; however, teachers’
willings to include the students with disabilities was not the same as their willingness
about the conceptualization of mainstreaming or inclusion. Research in teachers’ beliefs
about mainstreaming or inclusion of students and teachers’ classroom practices has been
well established indicating that teachers’ beliefs influence teachers’ classroom practices
and their willingness to include the students with disabilities. In addition, teachers’ beliefs can influence teachers’ decision making (Clark & Peterson, 1986). Relying on research, it is viable to examine teachers’ sense of efficacy in regard to teachers’ decisions about placement.

The special education decision making process is vague (Ysseldyke et al., 1997) where a classroom teacher plays an important role in initiating the referral process. The above research suggests teacher characteristics, in particular teacher efficacy, can influence teachers’ decisions to refer students for special education services and their decisions towards placement. However, there have been no studies examining teachers’ sense of efficacy and special education decision making process in Turkey. In this regard, it is important to examine whether teachers’ efficacy predicts teachers’ decisions to refer students for special education evaluation and their decisions to place a student in a special education classroom in Turkey.

**Purpose and Significance of the Study**

In both US and Turkey, teachers play a key role in the referral process. Teachers are main informants about a student’s performance and they are the initial gatekeepers in the identification of students with special needs (Zirkel, 2015). The referral of a student is most often initiated by their classroom teachers and the majority of referrals for special education are carried out during the first four years in an elementary school (Drame, 2002). The referral process can be subjective (Blanchett, 2006); therefore, determining the factors influencing teachers’ decisions in regard to referral is important to increase the accuracy of the identification process and to provide appropriate supports to students with special needs in a timely manner.
Research supports the assertion of teachers’ efficacy is a critical factor associated with teachers’ decisions. Research in US suggested that there is an increased chance of the placement of students once a student is referred for special education services (Ysseldyke et al., 1997). Furthermore, teachers are likely to have students who have academic and/or behavioral challenges and have beliefs about their ability to teach such students in their classrooms, and other factors, including the gender of the student and the problem type may contribute to their decision making. Therefore, it is important to examine how these factors influence teachers’ decision making as well. However, no study has been conducted in Turkey that examines teachers’ sense of efficacy and their decisions in regard to referral or placement. In this regard, the research gap is noteworthy.

The purpose of this study is to examine whether elementary education teachers’ sense of efficacy predicts their decisions to refer a student for special education evaluation and their decisions to place a student in a special education classroom in Turkey. Furthermore, I explore whether students’ gender, the problem type experienced by the student, teachers’ years of teaching experience, teachers’ gender, teachers’ educational degree, and in-service training are related to teachers’ decisions in regard to referral and placement. Results of this study can help policymakers in Turkey to formulate and reformulate assessment and service delivery models in special education. In addition, this study contributes to our understanding of the current status of professional development opportunities aimed at improving teachers’ knowledge and skills needed to address students’ needs in Turkey. Lastly, this study can help future researchers to conduct further research in teachers’ decision making given the fact that
both student and teacher characteristics can be predictive in teachers’ decisions in regard to referral and placement.

**Research Questions**

This study is guided by six research questions. The primary focus on teachers’ decisions about special education referral is addressed in Research Questions 1, 2, and 3. The secondary focus on teachers’ decisions about special education placement is addressed in Research Questions 4, 5, and 6.

**Research Question 1:** Does teachers’ sense of efficacy predict their decisions to refer a student for special education evaluation?

**Research Questions 2:** Do teachers’ years of teaching experience, teachers’ gender, educational degree, and training (special education, classroom management, reading-writing supports, teaching methods and techniques) predict the teachers’ decisions to refer a student for special education evaluation?

**Research Question 3:** Is there a difference in teachers’ decisions to refer a student based on the student’s gender and the problem type?

**Research Question 4:** Does teachers’ sense of efficacy predict their decisions to place a student in a special education classroom?

**Research Questions 5:** Do teachers’ years of teaching experience, teachers’ gender, educational degree, training (special education, classroom management, reading-writing supports, teaching methods and techniques) predict the teachers’ decisions to place a student in a special education classroom?
Research Question 6: Is there a difference in teachers’ decisions to place a student in a special education classroom based on the student’s gender and the problem type?

Definition of Terms

For the purpose of this dissertation, operational definitions are provided for following terms:

Referral: The Special Education Services Regulation (Ozel Egitim Hizmetleri Yonetmeligi, 2000) described following steps for the identification of students with disabilities: educational diagnosis-evaluation, placement, individualized educational program, and monitoring. According to the guidance book (The Guidebook for Guidance and Psychological Counseling Services, 2015) published by the Office of Special Education Department of Turkey, a classroom teacher should fill out an educational evaluation form, in other words a referral form, for students who are not able to perform at age-level, despite the classroom accommodations, modifications, and extra supports. I define the term referral that is consistent with the educational system in Turkey. The term referral indicates a process where a teacher notices a concern on a student and attempts to receive formal or informal assistance from the school counselor in order to receive special education services.

Placement: Placement refers to the place a student with special needs to receive educational services. The Special Education Services Regulation (Ozel Egitim Hizmetleri Yonetmeligi, 2000) emphasizes the placement in the least restrictive environment and includes placement options as placement in a general education
classroom, placement in a special education classroom, and placement in a separate school for students with special needs.

**Teachers’ decision making:** I used the decision making model of Clark and Peterson (1986) to describe teachers’ decision making process in this study. According to Clark and Peterson (1986), there are three categories that exist within teachers’ thought processes. These include (a) teacher planning (preactive or postactive thoughts and decisions); (b) teachers’ interactive thoughts and decisions; and (c) teachers’ beliefs. While the first two categories refer to thought processes that occur either during the classroom interaction (teachers’ interactive thoughts and decisions) or before-after the classroom interaction (preactive or postactive thoughts and decisions), the last category emphasizes the importance of teachers’ beliefs while making decisions (Clark & Peterson, 1986).
CHAPTER 2

LITERATURE REVIEW

The referral process is subjective and this subjectivity can arise from teachers’ perceptions of their ability to overcome challenging situations in their classrooms (e.g. Bandura, 1977) and the complexity of teachers’ decision-making process (Clark & Peterson, 1986). In Clark and Peterson’s (1986) model of decision-making, Clark and Peterson suggest that teachers’ beliefs about their effectiveness (i.e. efficacy) are highly related to teachers’ decisions. In addition, in Gibson and Dembo’s (1984) theory of teacher efficacy, researchers posit that teacher efficacy influences how teachers deal with difficult situations in their classrooms. There is a strong link between teacher efficacy and teacher decision-making process, as is evidenced in the research (i.e. Hughes et al., 1993; Soodak & Podell, 1993). One such important decision is whether or not to refer students for special education services. In this regard, it is important to examine how teacher efficacy influences teachers’ decision making process.

This chapter is composed of two parts: (a) a discussion of relevant theory and (b) a systematic review of the literature on research examining teacher efficacy, referral, and placement. First, I explore relevant theories of efficacy and teacher efficacy, including Bandura’s theory of self-efficacy, Ashton and colleagues’ model of teacher efficacy (1983), Gibson and Dembo’s model of teacher efficacy (1984), and Tshannen-Moran et al.’s integrated model of teacher efficacy (1998). In addition, I describe Clark and Peterson’s (1986) model of decision-making. Second, I present a systematic review of literature examining teachers’ sense of efficacy, referral and/or placement process of students at risk.
Theory

There are five highly relevant theories in examining teachers’ sense of efficacy and the referral process for students at risk. The first relevant theory is Bandura’s theory of self-efficacy (1977, 1986, 1997). It is the most frequently cited theory in teachers’ efficacy research and the foundation for Ashton and colleague’s (1983) model of teacher efficacy, Gibson and Dembo’s (1984) model of teacher efficacy, and Tshannen-Moran et al.’s model of teacher efficacy (1998). These three models of teacher efficacy are the most predominantly used in teacher efficacy research examining different aspects of teachers’ classroom practices including teachers’ classroom management, instructional practices, planning and organization, and referral decisions. Lastly, I describe Clark and Peterson’s (1986) model of teacher decision making. Clark and Peterson (1986) examined teachers’ thought processes, particularly focusing on teachers’ decisions and teachers’ beliefs, both of which are crucial to understanding teachers’ decision making process in regard to referral and placement.

Bandura’s Theory of Self-efficacy

Drawing on behaviorism and a social learning framework, Bandura first described Social Cognitive Theory (SCT) in 1977. In the SCT, the “social” component recognizes that environmental origins are the basis of one’s thoughts and actions, while the “cognitive” component acknowledges the influence of cognitive processes on one’s actions. Bandura proposed that one important concept is missing in the theory and recognized that one’s perceptions of self-efficacy is a key variable on one’s learning and performance as well.
Self-efficacy is grounded in the SCT. Bandura defined self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1977). Two concepts exist in self-efficacy: self-efficacy expectations and outcome expectancy. Self-efficacy expectation is defined as “the conviction that one can successfully execute the behavior required to produce outcomes” (Bandura, 1977). The outcome expectancy is defined as “a person’s estimate that a given behavior will lead to certain outcomes” (Bandura, 1977). Bandura (1977) further analyzed the efficacy expectations and outcome expectancy and indicated two crucial points: Efficacy expectations influence one’s choice of behaviors and their persistency on coping behaviors. First, perceived self-efficacy can predict choice of behaviors: People confront the tasks and situations where they feel confident and avoid situations when they perceive that the situations would exceed their capabilities (Bandura, 1977, 1986, 1993, 1997; Brownell & Pajares, 1999; Pajares, 1996). Second, perceived efficacy can predict one’s persistency on coping behaviors in the meaning of time and effort. Bandura (1977) asserted that efficacy expectations will not solely reveal desired performance in the absence of component capabilities; however, efficacy expectations are foremost determinant for one’s choice of behaviors, persistency on tasks as well as amount of effort. To sum up, Bandura identified the difference between efficacy expectation and outcome expectancy. Because it is possible that individuals can believe that a behavior can create outcomes, but they might be lack of beliefs about whether they can perform certain tasks, efficacy expectations are the most determinant on people’s actions, effort, and their persistency on a specific task.
In addition to the distinction between efficacy expectation and outcome expectancy, Bandura proposed three dimensions for efficacy: magnitude, generality, and strength. Initially, Bandura (1977) posited that efficacy expectations may vary in magnitude. The magnitude refers to the difficulty of a task that a person believes about his or her capabilities to perform a task. The magnitude can be divided into three levels including low, moderate, and high according to one’s perception about the difficulty of the task. Second, efficacy expectations may vary in generality. While some experiences can influence one’s efficacy in a particular situation, other experiences can predict more generalizable efficacy beyond the specific situation. Lastly, efficacy expectations may differ in strength. The strength refers to the level of conviction while performing a task and it can be regarded as weak or strong. Three dimensions of efficacy are important on individual’s performance.

Researchers examined sources of efficacy to have a greater understanding about self-efficacy. Bandura suggested four sources of efficacy such as mastery experiences, vicarious experiences, verbal persuasion, and physiological reactions in the Social Cognitive Theory (Bandura, 1977, 1997). The first and most important source of efficacy is mastery experiences (Bandura, 1997). While experiencing success in mastering a task would raise self-efficacy, confronting with a failure would undermine the beliefs of efficacy (Bandura, 1997). To establish a resilient sense of self-efficacy, it is important to have experiences in overcoming challenges through effort and persistency. The second source of efficacy is vicarious experiences which suggest that a person can learn from other people who successfully manage the task. Observations of successful tasks can increase one’s beliefs about her or his capabilities to succeed in completing task
(Bandura, 1997). In addition, verbal persuasion is another source of self-efficacy that refers to the idea of influential people in one’s life and these people’s ability to strengthen one’s beliefs to succeed. A person who is convinced verbally that she or he possesses the capabilities for performing a task, tends to demonstrate a greater effort and exercise the task consistently (Bandura, 1997). Finally, a person’s perceptions about his or her emotional and psychological states can influence one’s self-efficacy. While positive moods can boost one’s confidence about his or her capabilities, depression and stress are considered as indicators for poor performance (Bandura, 1997). To sum up, the most effective way to reveal a higher self-efficacy is through mastery experiences. When mastery experiences are not possible, the vicarious experiences might be the second way to boost one’s self-efficacy. Lastly, verbal persuasion seems less effective as compared to the mastery and vicarious experiences. Three dimensions of efficacy and four sources of efficacy are the basis of Bandura’s theory which influence the development of self-efficacy beliefs.

**Teachers’ Sense of Efficacy**

Bandura’s theory of self-efficacy (1977, 1981, 1986, 1997) widely influenced teacher efficacy research. Only few researchers developed models of teacher efficacy based on Bandura’s theory of self-efficacy. Ashton, Webb, and Doda (1983), Gibson and Dembo (1984), and Tschannen-Moran et al. (1998) applied Bandura’s self-efficacy theory within their research with teachers. In this section, I review the work of these researchers in chronological order. First, I present the model of Ashton and colleagues (1983) and the multidimensional model of Gibson and Dembo (1984). These two models were concurrently proposed and were influenced by each other. Then, I review Tschannen-
Moran et al.'s integrated model of teacher efficacy, which was conceptualized based on previous models.

**Ashton and Colleagues’ Model**

Ashton et al. (1983) proposed a multidimensional model of teachers’ sense of efficacy based on Bandura’s Social Cognitive Theory (1977). Ashton et al. (1983) investigated teachers’ sense of efficacy in two phases. While the first phase was used to ground a preliminary conceptual framework for their theory of teachers’ sense of efficacy, the second phase was used to ground their theory. Thus, I provide brief information about the first phase and include further details about the second phase of the study.

In the first phase, Ashton et al. (1983) proposed the ecological perspective that implied interrelations between people and their environment. Ashton et al. (1983) suggested that an ecological perspective should integrate (a) context of teaching, (b) indirect and reciprocal effects on teachers’ sense of efficacy, and (c) subjective experiences of individuals. Ashton et al. (1983) identified contextual variables as the class size, the subject matter, and student characteristics and researchers emphasized that the context of teaching can influence teachers’ sense of efficacy. In addition, there is reciprocal relations in the ecological perspective of teacher efficacy. Teachers who believe that they can influence students’ learning are more likely to work with the students; thereby, the students are more likely to demonstrate higher achievement, which might positively influence teachers’ sense of efficacy. Lastly, it is possible that teachers hold different criteria while making judgements about specific situations; thereby, having a greater understanding about teachers’ subjective experiences would help us to explore
underlying reasons about teachers’ actions. To sum up, teachers’ sense of efficacy includes reciprocal relations where context of teaching is important. In addition, the analysis of teachers’ perceptions is crucial to understand what influences teachers’ sense of efficacy and how teachers’ sense of efficacy influences teachers’ actions. While Ashton et al. (1983) proposed an ecological perspective for teachers’ sense of efficacy in the first phase, the researchers extended Bandura’s self-efficacy theory in the second phase of their study.

In Phase 2, Ashton et al. (1983) described teachers’ sense of efficacy as a multidimensional construct that includes four dimensions such as “general causal belief in action and outcome contingencies, a generalized sense of self-efficacy, a general belief in teachers’ ability to motivate students, and specific belief in their own perceived competence in motivating students”. More specifically, individuals develop generalized beliefs about their actions and outcomes through life experiences; thereby, individual differences exist as teachers involved into the professional teaching. Teachers hold personal expectations about their ability that might influence outcome (e.g. general sense of efficacy in Bandura’s model). In addition, Ashton et al. (1983) indicated that sense of efficacy is an important factor to understand motivation, which might influence teachers’ behaviors and their persistency in working difficult situations. In Phase 2, researchers conducted a study with 48 high school teachers to explore the relationship between teachers’ sense of efficacy, their classroom behaviors, student achievement, and teacher-student interactions. Researchers indicated that teachers’ sense of efficacy is correlated with student achievement. More specifically, teachers with higher sense of efficacy are more likely to be attentive to meet students’ needs, respond positively, and motivate their
students. Based on research findings, researchers defined teacher efficacy as “the extent to which teachers’ believe they are capable of influencing student performance affects their enthusiasm and persistence in working with their students and, ultimately, their students’ achievement” (Ashton et al., 1983). While researchers examined teacher efficacy on achievement as a student outcome in their first study, researchers broadened the definition in their second study.

As previously mentioned, the model of Ashton et al. (1983) and the work of Dembo and Gibson (1984) influenced each other. Ashton and Webb (1986) redefined teachers’ sense of efficacy based on Dembo and Gibson’s work (1984). Teachers’ sense of efficacy is “teachers’ situation specific perceptions of their teaching abilities”. In addition, researchers indicated two dimensions of teachers’ sense of efficacy including personal teaching efficacy and teaching efficacy. Researchers found out that teachers who perceive they can be successful to instruct students with academic and behavioral problems tend to include the students in their classrooms (Ashton & Webb, 1986).

**Gibson and Dembo’s Model**

Gibson and Dembo (1984) proposed a multidimensional model of teacher efficacy based on Bandura’s theory (1977) and the work of Ashton et al. (1983). Gibson and Dembo (1984) used a measure of teacher efficacy to identify the dimensions of efficacy for their model. The investigation of Gibson and Dembo (1984) included a pilot study for the development of the teacher efficacy scale and a study that included three phases. I shortly describe the scale development process and explain different phases of the study in this section.
Gibson and Brown (1982) developed a teacher efficacy scale based on teacher interviews and analysis of the literature. Researchers conducted a pilot study with 90 teachers to test the measure that consists of 53 items. After the pilot study, researchers revised the items to clarify the uncertainties and eliminated some of the items to ensure the validity. Finally, researchers developed a 30-item teacher efficacy scale to use their study. The measure of Gibson and colleagues has been used by many researchers who examined teacher efficacy over the decades.

In Phase 1, researchers investigated the dimensions of teacher efficacy and how these dimensions are related to Bandura’s theory of efficacy. Results of factor analysis in Phase 1 indicates that only two factors accounted for the total variance. The factor 1 characterizes personal teaching efficacy which means one’s beliefs to make change on student learning. The personal teaching efficacy represents self-efficacy dimension of Bandura’s theory. The factor 2 characterizes teaching efficacy which means one’s beliefs to make changes are related to external factors. The teaching efficacy corresponds to outcome expectancy in Bandura’s theory. Gibson and Dembo (1984) described teachers’ sense of efficacy as the combination of personal teaching efficacy and teaching efficacy and these two dimensions of teacher efficacy are related to Bandura’s theory.

In Phase 3, researchers observed the classroom teachers to understand the distinctions between teachers with higher efficacy and teachers with lower efficacy. Gibson and Dembo (1984) indicated that teachers with different levels of teacher efficacy implement different classroom practices. More specifically, teachers who have higher level of teacher efficacy are more likely to be persistent while working with students with difficulties and they are less critical for students’ incorrect responses. In addition,
teachers with higher efficacy spend more time in large group instructions because they expect from all students to be involved in classroom activities during the class time.

A general conclusion from the model of Gibson and Dembo is that teacher efficacy is a multidimensional construct that consists of two dimensions, personal teaching efficacy and teaching efficacy. There are differences in the patterns of classroom behaviors including instruction, feedback, and classroom organization between teachers with high efficacy and teachers with low efficacy. These results explain why teachers contribute to student learning differently in their classrooms.

**Tschannen-Moran and Colleagues’ Model**

Tschannen-Moran et al. (1998) proposed a model of teacher efficacy based on theory of Bandura (1977, 1986) and works of Gibson and Dembo (1984). Researchers (Tschannen-Moran et al., 1998) proposed an integrated model of teacher efficacy and developed a measure of teacher efficacy that includes three dimensions such as classroom management, instructional practices, and student engagement. I explain how Tschannen-Moran et al. (1998) conceptualize their model of teacher efficacy and describe sources of efficacy in this section.

Tschannen-Moran et al. (1998) examined the theory and research of teacher efficacy to construct their integrated model and develop a measure of teacher efficacy. There are some differences and similarities in their model when it is compared to the other models of teacher efficacy. Different from previous models of teacher efficacy (Ashton et al., 1983; Dembo & Gibson, 1984), Tschannen-Moran et al. (1998) proposed that teacher efficacy is a “context specific”; while teachers might perceive themselves more effective for teaching specific subjects, they might feel more or less effective in
different situations. In this regard, researchers emphasized the influence of “teaching task and its context” on teacher efficacy. For example, teachers can perceive themselves very efficacious while teaching secondary chemistry class; however, the teachers can feel inefficacious while teaching a science class in middle school. In addition, teachers’ confidence can be different depending on the classifications of schools such as urban, suburban, and rural. In this regard, Tschannen-Moran et al. (1998) viewed the “teaching task and context” as one of the components of teacher efficacy. Thereby, it is important to consider the “teaching task and its context” to determine the level of teachers’ efficacy.

In addition to the emphasis on the “teaching task and its context”, Tschannen-Moran et al. (1998) described the “self-perceptions of teaching competence” as a second component of teacher efficacy. Researchers defined the “self-perceptions of teaching competence” as teachers’ judgements about their personal capabilities such as skills, knowledge, strategies in a particular teaching context. This component corresponds to the personal teaching efficacy in previously mentioned models of teacher efficacy.

Tschannen-Moran et al. (1998) identified two components in their model: “teaching task and its context” and “self-perceptions of teaching competence”. Researchers defined teacher efficacy as the interactions of these two components; thereby, teachers’ sense of efficacy is described as “the teacher’s belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (Tschannen-Moran et al., 1998). As similar to the previous conceptualizations of teacher efficacy, one’s judgement about his or her capabilities to bring about success is a pivotal part of this model. However, this model emphasized the examination of task and situation as a determinant for teacher efficacy. In
this model, the examination of task and situation expands upon the model from previous examples of teacher efficacy.

Tschannen-Moran and colleagues (1998) treated teachers’ sense of efficacy as task-specific. Tschannen-Moran and Woolfolk Hoy (2001) developed a measure of teacher efficacy to determine teachers’ competence in a variety of activities and tasks. In this regard, researchers examined teacher efficacy in three areas including instructional practices, classroom management, and student engagement that were explored during the development of the measure.

Similar to the theory of Bandura (1976), Tschannen-Moran et al. (1998) identified the same sources of efficacy in their integrated model such as mastery experiences, psychological and emotional arousal, vicarious experience, and social persuasion. Researchers suggested that all sources can contribute to the two dimensions of efficacy: “teaching task and its context” and “self-perceptions of teaching competence”. Although Bandura indicated that mastery experiences and vicarious experiences are the most powerful sources of efficacy, Tschannen-Moran et al. (1998) stated that mastery experiences and psychological arousal are the strongest factors on one’s efficacy. Because only these two sources can influence two dimensions of efficacy in the situations of actual teaching, researchers identified these two sources as the most influential sources of efficacy.

The cyclical nature of efficacy makes teacher efficacy very powerful (Tschannen-Moran et al., 1998). More specifically, sources of efficacy can shape teachers’ beliefs of efficacy. A higher level of efficacy can reveal greater effort and enthusiasm, which can reveal greater performance, which can result in greater efficacy, and vice versa. This
cyclical nature can influence teachers’ efficacy in different aspects of teaching including classroom management, instructional practices, and student engagement. One of the clearest distinctions in this model is to focus on the teaching task and its context. As a result of this, researchers developed an instrument that includes a wide range of tasks to measure the teachers’ sense of efficacy. The integrated model of efficacy mostly relied on the theory of Bandura (1977, 1986). For example, Tschannen-Moran et al. (1998) used the same sources of efficacy as Bandura’s model, but Tschannen-Moran et al. (1998) evaluated the power of each source differently because of relying on teaching task and its context.

**Conclusion**

The model of Ashton and colleagues (1983, 1986) and the model of Gibson and Dembo (1984, 1985) have similar conceptualizations. Both models of teacher efficacy are conceptualized as a multidimensional construct and consist of two dimensions: personal teaching efficacy and teaching efficacy. Ashton and colleagues described their model as hierarchical and defined personal teaching efficacy as the integration of teaching efficacy and personal efficacy. As a result, researchers emphasized that personal teaching efficacy was the best predictor for behaviors of teachers. Similarly, Gibson and Dembo (1984) described teacher efficacy as the combination of personal teaching efficacy and teaching efficacy. In addition, Gibson and Dembo (1984) focused on student learning and motivation in their study. The integrated model of teacher efficacy includes two different dimensions: “teaching task and its context” and “self-perceptions of teaching competence.” While both of these dimensions can be related to general teaching efficacy and personal teaching efficacy, as in previously developed models of teacher efficacy,
Tschannen-Moran et al. (1998) focused on task analysis and situations as a determinant for teacher efficacy. Researchers examined teachers’ efficacy as a wide range of activities as a result of the conceptualization of teacher efficacy beliefs as one’s beliefs about his or her capability to successfully accomplish a particular task.

**Teacher Decision Making Model**

A substantial number of research studies have examined teachers’ thinking, their decision making, and what predicts their decisions. There is not a single model that adequately captures the complexity of the thought processes in teachers’ decision making (Clark & Peterson, 1986; Shavelson & Stern, 1981). Research suggested two main findings: (a) teacher decision making is a complex process (Clark & Peterson, 1986; Shavelson & Stern, 1981); (b) teachers’ decision making is guided by teachers’ beliefs (Clark & Peterson, 1986; Shavelson & Stern, 1981) and their prior experiences (Calderhead, 1981; Shavelson & Stern, 1981).

Clark and Peterson (1986) identified three categories existing within teachers’ thought processes: (a) teachers’ planning (preactive or postactive thoughts and decisions); (b) teachers’ interactive thoughts and decisions; and (c) teachers’ beliefs. Researchers stated that the first and second categories are related to the distinction about whether the thought processes occur during the classroom interaction (teachers’ interactive thoughts and decisions) or before-after classroom interaction (preactive or postactive thoughts and decisions). These two categories are cyclical, because teachers’ planning includes the thought processes that start before the classroom interactions and continues after the classroom interactions, which guides their thinking for future classroom interactions and decisions (Clark & Peterson, 1986). The third category of teachers’ thought processes
suggests that teachers’ beliefs are an integral part of decision making (Clark & Peterson, 1986; Shavelson, 1978).

Relying on Clark and Peterson’s decision making model, teachers’ beliefs play an important role in their decision making. Teacher efficacy is the center of teacher effectiveness (Bray-Clark & Bates, 2011) that is highly related to teachers’ decision making (Clark & Peterson, 1986). Undoubtedly, teachers continuously make decisions in their classrooms (Clark & Lampert, 1986) and there is a reciprocal relationship between teachers’ thoughts, decisions, and actions (Clark & Peterson, 1986; Shavelson & Stern, 1981); thereby, it is important to examine teachers’ decisions in regard to referral.

**Literature Review**

There is a multidimensional relationship between teachers’ sense of efficacy, their classroom practices, student outcomes, and teachers’ perceptions about students with disabilities or students at risk. A considerable amount of teacher efficacy research has examined teachers’ classroom practices (i.e. Tschannen-Moran et al., 1998; Allinder, 1994), student outcomes (i.e. Caprara et al., 2006; Tournaki & Podell, 2005), and teachers’ perceptions about students with disabilities or students at risk (Brownell & Pajares, 1999), which might influence teachers’ decisions to refer. While a limited research has examined teachers’ perceptions about their efficacy and their decisions in regard to referral, research has failed to examine teachers’ perceptions of efficacy and their decisions in regard to placement. The research in teachers’ beliefs has tended to focus on teachers’ perceptions about mainstreaming of students with disabilities and indicated that teachers’ beliefs influence teachers’ classroom practices and their willingness to include the students with disabilities (Scruggs & Mastropieri, 1996). Given
the fact that teacher efficacy theory has dominated the research for many years, more importance should be given to teachers’ beliefs, particularly teachers’ beliefs of efficacy, and their placements decisions. Below, I review the limited literature, which includes only nine studies examining teachers’ sense of efficacy in respect to referral and/or placement.

Selection of Research Studies

I conducted a systematic literature review on teachers’ efficacy and special education referrals or placement using the following databases to identify the relevant research studies in this review: The Educational Resource Information-ERIC, Academic Search Premiere, Psych Info, Psych Articles, and Google Scholar. Teacher efficacy and referral were the key terms used in the first search. Teacher efficacy and placement were the key terms used in the second search. Only peer-reviewed journals, academic journals, and empirical articles that were written in English were included in this literature review. No empirical studies written in Turkish were found. The search using the terms teacher efficacy and referral identified 117 articles and the search using the terms teacher efficacy and placement identified 105 articles. Regardless of the methodology used, all studies examining teachers’ efficacy in respect to special education referrals and/or placement were included in this study. The abstracts of a total of 222 articles were examined to determine their appropriateness, i.e. met the inclusion criteria for this literature review and used a similar conceptualization of “referral” and “placement” as defined in Chapter 1. In addition, the reference section of each article was used to identify other studies that might be relevant to this literature review. I identified seven studies examining teacher efficacy and special education referrals (Egyed & Short, 2006
Hill et al., 1999; Hughes et al., 1993; Meijer & Foster, 1988; Pas et al., 2010; Podell & Soodak, 1993; Tejeda-Delgado, 2009), one study examining teacher efficacy and placement (Frey, 2002), one study examining placement and special education referral (Soodak & Podell, 1993). Overall, nine studies met the inclusion criteria to be included in this literature review.

**Research Studies in the Literature Review**

Two researchers (Egyed & Short, 2006; Tejeda-Delgado, 2009) examined teachers’ sense of efficacy as well as other teacher characteristics, such as teachers’ tolerance, gender, burnout, and teachers’ years of experience in respect to special education referrals. In addition, four researchers (Hill et al., 1999; Meijer & Foster, 1988; Soodak & Podell, 1993; Podell & Soodak, 1993) investigated teachers’ sense of efficacy, the problem type students were experiencing (e.g. academic, behavioral), and special education referrals. Finally, three researchers (Frey, 2002; Hughes et al., 1993; Pas et al 2010) examined teachers sense of efficacy, other student characteristics (e.g. gender, ethnicity, and SES), and special education referrals or placement.

**Teacher Efficacy and Teacher Characteristics**

Two studies (Egyed & Short, 2006; Tejeda-Delgado, 2009) investigated several teacher characteristics as well as teachers’ sense of efficacy in regard to special education referrals. Egyed and Short (2006) focused on the relationship of teacher efficacy, burnout, teachers’ experiences, and teacher preparation to teachers’ decisions regarding referral of students in the cases. Tejeda-Delgado (2009) examined the relationship between the self-reported number of special education referrals initiated by teachers in the last academic year, teacher efficacy, teacher tolerance, teachers’ gender, and years of
teaching experience. Although one study focused on decision making process and the other study focused on referral numbers, both researchers aimed to examine teacher efficacy as a primary independent variable in their studies.

Regular education teachers in elementary school level participated in both studies (Egyed & Short, 2006; Tejeda-Delgado, 2009). Egyed and Short (2006) conducted their research with a sample of 106 elementary school teachers with a response rate of 51% in three school districts in US. Tejeda-Delgado (2009) also conducted the study in US, in one school district of Texas. However, Tejeda-Delgado (2009) included a larger sample size ($N = 167$) with a lower response rate (24%).

Researchers in both studies used the Teacher Efficacy Scale designed by Gibson and Dembo (1984; Egyed & Short, 2006; Tejeda-Delgado, 2009). Egyed and Short (2006) also used the Maslach Burnout Inventory (MBI) designed by Maslach and Jackson (1986) to examine teacher burnout and administered a case scenario where teachers were expected to rate their referral decisions on a scale of 1-100, with 1-33 representing “little likelihood”, 33-66 representing “uncertain”, and 67-100 representing “high likelihood”. Tejeda-Delgado (2009) used the Teacher Tolerance Scale (TTS) designed by Safran and Safran (1984) to investigate teachers’ tolerance and asked teachers to report the number of special education referrals that they initiated in the last year. These two studies aimed to examine association between teacher efficacy and referral to special education as well as to establish a multidimensional relationship among other teacher characteristics including teacher burnout and tolerance.

In respect to psychometric properties of the instruments used by researchers, researchers (Egyed & Short, 2006; Tejeda-Delgado, 2009) included information about the
reliability of all instruments and validity of some instruments used in their studies. Egyed and Short (2006) reported reliability and validity including convergent validity and discriminant validity of the MBI and the TES that had been established by prior research (Maslach & Jackson, 1986; Gibson & Dembo, 1984). The MBI had a reliability coefficient ranging from .72 to .89 as well as a test-retest reliability coefficient ranging from .60 to .82, and the 16-item TES had a reliability coefficient of .79 indicating the instruments were reliable. In addition, Egyed and Short (2006) administered the case scenario that had been previously used by Hayes and Havey (1999) but did not address the validity of the instrument. Tejeda-Delgado (2009) established the reliability coefficient of the modified measures as .77 for the TES and .87 for the TTS indicating that instruments were reliable, however, the researcher did not report the validity of the TES and the TTS. Overall, Egyed and Short (2006) reported reliability and validity for all measures, except for the cases. Information about the validity of the instruments was lacking, although the researchers established the reliability of the instruments in the study of Tejeda-Delgado (2009).

Both studies did not indicate significant findings between teacher efficacy and their likelihood to refer for special education. Egyed and Short (2006) found the 48 participants, the majority, were “high likelihood” about their referral decisions, while 25 participants were “uncertain” about their decisions, and 33 participants were “high likelihood” of referral decision for the student in the case scenario. Participants in three levels of referral likelihood were not different on teacher efficacy or teacher preparation. They were different, though, on the measure of teacher burnout ($p = .007$). More specifically, teachers who were “uncertain” about whether or not to refer students for
special education services reported higher level of burnout. According to the researchers, this could be a result of their conflict regarding how to deal with students’ problems. In the study of Tejeda-Delgado (2009), majority of teachers (44.9%) reported one to two special education referrals, 36.5% indicated no special education referrals, and 19.2% reported three or more referrals in the last year. Participants in three groups were not different in teacher efficacy, tolerance, or years of teaching experience. In addition, no significant relationship was found between teacher efficacy and special education referrals, teacher tolerance and special education referrals or female teachers and male teachers in regard to referral (Tejeda-Delgado, 2009). Although one study (Eaged & Short, 2006) focused on teachers’ decisions and the other study (Tejeda-Delgado, 2009) examined referral numbers, majority of the respondent tended to refer the student in both studies. However, there were no significant findings in these two studies.

**Teacher Efficacy and Student Characteristics of Problem Type**

Four researchers (Hill et al., 1999; Meijer & Foster, 1988; Soodak & Podell, 1993; Podell & Soodak, 1993) examined teachers’ sense of efficacy, the problem type, and special education referrals. Three studies (Hill et al., 1999; Meijer & Foster, 1988; Podell & Soodak, 1993) focused on special education referrals. Only one study (Soodak & Podell, 1993) examined teachers’ decisions on both referral and placement. Meijer and Foster (1988) explored the earliest evidence for teachers’ decisions in regard to referral. Researchers examined the teachers’ sense of efficacy as well as other teacher characteristics (e.g. teachers’ years of experiences, special education experience, and gender) and the influence of problem types (e.g. behavioral, learning, both) as well as students’ socioeconomic status (e.g. low, high, and medium) in regard to referral. Meijer
and Foster’s study was followed by the studies of Soodak and Podell who conducted two studies to examine teacher efficacy, the problem type, and special education referrals. While Soodak and Podell (1993) classified the problem type as learning, behavioral, and combined problems in their first study, the researchers (Podell & Soodak, 1993) focused on the etiology of the problems (e.g. medical, environmental, unspecified) in their second study. Differently, Hill et al. (1999) investigated a variety of teacher characteristics in their study. Hill et al. (1999) addressed which teacher characteristics (e.g. teacher efficacy, self-concept, tolerance, and locus of control) interact with problem type (e.g. withdrawn, acting out, neutral) to influence teachers’ decisions of referral. Four studies included in this section aimed to examine teacher efficacy, student characteristics of problem type and special education referrals. However, the problem type was described in different aspects in these studies. Thus, researchers indicated different findings in each study.

Studies examined teacher efficacy, the problem type, and special education referrals involved both regular education and special education teachers. Meijer and Foster (1988) conducted their study with regular education teachers in the Netherlands. Meijer and Foster (1988) recruited a random sample of 400 schools and invited 400 second grade teachers to participate in their study. From 400 teachers, 241 of them agreed to participate with a response rate of 60% in the study. Remaining three studies (Hill et al., 1999; Podell & Soodak, 1993; Soodak & Podell, 1993) were conducted in US. In particular, Soodak and Podell (1993) conducted their study with 96 regular education teachers and 96 special education teachers teaching in junior and senior high schools. The sample was recruited from graduate level courses in three universities. The participants
who had at least one year of teaching experience were invited and all teachers \((N = 192)\) agreed to participate in the study. In another study (Podell & Soodak, 1993), researchers focused on regular education teachers’ decision making in early childhood, elementary, and junior high school level. Researchers used the same sampling procedure as was in their first study. All teachers \((N = 240)\) agreed to participate in the study (Podell & Soodak, 1993). In the study of Hill et al. (1999), 84 teachers (K-4) participated in the study; however, Hill et al. (1999) did not include any information regarding response rate in their study. To sum up, two studies (Hill et al., 1999; Meijer & Foster, 1988) included participants in elementary school level, one study (Soodak & Podell, 1993) recruited the sample from junior and senior high school level, and one study (Podell & Soodak, 1993) included a mixed sample in their study.

With respect to instruments used by four researchers, all researchers used a teacher efficacy scale to examine teachers’ perceived efficacy and hypothetical scenarios to investigate teachers’ decisions to refer students to special education. Three researchers (Hill et al., 1999, Podell & Soodak, 1993; Soodak & Podell, 1993) used the Teacher Efficacy Scale designed by Gibson and Dembo (1984). In addition to the teacher efficacy scale, Hill et al. (1999) also used the Rotter I-E Scale designed by Rotter (1966) to evaluate locus of control and employed the Adjective Check List designed by Gough and Heilburn to examine teachers’ self-concept and tolerance in their study. Only Meijer and Foster used a different teacher efficacy scale (Span, Abbring, & Meijer, 1985) that was modified for this study. In addition to administration of a teacher efficacy scale, all researchers used case scenarios in their research. However, researchers included different problem behaviors experienced by the student in the case scenarios. Two researchers
(Meijer & Foster, 1988; Soodak & Podell, 1993) described the problem type as behavioral, learning, and combined problems in their study. By contrast, Podell and Soodak (1993) used case scenarios in which students’ learning problems were manipulated based on the etiology of the problems including medical, environmental, and unspecified. More specifically, Podell and Soodak (1993) described medical conditions as the complications which occurred during the birth, environmental conditions as the problems within the parents, unspecified conditions as the absence of medical and environmental conditions. Hill et al. (1999) also included different problem type and administered three hypothetical records where students characterized as acting out, neutral, or withdrawn in the case scenarios. Finally, all researchers examined participants’ tendency to refer students in the case scenarios and included a Likert-type scale in the case scenarios where the participants asked to assign a number indicating their likelihood to refer the students. In terms of data collection methods, all researchers followed similar methods by using a teacher efficacy scale and case scenarios in their research, but researchers identified the problem type differently. 

In regard to psychometric properties of the instruments used by researchers (Hill et al., 1999; Meijer & Foster, 1988; Soodak & Podell, 1993; Podell & Soodak, 1993), all researchers reported the reliability of the scales used in their studies; however, information regarding the validity of the instruments was lacking in some of these studies. Meijer and Foster (1988) conducted two pilot studies to develop the case materials to determine the variability of the teachers’ judgements about cases and ensure the face validity of the cases and instruments. Meijer and Foster (1988) established a reliability of .63 for the Teacher Efficacy Scale (Span et al.,1985) that was modified for
their study. Hill et al. (1999) reported the psychometric properties for most of the measure: The first measure was the Adjective Checklist had an internal reliability at .94 and its validity had been established through Q-sort technique by the researchers (Gough & Heilbrun, 1983). The second measure was the Rotter I-E Scale had an internal consistency correlation at .69 and convergent validity at .77 level. The third measure was a 30-item Teacher Efficacy Scale consisting of two subscales including Personal Teaching Efficacy and Teaching Efficacy had internal consistency coefficients of .78 and .75, respectively. The last measure used in Hill et al.’s study was the hypothetical scenarios; however, the researchers did not address the validity for the hypothetical scenarios and the TES. As previously mentioned, Soodak and Podell conducted two studies and used the TES (Gibson & Dembo, 1984) and cases in their studies. Researchers established a coefficient alpha of .75 for the Teacher Efficacy Scale that was adapted for their studies. Information about the validity was lacking for the scale and cases used in the two studies of the researchers (Soodak & Podell, 1993; Podell & Soodak, 1993). Although most of the researchers provided information about the reliability of the scales used in their studies, more information should be reported about the validity (Hill et al., 1999; Soodak & Podell, 1993; Podell & Soodak, 1993).

Researchers indicated different findings in these four studies. More specifically, two studies indicated that teachers’ sense of efficacy was related to teachers’ decisions to refer students (Meijer & Foster, 1988; Podell and Soodak, 1993), one study (Soodak & Podell, 1993) revealed that teacher efficacy was related to teachers’ decisions of placement, and one study (Hill et al., 1999) did not show significant findings. Two studies with significant findings indicated (a) two dimensions of teacher efficacy such as
teaching efficacy and personal efficacy were related to teachers’ referral decisions (Podell and Soodak, 1993), (b) higher efficacy was correlated with lower ratings on problem type and referral chance (Meijer & Foster, 1988), and (c) larger class size was positively related to the referral chance (Meijer & Foster, 1988). As previously mentioned, only teachers’ sense of efficacy was related to teachers’ placement decisions in the study of Soodak and Podell (1993). More specifically, regular education teachers with higher personal efficacy were more likely to perceive regular education placement as appropriate as compared to teachers with lower personal efficacy ($p < .01$). However, personal efficacy did not influence special education teachers’ decisions in regard to placement. Only one study (Hill et al., 1999) did not indicate supportive findings. The researcher aimed to examine teachers’ decisions in respect to several teacher characteristics (teacher efficacy, self-concept, teacher tolerance, and locus of control). Results of this study suggested that none of the teacher characteristics including teacher efficacy were related to teachers’ decisions in the hypothetical cases. To sum up, three of the four studies (Meijer & Foster, 1988; Podell & Soodak, 1993; Soodak & Podell, 1993) established that teachers’ sense of efficacy predicted teachers’ decisions with respect to referral or placement.

Researchers also examined the problem type experienced by the student in the case scenarios in their studies. Two studies (Meijer & Foster, 1988; Soodak & Podell, 1993) yielded similar findings indicating that teachers were more likely to refer students who had combined problems (learning and behavioral problems). While learning problems or behavioral problems did not account for teachers’ tendency to refer the student, learning problems received higher ratings than behavioral problems regarding
referral in the study of Meijer and Foster (1988). By contrast, behavioral problems accounted for referral chance in the study of Soodak and Podell (1993). In addition, teachers perceived regular education as less appropriate for students who had both learning and academic problems than students who had only learning problems or behavioral problems. Differently, Podell and Soodak (1993) examined etiology of the problems experienced by the student in the case scenarios. Results suggested that teachers inclined to refer students whose etiology were unspecified \( (p < .01) \) than students who had medical or environmental etiology. Lastly, there was no significant finding in the study of Hill et al. (1999). Although teachers were more likely to refer the students with combined problems, the teachers’ tendency to refer only academic or behavioral problems were different in two studies (Meijer & Foster, 1988; Soodak & Podell, 1993). Teachers’ decisions in these studies can be influenced by given situations in the case scenarios.

Researchers of four studies indicated different findings. Meijer and Foster (1988) provided earliest evidence about the relationship between teacher efficacy and their decisions in regard to referral. Meijer and Foster (1988) indicated that only teacher efficacy and the problem type yielded significant results \( (p < .05) \) among three student characteristics and eight teacher characteristics and these two variables accounted for 14% of variance on referral chance. Soodak and Podell (1993) indicated that teacher efficacy was related to teachers’ placement decisions; however, only the problem type yielded main effect for referral and placement decisions of teachers in their first study. In their second study, a relationship was established between teacher efficacy and their decisions to refer students for special education (Podell & Soodak, 1993). By contrast,
Hill et al. (1999) refuted the findings from previous studies and did not find significant findings.

**Teacher Efficacy and Other Student Characteristics**

Two researchers examined teacher efficacy and several student characteristics with respect to special education referrals (Hughes et al., 1993; Pas et al. 2010) and one study examined teacher efficacy and student characteristics in respect to teachers’ decisions of placement (Frey, 2002). Among studies that examined special education referrals, Hughes et al. (1993) aimed to address how teachers’ attributions about the cause of problems, their perceptions about the control of the problems, and their self-efficacy influence their decisions to refer students. In another study, Pas et al. (2010) investigated whether teachers’ burnout, teacher efficacy, student and teacher demographics were related to referrals to the student support and special education services. One study conducted by Frey (2002) sought to assess the relationship among teacher efficacy and student characteristics of SES and ethnicity in respect to educational placement of students with emotional behavioral disorders (EBD). Studies included in this section aimed to examine teacher efficacy and student characteristics on special education referrals or educational placement as a main research purpose in their studies. In addition, researchers also explored the relationship between other teacher characteristics and special education referrals in these three studies.

Researchers predominantly conducted their research with general education elementary school teachers in their research. While Hughes et al. (1993) included a small sample of 55 teachers teaching from second grade to fourth grade with a response rate of 57% in one district in US, Pas et al. (2010) included a larger sample size ($N = 491$) with a
higher response rate (76.1%) from 31 Maryland public elementary schools. Pas et al. (2010) also used the teachers’ reports for 9,795 students enrolled during one academic year. By contrast to the inclusion of regular education teachers in these two studies (Hughes et al., 1993; Pas et al., 2010), Frey (2002) included only special education teachers and recruited a sample of 269 teachers with a response rate of 92% in the Denver metropolitan area in US. Overall, two studies included a sample from regular education teachers in elementary school level and one study included only special education teachers in these three studies.

Regarding data collection, researchers used different methods and a variety of instruments to gather data in their research. Both Hughes et al. (1993) and Frey (2002) used a case scenario, a teacher efficacy scale as well as other scales aiming at assessing teacher characteristics in their studies; however, Hughes and colleagues predominantly used qualitative methods for data collection. More specifically, Hughes et al. (1993) interviewed teachers after presenting one of the two random orders of 12 vignettes to understand teachers’ perceptions about the control of the problem where it was categorized as the teacher’s control or out of the teacher’s control. Hughes et al. (1993) used a teacher efficacy scale to examine teachers’ ability in solving the problem, an attribution scale to understand teachers’ attributions about cause of the problems, case scenarios to understand teachers’ decisions about referral. In another study, Frey (2002) developed the Educational Placement Vignette in which a student’s SES and ethnicity were manipulated to examine the influence of the student’s demographic characteristics on educational placement and used the Expanded Teacher Efficacy Scale (Emmer & Hickman, 1991) that was derived from Gibson and Dembo’s Teacher Efficacy Scale
(1984). While Hughes et al. (1993) and Frey (2002) used case vignettes in their study, Pas et al. (2010) used self-reported number of special education referrals initiated by teachers and administered a questionnaire consisting of five questions pertaining to the status of the student in respect to referral. In addition, Pas et al. (2010) employed scales including the Teacher Efficacy Scale designed by Hoy and Woolfolk (1993), the Teacher Burnout Scale designed by Maslach and Jackson (1981), and the Teacher Observation of Classroom Adaption Checklist (TOCA-C; Koth et al., 2009) that was filled out by each teacher in reference to students that were referred in the academic year to examine the teachers’ responses on problem behaviors. Across three studies included in this section, two studies (Frey, 2002; Hughes et al., 1993) used survey research methods as well as case-based methods, one study (Pas et al., 2010) used survey research methods in their research.

With respect to psychometric properties of the instruments, only Frey (2002) reported the validity and reliability for all the instruments used in the study. Frey reported the established validity and reliability of the Expanded Teacher Efficacy Scale (Emmer & Hickman, 1991) indicating the scale was a valid and reliable instrument. Frey (2002) also established the face validity of the case vignettes that had been developed for the study. Pas et al. (2010) reported the reliability of all instruments and validity of some of the instruments established through prior research. Pas et al. (2010) reported that the Teacher Observation of Classroom Adaption Checklist (Kothl., 2009) had a high test-retest reliability, internal consistency reliability as well as predictive validity. In addition, Pas et al. (2010) included reliability coefficients of the Burnout Scale (Maslach & Jackson, 1986) and the Teacher Efficacy Scale (Hoy & Woolfolk, 1993) as .90 and .84,
respectively. However, the researchers did not address the validity of the two instruments in their study. In another study Hughes et al. (1993) only addressed face validity by presenting the cases to the teachers to ensure whether the severity of the problems included in each case vignettes were sufficiently described. But researchers did not report the reliability of the self-efficacy scale and the attribution scale.

Three studies yielded different findings. While the study of Pas et al. (2010) did not reveal supportive results, teacher efficacy revealed significant findings in the studies of Hughes et al. (1993) and Frey (2002). As previously mentioned, Hughes et al. (1993) relied on teachers’ responses gained from two scales and coded data obtained from interviews on 12 case scenarios in their study. Results indicated that 51% of teachers reported that they chose to deal with problems, 30% preferred to refer students, and 18% chose to receive help from consultation services in the schools. Teachers reported that students’ problems were only attributed to the students’ personality among all variables (e.g. IQ, motivation, home, students’ personality, students’ past experiences at school, and teacher/classroom variables). In addition, Hughes et al. (1993) investigated whether the combination of two variables including cause of the problems and teacher efficacy predicted teachers’ decisions to refer. Results of analysis yielded significant results for six case scenarios: (a) Teachers who preferred to handle the problem reported higher level of efficacy than teachers who preferred to refer students or receive help from consultation services and (b) teachers who preferred to refer and receive consultation were not different in self-efficacy. As similar to the Hughes et al. (1993) study, teacher efficacy was predictive in the study of Frey (2002). However, Frey (2002) only focused on teachers’ placement recommendations and particularly examined teacher efficacy in
classroom management and discipline. Results of this study indicated that teachers who had higher scores on classroom management and discipline made least restrictive placements for the student in the case scenarios \( (p < .05) \). By contrast, teacher efficacy, burnout, and other teacher characteristics (i.e. years of teaching experience, educational degree) were not related to referrals to student support team (SST) and special education; however, teachers’ gender predicted referrals to the SST (Pas et al., 2010). In addition, teachers’ ratings on disruptive behaviors accounted for referrals to special education, referrals to the principal’s office, in-school suspension, and out of school suspension.

Researchers also explored student characteristics including gender, SES, and ethnicity in their studies. While Frey (2002) examined the student characteristic of SES and ethnicity in the study, Pas et al. (2010) investigated students’ characteristics of gender and SES in their study. Frey (2002) found that students with low SES were more likely to be recommended for restrictive placement as compared to the students with high SES in the case vignettes \( (p < .01) \). Students’ SES also predicted referral to the SST and special education in the study of Pas et al. (2010). In addition, Pas et al. (2010) found that male students were more likely to be referred to the SST, special education evaluation, and receive discipline referrals (referrals to the school principals and suspensions) in their study. Results indicated that students’ gender and SES can influence teachers’ decisions in these two studies.

Findings of two studies revealed that teacher efficacy predicted teachers’ decisions in regard to referral (Hughes et al., 1993) and placement (Frey, 2002). Hughes et al. (1993) found that teachers who preferred to handle the problem had higher efficacy than teachers who preferred to refer students or receive assistance from outside of the
classroom. While the study of Pas and colleagues (2010) did not reveal consistent results, there was evidence that teacher and student characteristics can be predictors. Particularly, students’ gender and teachers’ perceptions on students’ problems accounted for referrals to special education in the study.

**Conclusion**

As demonstrated in this review, the research examining teachers’ sense of efficacy, special education referrals and placement is extremely limited. A total of nine studies were included in this literature review and research indicated two important findings: (a) teachers’ sense of efficacy was related to referrals to special education (Meijer & Foster, 1988; Hughes et al., 1993; Podell & Soodak, 1993) and teachers’ recommendations of placement (Frey, 2002; Soodak & Podell, 1993), (b) student characteristics of the problem type (Meijer & Foster, 1988; Soodak & Podell, 1993) and gender (Pas et al., 2010) were predictive on teachers’ decisions to refer a student for special education. While the research varied in sampling, methods, and response rate, these findings point to the importance of examining the teacher characteristics of efficacy, student characteristics of gender and problem type in regard to referral and placement.

Researchers in this review predominantly used survey research methods. One of the important requirements of survey research methods is the inclusion of a representative sample of the population (Gall, Gall, & Borg, 2003). The studies in this review also varied in sampling. Researchers in the above studies gathered data from predominantly regular education elementary school teachers. Focusing predominately on general education elementary school teachers is logical because the majority of referrals are made
by elementary school general education teachers (Drame, 2002). Seven studies included only regular education teachers (Egyed & Short, 2006; Hill et al., 1999; Meijer & Foster, 1988; Podell & Soodak, 1993; Pas et al., 2010; Tejeda-Delgado, 2009), one study included only special education teachers (Frey, 2002), and one study included both regular education teachers and special education teachers (Soodak & Podell, 1993). In addition, six studies included teacher participants from elementary school level (Egyed & Short, 2006; Hill et al., 1999; Hughes et al., 1993; Meijer & Foster; 1988; Pas et al., 2010; Tejeda-Delgado, 2009). In Soodak and Podell’s (1993) study, researchers conducted their research with high school teachers and the researchers asked teacher participants to make judgements about students that they did not presently teach. Likewise, Podell and Soodak’s (1993) study included early childhood teachers, elementary school teachers, and junior high school teachers, researchers asked the teachers other than those in elementary to make judgements about students that they did not presently teach.

It is necessary to have an adequate sample size and response rate for a representative sample. Studies included in this literature review greatly varied in terms of sample size. The study with the lowest sample size consisted of 55 participants and the study with the highest sample size involved 491 participants across studies included in this literature review. Determination of the appropriate sample size is a way to prevent sampling bias and allow researchers to generalize findings to the population (Barlett, Kotrlik, & Higgins, 2001). Only three researchers included in this review included analysis about the appropriate sample size indicating a medium effect size in their research (Meijer & Foster, 1988; Podell & Soodak, 1993; Soodak & Podell, 1993).
addition to the variation in the sample size, the response rates of the studies were widely different. The response rate ranged from 24% to 92% among studies included in this literature review.

Studies of teacher efficacy, referral and placement exclusively used quantitative research methods. In this literature review, all of the researchers used a teacher efficacy scale to examine teachers’ perceived efficacy (Egyed & Short, 2006; Frey, 2002; Hill et al., 1999; Hughes et al., 1993; Meijer & Foster, 1988; Pas et al., 2010; Podell & Soodak, 1993; Soodak & Podell, 1993; Tejeda-Delgado, 2009). In addition, seven studies used hypothetical cases to examine teachers’ decisions to refer students for special education or their decisions to place students in a special education classroom (Egyed & Short, 2006; Frey, 2002; Meijer & Foster, 1988; Hill et al., 1999; Hughes et al., 1993; Podell & Soodak, 1993; Soodak & Podell, 1993). Lastly, two of the studies (Pas et al., 2010; Tejeda-Delgado, 2009) relied on teachers’ reports to examine special education referrals. The design of the studies in this review requires researchers using reliable and valid instruments to ensure the quality of the measurement.

I examined the psychometric properties of the instruments used in nine studies included in this literature review. Results indicated that only two researchers reported the reliability and validity for all instruments used in their research (Frey, 2002; Meijer, Foster, 1988). Two researchers (Egyed & Short, 2006; Hill et al., 1999) provided information about the reliability and validity of the scales used in their studies, but the studies were lacking information about the validity of case scenarios. In addition, four researchers only addressed reliability (Soodak & Podell, 1993; Podell & Soodak, 1993; Pas et al., 2010; Tejeda-Delgado, 2009). In one study, researchers only reported the face
validity of the cases and failed to provide information about the reliability and validity for the Attribution Scale and the Self Efficacy Scale used in the study (Hughes et al., 1993). The studies reviewed in terms of psychometric aspects revealed that more information should be reported about the validity, particularly for case scenarios.

Methodologies of the studies included in this review indicated critical points to guide my study. It is important to include a sample that is representative for the purpose of the study. In this regard, this study was conducted with elementary school teachers who make more referrals and participants were asked to make decisions in regard to referral and placement of a second-grade student in the case scenarios. Although teacher participants may not presently teach second grade, implementation of the looping system in Turkey allow participants to make more accurate decisions in the cases. Having a large sample size and high response rate is also important for a representative sample. In this regard, 310 elementary schools were invited to participate in this study. Two hundred seventy participants returned the envelopes that consisted of instruments of this study. Finally, the responses of 264 participants were included for data analysis with a response rate of 85.2% in this study.

As a result of the nature of this study, data was collected through self-reported questionnaires; thereby, it was important to use reliable and valid instruments in the study. The Teacher Efficacy Scale that was used in this study has an excellent reliability. The Cronbach alpha for the entire scale is 0.94 for the original version and .93 for the Turkish version of the scale. In addition, both versions were validated by the researchers. Further information about the cases and the Teacher Efficacy Scale is presented in Chapter 3. Furthermore, I included both academic and behavioral challenges experienced
by the student in the case, because teachers make different decisions about different types of problem behaviors. Inclusion of different types of problems help us to examine teachers’ decisions in a wide perspective.

Lastly, using appropriate data analysis procedures aligned with research questions increase the generalizability of the research findings. Thereby, I used descriptive statistics to summarize data and inferential statistics to examine the associations between variables.

Critical points explored from the studies of the literature review helped me to establish rigorous methodological criteria for this study. There is a research gap in Turkey that examines teachers’ sense of efficacy and special education decision making process, particularly, referral and placement decisions. This study sought to investigate whether teachers’ sense of efficacy predicts their decisions to refer a student for special education evaluation or their decisions to place a student in a special education classroom. As a secondary purpose, I examined teacher demographic characteristics, student characteristics, and teachers’ decisions in regard to referral and placement.
CHAPTER 3

METHODS

Purpose of the Study and Research Questions

The purpose of this study is to determine whether teachers’ sense of efficacy predicts their decisions to refer a student for special education evaluation or their decisions to place a student in a special education classroom. I used two instruments: (a) The Teachers Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001), (b) Teachers’ Decisions in Regard to Referral Measure to examine teachers’ decisions in regard to referrals. This study is guided by six research questions and six hypotheses.

Research Question 1: Does teachers’ sense of efficacy predict their decisions to refer a student for special education evaluation?

Hypothesis 1: Teachers’ sense of efficacy predicts their decisions to refer a student for special education evaluation.

Research Question 2: Do teachers’ years of teaching experience, teachers’ gender, educational degree, and training (special education, classroom management, reading-writing supports, teaching methods and techniques) predict teachers’ decisions to refer a student for special education evaluation?

Hypothesis 2: Teachers’ years of teaching experience, teachers’ gender, educational degree, and training (special education, classroom management, reading-writing supports, teaching methods and techniques) predict the teachers’ decisions to refer a student for special education evaluation.

Research Question 3: Is there a difference in teachers’ decisions to refer a student based on the student’s gender and the problem type?
Hypothesis 3: There is a difference in teachers’ decisions to refer a student based on the student’s gender and the problem type.

Research Question 4: Does teachers’ sense of efficacy predict their decisions to place a student in a special education classroom?

Hypothesis 4: Teachers’ sense of efficacy predicts their decisions to place a student in a special education classroom.

Research Question 5: Do teachers’ years of teaching experience, teachers’ gender, educational degree, training (special education, classroom management, reading-writing supports, teaching methods and techniques) predict the teachers’ decisions to place a student in a special education classroom?

Hypothesis 5: Teachers’ years of teaching experience, teachers’ gender, educational degree, training (special education, classroom management, reading-writing supports, teaching methods and techniques) predict the teachers’ decisions to place a student in a special education classroom.

Research Question 6: Is there a difference in teachers’ decisions to place a student in a special education classroom based on the student’s gender and the problem type?

Hypothesis 6: There is a difference in teachers’ decisions to place a student in a special education classroom based on the student’s gender and the problem type.

Research Design

Several methods were used to gather data in this study. I used survey research methods to examine teachers’ efficacy and case-based methods to examine teachers’ decision in regard to referral and placement. There are several reasons to use survey
methods for this study. First, educational researchers have predominantly used surveys to measure efficacy in their research (Ashton et al., 1983; Bandura, 1997; Brownell & Pajares, 1999; Gibson & Dembo, 1984; Guskey & Passaro, 1994; Meijer & Foster, 1988; Soodak & Podell, 1993; Soodak & Podell, 1994; Tournaki & Podell, 2005; Tshannen-Moran et al., 1998; Tshannen-Moran & Hoy, 2001; Woolfolk & Hoy, 1990). Surveys are also commonly used in Turkey by researchers studying teacher efficacy (Gur, Cakiroglu, & Aydin, 2012; Saka & Surmeli, 2010; Senler & Sungur, 2010). Second, survey methods are commonly used in educational research to collect data in the areas that are not directly observable (Gall et al., 2003) and provide insights about attitudes and opinions of populations (Wallen & Fraenkel, 2001). Third, it is cost effective and time efficient for data collection (Gall et al., 2003). Lastly, it is possible to access a high number of participants that represent a larger population (Dillman, Smyth, & Christian, 2009).

I also used case-based methods to investigate teachers’ decisions in regard to referral and placement in this dissertation. Case-based methods present context-bound knowledge by giving specific scenes and situations where individuals are expected to think and solve problems (Carter, 1988). For example, many researchers used this method to examine teacher efficacy and teachers’ placement decisions (Podell & Soodak, 1993; Soodak & Podell, 1993), teachers’ suggestions to address students’ problems (Soodak & Podell, 1994), and teachers’ decisions in regard to referral (Hughes et al., 1993; Meijer & Foster, 1988; Soodak & Podell, 1993; Podell & Soodak, 1993). In addition, case-based methods are valuable methods to prepare elementary school teachers for the complex teaching situations (Harrington & Garrison, 1992). More specifically, cases that include educational problems and dilemmas can be used to examine teachers’
decisions about a particular situation (Butler, Lee, & Tippins, 2006). Shulman & Colbert (1989) asserted that case-based methods allow teachers to improve their actions in teaching from different perspectives. Teachers’ decision making about referral is not directly observable. By giving cases, I examined what variables predict teachers’ decisions in regard to referral and placement. In addition, I examined whether there is a difference in the ways that teachers responded to the cases based on students’ gender and the problem type.

**Instruments**

I used three instruments in this study. First, teachers answered a demographic information questionnaire (Appendix A) that aimed to determine their years of teaching experience, gender, educational degree, and training received in the last five years. Second, teachers took the Teacher Sense of Efficacy Scale (TSES; Appendix B). Third, teachers responded to the Teachers’ Decisions in Regard to Referral Measure (TDRRM; Appendix C). The TDRRM included four cases that aimed to examine teachers’ decisions to refer a student for special education evaluation and their decisions to place a student in a special education classroom. See the Appendix D, E, F for the Turkish version of the demographic information questionnaire, the TSES, and TDRRM, respectively.

**Demographic Information Questionnaire**

I developed a demographic information questionnaire that consists of questions pertaining to years of teaching experience, educational degree, and training received in the last five years (Appendix A).

I examined teachers’ years of teaching experience and their decisions in regard to referral and placement in this study. Because teachers with more years of teaching
experience should be more familiar to the problems experienced by the students in their classrooms. In addition, teachers with more years of teaching experience might improve more accomplishment in their teaching (Zabel & Zabel, 2001) and build more positive attitudes about mainstreaming of students with disabilities (Padeliadu & Lampropoulou, 1997). As a result of having the experience, teachers might be more prepared to overcome difficult situations in their classrooms. Thereby, it is important to give attention to participants’ teaching experiences in this study.

I examined educational degree of teachers with respect to referral and placement. Educational degree is recognized as one component of teacher quality (Darling-Hammond, 2000). Generally, individuals who earn a higher degree have more opportunity to gain knowledge which might influence their classroom practices and student outcomes. Darling-Hammond (2000) reviewed the 50-state survey of policies in US and indicated that educational degree (master’s degree) was positively correlated with student outcomes. Thereby, it is possible that teachers with a higher educational degree make a different decision in regard to referral and placement.

Lastly, I examined teachers’ training and teachers’ decisions in regard to referral and placement. It is well-known that teacher education has drawn attention to ameliorate many problem areas in education systems. Teachers might have successful experiences while working with high-achiever or average students, but they might struggle to work with students who have academic and behavioral difficulties (Jordan et al., 1997). Due to the lack of training and preparation, teachers may not develop knowledge and skills about how to handle challenging situations (Stage & Quiroz, 1997). Teacher training can increase teachers’ preparedness about how to teach in all settings including the most
difficult situations (Haberman, 1995). Thus, training might be a useful way to improve teachers’ beliefs about their ability to teach in different situations. Given the fact that training plays a pivotal role to improve teachers’ preparedness in handling difficult situations, participants of this study were asked to identify training received in the last five years. Since the compulsory education was increased from 8 years to 12 years and divided the education system into three levels (primary, lower secondary, and upper secondary) in 2012, I focused on teacher training received in the last five years counting down from 2017 in which the study was conducted. As previously mentioned, it is important to focus on teachers’ years of teaching experience, educational degree, and training as they are influential factors in teachers’ teaching; thereby, I included these three variables in this study.

**Teachers’ Sense of Efficacy Scale (TSES)**

The first instrument of the study is Teachers’ Sense of Efficacy Scale which was developed by Tschannen-Moran and Woolfolk Hoy (2001). The TSES has a long form which consists of 24 items and a short form which includes 12 items in the scale. The long form is used for this study (See Appendix B), because it has a higher reliability.

The TSES long form consists of three subscales: Efficacy for Instructional Strategies, Efficacy for Classroom Management, and Efficacy for Student Engagement. Each of these subscales is composed of eight items. The items of each scale are as follows (Tschannen-Moran & Woolfolk Hoy, 2001).

**Table 1: The subscales of the TSES**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy for Instructional Strategies</td>
<td>7, 10, 11, 17, 18, 20, 23, 24</td>
</tr>
<tr>
<td>Efficacy for Classroom Management</td>
<td>3, 5, 8, 13, 15, 16, 19, 21</td>
</tr>
<tr>
<td>Efficacy for Student Engagement</td>
<td>1, 2, 4, 6, 9, 12, 14, 22</td>
</tr>
</tbody>
</table>
The TSES is a Likert-type rating scale that allows participants to rate their teacher efficacy. The following rating options is used in the scale “1 = Nothing, 3 = Very Little, 5 = Some Influence, 7 = Quite A Bit, and 9 = A Great Deal” (Tschannen-Moran & Woolfolk Hoy, 2001).

Tschannen-Moran and Woolfolk Hoy (2001) indicated that the TSES is a reliable and valid instrument. The reliability of 24-item scale is at 0.94 and the reliability of 12-item scale is at .90 (Tschannen-Moran & Woolfolk Hoy, 2001). Table 2 includes the information about the reliability of the TSES for each subscale (Tschannen-Moran & Woolfolk Hoy, 2001):

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Short Form</th>
<th>Long Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>TSES</td>
<td>7.1</td>
<td>.94</td>
</tr>
<tr>
<td>Engagement</td>
<td>7.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Instruction</td>
<td>7.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Management</td>
<td>6.7</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Tschannen-Moran & Woolfolk Hoy (2001) conducted three field studies to improve the items and validate the measure. In addition, researchers tested the validity by correlating the TSES with other measures (Tschannen-Moran & Woolfolk Hoy, 2001). Researchers rewrote some of the items, revised the measure, and established reliability and validity of the measure over 10 years of time. Tschannen-Moran and Woolfolk Hoy (2001) indicated that the TSES is a reliable and valid measure of teacher efficacy.

Several researchers used the TSES and it was translated to Spanish and Turkish languages. Capa, Cakiroglu, and Sarikaya (2005) initiated the development and validation of the TSES in Turkish Version (TTSES; Appendix E) to provide evidence for the validity and reliability of the TTSES, Capa et al. (2005) conducted a study with 628
pre-service teachers from six universities of four major cities in Turkey. Researchers calculated a coefficient alpha score as a measure of internal consistency reliability for each subscale and the whole scale. The reliability was at the 0.93 level for the total scale, .82 for the Student Engagement, .86 for the Instructional Strategies, and .84 for the Classroom Management subscale.

Capa et al. (2005) measured construct validity by conducting confirmatory factor analysis (CFA) and Rasch analysis. To conduct the three-factor analysis, researchers preferred the fit indices of CFI (comparative fit index), TLI (Tucker-Lewis index), and RMSEA (Root mean square error of approximation) in their study. The TLI and CFI values suggested a perfect fit at the .99 level and the RMSEA indicated an acceptable fit at the .065 level. In addition, Capa et al. (2005) used Rasch analysis to estimate person and item scores in the TTSES. The person reliability indices were .82 for the Student Engagement subscale, .84 for the Instructional Strategies subscale, and .84 for the Classroom Management subscale (Capa et al., 2005). Researchers indicated that the item reliability indices were at .99, .98, .98 for each subscale, respectively. Overall, Rasch analysis indicated the data has an acceptable model fit (Capa et al., 2005).

**Teachers’ Decisions in Regard to Referral Measure (TDRRM)**

I created the second instrument of this study which included four cases (See Appendix C). The measure was called as Teachers’ Decisions in Regard to Referral Measure (TDRRM) and it was used to examine teachers’ decisions in regard to referral and placement. During the development of the TDRRM, I reviewed laws and regulations related to the referral process in Turkey. I also consulted with two school counselors to have a greater understanding about how the referral process works in Turkey. Four cases
of this study were developed based on my professional experiences as an elementary school teacher in public schools, consultation with one of my colleagues in Turkey, and the review of the literature to expand my knowledge about how to create a case scenario. After examining cases used in previous research, it is more proper to include descriptive sentences rather than to rely on statistical or graphical data, because academic performance of students in the first, second, and third grade are determined by participation of the students in course activities, evaluation of goals and acquisitions presented in the curriculum in Turkey. In addition, a classroom teacher determines academic and behavioral performance of a student by using observation forms throughout the semester. Furthermore, descriptive scoring, which is shown as “very good”, “good”, and “improved”, is used in school reports for the evaluation of academic and behavioral performance of a student. Thereby, descriptive sentences are more appropriate in the educational context of Turkey.

To ensure the validity of the TDRRM, I received guidance from two professors in the Special Education Concentration for the development of the cases. I also used the cognitive interview technique as a further validation because it is widely used in education for instrument development (Ryan, Gannon-Slater, & Culbertson, 2012). During the development of the TDRRM, I conducted cognitive interviews to verify the language, review the information in a cultural context, and identify weaknesses in the cases. Participants in the cognitive interviews included two students who were enrolled in a master’s degree program of education in US, both of whom worked as elementary school teachers in Turkey, and one student enrolled in a doctoral program in US, who served as a volunteer in an educational organization in Turkey. In addition, I also
conducted an interview with an educator who has a special education certification and co-teaching experiences in public schools in US. All individuals who participated in the interviews spoke both Turkish and English fluently. Based on feedback received, the cases were revised several times for this study.

The TDRRM was used to investigate teachers’ responses to four cases that manipulate a second grade student’s gender and the problem type experienced by the student. Two of the cases in the TDRRM describe a situation where a second grade student exhibits academic challenges and other two cases present a situation where a second grade student demonstrates behavioral challenges. The cases focused on second grade students because previous researchers that examined teachers’ referral decisions using cases focused on students in second grade (Meijer & Foster, 1988; Soodak & Podell, 1993). These researchers also focused on students exhibiting academic and/or behavioral challenges. Second, as I focused on reading and writing problems in the academic cases, which I explain further below, second grade was the most appropriate grade to include. Students in Turkey begin to learn reading and writing in the first grade and are expected to learn these skills by the end of the first grade. Thus, a student experiencing difficulties in these skills in second grade would potentially be concerning to their teacher.

Two of the cases in the TDRRM describe a situation where a second grade student exhibits academic challenges. Research suggested that reading difficulties (Bramlett, Murphy, Johnson, Wallingsford, & Hall, 2002; Lane, Mahdevi, & Borthwick-Duffy, 2003; Lane, Pierson, Robertson, & Little, 2004; Lloyd et al., 1991) and writing difficulties (Lane et al., 2003; Lane et al., 2004) were predominantly identified as
academic referrals concerns. Thus, I focused on reading difficulties and writing difficulties as academic referral reasons in the two cases related to academic challenges. To ensure the consistency across cases, the following format was adhered to in the first and second case: (1) the first paragraph explains that the participant is a second-grade teacher and the student has academic difficulties, (2) the second paragraph using the name of a male or female describes a student who is functioning below the grade level in reading and writing and gives four specific difficulties that the student is experiencing, (3) the third paragraph includes three sentences indicating that the student is not meeting most of the reading and writing goals, but meeting behavioral expectations along with two behavioral examples. The cases are both followed with two close-ended questions. The first question aims to address whether the participant would make a decision to refer the student for special education evaluation and the second question aims to determine the participant’s placement decision.

Two of the cases in the TDRRM describe a situation where a second grade student exhibits behavioral challenges. Research suggested that defiant problems including insubordination, disrespect, and noncompliance are major concerns that may lead to the referral of students (Briesch, Ferguson, Volpe, & Briesch, 2013; Lane et al., 2003). Considering the cultural context, I present two situations where a student has difficulties following rules and interacting with other people in the cases. To ensure the consistency across cases, the following format adhered to in the third and fourth case: (1) the first paragraph explains that the participant is a second-grade teacher and the student has behavioral challenges, (2) the second paragraph using the name of male or female describes a student who difficulties following rules and interacting with other people and
gives four specific challenges that the student is experiencing, (3) the third paragraph includes three sentences indicating that the student is not meeting grade level expectations, but meeting academic expectations along with two academic examples. The cases are both followed with two close-ended questions. The first question aims to address whether the participant would make a decision to refer the student for special education evaluation and the second question aims to determine the participant’s placement decision.

Overall, there is a total of four cases in the TDRRM. These include a case with: (1) a male student exhibiting academic difficulties; (2) a female student exhibiting academic difficulties; (3) a male student exhibiting behavioral challenges; and (4) a female student exhibiting behavioral challenges. Each teacher received four cases and answered two questions related to their decisions to refer a student for special education evaluation and their decisions to place a student in a special education classroom.

Plan for Translations of the TDRRM: I used the back-translation technique which is common in cross-cultural translations (Peña, 2007). I translated the TDRRM to the target language (Turkish) and a second translator independently translated the target version back to the source language which is English. Comparison of two translations indicated that the target translation was highly accurate; however, there were some minor differences. I worked with the second translator to edit the target version and reached an agreement to ensure the compatibility of meaning between the source and target languages. In addition, a bilingual translator who was familiar with educational and cultural context of Turkey checked the translation again to verify that translations were accurate and meaningful. See Appendix F for the translated version of the TDRRM.
Research Setting

Turkey is comprised of seven geographical regions, the state put into a new classification system in 2002 in which the country is divided into 12 regional units. These units include Istanbul, West Marmara, Aegean, East Marmara, West Anatolia, Mediterranean, Central Anatolia, West Black Sea, East Black Sea, Northeast Anatolia, Central East Anatolia, and Southeast Anatolia in Turkey (National Education Statistics [Milli Egitim Istatistikleri], 2016). In addition, the country is further divided into 81 cities and each city has its own districts/towns.

I conducted my study in one city in East Marmara region of Turkey. According to the Turkish Statistical Institute (Turkiye Istatistik Kurumu, 2014), the city is one of the most crowded cities with 3 million population which receives large numbers of immigrants from other cities of Turkey. As a result of this immigration, it is likely that the city might represent the rest of the country’s population since immigrants have different demographic characteristics. In addition, data indicated that pupil teacher ratio is representative of the average pupil/teacher ratio of Turkey. Moreover, examination of the enrollment rate in elementary school level indicated that the city demonstrates very similar patterns with the average enrollment rate in the country. All these reasons increase the likelihood that the sample is a representative sample for the study.

The Ministry of National Education has provincial organizations in the 81 cities in Turkey. The Provincial Directorate for National Education (PDNE) is the higher authority for education in each city. The PDNE administers schools and other educational institutions within 7 central and 17 peripheral districts in the city selected for this study. A total of 9,700 elementary school teachers are serving to nearly 90,600 male students
and 86,300 female students in 500 elementary schools in the city for the academic year 2016/2017.

**Education System and Referral Process in Turkey**

The National Education System in Turkey consists of two main parts including formal education and non-formal education. Formal education is provided within a school for individuals in certain age groups such as pre-primary education, primary school education (elementary school education), lower secondary school education, upper secondary school education, and higher education institutions. A looping system, is implemented from first grade to fourth grade in primary schools, which allows a classroom teacher to continue with same students to the next grade level.

Research in US suggests that elementary education teachers initiated the majority of referrals for special education (Drame, 2002) and this information also matches with the educational context of Turkey. According to the anecdotal evidence that was provided by school counselors in Turkey through personal communication, regular education elementary school teachers make the bulk of the referral decisions. When a classroom teacher becomes concerned about a student’s performance, the teacher contacts the school counselor and parents to determine the needs and appropriate supports for the student prior to referral. Based on meetings with the school counselor and parents, the teacher is responsible for providing accommodations, modifications, and extra supports in the class and following the student’s progress. If the student still experiences challenges even after being given supports, a teacher can initiate the referral process by filling out the *Educational Evaluation Request Form*. This form is then signed by parents, the school counselor, and the school principal in order to refer the student to the
Guidance and Research Center (Rehberlik ve Arastirma Merkezi [RAM]). The RAM is in charge of diagnosis and placement of students with disabilities in Turkey (Ozel Egitim Hizmetleri Yonetmeligi, 2006). There are 231 centers that are responsible for administering assessments to referred students and identifying the educational needs of students.

**Sampling Selection**

Convenience sampling procedure was used in this study. Gall et al. (2003) identified reasons for using convenience sampling as follows: The sample can be closely located where the researcher works, the researcher can be familiar to the setting, or the researcher might have networking with people who are in charge of approval for data collection. The first reason for selecting this research setting was my familiarity to the research setting and location of the research site. More specifically, I worked as an elementary school teacher in different regions of the country. Thus, I am familiar to the research site. The second reason was my connections and network with people who were living in research site. Lastly, this city was representative for having similar statistics on the enrollment rate of the students and pupil/teacher ratio within the country. All of these factors increased the likelihood of having a representative sample for the population.

As previously mentioned in Chapter 1, elementary school teachers have crucial roles to initiate the referral process in Turkey. The target population of this study is all general education elementary school teachers in all public elementary schools in one town of a metropolitan city in the East Marmara region of Turkey. There are 73 public elementary schools in the town. From those 73 public elementary schools, 12 schools were selected for this study. The selection criteria of the participants in this study were to
(a) be a regular education teacher and have active working status and (b) teach from first
grade to fourth grade level in a public elementary school.

The Research Participants

The sample consisted of 264 elementary school teachers teaching from first grade
to fourth grade in 12 public elementary schools in one town of a metropolitan city in the
East Marmara region of Turkey. 310 elementary school teachers from 12 public
elementary schools were invited to participate in this study. From those, 270 participants
returned the envelopes that consisted of instruments of this study. Six surveys were
returned completely blank. Finally, the responses of 264 participants were included for
data analysis with a response rate of 85.2% in this study.

The majority of participants were female in this study. The gender breakdown
was 69.3% for females and 30.7% for males. Participants’ years of teaching experience
ranged from 1 to 41 years with an average of 22.29 years ($SD = 7.41$). The majority of
the respondents ($n = 149, 56.9\%$) was within the 21 years or more group in teaching,
whereas the smallest percentage ($n = 5, 1.9\%$) was within the 1 to 5 years group. In
addition, 3.8\% of the participants reported 6 to 10 years of teaching experience and 9.5\%
indicated 11 to 15 years of teaching experience. With respect to the highest educational
degree earned, the majority ($n = 215, 81.4\%$) of the teachers had undergraduate degree,
20 of them (7.6\%) held a master’s degree, and 29 of them (11\%) indicated others.

Regarding in-service training, 85.6\% of the participants reported that they
received in-service training in the last five years. More specifically, 48.9\% received
special education, 39.4\% teaching methods and techniques, 25\% classroom management,
and 8.3\% reading-writing supports in the last five years. In addition, 39.4\% of the
respondents reported others. Teachers who selected others, reported 40 different types of in-service training; however, none of them directly aimed at academic and/or behavioral supports for students. Thus, none of these categories were included in data analysis. The highest three rated training areas in the others category were: training in occupational health and safety ($n = 32$), classroom teachers’ training on foreign students ($n = 18$), adviser teacher training for teacher candidates’ education ($n = 14$). In contrast, 14.4% of respondents reported that they had not received in-service training in the last five years.

The frequencies and percentages of the respondents’ gender, years of teaching experience, educational degree, and training are arranged in Table 3.

Table 3: Demographic Information of the Participants

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Sample n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>183 (69.3%)</td>
</tr>
<tr>
<td>Male</td>
<td>81 (30.7%)</td>
</tr>
<tr>
<td>Years of Teaching Experience</td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>5 (1.9%)</td>
</tr>
<tr>
<td>6-10</td>
<td>10 (3.8%)</td>
</tr>
<tr>
<td>11-15</td>
<td>25 (9.5%)</td>
</tr>
<tr>
<td>16-20</td>
<td>73 (27.9%)</td>
</tr>
<tr>
<td>21 or &gt;</td>
<td>149 (56.9%)</td>
</tr>
<tr>
<td>Educational Degree</td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>215 (81.4%)</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>20 (7.6%)</td>
</tr>
<tr>
<td>Others</td>
<td>29 (11%)</td>
</tr>
<tr>
<td>Training (received in the last five years)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>226 (85.6%)</td>
</tr>
<tr>
<td>Special Education</td>
<td>129 (48.9%)</td>
</tr>
<tr>
<td>Classroom management</td>
<td>66 (25%)</td>
</tr>
<tr>
<td>Reading-Writing Supports</td>
<td>22 (8.3%)</td>
</tr>
<tr>
<td>Teaching methods and techniques</td>
<td>104 (39.4%)</td>
</tr>
<tr>
<td>Others</td>
<td>104 (39.4%)</td>
</tr>
<tr>
<td>No</td>
<td>38 (14.4%)</td>
</tr>
</tbody>
</table>

Note. ($N = 264$).
**Recruitment Procedure**

Prior to any data being collected, the study was approved by the Institutional Review Board (IRB) at the University of Massachusetts Amherst. In addition, a permission from the PDNE was required to conduct the study in one district of the city in Turkey. The following steps were completed to receive approval from the PDNE: (1) an application letter that includes the author’s educational information, proposed title of the dissertation, and research site of the study were written, (2) a three-page summary that includes abstract, purpose of the study, research questions, significance of the study, participants were provided, and (3) consent letter (Appendix G and H) and instruments of the study were enclosed to receive approval from the PDNE in the town.

The permission to conduct the study at the research site was granted through the PDNE office. Once approval was received, I contacted with the school principals in person to obtain their permission for data collection. I contacted the principals of 12 schools for the study and all principals agreed to participate in this study.

**Survey Administration Procedures**

I used a paper-based survey to conduct my study, since some participants of the study may have limited access to the internet. I included clear directions to clarify what the participants should do while taking the survey and wrote the directions in a plain language. The survey was printed on one-sided 8 ½ x 11 pages and stapled in the upper left corner. I also asked participants to return the survey using the enclosed envelopes for participants’ convenience.

Data were gathered from public elementary schools where the school principals agreed to data collection. All 12 schools agreed to participate in this study. Teachers who
were working in these schools received a cover letter presenting details that their participation was voluntary, data and their identity were kept confidential. In addition, teachers were given a packet that includes a demographic information questionnaire, the TSES survey, and the TDRRM. Each teacher was asked to complete the packet and return it to the school principals in an enclosed envelope one week after dropping the packet. The researcher obtained the permission and completed the data collection within an 8-week period.

**Data Analysis**

The software program used to analyze data was SPSS in this study. Both descriptive and inferential analyses were used in this study. While descriptive statistics were used to describe and summarize data, inferential statistics allowed us to determine the relationships between variables (Gall et al., 2003). I also employed factor analysis for the TTSES.

Descriptive statistics: I used descriptive statistics to examine how participants responded in the TDRRM and TTSES. I examined the number of teachers’ decisions in regard to referral and placement in terms of frequencies and percentages. In addition, I performed descriptive statistics to examine means of teachers’ sense efficacy for each item and total in the TTSES.

Factor analysis: I conducted factor analysis by using varimax rotation in order to determine factor structure of the TTSES. Prior to the exploration of factors, I examined the Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity to determine the suitability of the data for factor analysis. In addition, I examined the eigenvalues of the
factors and selected the number of the factors with eigenvalues of 1.00 or higher for data analysis of this study.

Binary logistic regression: I performed binary logistic regression to answer the Research Questions 1 and 2 that were related to the referral decisions as well as Research Questions 4 and 5 that were related to the placement decisions. The types of variables were as follows: referral decisions (categorical-dichotomous: yes/no), placement decisions (categorical-dichotomous: yes/no), teacher efficacy for each factor (continuous), educational degree (categorical), teachers’ gender (categorical), years of teaching experience (continuous), training including special education, classroom management, reading-writing supports, teaching methods and techniques (categorical).

The first outcome variable was referral decisions with coding 0 for absence of the referral decision and 1 for presence of referral decision. The second outcome variable was teachers’ decisions of special education classroom placement with coding 0 for absence of special education classroom placement and 1 for presence of special education classroom placement. The predictor variables were: (a) four factors explored from the TTSES; (b) teachers’ educational degree by coding bachelor’s as 1, master’s degree as 2, doctoral degree as 3, and others as 4; (c) teachers’ gender by coding female respondents as 1 and males as 2; (d) teachers’ years of teaching experience; (e) training in five areas such as special education, classroom management, reading-writing supports, teaching methods and techniques, and others. Absence of training was coded as 0 and presence of training was coded as 1 in five areas of training.

One sample non-parametric chi-square test: I used one sample non-parametric chi-square test to answer Research Question 3 and 6. One sample non-parametric chi-
Chi-square test was used to test whether the observed proportions are different from hypothesized proportions for categorical variables. I wanted to examine (a) whether teachers’ decisions in regard to referral or placement had equal frequencies in the comparisons of cases and (b) whether teachers’ decisions were different based on students’ gender and the problem type.

I included two comparisons to examine participants’ decisions to refer or not refer for special education evaluation based on students’ gender. In the first comparison, I compared Case 1 to Case 2: Case 1 included a male student with academic challenges and Case 2 included a female student with academic challenges. In the second comparison, I compared Case 3 to Case 4: Case 3 included a male student with behavioral challenges and Case 4 included a female student with behavioral challenges.

In the first analysis, I examined how teachers’ decisions differed in Case 1: A Male Student with Academic Challenges and Case 2: A Female Student with Academic Challenges. If the teacher made no referral in both Case 1 and Case 2, the variable was coded as a “0”. If the teacher made a referral for Case 2 but no referral for Case 1, the variable was coded as a “1”. If the teacher made a referral for Case 1 but no referral for Case 2, the variable was coded as a “2”. If the teacher made a referral for Case 1 and a referral for Case 2, the variable was coded as a “3”. I used a chi-square test in the first analysis. Results of the first analysis helped me to examine whether there was a difference in the ways that teachers responded to the two cases.

If there was a significant finding in first analysis, I created another set of codes for the variables that combined responses across teachers who made a decision to refer in only one case, i.e., a teacher who decided to refer in Case 2: Female Academic but not in
Case 1: Male Academic or a teacher who decided to refer in Case 1: Male Academic but not in Case 2: Female Academic. If the teacher made a referral for Case 2 but no referral for Case 1, it was coded as “1”. If the teacher made a referral for Case 1 but no referral for Case 2, it was coded as “2”. I used a chi-square test in the second analysis. Results of the second analysis helped me to understand whether the difference in responding when comparing Case 1 and Case 2 was related to students’ gender. I followed the same coding and analysis to compare Case 3: A Male Student with Behavioral Challenges to Case 4: A Female Student with Behavioral Challenges.

I included two comparisons to examine teachers’ decisions to refer or not refer for special education evaluation based on the problem type. In the first comparison, I compared Case 1 to Case 3: Case 1 included a male student with academic problems and Case 3 included a male student with behavioral problems. In the second comparison, I compared Case 2 to Case 4: Case 2 included a female student with academic challenges and Case 4 included a female student with behavioral challenges.

In the first analysis, I examined how teachers’ decisions differed in Case 1: A Male Student with Academic Challenges and Case 3: A Male Student with Behavioral Challenges. If the teacher made no referral in both Case 1 and Case 3, the variable was coded as a “0”. If the teacher made a referral for Case 3 but no referral for Case 1, the variable was coded as a “1”. If the teacher made a referral for Case 1 but no referral for Case 3, the variable was coded as a “2”. If the teacher made a referral for Case 1 and a referral for Case 3, the variable was coded as a “3”. I used a chi-square test in the first analysis. Results of the first analysis helped me to examine whether there was a difference in the ways that teachers responded to the two cases.
If there was a significant finding in the first analysis, I created another set of codes for the variables that combined responses across teachers who made a decision to refer in only one case, i.e. a teacher who decided to refer in Case 1: Male Academic but not in Case 3: Male Behavioral or a teacher who decided to refer in Case 3: Male Behavioral but not in Case 1: Male Academic. If the teacher made a referral for Case 3 but no referral for Case 1, it was coded as “1”. If the teacher made a referral for Case 1 but no referral for Case 3, it was coded as “2”. I used a chi-square test in the second analysis. Results of the second analysis helped me to understand whether the difference in responding when comparing Case 1 and Case 3 was related to problem type. I followed the same coding and analysis to compare Case 2: A Female Student with Academic Challenges to Case 4: A Female Student with Behavioral Challenges.
CHAPTER 4

RESULTS

Descriptive Statistics

I examined teachers’ responses in four cases of the Teachers’ Decisions in Regard to Referral Measure (TDRRM) in frequencies and percentages. In addition, I examined items of the Turkish Version of Teachers Sense of Efficacy Scale (TTSES; Capa et al., 2005) in range, mean, and standard deviation.

The Teachers’ Decisions in Regard to Referral Measure (TDRRM)

The TDRRM consists of four cases. All teachers ($N = 264$) responded to two close-ended questions after reading each case. The first question aimed to examine teachers’ decisions to refer a student for special education evaluation and the second question aimed to examine teachers’ decisions to place the student in a special education classroom.

Referral: In each case, the referral decision was scored as 0 for “no referral” and 1 for “referral”. The sum to the teacher’s referral decisions across cases, therefore could range from 0 to 4. Case 3 (67.4%) received the largest percentage from teachers opted to refer, followed by Case 4 (63.3%), Case 1 (32.2%), and Case 2 (28.4%), respectively. Table 4 displays frequencies and percentages of teachers’ decisions in regard to special education referral for each case.
Table 4: Referral Decisions

<table>
<thead>
<tr>
<th>Case Description</th>
<th>Referral Decisions</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1 (A male student with academic challenges)</td>
<td>Yes</td>
<td>85</td>
<td>32.2</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>179</td>
<td>67.8</td>
</tr>
<tr>
<td>Case 2 (A female student with academic challenges)</td>
<td>Yes</td>
<td>75</td>
<td>28.4</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>189</td>
<td>71.6</td>
</tr>
<tr>
<td>Case 3 (A male student with behavioral challenges)</td>
<td>Yes</td>
<td>178</td>
<td>67.4</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>86</td>
<td>32.6</td>
</tr>
<tr>
<td>Case 4 (A female student with behavioral challenges)</td>
<td>Yes</td>
<td>167</td>
<td>63.3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>97</td>
<td>36.7</td>
</tr>
</tbody>
</table>

Note. N = 264.

Special education classroom placement: In each case, the special education classroom decision was scored as 0 for “no special education classroom placement” and 1 for “special education classroom placement”. The sum to the teacher’s special education classroom decisions across cases, therefore could range from 0 to 4. Case 3 (40.2%) received the largest percentage from teachers opted to special education classroom placement, followed by Case 4 (36.4%), Case 1 (24.6%), and Case 2 (22.7%), respectively. Table 5 displays frequencies and percentages of teachers’ decisions in regard to special education classroom placement.

Table 5: Placement Decisions

<table>
<thead>
<tr>
<th>Case Description</th>
<th>Placement Decisions</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1 (A male student with academic challenges)</td>
<td>Yes</td>
<td>65</td>
<td>24.6</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>199</td>
<td>75.4</td>
</tr>
<tr>
<td>Case 2 (A female student with academic challenges)</td>
<td>Yes</td>
<td>60</td>
<td>22.7</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>204</td>
<td>77.3</td>
</tr>
<tr>
<td>Case 3 (A male student with behavioral challenges)</td>
<td>Yes</td>
<td>106</td>
<td>40.2</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>158</td>
<td>59.8</td>
</tr>
<tr>
<td>Case 4 (A female student with behavioral challenges)</td>
<td>Yes</td>
<td>96</td>
<td>36.4</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>168</td>
<td>63.6</td>
</tr>
</tbody>
</table>

Note. N = 264.

Turkish Teachers’ Sense of Efficacy Scale (TTSES)

I used descriptive statistics to examine teachers’ perceived efficacy. I analyzed the data by scoring the total teacher efficacy scores for each participant representing
teachers’ perceptions about their efficacy in classroom activities. The TTSES (Capa et al., 2005) is a 9-point Likert scale and consists of 24 items. The highest possible score is 216 points, if a respondent rated all items as “9” in the scale. The lowest possible score is 24 points in the TSESS, if a respondent rated all items as “1” in the scale. In this study, the mean teacher efficacy score was 178.25 ranging from 132 to 216. I also computed unweighted means of each item showing a composite mean score of 7.42 with a standard deviation of .77 in this study. A Cronbach’s coefficient alpha was used as a measure of internal consistency reliability of the TTSES. The coefficient alpha of 24-item scale was at 0.95 indicating an excellent internal consistency for this study. Table 6 shows the mean, standard deviation, minimum and maximum score of each item.
Table 6: Means and Standard Deviations of the TTSES and Items

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Efficacy in Total</td>
<td>7.42</td>
<td>.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. How much can you do to get through to the most difficult students?</td>
<td>6.42</td>
<td>1.36</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>2. How much can you do to help your students think critically?</td>
<td>7.23</td>
<td>1.25</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>3. How much can you do to control disruptive behavior in the classroom?</td>
<td>7.31</td>
<td>1.16</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>4. How much can you do to motivate students who show low interest in school work?</td>
<td>7.09</td>
<td>1.15</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>5. To what extent can you make your expectations clear about student behavior?</td>
<td>7.85</td>
<td>1.03</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>6. How much can you do to get students to believe they can do well in school work?</td>
<td>7.72</td>
<td>1.07</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>7. How well can you respond to difficult questions from your students?</td>
<td>7.76</td>
<td>.99</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>8. How well can you establish routines to keep activities running smoothly?</td>
<td>7.65</td>
<td>1.03</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>9. How much can you do to help your students value learning?</td>
<td>7.53</td>
<td>1.05</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>10. How much can you gauge student comprehension of what you have taught?</td>
<td>7.75</td>
<td>.97</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>11. To what extent can you craft good questions for your students?</td>
<td>7.69</td>
<td>1.08</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>12. How much can you do to foster student creativity?</td>
<td>7.30</td>
<td>1.26</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>13. How much can you do to get children to follow classroom rules?</td>
<td>7.51</td>
<td>1.10</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>14. How much can you do to improve the understanding of a student who is failing?</td>
<td>7.04</td>
<td>1.09</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>15. How much can you do to calm a student who is disruptive or noisy?</td>
<td>7.41</td>
<td>1.10</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>16. How well can you establish a classroom management system with each group of students?</td>
<td>7.10</td>
<td>1.13</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>17. How much can you do to adjust your lessons to the proper level for individual students?</td>
<td>7.27</td>
<td>1.10</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>18. How much can you use a variety of assessment strategies?</td>
<td>7.47</td>
<td>1.11</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>19. How well can you keep a few problem students form ruining an entire lesson?</td>
<td>7.35</td>
<td>1.07</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>20. To what extent can you provide an alternative explanation or example when students are confused?</td>
<td>7.81</td>
<td>.99</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>21. How well can you respond to defiant students?</td>
<td>7.58</td>
<td>1.10</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>22. How much can you assist families in helping their children do well in school?</td>
<td>7.58</td>
<td>1.14</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>23. How well can you implement alternative strategies in your classroom?</td>
<td>7.57</td>
<td>.97</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>24. How well can you provide appropriate challenges for very capable students?</td>
<td>7.26</td>
<td>1.44</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

Note. Items are rated on a scale from 1 = Nothing to 9 = A Great Deal. Higher means indicate a higher level of efficacy.
Factor Analysis

I used factor analysis to examine factor structure of the TTSES. Before the extraction of factors, I employed the Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity measures to assess the suitability of the data for factor analysis. The KMO is a measure of sample adequacy and it ranges from zero to one (Hair, Anderson, Tatham, Black, 1998; Tabachnick & Fidell, 2007). KMO values greater than 0.6 can be considered good (Hair et al., 1998; Tabachnick & Fidell, 2007). The KMO value was .954 in this study, which have been characterized as adequate for factor analysis. The Bartlett's Test of Sphericity is used to test for null hypothesis that the original correlation matrix has an identity matrix. The Bartlett’s Test of Sphericity should be significant ($p < .05$) for factor analysis (Hair et al., 1998; Tabachnick & Fidell, 2007). The Bartlett’s Test of Sphericity was .000 in this study. Both the Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity measures indicated that the factor analysis was suitable for this study.

I conducted explanatory factor analysis with varimax rotation to identify the underlying structure for all 24 items in the TTSES. Results of analysis indicated that 62.96% of the variance accounted for the first four factors with eigenvalues of 1.00 or higher in this study. I examined the items that loaded on each of the four factors to identify a name to the each extracted factor. I used a content analysis, coding each item for the student behavior and the teacher behavior. There was no pattern in the coding of student behavior within each of the four factors. Thereby, I focused on the coding of teacher behaviors within each of the four factors. The first factor included seven items (item 3, 4, 13, 14, 15, 19, and 21) that were related to the teachers’ efficacy in managing students’ behaviors in the classrooms (i.e. controlling disruptive behaviors in the
classroom, getting children to follow classroom rules). Thereby, I called the first factor as “behavior management’. The second factor included eight items (item 5, 6, 7, 8, 9, 10, 11, and 20) that were related to the teachers’ efficacy in instructional supports in their classroom (i.e. crafting good questions for the students, responding to difficult questions from students). Thereby, I called the second factor as “explicit instruction”. The third factor consisted of seven items (item 12, 16, 17, 18, 22, 23, and 24) about teachers’ efficacy in using differentiated instruction in their classrooms (i.e. adjusting the lessons to the proper level for individual students, implementing alternative strategies in the classroom). Thereby, I named the third factor as “differentiated instruction”. Lastly, the fourth factor included three items (items 1, 2, and 12) that were related to teachers’ efficacy in facilitating students’ learning (i.e. helping students think critically, fostering student creativity). Thus, I named the fourth factor as “facilitation”. The following paragraph presents the percentage of the variation explained by each factor.

*Factor 1: Behavior Management* accounted for 18.82% of the variance, *Factor 2: Instructional Supports* accounted for 16.39% of the variance, *Factor 3: Differentiated Instruction* accounted for 17.95% of the variance, and *Factor 4: Facilitation* accounted for 9.8% of the variance in this study. Table 7 and Table 8 shows eigenvalues and factor loadings for 24 items of the TTSES, respectively.

**Table 7: Eigenvalues of Each Factor**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Behavior Management</td>
<td>14.38</td>
<td>18.81</td>
</tr>
<tr>
<td>Factor 2: Instructional Supports</td>
<td>1.91</td>
<td>16.39</td>
</tr>
<tr>
<td>Factor 3: Differentiated Instruction</td>
<td>1.45</td>
<td>17.95</td>
</tr>
<tr>
<td>Factor 4: Facilitation</td>
<td>1.29</td>
<td>9.8</td>
</tr>
</tbody>
</table>
### Table 8: Factor Loadings for the TTSES

Extraction: PCA with Varimax Rotation

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How much can you do to get through to the most difficult students?</td>
<td>.449</td>
<td>.056</td>
<td>.293</td>
<td>.714</td>
<td></td>
</tr>
<tr>
<td>2. How much can you do to help your students think critically?</td>
<td>.168</td>
<td>.448</td>
<td>.061</td>
<td>.685</td>
<td></td>
</tr>
<tr>
<td>3. How much can you do to control disruptive behavior in the classroom?</td>
<td>.752</td>
<td>.320</td>
<td>.072</td>
<td>.108</td>
<td></td>
</tr>
<tr>
<td>4. How much can you do to motivate students who show low interest in school work?</td>
<td>.654</td>
<td>.257</td>
<td>.253</td>
<td>.216</td>
<td></td>
</tr>
<tr>
<td>5. To what extent can you make your expectations clear about student behavior?</td>
<td>.310</td>
<td>.643</td>
<td>.092</td>
<td>.168</td>
<td></td>
</tr>
<tr>
<td>6. How much can you do to get students to believe they can do well in school work?</td>
<td>.365</td>
<td>.570</td>
<td>.279</td>
<td>.123</td>
<td></td>
</tr>
<tr>
<td>7. How well can you respond to difficult questions from your students?</td>
<td>.279</td>
<td>.544</td>
<td>.161</td>
<td>.308</td>
<td></td>
</tr>
<tr>
<td>8. How well can you establish routines to keep activities running smoothly?</td>
<td>.318</td>
<td>.566</td>
<td>.354</td>
<td>.052</td>
<td></td>
</tr>
<tr>
<td>10. How much can you gauge student comprehension of what you have taught?</td>
<td>.317</td>
<td>.606</td>
<td>.354</td>
<td>.081</td>
<td></td>
</tr>
<tr>
<td>11. To what extent can you craft good questions for your students?</td>
<td>.157</td>
<td>.655</td>
<td>.331</td>
<td>.265</td>
<td></td>
</tr>
<tr>
<td>12. How much can you do to foster student creativity?</td>
<td>.160</td>
<td>.261</td>
<td>.507</td>
<td>.514</td>
<td></td>
</tr>
<tr>
<td>13. How much can you do to get children to follow classroom rules?</td>
<td>.568</td>
<td>.385</td>
<td>.144</td>
<td>.258</td>
<td></td>
</tr>
<tr>
<td>14. How much can you do to improve the understanding of a student who is failing?</td>
<td>.539</td>
<td>.234</td>
<td>.451</td>
<td>.207</td>
<td></td>
</tr>
<tr>
<td>15. How much can you do to calm a student who is disruptive or noisy?</td>
<td>.671</td>
<td>.291</td>
<td>.185</td>
<td>.246</td>
<td></td>
</tr>
<tr>
<td>16. How well can you establish a classroom management system with each group of students?</td>
<td>.463</td>
<td>.249</td>
<td>.514</td>
<td>.267</td>
<td></td>
</tr>
<tr>
<td>17. How much can you do to adjust your lessons to the proper level for individual students?</td>
<td>.387</td>
<td>.154</td>
<td>.534</td>
<td>.133</td>
<td></td>
</tr>
<tr>
<td>18. How much can you use a variety of assessment strategies?</td>
<td>.189</td>
<td>.376</td>
<td>.643</td>
<td>.191</td>
<td></td>
</tr>
<tr>
<td>19. How well can you keep a few problem students form ruining an entire lesson?</td>
<td>.678</td>
<td>.337</td>
<td>.330</td>
<td>.073</td>
<td></td>
</tr>
<tr>
<td>20. To what extent can you provide an alternative explanation or example when students are confused?</td>
<td>.256</td>
<td>.626</td>
<td>.435</td>
<td>.042</td>
<td></td>
</tr>
<tr>
<td>21. How well can you respond to defiant students?</td>
<td>.653</td>
<td>.240</td>
<td>.283</td>
<td>.135</td>
<td></td>
</tr>
<tr>
<td>22. How much can you assist families in helping their children do well in school?</td>
<td>.421</td>
<td>.334</td>
<td>.515</td>
<td>-.018</td>
<td></td>
</tr>
<tr>
<td>23. How well can you implement alternative strategies in your classroom?</td>
<td>.291</td>
<td>.331</td>
<td>.668</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>24. How well can you provide appropriate challenges for very capable students?</td>
<td>.081</td>
<td>.166</td>
<td>.858</td>
<td>.237</td>
<td></td>
</tr>
</tbody>
</table>
Teachers’ Decisions in Regard to Referral

The four factors explored from the TTSES (i.e. behavior management, instructional supports, differentiated instruction, facilitation) and the teachers’ demographic characteristics were used to examine teachers’ decisions in regard to referral.

Teachers’ Sense of Efficacy and Teacher Characteristics

I used binary logistic regression to answer the Research Question 1 and 2. Binary logistic regression analysis were conducted to ascertain the effects of Factor 1: Behavior Management, Factor 2: Instructional Supports, Factor 3: Differentiated Instruction, Factor 4: Facilitation, teachers’ educational degree, teachers’ gender, years of teaching experience, and training (special education, classroom management, reading-writing supports, teaching methods and techniques) on teachers’ decisions to refer the student for special education evaluation. Results of binary logistic regression are presented for four cases below.

Case 1: The model was significant, indicating there was evidence that independent variables predicted the outcome variable in Case 1, $\chi^2 (12) = 25.098, p = .014$. The model explained 9.1% (Cox & Snell R-square) of variance in participants’ decisions to refer or not to refer for special education evaluation. The independent variables that made significant contributions to the model, i.e. predicted participants’ decisions to refer in Case 1, included training in reading and writing supports ($p = .002$), teachers’ gender ($p = .006$), and Factor 4: Facilitation ($p = .017$). We can conclude that the odds of a teacher who received training in reading and writing supports making a decision to refer was 4.93 times higher than a teacher who did not receive training in
reading and writing supports. In addition, the odds of a male teacher making a decision to refer was 2.45 times higher than the odds of a female teacher making a decision to refer the student for special education evaluation. We can also conclude that one-unit increase in *Factor 4: Facilitation* increased the odds of making a decision to refer by .713 times.

Table 9 shows the regression coefficient, Wald test, p-value, odds ratio, and confidence interval of each predictor variable for Case 1.

**Table 9: Binary Logistic Regression Analysis for Case 1 (Referral)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>S.E.</th>
<th>Wald  $\chi^2$</th>
<th>P-value</th>
<th>Odds</th>
<th>95% of CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Behavior Management</td>
<td>.128</td>
<td>.141</td>
<td>.822</td>
<td>.365</td>
<td>1.136</td>
<td>.862</td>
</tr>
<tr>
<td>Factor 2: Instructional Supports</td>
<td>.185</td>
<td>.145</td>
<td>1.634</td>
<td>.201</td>
<td>1.203</td>
<td>.906</td>
</tr>
<tr>
<td>Factor 3: Differentiated Inst.</td>
<td>-.052</td>
<td>.138</td>
<td>.139</td>
<td>.709</td>
<td>.950</td>
<td>.724</td>
</tr>
<tr>
<td>Factor 4: Facilitation</td>
<td>.338</td>
<td>.141</td>
<td>5.728</td>
<td>.01*</td>
<td>.713</td>
<td>.541</td>
</tr>
<tr>
<td>Teachers’ educational level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master’s to BA</td>
<td>.261</td>
<td>.527</td>
<td>.245</td>
<td>.621</td>
<td>1.298</td>
<td>.462</td>
</tr>
<tr>
<td>Others to BA</td>
<td>-.271</td>
<td>.544</td>
<td>.247</td>
<td>.619</td>
<td>.763</td>
<td>.262</td>
</tr>
<tr>
<td>Teachers’ gender a</td>
<td>.897</td>
<td>.325</td>
<td>7.644</td>
<td>.006*</td>
<td>2.453</td>
<td>1.298</td>
</tr>
<tr>
<td>Teachers’ years of experience</td>
<td>-.031</td>
<td>.022</td>
<td>2.040</td>
<td>.153</td>
<td>.970</td>
<td>.929</td>
</tr>
<tr>
<td>Training in class. management</td>
<td>-.153</td>
<td>.369</td>
<td>.172</td>
<td>.678</td>
<td>.858</td>
<td>.416</td>
</tr>
<tr>
<td>Training in reading-writing b</td>
<td>1.596</td>
<td>.525</td>
<td>9.261</td>
<td>.002*</td>
<td>4.934</td>
<td>1.765</td>
</tr>
<tr>
<td>Training in special education</td>
<td>.357</td>
<td>.289</td>
<td>1.532</td>
<td>.216</td>
<td>1.429</td>
<td>.81</td>
</tr>
<tr>
<td>Training in teaching methods</td>
<td>-.448</td>
<td>.334</td>
<td>1.798</td>
<td>.180</td>
<td>.639</td>
<td>.332</td>
</tr>
</tbody>
</table>

*a Teachers’ gender: 1 = Female, 2 = Male.
*b Reading and Writing Supports: 0 = Absence, 1 = Presence.

Case 2: The model was not significant, $\chi^2 (12) = 5.61, p = .93$. There was no statistical significant relationship between Factor 1: Behavior Management, Factor 2: Instructional Supports, Factor 3: Differentiated Instruction, Factor 4: Facilitation, teachers’ educational degree, teachers’ gender, years of teaching experience, training (special education, classroom management, reading-writing supports, teaching methods and techniques) and participants’ decisions to refer or not refer for special education evaluation in Case 2.
Case 3: The model was significant, indicating there was evidence that independent variables predicted the outcome variable in Case 3, $\chi^2 (12) = 23.92, p = .02$. The model explained 8.7% (Cox & Snell R-square) of variance in participants’ decisions to refer or not to refer for special education evaluation. The independent variables that made significant contributions to the model, i.e. predicted participants’ decision to refer in Case 3, included Factor 3: Differentiated Instruction ($p = .011$) and training in classroom management ($p = .009$). We can conclude that the odds of a teacher who received training in classroom management making a decision to refer was .406 times lower than a teacher who did not receive training in classroom management. We can also conclude that one-point increase in Factor 3: Differentiated Instruction increased the odds of making a decision to refer by 1.433 times. Table 10 presents the test statistics of predictor variables for Case 3.

Table 10: Binary Logistic Regression Analysis for Case 3 (Referral)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient B</th>
<th>S.E.</th>
<th>Wald $\chi^2$</th>
<th>P-value</th>
<th>Odds B</th>
<th>95% of CI Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Behavior Management</td>
<td>-.269</td>
<td>.148</td>
<td>3.289</td>
<td>.070</td>
<td>.764</td>
<td>.572</td>
<td>1.022</td>
</tr>
<tr>
<td>Factor 2: Instructional Supports</td>
<td>.215</td>
<td>.143</td>
<td>2.260</td>
<td>.133</td>
<td>1.240</td>
<td>.937</td>
<td>1.642</td>
</tr>
<tr>
<td>Factor 3: Differentiated Ins.</td>
<td>.360</td>
<td>.141</td>
<td>6.498</td>
<td>.011*</td>
<td>1.433</td>
<td>1.087</td>
<td>1.889</td>
</tr>
<tr>
<td>Factor 4: Facilitation</td>
<td>-.018</td>
<td>.143</td>
<td>.015</td>
<td>.902</td>
<td>.983</td>
<td>.743</td>
<td>1.299</td>
</tr>
<tr>
<td>Teachers’ educational level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.988</td>
</tr>
<tr>
<td>Master’s to BA</td>
<td>-.052</td>
<td>.528</td>
<td>.010</td>
<td>.922</td>
<td>.950</td>
<td>.338</td>
<td>2.671</td>
</tr>
<tr>
<td>Others to BA</td>
<td>-.061</td>
<td>.492</td>
<td>.016</td>
<td>.901</td>
<td>.941</td>
<td>.359</td>
<td>2.465</td>
</tr>
<tr>
<td>Teachers’ gender</td>
<td>-.147</td>
<td>.319</td>
<td>.214</td>
<td>.644</td>
<td>.863</td>
<td>.462</td>
<td>1.611</td>
</tr>
<tr>
<td>Training in class. management</td>
<td>-.903</td>
<td>.347</td>
<td>6.751</td>
<td>.009*</td>
<td>.406</td>
<td>.205</td>
<td>.801</td>
</tr>
<tr>
<td>Training in reading-writing</td>
<td>.635</td>
<td>.561</td>
<td>1.280</td>
<td>.258</td>
<td>1.887</td>
<td>.628</td>
<td>5.669</td>
</tr>
<tr>
<td>Training in special education</td>
<td>.019</td>
<td>.284</td>
<td>.005</td>
<td>.946</td>
<td>1.020</td>
<td>.584</td>
<td>1.779</td>
</tr>
<tr>
<td>Training in teaching methods</td>
<td>-.212</td>
<td>.321</td>
<td>.435</td>
<td>.509</td>
<td>.809</td>
<td>.431</td>
<td>1.518</td>
</tr>
</tbody>
</table>

*a Training in classroom management: 0 = Absence, 1 = Presence.

Case 4: The model was significant, indicating there was evidence that independent variables predicted the outcome variable in Case 4, $\chi^2 (12) = 21.70, p = .04$. The model explained 7.9% (Cox & Snell R-square) of variance in participants’ decisions
to refer or not refer for special education evaluation. The independent variable that made significant contributions to the model, i.e. predicted participants’ decisions to refer in Case 4, was *Factor 3: Differentiated Instruction* (*p = .02*). We can conclude that one-point increase in *Factor 3: Differentiated Instruction* increased the odds of making decision to refer by 1.377 times. Table 11 presents the test statistics of predictor variables for Case 4.

**Table 11: Binary Logistic Regression Analysis for Case 4 (Referral)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient $B$</th>
<th>S.E.</th>
<th>Wald $\chi^2$</th>
<th>P-value</th>
<th>Odds $B$</th>
<th>95% of CI Lower Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Behavior Management</td>
<td>-.223</td>
<td>.140</td>
<td>2.520</td>
<td>.112</td>
<td>.800</td>
<td>.608     1.054</td>
</tr>
<tr>
<td>Factor 2: Instructional Supports</td>
<td>.023</td>
<td>.137</td>
<td>.027</td>
<td>.869</td>
<td>1.023</td>
<td>.781     1.339</td>
</tr>
<tr>
<td>Factor 3: Differentiated Ins.</td>
<td>.320</td>
<td>.137</td>
<td>5.421</td>
<td>.02*</td>
<td>1.377</td>
<td>1.052    1.803</td>
</tr>
<tr>
<td>Factor 4: Facilitation</td>
<td>-.140</td>
<td>.138</td>
<td>1.030</td>
<td>.310</td>
<td>.869</td>
<td>.663     1.140</td>
</tr>
<tr>
<td>Teachers’ educational level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.319     .</td>
</tr>
<tr>
<td>Master’s to BA</td>
<td>-.467</td>
<td>.496</td>
<td>.886</td>
<td>.347</td>
<td>.627</td>
<td>.237     1.668</td>
</tr>
<tr>
<td>Others to BA</td>
<td>-.581</td>
<td>.465</td>
<td>1.565</td>
<td>.211</td>
<td>.559</td>
<td>.225     1.391</td>
</tr>
<tr>
<td>Teachers’ gender</td>
<td>-.426</td>
<td>.306</td>
<td>1.942</td>
<td>.163</td>
<td>.653</td>
<td>.359     1.189</td>
</tr>
<tr>
<td>Teachers’ years of experience</td>
<td>-.002</td>
<td>.021</td>
<td>.012</td>
<td>.913</td>
<td>.998</td>
<td>.957     1.040</td>
</tr>
<tr>
<td>Training in class. management</td>
<td>-.112</td>
<td>.347</td>
<td>.104</td>
<td>.747</td>
<td>.894</td>
<td>.453     1.765</td>
</tr>
<tr>
<td>Training in reading-writing</td>
<td>1.046</td>
<td>.618</td>
<td>2.869</td>
<td>.090</td>
<td>2.846</td>
<td>.848     9.550</td>
</tr>
<tr>
<td>Training in special education</td>
<td>.193</td>
<td>.275</td>
<td>.494</td>
<td>.482</td>
<td>1.213</td>
<td>.708     2.079</td>
</tr>
<tr>
<td>Training in teaching methods</td>
<td>-.246</td>
<td>.310</td>
<td>.631</td>
<td>.427</td>
<td>.782</td>
<td>.426     1.435</td>
</tr>
</tbody>
</table>

**Students’ Gender and Problem Type**

One sample non-parametric chi-square test was used to test whether teachers’ decisions in regard to referral had equal frequencies in the comparisons of cases. Four comparisons were included to understand how teachers responded in the cases and answer the Research Question 3. These comparisons are described below.

**Students’ Gender**

I included two comparisons to examine participants’ decisions to refer or not refer a male student and a female student for special education evaluation. In the first
comparison, I compared Case 1 to Case 2: Case 1 included a male student with academic challenges and Case 2 included a female student with academic challenges. In the second comparison, I compared Case 3 to Case 4: Case 3 included a male student with behavioral challenges and Case 4 included a female student with behavioral challenges.

The comparison of Case 1 and Case 2: In the first analysis, I used a chi-square test to examine how teachers’ decisions differed in Case 1: A Male Student with Academic Challenges and Case 2: A Female Student with Academic Challenges. If the teacher made no referral in both Case 1 and Case 2, the variable was coded as a “0”. If the teacher made a referral for Case 2 but no referral for Case 1, the variable was coded as a “1”. If the teacher made a referral for Case 1 but no referral for Case 2, the variable was coded as a “2”. If the teacher made a referral for Case 1 and a referral for Case 2, the variable was coded as a “3”. Based on these codes, when comparing Case 1: Male Academic and Case 2: Female Academic, the chi-square test was significant, \( \chi^2 (3, N = 264) = 174.879, p = .000 \). This shows that teachers’ decisions did not occur in equal probabilities. There was a difference in the ways that teachers responded to the two cases. Comparing the number of teachers who decided not to refer in both Case 1 and Case 2, to refer in Case 2 but not in Case 1, to refer in Case 1 but not in Case 2, and to refer in both Case 1 and Case 2, I found the following: (a) teachers most frequently made a decision not to refer in both Case 1 and Case 2 \( (n = 157) \); (b) teachers second most frequently made a decision to refer in both Case 1 and Case 2 \( (n = 53) \); (c) teachers third most frequently made a decision to refer in Case 1 but not in Case 2 \( (n = 32) \); and (d) teachers least frequently made a decision to refer in Case 2 but not in Case 1 \( (n = 22) \). Figure 1 illustrates the results of this comparison.
In the second analysis, I used a chi-square test to examine responses across teachers who made a decision to refer in only one case, i.e., a teacher who decided to refer in Case 2: Female Academic but not in Case 1: Male Academic or a teacher who decided to refer in Case 1: Male Academic but not in Case 2: Female Academic. If the teacher made a referral for Case 2 but no referral for Case 1, it was coded as “1”. If the teacher made a referral for Case 1 but no referral for Case 2, it was coded as “2”. The model was not significant, $\chi^2 (1, N = 54) = 1.852, p = .174$. This suggests that the difference in responding when comparing Case 1 to Case 2 was not related to gender.

The comparison of Case 3 and Case 4: In the first analysis, I used a chi-square test to examine how teachers’ decisions differed in Case 3: A Male Student with Behavioral Challenges and Case 4: A Female Student with Behavioral Challenges. If the teacher made no referral in both Case 3 and Case 4, the variable was coded as a “0”. If the teacher made a referral for Case 4 but no referral for Case 3, the variable was coded as a “1”. If the teacher made a referral for Case 3 but no referral for Case 4, the variable was coded as a “2”. If the teacher made a referral for Case 3 and a referral for Case 4, the
variable was coded as a “3”. Based on these codes, when comparing Case 3: Male Behavioral and Case 4: Female Behavioral, the chi-square test was significant, $\chi^2 (3, N = 264) = 170.636, p = .000$. This shows that teachers’ decisions did not occur in equal probabilities. There was a difference in the ways that teachers responded to the two cases. Comparing the number of teachers who decided not to refer in both Case 3 and Case 4, to refer in Case 4 but not in Case 3, to refer in Case 3 but not in Case 4, and to refer in both Case 3 and Case 4, I found the following: (a) teachers most frequently made a decision to refer in both Case 3 and Case 4 ($n = 151$); (b) teachers second most frequently made a decision not to refer in both Case 3 and Case 4 ($n = 70$); (c) teachers third frequently made a decision to refer in Case 3 but not in Case 4 ($n = 27$); (d) teachers least frequently made a decision to refer in Case 4 but not in Case 3 ($n = 16$). Figure 2 illustrates the results of this comparison.

![Referral (Male vs Female)](figure2.png)

**Figure 2: The comparison of Case 3 and Case 4**

In the second analysis, I used a chi-square test to examine responses across teachers who made a decision to refer in only one case, i.e. a teacher who decided to refer
in Case 3: Male Behavioral but not in Case 4: Female Behavioral or a teacher who decided to refer in Case 4: Female Behavioral but not in Case 3: Male Behavioral. If the teacher made a referral for Case 4 but no referral for Case 3, it was coded as “1”. If the teacher made a referral for Case 3 but no referral for Case 4, it was coded as “2”. The model was not significant, $\chi^2 (1, N = 43) = 2.814, p = .093$. This suggests that the difference in responding when comparing Case 3 to Case 4 was not related to gender.

**Problem Type**

I included two comparisons to examine teachers’ decisions to refer or not refer for special education evaluation. In the first comparison, I compared Case 1 to Case 3: Case 1 included a male student with academic problems and Case 3 included a male student with behavioral problems. In the second comparison, I compared Case 2 to Case 4: Case 2 included a female student with academic challenges and Case 4 included a female student with behavioral challenges.

The comparison of Case 1 and Case 3: In the first analysis, I used a chi-square test to examine how teachers’ decisions differed in Case 1: A Male Student with Academic Challenges and Case 3: A Male Student with Behavioral Challenges. If the teacher made no referral in both Case 1 and Case 3, the variable was coded as a “0”. If the teacher made a referral for Case 3 but no referral for Case 1, the variable was coded as a “1.” If the teacher made a referral for Case 1 but no referral for Case 3, the variable was coded as a “2”. If the teacher made a referral for Case 1 and a referral for Case 3, the variable was coded as a “3”. Based on these codes, when comparing the Case 1: Male Academic and Case 3: Male Behavioral, the chi-square test was significant, $\chi^2 (3, N = 264) = 65.545, p = .000$. This shows that teachers’ decisions did not occur in equal probabilities.
There was a difference in the ways teachers responded to the two cases. Comparing the number of teachers who decided not to refer in both Case 1 and Case 3, to refer in Case 3 but not in Case 1, to refer in Case 1 but not in Case 3, and to refer in both Case 1 and Case 3, I found the following: (a) teachers most frequently made a decision to refer in Case 3 but not in Case 1 ($n = 112$); (b) teachers second most frequently made a decision not to refer in both Case 1 and Case 3 ($n = 67$); (c) teachers third most frequently made a decision to refer both in Case 1 and Case 3 ($n = 66$); (d) teachers least frequently made a decision to refer in Case 1 but not in Case 3 ($n = 19$). Figure 3 illustrates the results of this comparison.

![Referral (Academic vs Behavioral)](image)

**Figure 3: The comparison of Case 1 and Case 3**

In the second analysis, I used a chi-square test to examine responses across teachers who made a decision to refer in only one case, i.e. a teacher who decided to refer in Case 1: Male Academic but not in Case 3: Male Behavioral or a teacher who decided to refer in Case 3: Male Behavioral but not in Case 1: Male Academic. If the teacher made a referral for Case 3 but no referral for Case 1, it was coded as “1”. If the teacher
made a referral for Case 1 but no referral for Case 3, it was coded as “2”. The model was significant, $\chi^2 (1, N = 131) = 66.023, p = .000$. This suggests that the difference in responding when comparing Case 1 to Case 3 was related to problem type. The majority of the teachers made a decision to refer the student with behavioral problems in Case 3.

The comparison of Case 2 and Case 4: In the first analysis, I used a chi-square test to examine how teachers’ decisions differed in Case 2: A Female Student with Academic Challenges and Case 4: A Female Student with Behavioral Challenges. If the teacher made no referral in both Case 2 and Case 4, the variable was coded as a “0”. If the teacher made a referral for Case 4 but no referral for Case 2, the variable was coded as a “1”. If the teacher made a referral for Case 2 but no referral for Case 4, the variable was coded as a “2”. If the teacher made a referral for Case 2 and a referral for Case 4, the variable was coded as a “3”. Based on these codes, when comparing the Case 2: Female Academic and Case 4: Female Behavioral, the chi-square test was significant, $\chi^2 (3, N = 264) = 67.788, p = .000$. This shows that teachers’ decisions did not occur in equal probabilities. There was a difference in the ways teachers responded to the two cases. Comparing the number of teachers who decided not to refer in both Case 2 and Case 4, to refer in Case 4 but not in Case 2, to refer in Case 2 but not in Case 4, and to refer in both Case 2 and Case 4, I found the following: (a) teachers most frequently made a decision to refer in Case 4 ($n = 112$); (b) teachers second most frequently made a decision not to refer in both Case 2 and Case 4 ($n = 77$); (c) teachers third most frequently made a decision to refer in both Case 2 and Case 4 ($n = 55$); (d) teachers least frequently made a decision to refer in Case 2 but not in Case 4 ($n = 20$). Figure 4 illustrates the results of this comparison.
In the second analysis, I used a chi-square test to examine responses across teachers who made a decision to refer in only one case, i.e. a teacher who decided to refer in Case 2: Female Academic but not in Case 4: Female Behavioral or a teacher who decided to refer in Case 4: Female Behavioral but not in Case 2: Female Academic. If the teacher made a referral for Case 4 but no referral for Case 2, it was coded as 1. If the teacher made a referral for Case 2 but no referral for Case 4, it was coded as 2. The model was significant, $\chi^2(1, N = 132) = 64.121$, $p = .000$. This suggests that the difference in responding when comparing Case 2 to Case 4 was related to problem type. The majority of teachers made a decision to refer the student with behavioral problems in Case 4.

**Teachers’ Decisions in Regard to Placement**

The four factors explored from the TTSES (Behavior Management, Instructional Supports, Differentiated Instruction, Facilitation) and teachers’ demographic characteristics were used to examine teachers’ decisions in regard to placement.

![Figure 4: The comparison of Case 2 and Case 4](image-url)
Teachers’ Sense of Efficacy and Teacher Characteristics

I used binary logistic regression to answer the Research Question 4 and 5. Binary logistic regression analysis was conducted to examine the effects of Factor 1: Behavior Management, Factor 2: Instructional Supports, Factor 3: Differentiated Instruction, Factor 4: Facilitation, teachers’ educational degree, teachers’ gender, teachers’ years of teaching experience, and training (special education, classroom management, reading-writing supports, teaching methods and techniques) on teachers’ decisions to place the student in a special education classroom. Results of binary logistic regression are presented for four cases below.

Case 1: The model was significant, indicating there was evidence that independent variables predicted the outcome variable in Case 1, \( \chi^2 (12) = 37.58, p = .000 \). The model explained 13.4% (Cox and Snell R Square) of variance in respondents’ placement decisions in Case 1. The independent variables that made significant contributions to the model, i.e. predicted participants’ decisions to place the student in a special education classroom in Case 1, included Factor 2: Instructional Supports \( (p = .003) \), Factor 3: Differentiated Instruction \( (p = .04) \), Factor 4: Facilitation \( (p = .004) \), teachers’ gender \( (p = 007) \), and training in reading and writing supports \( (p = 002) \). Based on these results, we can conclude that one-unit increase in Factor 3: Differentiated Instruction and Factor 4: Facilitation decreased the odds of making a decision to place the student in a special education classroom by .73 and .63 times, respectively. We can also conclude that the odds of a teacher who received training in reading and writing supports making a decision to place was 5.81 times higher than a teacher who did not receive training in reading and writing supports. Lastly, the odds of a male teacher
making a decision to place a student was 2.70 times higher than a female teacher making a decision to place the student in a special education classroom. Table 12 shows the regression coefficient, Wald test, p-value, odds ratio, and confidence interval of each predictor variable for Case 1.

**Table 12: Binary Logistic Regression Analysis for Case 1 (Placement)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient B</th>
<th>S.E.</th>
<th>Wald $\chi^2$</th>
<th>P-value</th>
<th>Odds B</th>
<th>95% of CI Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Behavior Management</td>
<td>-.191</td>
<td>.157</td>
<td>1.476</td>
<td>.224</td>
<td>.826</td>
<td>.607</td>
<td>1.124</td>
</tr>
<tr>
<td>Factor 2: Instructional Supports</td>
<td>-.519</td>
<td>.172</td>
<td>9.120</td>
<td>.003*</td>
<td>1.681</td>
<td>1.200</td>
<td>2.354</td>
</tr>
<tr>
<td>Factor 3: Differentiated Ins.</td>
<td>-.313</td>
<td>.152</td>
<td>4.234</td>
<td>.04*</td>
<td>.731</td>
<td>.543</td>
<td>.985</td>
</tr>
<tr>
<td>Factor 4: Facilitation</td>
<td>-.459</td>
<td>.160</td>
<td>8.201</td>
<td>.004*</td>
<td>.632</td>
<td>.462</td>
<td>.865</td>
</tr>
<tr>
<td>Teachers’ educational level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master’s to BA</td>
<td>.983</td>
<td>.559</td>
<td>3.107</td>
<td>.078</td>
<td>2.672</td>
<td>.896</td>
<td>7.970</td>
</tr>
<tr>
<td>Others to BA</td>
<td>.386</td>
<td>.574</td>
<td>.451</td>
<td>.502</td>
<td>1.470</td>
<td>.477</td>
<td>4.532</td>
</tr>
<tr>
<td>Teachers’ gender a</td>
<td>.993</td>
<td>.366</td>
<td>7.369</td>
<td>.007*</td>
<td>2.701</td>
<td>1.318</td>
<td>5.533</td>
</tr>
<tr>
<td>Teachers’ years of experience</td>
<td>-.029</td>
<td>.024</td>
<td>1.462</td>
<td>.227</td>
<td>.971</td>
<td>.927</td>
<td>1.018</td>
</tr>
<tr>
<td>Training in class. management</td>
<td>-.103</td>
<td>.416</td>
<td>.061</td>
<td>.805</td>
<td>.902</td>
<td>.400</td>
<td>2.038</td>
</tr>
<tr>
<td>Training in reading-writing b</td>
<td>1.760</td>
<td>.560</td>
<td>9.889</td>
<td>.002*</td>
<td>5.813</td>
<td>1.941</td>
<td>17.409</td>
</tr>
<tr>
<td>Training in special education</td>
<td>.307</td>
<td>.324</td>
<td>.902</td>
<td>.342</td>
<td>.360</td>
<td>.721</td>
<td>2.565</td>
</tr>
<tr>
<td>Training in teaching methods</td>
<td>-.527</td>
<td>.382</td>
<td>1.907</td>
<td>.167</td>
<td>.590</td>
<td>.279</td>
<td>1.247</td>
</tr>
</tbody>
</table>

*a Gender: 1 = Female, 2 = Male.

b Reading-writing supports: 0 = Absence, 1 = Presence.

Case 2: The model was not significant, $\chi^2 (12) = 8.52, p = .743$. There was no statistical significant relationship between Factor 1: Behavior Management, Factor 2: Instructional Supports, Factor 3: Differentiated Instruction, Factor 4: Facilitation, teachers’ educational degree, teachers’ gender, years of teaching experience, training in special education, classroom management, reading-writing supports, teaching methods and techniques and participants’ placement decisions in Case 2.

Case 3: The model was not significant, $\chi^2 (12) = 12.57, p = .401$. There was no statistical significant relationship between Factor 1: Behavior Management, Factor 2: Instructional Supports, Factor 3: Differentiated Instruction, Factor 4: Facilitation,
teachers’ educational degree, teachers’ gender, years of teaching experience, training in special education, classroom management, reading-writing supports, teaching methods and techniques and participants’ placement decisions the student in Case 3.

Case 4: The model was significant, indicating there was evidence that independent variables predicted the outcome variable in Case 4, \( \chi^2 (12) = 22.45, p = .033 \). The model explained 8.2% (Cox and Snell R Square) of variance in participants’ placement decisions in Case 4. The independent variable that made a significant contribution to the model, i.e. predicted participants’ decisions to place the student in a special education classroom, was teachers’ education level. We can conclude that the odds of a teacher who had a master’s degree making a decision to place was .229 lower than a teacher who did not have a master’s degree. Table 13 presents the test statistics of each predictor variable for Case 4.

**Table 13: Binary Logistic Regression Analysis for Case 4 (Placement)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient B</th>
<th>S.E.</th>
<th>Wald ( \chi^2 )</th>
<th>P-value</th>
<th>Odds B</th>
<th>95% of CI Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Behavior Management</td>
<td>-.261</td>
<td>.137</td>
<td>3.609</td>
<td>.050</td>
<td>.771</td>
<td>.589</td>
<td>1.008</td>
</tr>
<tr>
<td>Factor 2: Instructional Supports</td>
<td>.144</td>
<td>.139</td>
<td>1.065</td>
<td>.302</td>
<td>.155</td>
<td>.879</td>
<td>1.517</td>
</tr>
<tr>
<td>Factor 3: Differentiated Inst.</td>
<td>.282</td>
<td>.146</td>
<td>3.722</td>
<td>.054</td>
<td>.326</td>
<td>.996</td>
<td>1.765</td>
</tr>
<tr>
<td>Factor 4: Facilitation</td>
<td>-.264</td>
<td>.139</td>
<td>3.607</td>
<td>.058</td>
<td>.768</td>
<td>.584</td>
<td>1.008</td>
</tr>
<tr>
<td>Teacher education level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master’s to BA</td>
<td>-.148</td>
<td>.684</td>
<td>4.651</td>
<td>.033*</td>
<td>.229</td>
<td>.060</td>
<td>.874</td>
</tr>
<tr>
<td>Others to BA</td>
<td>.455</td>
<td>.471</td>
<td>.934</td>
<td>.334</td>
<td>.576</td>
<td>.626</td>
<td>3.965</td>
</tr>
<tr>
<td>Teachers’ gender</td>
<td>.178</td>
<td>.317</td>
<td>.314</td>
<td>.575</td>
<td>.195</td>
<td>.642</td>
<td>2.223</td>
</tr>
<tr>
<td>Teachers’ years of experience</td>
<td>-.033</td>
<td>.022</td>
<td>2.392</td>
<td>.122</td>
<td>.967</td>
<td>.927</td>
<td>1.009</td>
</tr>
<tr>
<td>Training in class. management</td>
<td>.228</td>
<td>.341</td>
<td>.448</td>
<td>.503</td>
<td>.256</td>
<td>.644</td>
<td>2.450</td>
</tr>
<tr>
<td>Training in reading-writing</td>
<td>.130</td>
<td>.508</td>
<td>.066</td>
<td>.797</td>
<td>.139</td>
<td>.421</td>
<td>3.081</td>
</tr>
<tr>
<td>Training in special education</td>
<td>.095</td>
<td>.278</td>
<td>.116</td>
<td>.734</td>
<td>.099</td>
<td>.637</td>
<td>1.896</td>
</tr>
<tr>
<td>Training in teaching methods</td>
<td>.387</td>
<td>.314</td>
<td>1.517</td>
<td>.218</td>
<td>.473</td>
<td>.795</td>
<td>2.726</td>
</tr>
</tbody>
</table>

Note. Education level was represented as three dummy variables with Bachelor’s as the reference group.
Students’ Gender and Problem Type

One sample non-parametric chi-square test was used to test whether teachers’ decisions in regard to special education placement had equal frequencies in the comparisons of cases. Four comparisons were included to understand how teachers responded in the cases and answer Research Question 6. These comparisons are described below.

**Students’ Gender**

I included two comparisons to examine teachers’ decisions to place or not place a male student and a female student in a special education classroom. In the first comparison, I compared Case 1 to Case 2: Case 1 included a male student with academic challenges and Case 2 included a female student with academic challenges. In the second comparison, I compared Case 3 to Case 4: Case 2 included a male student with behavioral challenges and Case 4 included a female student with behavioral challenges.

The Comparison of Case 1 and Case 2: In the first analysis, I used a chi-square test to examine how teachers’ decisions differed in Case 1: A Male Student with Academic Challenges and Case 2: A Female Student with Academic Challenges. If the teacher made no special education classroom placement in both Case 1 and Case 2, the variable was coded as a “0”. If the teacher made a special education classroom placement for Case 2 but no placement for Case 1, the variable was coded as a “1”. If the teacher made a special education classroom placement for Case 1 but no placement for Case 2, the variable was coded as a “2”. If the teacher made a special education classroom placement in both Case 1 and Case 2, the variable was coded as a “3”. Based on these codes, when comparing the Case 1: Male Academic and Case 2: Female Academic, the
chi-square test was significant, $\chi^2 (3, N = 264) = 266.576, p = .000$. This shows that teachers’ decisions did not occur in equal probabilities. There was a difference in the ways teachers responded to the two cases. Comparing the number of teachers who decided not to place in both Case 1 and Case 2, to place in Case 2 but not in Case 1, to place in Case 1 but not in Case 2, and to place in both Case 1 and Case 2, I found the following: (a) teachers most frequently made a decision not to place in both Case 1 and Case 2 ($n = 180$); (b) teachers second most frequently made a decision to place in both Case 1 and Case 2 ($n = 41$); (c) teachers third most frequently made a decision to refer in Case 1 but not in Case 2 ($n = 24$); and (d) teachers least frequently made a decision to refer in Case 2 but not in Case 1 ($n = 19$). Figure 5 illustrates the results of this comparison.

**Figure 5: The comparison of Case 1 and Case 2**

In the second analysis, I used a chi-square test to examine responses across teachers who made a decision to place the student in a special education classroom in only one case, i.e., a teacher who decided to refer in Case 2: Female Academic but not in Case 1: Male Academic or a teacher who decided to place in Case 1: Male Academic but...
not in Case 2: Female Academic. If the teacher made a placement for Case 2 but no placement for Case 1, it was coded as “1”. If the teacher made a placement for Case 1 but no placement for Case 2, it was coded as “2”. The model was not significant, \( \chi^2 (1, N = 43) = .581, p = .446 \). This suggests that the difference in responding when comparing Case 1 to Case 2 was not related to gender.

The Comparison of Case 3 and Case 4: In the first analysis, I used a chi-square test to examine how teachers’ decisions differed in Case 3: A Male Student with Behavioral Challenges and Case 4: A Female Student with Behavioral Challenges. If the teacher made no special education classroom placement in both Case 3 and Case 4, the variable was coded as a “0”. If the teacher made a special education classroom placement for Case 4 but no placement for Case 3, the variable was coded as a “1.” If the teacher made a special education classroom placement for Case 3 but no placement for Case 4, the variable was coded as a “2”. If the teacher made a special education classroom placement in both Case 3 and for Case 4, the variable was coded as a “3”. Based on these codes, when comparing the Case 3: Male Behavioral and Case 4: Female Behavioral, the chi-square test was significant, \( \chi^2 (3, N = 264) = 163.758, p = .000 \). This shows that teachers’ decisions did not occur in equal probabilities. There was a difference in the ways teachers responded to the two cases. Comparing the number of teachers who decided not to place in both Case 3 and Case 4, to place in Case 4 but not in Case 3, to place in Case 3 but not in Case 4, and to place in both Case 3 and Case 4, I found the following: (a) teachers most frequently made a decision not to place in both Case 3 and Case 4 (\( n = 144 \)); (b) teachers second most frequently made a decision to place in both Case 3 and Case 4 (\( n = 82 \)); (c) teachers third most frequently made a decision to place in
Case 3 but not in Case 4 \((n = 24)\); (d) teachers least frequently made a decision to place in Case 4 but not in Case 3 \((n = 14)\). Figure 6 illustrates the results of this comparison.

![Graph showing placement decisions for Case 3 and Case 4](image)

**Figure 6: The comparison of Case 3 and Case 4**

In the second analysis, I used a chi-square test to examine responses across teachers who made a decision to place the student in a special education classroom in only one case, i.e. a teacher who decided to place in Case 4: Female Behavioral but not in Case 3: Male Behavioral or a teacher who decided to place in Case 3: Male Behavioral but not in Case 4: Female Behavioral. If the teacher made a placement for Case 4 but no placement for Case 3, it was coded as “1”. If the teacher made a placement for Case 3 but no placement for Case 3, it was coded as “2”. The model was not significant, \(\chi^2 (1, N = 38) = .581, p = .105\). This suggests that the difference in responding when comparing Case 3 to Case 4 was not related to gender.

**Problem Type**

I included two comparisons to examine teachers’ decisions to place or not place the student in a special education classroom. In the first comparison, I compared Case 1 to Case 3: Case 1 included a male student with academic challenges and Case 3 included
a male student with behavioral challenges. In the second comparison, I compared Case 2 to Case 4: Case 2 included a female student with academic challenges and Case 4 included a female student with behavioral challenges.

The Comparison of Case 1 and Case 3: In the first analysis, I used a chi-square test to examine how teachers’ decisions differed in Case 1: A Male Student with Academic Challenges and Case 3: A male student with Behavioral Challenges. If the teacher made no special education classroom placement in both Case 1 and Case 3, the variable was coded as a “0”. If the teacher made a special education classroom placement for Case 3 but no placement for Case 1, the variable was coded as a “1”. If the teacher made a special education classroom placement for Case 1 but no placement for Case 3, the variable was coded as a “2”. If the teacher made a special education classroom placement in both Case 1 and for Case 3, the variable was coded as a “3.” Based on these codes, when comparing the Case 1: Male Academic and Case 3: Male Behavioral, the chi-square test was significant, $\chi^2 (3, N = 264) = 103.727, p = .000$. This shows that teachers’ decisions did not occur in equal probabilities. There was a difference in the ways teachers responded to the two cases. Comparing the number of teachers who decided not to place in both Case 1 and Case 3, to place in Case 3 but not in Case 1, to place in Case 1 but not in Case 3, and to place in both Case 1 and Case 3, I found the following: (a) teachers most frequently made a decision not to place in both Case 1 and Case 3 ($n = 133$); (b) teachers second most frequently made a decision to place in Case 3 but not in Case 1 ($n = 66$); (c) teachers third most frequently made a decision to place in both Case 1 and Case 3 ($n = 40$); and (d) teachers least frequently made a decision to
place in Case 1 but not in Case 3 ($n = 25$). Figure 7 illustrates the results of this comparison.

![Placement (Academic vs Behavioral)](image)

**Figure 7: The comparison of Case 1 and Case 3**

In the second analysis, I used a chi-square test to examine responses across teachers who made a decision to place the student in a special education classroom in only one case, a teacher who decided to place in Case 1: Male Academic but not in Case 3: Male Behavioral or a teacher who decided to place in Case 3: Male Behavioral but not in Case 1: Male Academic. If the teacher made a placement decision for Case 3 but no placement for Case 1, it was coded as “1”. If the teacher made a placement for Case 1 but no placement in Case 3, it was coded as “2”. The model was significant, $\chi^2 (1, N = 91) = 18.423$, $p = .000$. This suggests that the difference in responding when comparing Case 1 to Case 3 was related to problem type. Teachers were more likely to place the student with behavioral problems in a special education classroom in Case 3.

The Comparison of Case 2 and Case 4: In the first analysis, I used a chi-square test to examine how teachers’ decisions differed in Case 2: A Female Student with Academic Challenges and Case 4: A Female Student with Behavioral Challenges. If the
teacher made no special education classroom placement in both Case 2 and Case 4, the variable was coded as a “0”. If the teacher made a special education classroom placement for Case 4 but no placement for Case 2, the variable was coded as a “1”. If the teacher made a special education classroom placement for Case 2 but no placement for Case 4, the variable was coded as a “2”. If the teacher made a special education classroom placement in both Case 2 and for Case 4, the variable was coded as a “3”. Based on these codes, when comparing the Case 2: Female Academic and Case 4: Female Behavioral, the chi-square test was significant, $\chi^2 (3, N = 264) = 122.424, p = .000$. This shows that teachers’ decisions did not occur in equal probabilities. There was a difference in the ways teachers responded to the two cases. Comparing the number of teachers who decided not to place in both Case 2 and Case 4, to place in Case 4 but not in Case 2, to place in Case 2 but not in Case 4, and to place in both Case 2 and Case 4, I found the following: (a) teachers most frequently made a decision not to place in both Case 2 and Case 4 ($n = 140$); teachers second most frequently made a decision to place in Case 4 but not in Case 2 ($n = 64$); (c) teachers third most frequently made a decision to place in both Case 2 and Case 4 ($n = 32$); and (d) teachers least frequently made a decision to place in Case 2 but not in Case 4 ($n = 28$). Figure 8 illustrates the results of this comparison.
In the second analysis, I used a chi-square test to examine responses across teachers who made a decision to place the student in a special education classroom in only one case, i.e. a teacher who decided to place in Case 4: Female Behavioral but not in Case 2: Female Academic or a teacher who decided to place in Case 2: Female Academic but not in Case 4: Female Behavioral. If the teacher made a placement for Case 4 but no placement for Case 2, it was coded as “1”. If the teacher made a placement for Case 2 but no placement for Case 4, it was coded as “2”. The model was significant, $\chi^2(1, N = 92) = 14.087, p = .000$. This suggests that the difference in responding when comparing Case 2 to Case 4 was related to problem type. Teachers were more likely to place the student with behavioral problems in a special education classroom in Case 4.

**Summary**

**Referral**

I examined Factor 1: Behavior Management, Factor 2: Instructional Supports, Factor 3: Differentiated Instruction, Factor 4: Facilitation, teachers’ educational degree, teachers’ gender, years of teaching experience, training (i.e. special education, classroom
management, reading-writing supports, teaching methods and techniques), and teachers’ decisions to refer or not refer a student for special education evaluation. Independent variables predicted the outcome variable in Case 1, Case 3, and Case 4; however, the independent variables contributed to the model differently in each case. The independent variables that made significant contributions to the model included training in reading and writing supports in Case 1 (\( p = .002 \)), teachers’ gender in Case 1 (\( p = .006 \)), and \textit{Factor 4: Facilitation} in Case 1 (\( p = .017 \)), \textit{Factor 3: Differentiated Instruction} in Case 3 (\( p = .011 \)) and training in classroom management (\( p = .009 \)) in Case 3, and \textit{Factor 3: Differentiated Instruction} (\( p = .02 \)) in Case 4.

I also examined whether there was a difference in teachers’ decisions to refer a student based on the student’s gender. I compared Case 1: Male Academic to Case 2: Female Academic in the first comparison. I also compared Case 3: Male Behavioral to Case 4: Female Behavioral in the second comparison. Results of the first analysis indicated that there was a difference in the ways that teachers responded to the cases in the first and second comparison. However, results of the second analysis indicated that the difference in responding when comparing Case 1: Male Academic to Case 2: Female Academic as well as Case 3: Male Behavioral to Case 4: Female Behavioral was not related to gender.

I also examined whether there was a difference in teachers’ decisions to refer a student based on the problem type. I compared Case 1: Male Academic to Case 3: Male Behavioral in the first comparison. I also compared Case 2: Female Academic to Case 4: Female Behavioral in the second comparison. Results of the first analysis indicated that there was a difference in the ways that teachers responded to the cases in the first and
second comparison. Results of the second analysis indicated that the difference in responding when comparing Case 1 and Case 3 as well as Case 2 and Case 4 was related to the problem type. Teachers were more likely to make a decision to refer a student with behavioral challenges in Case 3: Male Behavioral and Case 4: Female Behavioral.

Placement

I examined Factor 1: Behavior Management, Factor 2: Instructional Supports, Factor 3: Differentiated Instruction, Factor 4: Facilitation, teachers’ educational level, teachers’ gender, teachers’ years of teaching experience, training (i.e. special education, classroom management, reading-writing supports, teaching methods and techniques), and teachers’ decisions with respect to special education placement. Independent variables predicted the outcome variable in Case 1 and Case 4; however, the independent variables contributed to the model differently in each case. The independent variables that made significant contributions to the model included Factor 3: Differentiated Instruction in Case 1 \( (p = .04) \), Factor 4: Facilitation in Case 1 \( (p = .004) \), teachers’ gender in Case 1 \( (p = .007) \), and training in reading and writing supports in Case 1 \( (p = .002) \), and teachers’ educational level in Case 4.

I also examined whether there was a difference in teachers’ decisions to place a student in a special education classroom based on the student’s gender. I compared Case 1: Male Academic to Case 2: Female Academic in the first comparison. I also compared Case 3: Male Behavioral to Case 4: Female Behavioral in the second comparison. Results of the first analysis indicated that that there was a difference in the ways that teachers responded to the cases in the first and second comparison. However, results of the second
analysis indicated that the difference in responding when comparing Case 1 to Case 2 as well as Case 3 to Case 4 was not related to gender.

I also examined whether there was a difference in teachers’ decisions to place a student in a special education classroom based on the problem type. I compared Case 1: Male Academic to Case 3: Male Behavioral in the first comparison. I also compared Case 2: Female Academic to Case 4: Female Behavioral in the second comparison. Results of the first analysis indicated that there was a difference in the ways that teachers responded to the cases in the first and second comparison. Results of the second analysis indicated that the difference in responding when comparing Case 1 and Case 3 as well as Case 2 and Case 4 was related to the problem type. Teachers were more likely to make a decision to place a student with behavioral challenges in a special education classroom in Case 3: Male Behavioral and Case 4: Female Behavioral.
CHAPTER 5
DISCUSSION

The purpose of this study was to examine whether elementary education teachers’ sense of efficacy predicts their decision to refer a student for special education evaluation and their decision to place a student in a special education classroom in Turkey. As a secondary purpose, I examined teacher demographic characteristics, student characteristics, and teachers’ decisions in regard to referral and placement. The teacher demographic characteristics included teachers’ educational degree, teachers’ gender, years of teaching experience, and in-service training received in the last five years. Student characteristics included their gender and the problem type (i.e. academic and behavioral). In Chapter 5, I discuss the main findings of the study in light of prior research, present the limitations of the study, examine the implications for research, and draw conclusions based on the findings.

Main Findings

In this section, I examine the main findings of this study. First, I examine the main findings related to teachers’ sense of efficacy: I compare respondents’ sense of efficacy to other studies and I examine how teachers’ decisions in regard to referral and placement were predicted by teachers’ sense of efficacy. Second, I examine how teachers’ decisions were predicted by teachers’ demographic variables. Third, I examine how teachers’ decisions differed based on student characteristics of gender and problem type.
Teacher Efficacy

Results from previous studies indicated that teacher efficacy is a predictor in regard to referral and placement (Frey, 2002; Hughes et al., 1993; Meijer & Foster, 1988; Podell & Soodak, 1993). Thereby, it was hypothesized that teachers’ sense of efficacy predicted teachers’ decisions in regard to referral and placement. I employed binary logistic regression to examine teachers’ sense of efficacy and their decisions in regard to referral and placement. There was evidence that some factors of teachers’ sense of efficacy predicted respondents’ decisions to refer and their decisions to place a student in a special education classroom in some, but not all, cases.

Respondents’ perceived efficacy: I used the Turkish Version of Teachers’ Sense of Efficacy Scale (TTSES; Capa et al., 2005) to examine teachers’ perceived efficacy in this study. It is important to compare respondents’ perceived efficacy to other studies that examined teacher efficacy by using the same scale, TTSES (Capa et al., 2005), for the interpretation of the study findings. There was no study that examined teacher efficacy and special education decision making process in Turkey. However, three researchers (Donger, Ozkartal, Sarigoz, 2016; Gencturk & Memis, 2010; Guvenc, 2011) examined elementary school teachers’ perceived efficacy by using 9-point TTSES in Turkey. Overall, these comparisons indicated that respondents’ perceived efficacy was in line with other studies conducted in Turkey (Donger et al., 2016; Geneturk & Memis, 2010; Guvenc, 2011). More specifically, Guvenc (2011) reported the mean teacher efficacy score as 176.46 ($SD = 18.56$). In this study, the mean teacher efficacy score was 178.25 ranging from 132 to 216 ($SD = 18.48$). In addition, Donger et al. (2016) and Gencturk and Memis (2010) both reported the composite mean score of efficacy. While Donger et
al. (2016) reported the mean teacher efficacy score as 8.21 in their study, Gencturk and Memis (2010) reported the mean teacher efficacy score for male teachers and female teachers as 6.94 ($SD = .84$) and 6.98 ($SD = .87$), respectively. The composite mean score of efficacy was 7.42 with a standard deviation of .77 in this study. Considering the TTSES in 9-point scale ranged from “nothing = 1” to one end and “a great deal = 9” on the other end, elementary education teachers’ perceived efficacy was at a minimum level of “quite a bit = 7” in this study and other three studies conducted in Turkey (Donger et al., 2016; Genturk & Memis, 2010; Guvenc, 2011).

Teachers’ efficacy and referral: Results from the binary logistic regression analysis indicated that, as hypothesized, teacher efficacy predicted teachers’ decisions to refer a student for special education. Two factors of teacher efficacy increased the odds of referral decisions, including Factor 4: Facilitation in Case 1: Male Academic, Factor 3: Differentiated Instruction in Case 3: Male Behavioral, and Factor 3: Differentiated Instruction in Case 4: Female Behavioral. More specifically, a higher sense of efficacy in these two factors led to a higher chance of making a decision to refer the students in three of the four cases.

Conflicting findings exist in the literature examining the relationship between teacher efficacy and referral. For example, Meijer and Foster (1988), Hughes et al. (1993), and Podell and Soodak (1993) all found that teachers with higher efficacy were less likely to make a decision to refer a student. On the other hand, Egyed and Short, (2006) and Pas et al. (2001) found that teachers with higher efficacy were more likely to refer a student. Thus, the fact that in some cases teachers were more likely (Case 1, 3, & 4) in line with Egyed and Short (2006) and Pas et al. (2001).
One potential reason that the teachers with higher efficacy were more likely to make a decision to refer in this study may be the climate in schools around referral for special education evaluation in Turkey. As previously mentioned, there was an increase in the number of students identified with disabilities from 2010 to 2015 in Turkey (National Education Statistics [Milli Egitim Istatistikleri], 2016). There have been changes in special education policy which may lead to a climate of increased referrals. In this regard, teachers that have a higher sense of efficacy may feel more confident to make a decision to refer a student who is suspected of having a disability. However, we cannot be certain about underlying reasons of more likelihood of referral decisions due to nature of the data collection in this study.

Teachers’ efficacy and placement: Results from the binary logistic regression analysis indicated that, as hypothesized, teacher efficacy predicted teachers’ decisions to place a student in a special education classroom. Two factors of teacher efficacy including Factor 3: Differentiated Instruction and Factor 4: Facilitation in Case 1: Male Academic decreased the odds of teachers’ decisions about placement. More specifically, a higher sense of efficacy related to these two factors led to a lower chance of making a decision to place a student in a special education classroom in only one case.

Similar findings exist in the literature examining the relationship between teacher efficacy and placement. For instance, Soodak and Podell (1993) and Frey (2002) all found that teachers with higher efficacy tended to make least restrictive placement for students. More specifically, Soodak and Podell (1993) indicated that teachers with higher efficacy were more likely to find the regular education placement as appropriate for students with learning or behavioral problems. In addition, Frey (2002) found that
teachers with higher efficacy in Classroom Management/Discipline made least restrictive placement for the students with behavioral problems. Thus, study findings were in line with the studies of Soodak and Podell (1993) and Frey (2002).

One potential reason that the teachers with higher efficacy were less likely to place a student in a special education classroom may be related to teachers’ years of experience in this study. The respondents’ years of teaching experience ranged from 1 to 41 years with an average of 22 years in this study. Having more experience may lead the respondents to feel more confident to teach a student in a general education classroom.

A further speculation regarding the factors that influence teachers’ decisions in regard to placement can be also explained by the teachers’ beliefs about working with students with disabilities. As the research has cited many times, teachers can hold different beliefs about their roles and responsibilities while they are working with students with disabilities or students at risk (Jordan et al., 1997; Stanovich & Jordan, 1998). In this regard, teachers’ beliefs can lead teachers to make less decisions to place a student in a special education classroom in this study. However, this is a speculative statement based on previously conducted research (Jordan et al., 1997) that examined teachers’ beliefs about working with students with disabilities. Findings of this study do not imply evidence about teachers’ beliefs about their roles and responsibilities to teach students at risk.

In this study, it is important to note that factors of teacher efficacy predicted teachers’ decisions in only one of four cases, i.e. Case 1: Male Academic. None of the factors of teacher efficacy predicted teachers’ decisions to place a student in a special
education classroom in Case 2: Female Academic, Case 3: Male Behavioral, or Case 4: Female Behavioral.

**Teachers’ Demographic Characteristics**

I employed binary logistic regression to examine teachers’ demographic characteristics in regard to referral and placement. The demographic characteristics included teachers’ educational degree, teachers’ gender, years of teaching experience, and in-service training received in the last five years. There was evidence that some demographic characteristics predicted respondents’ decisions to refer and decisions to place in a special education classroom in some, but not all, cases. More specifically, training in classroom management lead to less referral and higher level of education lead to less placement. On the other hand, training in reading and writing supports and teachers’ gender (male) lead to more referral and placement.

In-service training: I examined whether in-service training, i.e. training in special education, classroom management, reading-writing supports, teaching methods and techniques, predicted teachers’ decisions to refer a student for special education and place a student in a special education classroom. It was hypothesized that in-service training predicts teachers’ decisions in regard to referral and placement. Types of in-service training that made significant contributions to the model, i.e. predicted respondents’ decisions to refer and decisions to place a student in a special education classroom, included training in classroom management, and training in reading and writing supports in two of the four cases. More specifically, teachers who received training in classroom management were less likely to make a decision to refer a student in Case 3: Female Behavioral in this study. In addition, teachers who received training in reading and
writing supports were more likely to make a decision to refer and a decision to place a student in a special education classroom in Case 1: Male Academic.

Similar findings exist in the literature examining the relationship between training in classroom management and special education evaluation. For example, Polirstok and Gottlieb (2006) found that training in behavior management strategies that aimed to maintain a structured and positive classroom environment resulted in less referrals for special education evaluation. Thus, the study findings were in line with the study of Polirstok and Gottlieb (2006) and the hypothesis was supported.

One potential explanation that the teachers who received training in classroom management were less likely to refer in this study may be related to the content of the training. Training in classroom management may contribute to respondents’ knowledge about how to manage behavioral problems and address these problems in their classrooms which results in less decisions to refer a student in this study. However, it is important to consider that training in classroom management predicted teachers’ decisions in regard to referral in only one of the four cases, i.e. Case 3: Female Behavioral. In addition, we are not certain whether training in classroom management leads teachers to make less referrals in real life. Thus, this finding should be interpreted cautiously.

In contrast to the above finding, teachers who received training in reading and writing supports were more likely to refer a student for special education in Case 1: Male Academic and place a student in a special education classroom in Case 1: Male Academic. This finding is unexpected.
There is no research in the literature examining the relationship between referral and training in reading and writing supports. However, outcomes of teacher training in special education, i.e. referral (Polirstok & Gottlieb, 2006), have been well established in the literature. As hypothesized, training in reading and writing supports predicted teachers’ decisions. However, training in reading and writing supports indicated a different direction, i.e. more likelihood of referral and more likelihood of placement, in this study.

One possible explanation that teachers who received training in reading and writing supports were more likely to make a decision in regard to referral and placement in this study may be related to the content of training. Addressing reading and writing problems might be more complex than addressing behavioral problems. For example, training in classroom management involves three dimensions including instructional management, people management, and behavior management (Martin, Yin, & Baldwin, 1998). Training in effective reading and writing instructions involves several dimensions including phonemic awareness, phonics, decoding, fluency, reading comprehension, vocabulary, spelling, and writing (Foormen & Torgesen, 2001). Given the wide scope of reading and writing problems, the duration and intensity of the training in effective reading and writing instructions is important to improve teachers’ knowledge and practice. One-hour of training in reading and writing may not equal one-hour of training in classroom management. Thus, the lack of rigorous training in reading and writing supports may lead teachers to make more referral and placement decisions in this study. This explanation should be interpreted cautiously because the respondents had
been asked to report the type of the training received in the last five years. We cannot be certain about the quality of the training which might influence teachers’ decisions.

Teachers’ educational level: Results indicated that, as hypothesized, teachers’ education level predicted respondents’ decisions to place a student in a special education classroom only in Case 4: Female Behavioral. The odds of a teacher who had a master’s degree making a decision to place a student in a special education classroom was lower than a teacher who did not have a master’s degree in this study.

One reason for the above finding may be explained by the possibility of having more knowledge and expertise gained through a master’s degree. Teachers with a higher educational degree may have more opportunity to learn, which might contribute to their knowledge about teaching students with disabilities or students at risk. However, we cannot be sure about causes of less likelihood of placement decisions given the fact that data was collected through self-reported questionnaire in this study. Thereby, this finding should be interpreted with caution.

Teachers’ gender: Teachers’ gender predicted both teachers’ decisions to refer a student and place the student in a special education classroom only in Case 1: Male Academic. More specifically, the odds of a male teacher making a decision to refer and making a decision to place student in a special education classroom was higher than a female teacher in this study.

This finding was in contradiction with previous research. Pas et al. (2010) and Tejeda-Delgado (2009) failed to establish a prediction between teachers’ gender and their decision making in regard to referral and no study examined teachers’ gender in regard to placement. Thus, this finding is unexpected.
One possible explanation that male teachers were more likely to make a decision to refer and a decision to place a student in a special education classroom may be related to the cultural differences. Both Pas et al. (2010) and Tejeda-Delgado (2009) conducted their studies in US and failed to find a relationship between teachers’ gender and their decisions. Surprisingly, this study found that male teachers tended to make more referral and placement decisions. It may be also related to expectations of male teachers and female teachers who participated in this study. However, the conclusion that teachers’ gender was a predictor remains tentative because the significant findings were found only in Case 1, but not in remaining three cases.

**Students’ Gender and Problem Type**

I performed one sample non-parametric chi-square test to examine whether there was a difference in the ways that teachers responded to the cases based on students’ gender and problem type. Results indicated there was a difference in the ways that teachers responded to the cases based on the problem type.

Students’ gender: I examined students’ gender to explore the differences in responding when teachers made a decision in regard to referral and placement. I included two comparisons to examine respondents’ decisions. In the first comparison, I compared Case 1: Male Academic to Case 2: Female Academic. In the second comparison, I compared Case 3: Male Behavioral to Case 4: Female Behavioral. I hypothesized that there was a difference in the ways that teachers responded to the cases based on students’ gender. Surprisingly, no statistical difference was found when teachers made a decision to refer a male student and a female student, indicating the decision to refer may be related to the other factors. The similar finding was also found when teachers made a
decision to place a student in a special education classroom. There was no statistical difference when teachers made a decision to place a male student and a female student in a special education classroom. My findings were at odds with previous studies indicating that male students were more likely to be referred as compared to the female students (Abidin & Robinson, 2002; Pas et al., 2010).

Problem type: I examined the problem type experienced by a student in the cases to explore the differences in responding when teachers made a decision in regard to referral and placement. I included two comparisons to examine respondents’ decisions. In the first comparison, I compared Case 1: Male Academic to Case 3: Male Behavioral. In the second comparison, I compared Case 2: Female Academic to Case 4: Female Behavioral. I hypothesized that there was a difference in the ways that teachers responded to the cases based on the problem type. Results indicated there was a difference in responding when teachers made a decision to refer a student with academic challenges and a student with behavioral challenges. The similar finding was also found when teachers made a decision to place a student in a special education classroom. Teachers were more likely to make a decision to refer a student with behavioral challenges for special education evaluation. In addition, teachers were more likely to make a decision to place a student with behavioral challenges in a special education classroom.

Similar findings exist in the literature examining the problem type and referrals. Soodak and Podell (1993) found that behavioral problems were more susceptible than learning problems in special education referrals. Thus, this study provided further evidence to the literature.
One possible explanation that led teachers to make more referrals for a student with behavioral challenges might be related to teachers’ perceptions about behavioral problems. Consistent with teachers’ decisions in regard to referral, respondents were more likely to place a student with behavioral challenges in a special education classroom in this study. This finding is not surprising, if we consider that teachers may perceive the academic problems and behavioral problems differently. However, it is important to consider that study findings may not reflect what teachers do in real life. Thus, study findings should be interpreted cautiously.

Overall, the hypothesis was partially supported. Students’ gender was not related to teachers’ decisions. However, the problem type was related to teachers’ decisions in regard to referral and placement. Teachers were more likely to make a decision to refer a student with behavioral challenges and place a student with behavioral challenges in a special education classroom in this study.

**Limitations of the Study**

A number of limitations exist in this study. One limitation of this study is that data gathered from one town of a metropolitan city in the East Marmara region of Turkey. Even though this study had a high response rate (85.2 %) and the city where the study was conducted represents the average country statistics on the enrollment rate of the students and pupil/teacher ratio, findings are not generalizable.

There are also limitations related to the data collection methods of this study. The data was obtained via self-reported questionnaires in which respondents may not truly indicate their beliefs about efficacy and decisions in regard to referral and placement. Furthermore, I employed hypothetical cases in which I manipulated the problem type
experienced by a student (academic or behavioral). It is possible that teachers may respond differently to combined problems (academic plus behavioral problems) included in the hypothetical cases. It is also possible that teachers would respond differently in reality.

**Implications for Future Research**

Based on the study findings there are several implications for future research. This study was conducted in one town of a metropolitan city in the East Marmara region of Turkey. Contextual characteristics of the district may account for an increase or decrease in teachers’ decisions in regard to referral and placement. Future research should be extended to more districts and regions with a larger sample size.

Although conflicting findings exist in the literature, findings of this study indicated that teachers with higher efficacy were: (a) more likely to make referral decisions, and (b) less likely to make placement decisions. Future research should verify the relationship between teachers’ sense of efficacy and referral decisions, and teachers’ sense of efficacy and placement decisions. It is also important to identify what contributes to teachers’ decision making. Employing qualitative research methods including classroom observations, open-ended questions in the questionnaires, and individual and focus group interviews could be used to elucidate what draws teachers to report higher or lower efficacy, and what leads teachers with higher efficacy to make more referral decisions and less placement decisions, which might provide more meaningful interpretations for the study results.

My study indicated that teacher characteristics (i.e. teachers’ gender, education level, and in-service training) predict teachers’ decisions in regard to referral and
placement. However, demographic characteristics contributed differently in each case. For example, training in classroom management led to less referral and education level (master’s degree) led to less placement. On the other hand, training in reading and writing supports and teachers’ gender (male) led to more referral and placement. Future research efforts should examine quality of the in-service training (i.e. duration, intensity) and pre-service training (i.e. coursework, practicum) to explore why certain types of training and educational level were predictive in teachers’ decisions.

Future research should also examine how gender norms in the culture influence teachers’ attitudes and their expectations about students, which influence teachers’ decision making. An ethnographic study can be a way to acquire a greater understanding about the differences in teachers’ decision making based on their gender. An important goal of future research should be to examine other teacher characteristics to identify the variables that might predict teachers’ decisions in Turkey.

This study appeared to support that there was a difference in the ways that teachers responded to the cases based on student characteristics. More specifically, student characteristics of the problem type (i.e. behavioral challenges) led teachers to make more decisions in regard to referral and placement in this study. Research is well established that teachers’ perceptions about their roles and responsibilities can influence their practices while working with students with disabilities, which might influence teachers’ decisions in regard to referral (Jordan et al., 1997). Future research should be enhanced by exploring teachers’ beliefs about the problem type. As similar to the study of Jordan et al (1997), multiple methods of data collection (i.e. questionnaire, classroom
observations, interviews) can be a way to examine teachers’ beliefs about the problem type experienced by students.

This study failed to find a difference in teachers’ responses based on students’ gender in the analysis of one sample non-parametric chi-square test. However, there was evidence that teachers made different referral and placement decisions for a male student and a female student in the analysis of binary logistic regression. This finding suggests that there is a need for research to examine student characteristics of gender and teachers’ decisions in regard to referral and placement. Moreover, one avenue of research might be to focus on other student characteristics (i.e. socioeconomic status) and referral concerns (academic plus behavioral problems). It is possible that other student characteristics and referral concerns can lead teachers to make more decisions or less decisions in regard to referral and placement.

This study is unique in terms of methodological aspects, because no researchers have used case-based methods to examine special education decision making process in Turkey. I used case scenarios that included descriptive information about a student who is suspected for having a disability. Future researchers should use cases that include culturally relevant data about the student’s evaluations (i.e. medical, educational), educational history of the student (i.e. grades, attendance), and family history of the student (i.e. circumstances in the student’s life) to examine whether teachers’ decisions are influenced by multiple resources of data. To elucidate the degree of influence of data might allow researchers to examine special education decision making process through another lens.
Conclusion

This study sought to investigate whether teachers’ sense of efficacy predicted teachers’ decisions in regard to referral and placement. Other teacher characteristics and student characteristics were also examined in this study. Results indicated that teachers’ sense of efficacy predicted their decisions in regard to referral in three of the four cases and their decisions in regard to placement in two of the four cases. Teachers’ sense of efficacy indicated different patterns when teachers made a decision to refer and made a decision to place a student in special education classroom (i.e. more referrals and less placement). In addition, other teacher characteristics (i.e. teachers’ gender, educational degree, and training) accounted for teachers’ decisions in regard to referral and placement in three of the four cases. Lastly, teachers were more likely to make a decision to refer a student with behavioral challenges and a decision to place a student with behavioral challenges in a special education classroom. While the problem type experienced by the student was the most consistent predictor explored in this study, other factors were implicated to refer or not refer and to place or not place in this study. Although several limitations exist in this study, findings are informative.

As few researchers in Turkey explored the referral process in special education and no study examined teachers’ sense of efficacy and their decisions in regard to referral and placement, this study is unique. Given the fact that this topic is a new area of research in Turkey, further investigation is needed to shed more light on teachers’ decision making. A teacher’s referral decision is the key to identify students with disabilities. If we are able to identify what variables predict teachers’ decision making,
we can eliminate the factors that are irrelevant to students’ performance, which would ensure equality in providing supports and special education services in Turkey.
APPENDICES
APPENDIX A

DEMOGRAPHIC INFORMATION QUESTIONNAIRE

Please check the appropriate box.

1. What is your gender?
   ○ Female ○ Male

2. How many years of teaching experience have you had including this year?
   Please specify ............

3. What is your highest level of education/degree?
   ○ Bachelor's Degree
   ○ Master's Degree
   ○ Doctoral Degree
   ○ Others. Please specify ..........................................

4. Have you received in-service training in one of these areas in the last five years?
   ○ Yes, I have received in-service training. (Please answer Question 4.a)
   ○ No, I haven't received in-service training in the last five years.

   a. Please circle all that apply:
      ○ Special education ○ Classroom management
      ○ Teaching reading-writing ○ Teaching methods and techniques
      ○ Others. Please specify ..........................................
      ...........................................................................

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# Appendix B

**Teachers' Sense of Efficacy Scale**

<table>
<thead>
<tr>
<th>Teacher Beliefs</th>
<th>How much can you do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How much can you do to get through to the most difficult students?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>2. How much can you do to help your students think critically?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>3. How much can you do to control disruptive behavior in the classroom?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>4. How much can you do to motivate students who show low interest in school work?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>5. To what extent can you make your expectations clear about student behavior?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>6. How much can you do to get students to believe they can do well in school work?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>7. How well can you respond to difficult questions from your students?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>8. How well can you establish routines to keep activities running smoothly?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>9. How much can you do to help your students value learning?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>10. How much can you gauge student comprehension of what you have taught?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>11. To what extent can you craft good questions for your students?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>12. How much can you do to foster student creativity?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>13. How much can you do to get children to follow classroom rules?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>14. How much can you do to improve the understanding of a student who is failing?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>15. How much can you do to calm a student who is disruptive or noisy?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>16. How well can you establish a classroom management system with each group of students?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>17. How much can you do to adjust your lessons to the proper level for individual students?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>18. How much can you use a variety of assessment strategies?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>19. How well can you keep a few problem students from running an entire lesson?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>20. To what extent can you provide an alternative explanation or example when students are confused?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>21. How well can you respond to defiant students?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>22. How much can you assist families in helping their children do well in school?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>23. How well can you implement alternative strategies in your classroom?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
<tr>
<td>24. How well can you provide appropriate challenges for very capable students?</td>
<td>(1) (2) (3) (4) (5) (6) (7) (8) (9)</td>
</tr>
</tbody>
</table>

Tshannen-Moran & Woolfolk Hoy, 2001
APPENDIX C

TEACHERS’ DECISIONS IN REGARD TO REFERRAL MEASURE

Directions: You will read 4 case vignettes. After reading each case, you will be asked 2 questions. Please check the box that best corresponds to your answer for each question.

The First Case Vignette
Imagine that you are a second-grade teacher and there is a child in your classroom who has exhibited academic difficulties since last year. You have noticed the following:

Can is functioning below the grade level, particularly in reading and writing. For example, he reads slower than his peers. When reading a story, Can has difficulties answering questions about the story and makes up details that are not in the story. He often makes spelling errors completing a written assignment.

Can’s classroom observation reports indicate that he is not able to achieve satisfactory on most of the reading and writing goals. However, Can is meeting grade-level expectations on most behavioral goals. For example, he plays well with his peers and interacts appropriately with other people in the school.

Based on the profile you have read, please answer the questions listed below:

Would you refer this student to the Guidance and Research Centers for special education evaluation?

| YES | NO |

Would this student receive better support in a special education classroom?

| YES | NO |

The Second Case Vignette
Imagine that you are a second grade teacher and there is a child in your classroom who has exhibited academic difficulties since last year. You have noticed the following:

Emel is functioning below the grade level, particularly in reading and writing. For example, when you ask her to read a story aloud in the class, she makes more mistakes than her peers and guesses at words. Emel has problems understanding the main idea of the story. Emel also has trouble using punctuation marks in written assignments.

Emel’s classroom observation reports indicate that she is not able to achieve satisfactory on most of the reading and writing goals. However, Emel is meeting grade-level expectations on most behavioral goals. For example: She plays well with her peers and interacts appropriately with other people in the school.

Based on the profile you have read, please answer the questions listed below:

Would you refer this student to the Guidance and Research Centers for special education evaluation?

| YES | NO |

Would this student receive better support in a special education classroom?

| YES | NO |
The Third Case Vignette
Imagine that you are a second-grade teacher and there is a child in your classroom who has exhibited behavioral difficulties since last year. You have noticed the following:

Demir has difficulties following rules and interacting with other people. For example, Demir gets out of his seat and walks around the class at times when he is expected to be in his seat. He also refuses to return to his seat when instructed by the teacher. When Demir does sit at his desk during instruction, he talks about things that are not related to class topic. Demir also makes inappropriate comments, when other students give incorrect answers to questions from the teacher.
Demir’s classroom observation reports indicate that he is behind grade-level expectations following directions and social skills. However, Demir is meeting grade-level expectations on most academic goals. For example, Demir is reading on grade level and has good grades in all of his academic subjects.

Based on the profile you have read, please answer the questions listed below:

Would you refer this student to the Guidance and Research Centers for special education evaluation?  YES  NO

Would this student receive better support in a special education classroom?  YES  NO

The Fourth Case Vignette
Imagine that you are a second-grade teacher and there is a child in your classroom who has exhibited behavioral difficulties since last year. You have noticed the following:

Aynur has difficulties following rules and interacting with other people. For example, when you are out of class, Aynur walks around the classroom, touches and takes other students belongings without their permission. During instruction, Aynur makes unusual noises and constantly squirms in her seat until you come to his desk.
Aynur’s classroom observation reports indicate that she is behind grade-level expectations following directions and social skills. However, Aynur is meeting grade-level expectations on most academic goals. For example, Aynur is reading on grade level and has good grades in all of her academic subjects.

Based on the profile you have read, please answer the questions listed below:

Would you refer this student to the Guidance and Research Centers for special education evaluation?  YES  NO

Would this student receive better support in a special education classroom?  YES  NO

You have completed the survey. Thanks for your participation.
APPENDIX D

TURKISH VERSION OF THE DEMOGRAPHIC INFORMATION QUESTIONNAIRE

Demografik Bilgi Anketi

Lütfen uygun olan kutucuğu işaretleyiniz.

1. Cinsiyetiniz?
   - Kadın
   - Erkek

2. Bu yıl da dâhil olmak üzere kaç yıllık öğretmenlik (sınıf öğretmenliği) tecrübeniz var?
   Lütfen belirtiniz. ....... yıl

3. Eğitim durumunuz?
   - Lisans
   - Yüksek lisans
   - Doktora
   - Diğerleri. Lütfen belirtiniz ......................................................

4. Son beş yılda hizmetçi eğitim aldınız mı?
   - Evet, son beş yıl içinde hizmet içi eğitim aldım. (Lütfen soru 4.a’yi cevaplayıniz)
   - Hayır, son beş yıl içinde hizmet içi eğitim almadım.

   a. Lütfen uygun olan kutucuğu/kutucukları işaretleyiniz.
      - Özel Eğitim
      - Sınıf Yönetimi
      - Okuma-Yazma Öğretimi
      - Öğretim Yöntem ve Teknikler
      - Diğerleri. Lütfen belirtiniz .............................................................
<table>
<thead>
<tr>
<th>APPENDIX E</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURKISH VERSION OF THE TEACHER’ S SENSE OF EFFICACY SCALE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ÖĞRETMEN ÖZYETERLİK ÖLÇEĞİ</th>
<th>1</th>
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<tbody>
<tr>
<td>1. Çalışması zor öğrencilere ulaşmayı ne kadar sağlayabilirsiniz?</td>
<td>1</td>
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<tr>
<td>2. Öğrencilerin eleştirel düşüncelerini ne kadar sağlayabilirsiniz?</td>
<td>1</td>
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<tr>
<td>3. Sınıfla dersi olumsuz yönde etkileyen davranışları kontrol etmeyi ne kadar sağlayabilirsiniz?</td>
<td>1</td>
<td>2</td>
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<td>9</td>
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<tr>
<td>4. Derslerde az ilgi gösteren öğrencileri motive etmeyi ne kadar sağlayabilirsiniz?</td>
<td>1</td>
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<td>9</td>
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<tr>
<td>5. Öğrenci davranışlarıyla ilgili beklenmelerini ne kadar açık ortaya koymabilirsiniz?</td>
<td>1</td>
<td>2</td>
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<tr>
<td>6. Öğrencileri okulda başarılı olabileceklerine inandırmayı ne kadar sağlayabilirsiniz?</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>7. Öğrencilerin zor sorularına ne kadar iyi cevap verebilirsiniz?</td>
<td>1</td>
<td>2</td>
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<td>9</td>
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<tr>
<td>8. Sınıfı yapılan etkinliklerin düzenli yürütmesini ne kadar iyi sağlayabilirsiniz?</td>
<td>1</td>
<td>2</td>
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<td>9</td>
</tr>
<tr>
<td>9. Öğrencilerin öğrenmeye değer vermelerini ne kadar sağlayabilirsiniz?</td>
<td>1</td>
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<td>10. Öğrettiklerinizin öğrenciler tarafından kavranıp kavramadığını ne kadar iyi değerlendiríveisiniz?</td>
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<td>11. Öğrettikleriniz iyi bir şekilde değerlendirilmesine olanak sağlamacağınız soruları ne ölçüde hazırlayabilirsiniz?</td>
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<td>12. Öğrettiklerin yaratıcılığının gelişmesine ne kadar yardımcı olabilirsiniz?</td>
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<td>13. Öğrettiklerin sınıfta kurallarına uymalarını ne kadar sağlayabilirsiniz?</td>
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<td>14. Başarısız bir öğrencinin dersi daha iyi anlamaması ne kadar sağlayabilirsiniz?</td>
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<td>15. Dersi olumsuz yönde etkileyen ya da derste görüntü yapan öğrencileri ne kadar yaygınlaştırabilirsiniz?</td>
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<td>16. Farklı öğrenci gruplarına uygun sınıf yönetim sistemi ne kadar iyi oluşturabilirsiniz?</td>
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<td>17. Derslerin her bir öğrencinin seviyesine uygun olması ne kadar sağlayabilirsiniz?</td>
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<td>18. Farklı değerlendirme yöntemlerini ne kadar kullanabilirsiniz?</td>
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<td>19. Birkaç problemli öğrencinin ders zarar vermesini ne kadar iyi engelleyebilirsiniz?</td>
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<td>20. Öğrettiklerin kaflası karşısında ne kadar alternatif açıklama ya da örnek sağlayabilirsiniz?</td>
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<td>21. Sizi hiç böyle davranış gösteren öğrencilerle ne kadar iyi baş edebilirsiniz?</td>
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<td>22. Çocukların okulda başarılı olmalarına yardımcı olmaları için ailelerle ne kadar destek olabilirsiniz?</td>
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<td>23. Sınıfda farklı öğretim yöntemlerini ne kadar iyi uygu layabilirsiniz?</td>
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<td>24. Çok yetenekli öğrencileri uygın öğrenme ortamını ne kadar sağlayabilirsiniz?</td>
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APPENDIX F

TURKISH VERSION OF THE TEACHERS’ DECISIONS IN REGARD TO
REFERRAL MEASURE

Öğretmenlerin Özel Eğitime Gönderme Kararları Ölçüğü

Yönergeler: 4 örnek olay okuyacaksınız. Her bir örnek olayı okuduktan sonra size 2 soru sorulacaktır. Lütfen her sorunun cevabına en uygun kutuyu işaretleyiniz.

Birinci Örnek Olay

Ikinci sınıf öğretmeni olduğunu ve sınıfta geçen yıldan bu yana akademik zorluklarla karşılaştan bir öğrenciniz (Can) olduğunu düşünün. Can hakkında aşağıdaki durumları fark ettiniz:


Can’ın sınıf gözetim raporları, okuma ve yazma hedeflerinin altında olduğunu belirtodore almaya başlamadığı göstermektedir. Ancak, Carvanış hedeflerinin altında sınıfta düzeyi beklenmeleri karşılayamaktadır. Örneğin, akranları ile iyi oynamaktadır ve okulduki diğer insanlarınla iyi geçinmektedir.

Okuduğunuz profil dayanarak, lütfen aşağıdaki listelenen soruları cevaplayıniz:

Bu öğrenci, Rehberlik ve Araştırma Merkezine özel eğitim değerlendirme misiniz?

Bu öğrenci, özel eğitim sınıfında daha iyi destek alabilir mi?

İkinci Örnek Olay

Ikinci sınıf öğretmeni olduğunu ve sınıfta geçen yıldan bu yana akademik zorluklarla karşılaştan bir öğrenciniz (Emel) olduğunu düşünün. Emel hakkında aşağıdaki durumları fark ettiniz:


Okuduğunuz profil dayanarak, lütfen aşağıdaki listelenen soruları cevaplayıniz:

Bu öğrenci, Rehberlik ve Araştırma Merkezine özel eğitim değerlendirme misiniz?

Bu öğrenci, özel eğitim sınıfında daha iyi destek alabilir mi?
Üçüncü Örnek Olay

Ikinci sınıf öğretmeni olduğunuuzu ve sınıfta geçen yılдан bu yana davranışsal zorluklar yaşayan bir öğrencinizi (Demir) olduğunu düşündünüz. Demir hakkında aşağıdaki durumları fark ettiniz:

Demir, kurallara uymada ve başkaları ile etkileşim kurmada güçlük çekiyor. Örneğin, Demir sırasında oturması gerektiği zamanlarda, yerinden ayrılıyor ve sınıf içinde dolaşıyor. Öğretmeni tarafından uyanılığı zaman, sınırsına geri dönmemi reddetiyor. Ders esnasında yerinde oturduğuunda, Demir konuyla ilgili olmayan şeyler hakkında konuşuyor. Diğer öğrencilerin sizin sorularınıza yanlış yanıtı verdiğiinde, Demir uygunsuz yorumlar yapıyor. Demir’in sınıf gözlem raporları, yönergeleri takip ve sosyal beceriler açısından sınıf düzeyi beklentilerinin gerisinde olduğunu göstermektedir. Ancak, Demir, akademik hedeflerin çok altında sınıf düzeyi beklentilerini karşılamaktadır. Örneğin Demir, sınıf düzeyinde okumaktadır ve tüm akademik alanlarda iyi notlara sahiptir.

Okuduğunuz profile dayanarak, lütfen aşağıdaki listelenen soruları cevaplayınız:

Bu öğrenci, Rehberlik ve Araştırma Merkezine özel eğitim değerlendirmesi için yönlendirir misiniz?  

Bu öğrenci, özel eğitim sınıfında daha iyi destek alabilir mi?

Dördüncü Örnek Olay

Ikinci sınıf öğretmeni olduğunuuzu ve sınıfta geçen yılдан bu yana davranışsal zorluklar yaşayan bir öğrenciniz (Aynur) olduğunu düşündünüz. Aynur hakkında aşağıdaki durumları fark ettiniz:

Aynur, kurallara uymada ve başkaları ile etkileşim kurmada güçlük çekiyor. Örneğin, sınıfta olmadığınızda, Aynur sınıfta dolaşıyor, diğer öğrencilerin eşyalarını izin almadan kullanıyor ve alyor. Ders esnasında, Aynur değişik sesler çıkıyor ve sızmaktadır gelene kadar yerinde süreklı kıparıyanıyor.

Aynur’un sınıf gözlem raporları, yönergeleri takip ve sosyal beceriler açısından sınıf düzeyi beklentilerinin gerisinde olduğunu göstermektedir. Ancak, Aynur, akademik hedeflerin çok altında sınıf düzeyi beklentilerini karşılamaktadır. Örneğin Aynur, sınıf düzeyinde okumaktadır ve tüm akademik alanlarda iyi notlara sahiptir.

Okuduğunuz profile dayanarak, lütfen aşağıdaki listelenen soruları cevaplayınız:

Bu öğrenci, Rehberlik ve Araştırma Merkezine özel eğitim değerlendirmesi için yönlendirir misiniz?

Bu öğrenci, özel eğitim sınıfında daha iyi destek alabilir mi?

Anketi tamamladınız. Katılımınız için teşekkür ederiz.
APPENDIX G

CONSENT LETTER

Dear Colleagues,

I invite you to participate in a research study entitled “Examining Teachers’ Sense of Efficacy in Regard to Referral”. I am currently enrolled in a doctoral program in Special Education at the University of Massachusetts Amherst in USA and I am conducting this study for my doctoral dissertation. The purpose of this study is to examine teachers’ perceptions of their capabilities in their classroom activities and their decisions in regard to special education referrals.

You are selected to participate in this study because you work as regular education teacher in an elementary school. If you agree to take part in this study, you will be asked to complete the surveys on the next page. The first part is comprised of 24 Likert scale questions. The second part is comprised of 4 scenarios involving 2 close-ended questions about each scenario. It will take approximately 20 minutes to complete the survey. Your participation in this study is completely voluntary and you can withdraw at any time. You are free to skip any question you choose. If you agree to participate in this study, please answer the questions as best as you can and return the survey in the enclosed envelope into school principal’s office.

You may not directly benefit from this research; however, information collected in this study may expand our knowledge about special education decision-making process and benefit research in special education in Turkey. To the best of our ability, your answers in this study will remain confidential. To protect your confidentiality, we will not collect any identifiable information.

If you have questions about this project or if you have a research-related problem, you may contact the researcher, Ayse D. Yakut from ayakut@umass.edu or Dr. Alexandra Lauterbach from alauterbach@edu.umass.edu (my research adviser). If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

By proceeding to the survey/questionnaire on the next page you are indicating that you are at least 18 years old, have read and understood this consent form and agree to participate in this research study. Please keep this page for your records and return the survey/questionnaire to the researchers. Please DO NOT write your name on the survey/questionnaire.
APPENDIX H

TURKISH VERSION OF THE CONSENT LETTER

Sevgili Meslektəşlərən,

Siz, "Özel Eğitim Göndermede Öğretmen Öz yeterliklerini İnceleme" başlıklı araştırma çalışmasına katılmayı davet ediyorum. Şu anda University of Massachusetts Amherst’de Özel Eğitim doktora programına kayıtlıım ve bu çalışmaya doktora tezi için yürütüyorum. Bu araştırmanın amacı, öğretmenlerin sınıf etkinliklerindeki yeteneklerine ilişkin algılarını ve özel eğitimden yararlanma ile ilgili kararlarını incelemektir.


Bu araştırma size doğrudan yarar sağlamayacaktır. Ancak, bu çalışmada toplanan bilgiler, Türkiye’de özel eğitim karar verme süreci hakkındaki bilgilerimizi genişletecek ve Türkiye’de özel eğitim alanında yapılan araştırmalarla katkı sağlayacaktır. Bu çalışmamızı zorlamış gizli kalacaktır. Gizliliğiniza daha iyi korumak amacıyla size herhangi bir kişisel bilgi sorulmayacaktır.

Bu proje ile ilgili veya araştırma ile ilgili bir sorunuz varsı, araştırmanın Ayşe Dilşad Yakut’a ayakut@umass.edu veya Dr. Alexandra Lauterbach’dan alauterbach@educ.umass.edu (Tez danışmanı) ile teması geçebilirsiniz. Araştırma konusunun haklarınıza ilgili sorularınızna, University of Massachusetts Amherst İlan Araştırmaları Koruma Bürosu’na (HRPO) (413) 545-3428 veya humansubjects@ora.umass.edu adresinden ulaşabilirsiniz.

Bir sonraki sayfada anket /soru kâğıdına geçerek, en az 18 yaşında olduğunuzu, bu formu okuduğunuzu ve anlaşılınızı ve bu araştırma çalışmasına katılmayı kabul ettiği belirtmiş olacaksınız. Lütfen bu sahayı kıyıtlarınız için saklayın ve anketi zarfa koyup teslim edin. Lütfen ankette adınızı yazmayın.


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Turkiye Cumhuriyeti Anayasasi [Constitution of the Republic of Turkey, consolidated as of 2001] retrieved 16 April 2017 from http://www.refworld.org/docid/4c4458e42.html


