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The Effectiveness of a Structured Functiona Behavior Assessment Procedure: Teacher Training as a Moderator

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The Effectiveness of a Structured Functional Behavior Assessment Procedure:

Teacher Training as a Moderator

by

Bonnie Woods

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy
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DEDICATION

I dedicate this dissertation to my siblings: Molly, William, Caroline, Grace, Nick, Scarlett, Matilda, Harry, Marah, Phoebe, and Fiona. You have been my inspiration and support through every good, bad, and crazy event in my life. I would not be the person I am today without you.

I would also like to give special thanks to my amazing husband, Justin. Even in my most discouraged moments, you made me feel like the smartest, most capable woman in the world. Thank you for not letting me give up.
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ABSTRACT

Prevent-Teach-Reinforce (PTR) is a collaborative, standardized process that was developed as a way to address identified barriers to completing effective functional behavior assessments (FBAs) in public schools. Current research literature documents the effectiveness of the PTR process in decreasing problematic behaviors and increasing social skills and academic engaged time for students in kindergarten through 8th grade. In addition, PTR demonstrates high acceptability by school personnel implementing the process. While PTR has demonstrated success in schools, questions still exist regarding variables that impact the effectiveness of this process. Therefore, the current study investigated the moderating effect of prior teacher training in managing challenging behavior on the effectiveness of the Prevent-Teach-Reinforce (PTR) process. Data regarding students’ social skills, behavior problems, and academic engagement were analyzed through a series of mixed factorial analyses in order to determine the effectiveness of the PTR process. Results indicate that teachers’ previous preparation in dealing with behavioral problems did not moderate the effectiveness of PTR, thus indicating that the process is equally beneficial to all teachers. However, time and the implementation of PTR were found to be significant in altering trends in student outcomes. Academic engaged time was found to be significantly altered more frequently than social skills or behavior problems. Implications of the findings for using the PTR process to address problematic student behavior in schools are discussed.
CHAPTER I

INTRODUCTION

When considering behavior in youth, there are a number of ways to define the presence of a behavior problem. Behavior problems can be defined based on the presence of a specific set of criteria, such as those established by the American Psychiatric Association in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V; American Psychiatric Association, 2013). Another way of conceptualizing behavior problems involves family report. For example, parents may note that a child’s behavior differs from what is developmentally typical or acceptable within their household, suggesting the presence of a behavior problem. Within the school setting, similar to the DSM-V, schools may assign a label to a student who demonstrates specific behavioral characteristics (based on criteria included within the Individuals with Disabilities Education Act) and serve these students through Exceptional Student Education (ESE). For many students, however, behavior problems are defined based on how often they fail to meet behavioral expectations within their school or community, such as how often a student experiences disciplinary action (e.g., suspension) or on how many office discipline referrals (ODRs) he or she accrues.

The importance of identifying and remediating behavior problems in youth is clear when one considers the ramifications of behavior problems in the lives of students. Extensive research documents the adverse effect of problematic behaviors on the
development and maintenance of healthy peer relationships (Coie & Kupersmidt, 1983; Mash & Barkley, 2003). Without these positive relationships, additional problems appear and compound existing difficulties. Specifically, it is common for youth with behavior problems to develop friendships with deviant peers who model and reinforce negative behaviors (Dishion, Spracklen, Andrews, & Patterson, 1996). In addition, relationships with teachers are negatively affected by defiant confrontational behaviors demonstrated by some students with behavior problems. As such, patterns of negative interactions develop, and teachers may begin to offer less praise and fewer opportunities for interaction in the classroom (Carr, Taylor, & Robinson, 1991; Henricsson & Rydell, 2004; Kauffman & Brigham, 2009). With these on-going negative interactions, coupled with feelings of being unsupported in the school environment, many students with behavior problems experience “push out” of the high school setting or drop out.

Importantly, despite leaving school, the cycle of negative consequences for youth with behavior problems continues. Specifically, youth with behavior problems are more likely than their peers to be incarcerated; have higher rates of unemployment and utilization of social services; and more interpersonal problems such as divorce and parenting difficulties (Chen & Kaplan, 2003; Fergusson, Swain-Campbell, & Horwood, 2002; Ronka, Kinnunen, & Pulkkinen, 2000; Sprague, Walker, Stieber, Simonsen, & Nishioka, 2001).

Given the extensive negative outcomes associated with behavior problems in youth, it is important to investigate how schools address these issues. In general, schools use school-wide expectations and procedures for students with the delivery of clear consequences for violations of expectations and procedures (see Dunlap, Sailor, Horner,
In addition, group interventions (e.g., social skills training, check-in/check-out) may be implemented to address common behavior problems. However, when students display the need for more intensive, individualized services, it is common for a functional behavior assessment (FBA) to be completed and a positive behavior intervention plan (PBIP) to be implemented based on information gathered from the FBA (see Scott, Anderson, Mancil, & Alter, 2009).

An FBA uses principles of applied behavior analysis to gather information and inform intervention delivery. While this approach to intervention delivery has extensive research support, the use of such a process in a typical school setting can be challenging. Specifically, the following factors have been documented as issues affecting the success of FBAs in typical school environments: (a) requirements from the Individuals with Disabilities Education Improvement Act (IDEIA, 2004; Sasso, Conroy, Peck-Stichter, & Fox; U.S. Department of Education, 2007); (b) limited teacher training in classroom management and behavior principles (Malderez, Hobson, Tracey, & Kern, 2007; Westing, 2009); and (c) heavy researcher involvement in most research regarding the completion of FBAs in schools (Allday, Nelson, & Russel, 2011; Radford, Bertsch, et al., 2001; Solnick & Ardoin, 2010).

Attempts to address the limitations of completing an effective FBA in a typical setting were made by Dunlap, Iovannone, Kincaid, Wilson, Christiansen, Strain, & English (2010) through the development of Prevent-Teach-Reinforce (PTR). PTR uses a collaborative and systematic approach to completing an FBA, thus increasing teacher acceptance and standardization of this process. A PTR team is established, made up of, at
minimum, the student’s teacher and a PTR facilitator. The PTR team works together to complete a 5-step process with assistance available through a PTR manual.

**Purpose of Current Study**

Research to date has shown that PTR results in decreases in problematic behavior and increases in prosocial behaviors and academic engagement (Dunlap, Iovannone, Wilson, Kincaid, and Strain, 2010; Iovannone, et al., 2009; Strain, Wilson, and Dunlap, 2011). In addition, PTR also demonstrates high rates of social validity. While these results offer support for the use of PTR in addressing behavior difficulties in schools, no research to date has been conducted that specifically investigates the moderating effect of teacher training on the effectiveness of PTR. Given the research literature regarding variability in teacher preparation in dealing with challenging behavior, it cannot be assumed that all teachers will experience equal success with the PTR process. As such, the current study analyzed archival data from the original study of PTR by Iovannone et al (2009) to examine the role that teacher preparation in dealing with challenging behavior had on the effectiveness of a structured functional behavior assessment procedure.

**Research Questions**

The following research questions were investigated through a series of mixed factorial analyses:

1. Do children whose teachers report at least adequate preparation for dealing with challenging behavior show improvements in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention?
2. Do children whose teachers report minimal to no preparation for dealing with challenging behavior show improvements in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention?

3. Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention for children whose teachers report at least adequate preparation for dealing with challenging behavior?

4. Do children whose teachers report at least adequate preparation for dealing with challenging behavior show improvement in social skills, problem behaviors, and academic engaged time without the student receiving the PTR intervention?

5. Do children whose teachers report little to no preparation for dealing with challenging behavior show improvement in social skills, problem behaviors, and academic engaged time without the student receiving the PTR intervention?

6. For students who do not receive the PTR intervention, is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time among students whose teachers report at least adequate preparation for dealing with challenging behavior?

7. Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time among students whose teachers report at least adequate preparation for dealing with challenging behavior and received the PTR intervention versus students whose teachers report at least adequate preparation for dealing with challenging behavior but did not receive the PTR intervention?
8. Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time among students whose teachers report little to no preparation for dealing with challenging behavior but received the PTR intervention versus students whose teachers little to no preparation for dealing with challenging behavior and did not receive the PTR intervention?

**Contribution to the Literature**

The current study contributes to the research literature by adding to the current knowledge base regarding potentially effective treatments for behavior problems among youth. In particular, this study provides specific knowledge regarding how prior teacher training may impact outcomes of functional behavior assessment in a typical school setting. In addition, this study provides more information regarding the effectiveness of PTR as a manualized, standardized approach to completing FBAs in a typical setting.
CHAPTER II
LITERATURE REVIEW

This chapter begins with an overview of the conceptualization and prevalence of behavior problems in youth. Next, a brief review of the impact of behavior problems on youth and their environment is provided. Subsequently, the multi-tiered student support services model (MTSSS) used to manage behavior within public school systems is described. In this section, special attention is devoted to explaining tertiary-level services delivered in the school as well as barriers related to the success of such services. The chapter concludes by describing an intensive, individualized intervention process known as Prevent-Teach-Reinforce (PTR) and its potential for addressing barriers to the success of tertiary-level services in schools.

Identification and Prevalence of Behavior Problems in Youth

The first step in addressing behavior problems in the schools is the accurate identification of these problems. A variety of sources of information are used to identify the presence of behavior problems and to measure their prevalence. For instance, the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) uses a specific set of criteria (e.g., behavioral characteristics, duration of characteristics) to identify the presence of a behavior problem. If the DSM-V is used to gauge the prevalence of behavior problems, between 9% and 13% of children from ages 9 to 17 meet criteria for a
diagnosable behavior disorder and are therefore in need of interventions (American Psychiatric Association, 2000). Some behavior problems that are included in these percentages are Autism Spectrum Disorder (ASD), Attention Deficit/Hyperactivity Disorder (ADHD), Conduct Disorder, and Oppositional Defiant Disorder (ODD) as these are disorders in which the individual displays some combination of behaviors that are hyperactive, aggressive, antisocial, disruptive, hostile, and/or defiant (American Psychiatric Association, 2000).

While data based on DSM-V criteria provide valuable information in understanding the identification and prevalence of behavior problems, it also is important to examine information gathered through school diagnostic criteria and incident reporting given the amount of time youth spend in school. During the 2009-2010 school year, 0.8% of students nationwide received Exceptional Student Education (ESE) services for an Emotional/Behavioral Disability (EBD; U.S. Department of Education, 2011). According to the U.S. Department of Education, these are students with persistent negative behaviors (e.g., inability to build or maintain interpersonal relationships with peers and teacher) that adversely affect their educational performance. Another 0.8% of students received ESE services in 2009-2010 under the category of Autism, indicating that these students had a diagnosis which indicated difficulty with social interactions and rigid behavior patterns, and therefore requiring more individualized services.

If just this information were used to identify students with behavior problems, it would seem that intervention delivery for behavior problems is not an area in need of extensive support. Interestingly however, this percentage does not include students in other ESE categories that often require behavioral support in schools as well. For
example, the ESE category of Other Health Impaired (OHI) includes some students with an ADHD diagnosis, and as mentioned previously, these students may display hyperactive obtrusive behaviors that hinder their academic success. The aforementioned numbers also do not include those students who are considered socially maladjusted and therefore do not received ESE services. In addition, these numbers also do not capture students who are at-risk of being identified for ESE services through on-going behavior problems, as well as students who have a history of behaviors that have negative impacts but are just below the cusp of criteria used to identify students in need of ESE services.

To fully describe the extent of behavior disorders in schools, it is important to capture those served through ESE services for emotional or behavior concerns, students displaying socially maladjusted behaviors, and any other students with behavior issues. To capture all of these groups, it is important to look at other school-based information sources. For instance, rates of suspension and expulsion can be examined. Nationwide, during the 2005-2006 school year, over 3 million students (i.e., 7% of the total school population) were suspended or expelled (U.S. Department of Education, 2008). Behavior problems are also documented in secondary schools via office discipline referrals (ODR). An ODR is given to a student by a school employee (e.g., classroom teacher, administrator) when the student has broken a school rule or policy. An ODR is not a form of discipline, but serves as a form of documentation and communication regarding details of the student’s misbehavior. ODRs are tracked by a school’s student affairs and administration departments, which, after reviewing an ODR, decide on the consequences of the misbehavior. Consequences for misbehavior typically range from minor consequences such as a conference with the student to discuss the infraction and
expectations for future behavior to disciplinary action such as suspension. While
nationwide statistics are not available on rates of ODRs, statewide ODR information can
be gleaned from data from the Florida Positive Behavior Support Project’s Annual
Report. Data from 141 Florida schools indicated that the average number of office
discipline referrals per 100 students was as follows: 51 for elementary school students,
203 for middle school students, and 167 for high school students.

**Impact of Behavior Problems in Youth**

The following section will briefly review the effects of behavior problems in
order to give the reader the big picture of the ramifications of behavior problems among
youth. Participants in research studies included in this section demonstrate a range of
indicators considered by the researchers to be evidence of behavior problems.
Specifically, some studies include children with DSM diagnoses, while others identified
study participants by recruiting through behavior treatment programs or juvenile justice
programs. Still others defined their participants by asking others to rate behaviors and
then selecting those who had higher than average scores. Included in this section are
studies related to relationships with peers; relationships with teachers; school
experiences; and community experiences. This section will provide the reader with a
general understanding of why it is so important to intervene with youth with behavior
problems. Subsequently, research on how behavior problems are addressed within the
school setting will be described.

**Relationships with peers.** Peer relationships can be adversely affected by
behavior problems. Some students with behavior problems—particularly those with
internalizing behavior problems—have difficulty forming and maintaining peer
relationships because they may be obtrusive, hyperactive, aggressive, excessive, and intense (Coie & Kupersmidt, 1983; Mash & Barkley, 2003). Other students may be overwhelmed or unnerved by these actions, and they may avoid interactions with these students, leading youth with behavior problems to turn to other deviant peers for friendships (Deater-Deckard, 2001). Such friendships can lead to other problems, including juvenile delinquency (Elliott & Menard, 1996; Espelage, Green, & Wasserman, 2007; Farrington, Ohlin, & Wilson, 1986; Fergusson & Horwood, 1996), substance use (Ary, Duncan, & Biglan, 1999; Chen, Storr, Anthony, 2008; Fitzgerald & Arndt, 2002) mental health issues (Allen, Porter, & Land, 2006; Brendgen, Vitaro, & Bukowski, 2000; Fergusson, Beautrais, & Horwood, 2003) and risky sexual behavior (Ary, Duncan, & Biglan, 1999). Furthermore, the development of important interpersonal and social skills is negatively impacted as these youth lack modeling through positive interaction with typical students (Farrell, Meyer, & White, 2001; Jimerson, Egeland, & Teo, 1999). In addition, deviant friends provide positive reinforcement for deviant behavior and do not provide positive reinforcement for normative behavior (Dishion, Spracklen, Andrews, & Patterson, 1996). As such, the formation of friendships with deviant peer groups has the potential to exacerbate the development of behavior problems.

**Relationships with teachers.** Another area of concern for students with behavior problems is relationships with teachers. Students with behavior problems display behaviors in school that can be described as excessive in that they are disruptive, defiant, and verbally and physically aggressive. The defiant and aggressive nature of students with behavior problems leads to more conflict with and negative attitudes toward teachers than is typical for peers without behavior problems (Henricsson & Rydell, 2004). In fact,
teachers cite behavioral issues as one of the major obstacles to teaching (Carpenter & Nangle, 2002; Geving, 2007; Hertzog, 2002; Jazaar, Lambert, & O’Donnell, 2007; Lambert, McCarthy, O’Donnell, & Wang, 2009; Meister & Melnick, 2003; Scott, Park, Sawain-Bradway, & Landers, 2007). Teachers who continue to have negative interactions with this type of student may find it difficult to deal with the stress associated with interacting with these students and may respond in a more negative manner. Interactions between students with significant behavioral problems and their teachers is characterized by less teacher praise, less instruction for the student, and fewer opportunities for the student to respond (Sutherland, Lewis-Palmer, Stichter & Morgan, 2008; Sutherland & Oswald, 2005). Furthermore, the relationship between teacher and student often becomes one of on-going negative interactions characterized with student reprimands (Carr, Taylor, & Robinson, 1991; Kauffman & Brigham, 2009). These interactions, in turn, often lead to the student feeling unsupported by adults in school and losing interest in learning (Walker & Kurlaender, 2003).

**School experiences.** The types of teacher and peer interactions described above often result in youth with behavior problems experiencing frequent disciplinary action, which may over time lead to school pushout (through suspension or expulsion) or school dropout. A common reaction when a teacher and student with behavior problems are experiencing on-going negative interactions is for the teacher to use suspensions to address problems (Skiba, Peterson, and Williams, 1997). While this removal from the class may temporarily relieve the unpleasant situation, the student is then placed at a disadvantage as his or her exposure to academic materials becomes more limited. This removal from the class then leads to the student falling further behind academically.
(Bock, Tapscott, & Savner, 1998). In fact, academic deficits are commonly seen in students with significant behavioral problems, further hindering the student’s probability of being successful in school (Kavale & Mostert, 2004; Kauffman & Landrum, 2009; Lane, Carter, Pierson, & Glaseser, 2006; Nelson, Benner, Lane, & Smith, 2004).

The use of suspension also has negative effects beyond the immediate situation. Instead of deterring students from making bad choices, suspension is one of the top school-related reasons for dropping out of school. That is, frequent suspension or expulsion leads to “pushouts” whereby students who receive frequent feedback from the school environment that they are perceived as unable or unworthy of graduation and are therefore encouraged, indirectly, to dropout (DeRidder, 1991). In fact, research following approximately 13,000 students found that receiving at least one suspension could be used to identify students at risk of later dropping out of high school (Balfanz, Herzog, & MacIver, 2007; Neild, Balfanz, & Herzog, 2007).

**Community experiences.** Citing numerous studies, the “School to Prison Pipeline” is a popular term used to describe this link between negative discipline techniques (e.g., suspensions, detention) and involvement in the criminal justice system (Lerner & Galambos, 1998; Skiba, Micahel, Nardo, & Petterson, 2002; Walden & Losen, 2003). This link is hypothesized to result from a student feeling unsupported and alienated in the school environment and eventually losing interest in learning and disengaging from school (Walk & Kurlaender, 2003). At the same time, these students become distrustful of school personnel and become more involved in delinquent activities (McNeely, Nonemaker, & Blum, 2002). This pattern of delinquent activities continues
and often leads to entering the prison system (Moffitt, Caspi, Harrington, & Milne, 2002; Wald & Losen, 2003).

Beyond involvement with the criminal justice system, other negative effects are seen as youth with behavior problems transition out of school. Drug and alcohol abuse, unhealthy romantic relationships, poor parenting skills and mental health problems have been documented for these individuals (Krettenauer, Ullrich, Hofmann, Edelstein, 2003; Sprague, Walker, Stieber, Simonsen & Nishioka, 2001). In addition, behavior problems in students have been connected to low educational qualifications, difficulty maintaining employment, low socioeconomic status, and utilization of social services in adulthood resulting from low academic qualifications (Chen & Kaplan, 2003; Eide & Showalter, 2001; Fergusson, Swain-Campbell, & Horwood, 2002; Jimerson, 1999; Ronka, Kinnunen, & Pulkkinen, 2000; Sprague, Walker, Stieber, Simonsen, & Nishioka, 2001).

**Treatment of Behavior Problems in Schools**

Given the extensive, negative effects of behavior problems, coupled with the knowledge that youth spend much of their time in school, it is important to examine how behaviors are managed in this setting. In recent years, a focus has been placed on meeting students’ needs through a continuum of services in the school setting. Most recently, this model of service delivery has integrated both academic and behavioral needs into one service model referred to as a Multi-Tiered System of Supports (MTSS; see Averill & Rinaldi, 2011). Within this model, interventions are delivered to all students, with increasing intensity of services delivered to students as they “move up the tiers.” Universal screening and data-based decision making are utilized in order to identify
which tier of services a student needs, and progress monitoring is conducted to determine the continued needs of students.

**Positive behavior support (PBS).** MTSS draws its behavioral basis from the Positive Behavior Support (PBS) model. As such, the following sections will first discussing core features of PBS and then review the delivery of behavioral services in schools through this model.

**Core features of PBS.** As described by Dunlap, Sailor, Horner, & Sugai (2009), PBS has the following 4 core features:

- Application of research from the field of applied behavior analysis
- Practical interventions that can be implemented in a variety of settings
- Focus not only on reducing behavior problems but also on developing positive skills that are beneficial to the individual
- Emphasis on building an organizational system that supports behavior change.

PBS is composed of a multi-tiered system of behavioral strategies that seek to prevent and reduce problematic behaviors and create a positive school climate (McIntosh, Filter, Bennett, Ryan, & Sugai, 2010). PBS is comprised of three levels of evidence-based interventions with increasing levels of behavioral support offered at each level and data-based decision-making driving the appropriate selection of interventions.

**Schoolwide/Tier I interventions.** At the school-wide level, or Tier I, effective behavior management is used by all school personnel to teach appropriate behaviors to the entire student body. Positive reinforcement and clearly communicated consequences for misbehavior are core features to these effective behavior management strategies.
These clearly defined expectations for behavior are intended to reduce the occurrence of behavior problems for all students.

Tier I, or School-wide PBS, has been shown to promote prosocial behaviors, increase academic engaged time, improve academic performance, and decrease office discipline referrals (Lassen, Steel, & Sailor, 2006; Sugai & Horner, 2007). It has also been shown to be effective at the high school level, leading to decreases in office discipline referrals, tardies and suspensions, as well as increasing GPA (Bohanon, et al., 2006; Lane, Wehby, Roberston, and Rogers, 2007).

**Supportive/Tier II interventions.** For students who do not respond to well-implemented programs at Tier I (students considered “at risk”), it is necessary for schools to take action to address these needs, as schools are considered the de facto provider of services to children with behavioral needs, with 70-80% of children with such needs receiving services from school personnel (Burns, Costello, Angold, Tweed, Stangl, Farmer, et al., 1995). In fact, schools are viewed as the optimal setting for addressing behavioral problems because of the following unique characteristics of the school environment: schools are familiar to students, so they may not experience the same uneasiness that may arise from visiting other settings; transportation barriers are eliminated by delivering treatment in schools; data can be collected on the student in various ways, from different people, and in varying settings; and cost of care is less expensive in schools than in private and community-based settings (Jacob & Coustasse, 2008). As such, for students who do not respond to Tier I interventions, more intensive interventions (i.e., Tier II interventions) should be implemented in the school setting.
At Tier II, groups of students are identified as displaying similar behavior problems and as needing specific skill development. Commonly-identified deficits targeted for Tier II interventions include student motivation, organization and study skills and academic support (Hawken, Adolphson, MacLeod, & Schumann, 2009). These Tier II interventions are characterized as being continuously available, requiring low effort by teachers, quickly accessible, consistent with school-wide expectations, implemented by all staff in the school, flexible and continuously monitored (Hawken, Adolphson, MacLeod, & Schumann, 2009). Examples of common Tier II interventions that have been shown to be effective include Check in Check out (CICO; Filter, McKenna, Benedict, Horner, Todd, & Watson, 2007), the Behavior Education Program (BEP; Hawken & Horner, 2003; Hawken, MacLeod, & Rawlings, 2007; March & Horner, 2002) and social skills instruction (Lane, et al., 2003; Laugeson, Frankel, Gantman, Dillon, & Mogil, 2012).

**Intensive/Tier III interventions.** Students receiving Tier III intervention services display a need for individualized, intensive intervention services. When it is decided by educational personnel that this personalized, problem-solving approach is necessary for a student to be successful in the school environment, it is typical for a functional behavior assessment (FBA) to be conducted, as research supports the use of an FBA in developing effective interventions (Blakeslee, Sugai, & Gruba, 1994; Kern, Hilt, & Gresham, 2004). Furthermore, the use of FBA in schools is endorsed by the National Association of School Psychologists, the National Association of State Directors of Education, and the National Institute of Health. Given the acceptance and standard practice of using an FBA to address significant behavior concerns in schools, as well as the importance of FBAs to
the current study, more detailed information will follow regarding the origins and guiding principles of FBAs.

**Origins and Guiding Principles of Functional Behavior Assessment (FBA)**

In 1913, John B. Watson published the article “Psychology as the Behaviorist Views It” which asserted that observable behavior should be the focus of psychology. In his article, Watson described the relationship between environmental stimuli and the responses that result from these stimuli and stated that these observable stimulus-response relationships should be the basis of objective study of behavior. This assertion differed greatly from previous schools of thought which focused on states of mind and mental processes as the focus of psychology. As such, Watson’s article marked a shift in thinking and the early stages of behaviorism.

The discipline of behaviorism was further developed as well as refined into a way to experiment with and measure behavior by the laboratory research of B.F. Skinner. In his work, Skinner identified 2 types of behavior, the first of which came to be known as respondent behavior and resulted from basic reflexes (e.g., pupil dilating in response to a bright light). Skinner asserted that the second type of behavior, referred to as operant behavior, was the result of changes to the environment following an emitted behavior (e.g., the behavior of pushing a lever resulted in a rat receiving a food pellet). Skinner asserted that all behavior could be attributed either to respondent or operant behavior.

In addition to identifying different types of behavior, Skinner contributed to behaviorism through his view of mental processes and their role in behaviorism. Behaviorism, overall, is made up of many different philosophies, with some of these philosophies rejecting all events that cannot be defined (e.g., methodological
behaviorism) and others using cognitions as causal factors (e.g., social learning theory). Skinner established another philosophy of behaviorism, known as radical behaviorism. This form of behaviorism acknowledged thoughts and feelings, known as private events, and stated that these are behaviors which are simply not accessible by others. Furthermore, because these private events are behaviors, they are influenced in the same ways as other behaviors (i.e., private events occur because of their influence on the environment). As such, radical behaviorism seeks to understand all behaviors, even those that are observable only by the individual experiencing them.

Radical behaviorism is incorporated into the branch of behaviorism known as Applied Behavior Analysis (ABA). ABA, founded by Donald M. Baer, Montrose M. Wolf, and Todd R. Risley, is “the science in which tactics derived from the principles of behavior are applied systematically to improve socially significant behavior and experimentation is used to identify the variables responsible for behavior change” (Cooper, Heron, Heward, 2007). In ABA, a focus is placed on clarifying the relationships between behavior and controlling variables so that meaningful improvements can be made for individuals.

Understanding the principles underlying ABA likewise provides an understanding of how this branch of science explains behavior problems in individuals. A behavior occurs because of the immediate effect it has on the environment. Therefore, a negative behavior occurs when the resulting change in the environment benefits the individual in some way, and thus the likelihood of the behavior occurring in the future increases. For instance, a student may crumple up his paper and begin talking with peers when given a difficult writing assignment in class. Crumpling his paper and talking with peers results
in his teacher sending him to the office for disciplinary action and thus allowing him to avoid the difficult assignment. Therefore, a functional relationship has been established (i.e., the behavior of crumpling his paper and talking results in the environmental change of avoiding the difficult assignment). As such, the behavior of crumpling his assignment and talking is likely to occur again the next time the student is presented with a difficult writing assignment.

Behavior modification flows directly from the principles of ABA. Behavior modification applies research findings from ABA to individuals in order to address behavior problems. Behavior modification involves two steps. First, the specific behavior demonstrated by the individual as well characteristics of the immediate environment are analyzed to identify the functional relationship between the two variables. Second, procedures are developed and implemented to alter the environment so that the individual experiences meaningful improvements in functioning.

As outlined by Miltenberger (2012), behavior modification has the following characteristics:

- Focus on altering specific behaviors, not personality traits. In other words, when working with an individual, de-emphasis is placed on any label the person might have (e.g., autistic) and instead emphasis is placed on specific problematic behaviors (e.g., hitting head with hand when told “no”).

- Basis in behavior principles. As stated previously, behavior modification uses principles of behaviorism and information gathered from extensive research in the field of ABA to improve behavior.
• Focus placed on the role of immediate environmental events on behavior. Behavior modification involves the identification of variables occurring just prior to the problematic behavior and the adjustment of these events.

• Detailed description of procedures required in order to re-produce results. Behavior change occurs when specific conditions and procedures are in place. As such, detailed information is needed so that variations affecting the behavior modification do not occur.

• Implementation occurs in everyday life by individuals with behavior modification training. While the principles used in behavior modification are established by researchers, the actual implementation of these techniques occurs in non-research settings by professionals, such as therapists.

• Continuous measurement is required to document behavior change. Behavior is measured before and after behavior modification procedures are implemented, as well as after any procedures have been discontinued.

• De-emphasis placed on explaining behaviors as the result of past events. Past events cannot be altered. Therefore, while it may be helpful to have basic knowledge of these events, behavior modification focuses on understanding the events immediately preceding problematic behavior.

• Rejection of hypothetical explanations for behavior. Explanations for behavior that cannot be measured or altered are ignored in favor of behaviors that can be altered.
**Functional Behavior Assessment (FBA) in Schools**

The process of completing an FBA in schools incorporates principles of behavior modification through the following essential steps: identify goals for the student’s behavior; gather relevant information; develop statements that describe the relationship between the student’s behavior and the environment; generate a behavior support plan; and implement and monitor outcomes (Scott, Anderson, Mancil, & Alter, 2009). The behavior support plans that are created during this process use principles of applied behavior analysis in that they are positive, proactive, educative, and functional. Specifically, these plans are created with the following purposes in mind: the environment should be altered to remove the triggering event; new skills should be taught to replace problematic behavior; and rewards for negative behavior should be minimized while clear rewards for appropriate behavior are maximized (Dunlap, Sailor, Horner, & Sugai, 2009).

**Factors Impeding FBA Success in Schools**

Despite a solid foundation in ABA principles and research supporting the use of FBAs for children with severe behavior problems, this practice is not a standard process used effectively in most schools (Safran & Oswald, 2003; Van Acker, Boreson, Gable, Potterton, 2005). For instance, in a review of the Individual Education Plans (IEPs) of students in one school district in the northeast, Blood and Neel (2007) found that many students in need of an FBA and subsequent Behavior Intervention Plan (BIP) did not have one. Furthermore, those students who did have an FBA did not have a BIP that matched the information from the FBA. In addition to concerns regarding the quality of the FBA/BIPs, the researchers also found that none of the teachers of students with FBAs
were able to accurately identify features of their students’ FBA/BIPs, even in cases in which they had been involved in the creation of the student’s plan.

Given findings such as this, some researchers have questioned whether schools are able to implement such a process accurately (Iovannone, et al., 2009; Scott, Anderson, Mancil, & Alter, 2009). Possible explanations for why the FBA process has not generalized to the school setting have been offered, and as such, the following section will briefly review some of these, followed by a description of a process which seeks to address some of these concerns.

**IDEIA and FBAs.** To better understand concerns regarding schools’ abilities to meet the individual needs of students with behavior problems, it is important to understand certain policies that affect education service delivery. The most recent reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) maintains the principles of meeting the needs of students receiving Exceptional Student Education (ESE) services in the least restrictive environment, which often means inclusion in general education classes for the majority of the school day. In fact, the majority of students receiving ESE services are in a general education classroom most of the day (U.S. Department of Education, 2007). Therefore, all teachers, not just those with specialized degrees or training, are expected to address the unique academic and behavioral needs of students.

Beyond the expectation that students with behavior problems have their needs addressed through the least restricted environment, IDEIA also mandates that behavior issues for students receiving ESE services be addressed via the completion of an FBA and creation of a Positive Behavior Intervention Plan (PBIP). However, there is not a
standard, agreed upon process that constitutes an FBA (Sasso, Conroy, Peck-Stichter, & Fox, 2001; Scott, Meers, & Nelson, 2000). As such, variable understanding and implementation of the process exists across school settings. This ambiguity regarding FBA procedures and increased responsibility for school personnel resulting from IDEIA is not the only explanation, however, offered for difficulty in creating effective FBAs in schools.

**Teacher training.** Additional concerns regarding general education teachers’ ability to play an active role in the FBA process stems from their training. General education teachers typically have not had significant training in classroom management, with even less training in principles of ABA (Baker, 2005; Malderez, Hobson, Tracey, & Kern, 2007; Reinke, Stormont, Herman, Puri, & Goel, 2011). In fact, studies often find that teachers received little college coursework in behavior and therefore, when they enter the school system, they lack knowledge of evidence-based interventions, accurate knowledge of characteristics of students with disabilities, or knowledge of school-based services available to address behavioral concerns (including FBAs; Stormont, et al., 2011).

Given the lack of formal training received by general education teachers, special education teachers are sought after for support in addressing behavioral problems (Clunies-Ross, Little, & Kienhuis, 2008; Oliver, et al., 2010). In fact, some studies find that general education teachers feel that support from someone such as a special education teacher is necessary in order for general education teachers to address behavior problems in their classes (Gottlib, Alter, Gottlieb, & Wishner, 1994). Typically, special education teachers have received more training in these areas and can serve as support for general education teachers (Alberto & Troutman, 2009; Martin & Pear, 2007; Misra,
However, training in behavior management and intervention strategies is not necessarily indicative of success in completing an FBA. A study by Woolfolk (2004) found that the content of college classes focusing on managing behavior was highly variable across colleges, and, in the majority of courses, there was an emphasis placed on reactive procedures, as opposed to the proactive, preventative strategies highlighted in behavior modification and the mandated FBA process in IDEIA.

Limited training in areas related to behavior management and intervention strategies often causes teachers to feel less confident in their ability to meet the needs of their students (Emmer & Stough, 2001; Herzog, 2002; Meister & Melnick, 2003; Westling, 2009; Woolfolk-Hoy & Burke-Spero, 2005). Furthermore, teachers who do not feel confident in their ability to address behavior issues in their class are also less likely to engage in behaviors that are part of the FBA process, such as documenting student progress and implementing individualized, evidence-based behavior interventions (Baker, 2005). As such, behavioral problems in a general education classroom may be further exacerbated when a teacher with limited training and confidence in behavior strategies and interventions is asked to engage in steps necessary for a successful FBA (Tschannen-Moran & Woolfolk, 2011).

**Researcher involvement.** Given these concerns regarding teacher preparation and knowledge of behavior principles, some researchers assert that it is necessary for teachers to pursue intensive training in principles of ABA if they are to effectively complete an FBA (Scott & Nelson, 1999). This position is supported by the fact that most research studies that produce favorable results in completing FBAs in schools typically involve considerable support for school staff from researchers (Allday, Nelson, & Russel, 2011;
To address some of the above concerns regarding effectively completing an FBA in a school setting, a tertiary-level process known as Prevent-Teach-Reinforce (PTR) was developed (Dunlap, Iovannone, Kincaid, Wilson, Christiansen, Strain, & English, 2010). PTR uses a collaborative and systematic approach to completing an FBA, thus increasing teacher acceptance and standardization of this process. An individual knowledgeable in the FBA process serves as the PTR facilitator and guides the teachers through each step of PTR through a reader-friendly manual. Therefore, teachers are not required to have extensive knowledge of behavior principles or the FBA process. The manual provides personnel with the steps to be completed as well as background information on each step of the process, directions and activities for each meeting, and homework assignments to be completed by each team member outside of the meetings. The PTR facilitator serves to gather homework assignments by team-decided dates and synthesize the data. These data are then presented to the team for discussion, refinement, and consensus. The 5-step process outlined in the manual is as follows: team building, goal setting, PTR assessment, PTR intervention, and PTR evaluation.

1. **Team building.** In the first step, specific team members are selected (with as few members as the teacher and PTR facilitator). The team also decides at this point how consensus will be reached in future steps as well as the responsibilities of each team member.
2. **Goal setting.** The second step of goal setting is comprised of three components. First, each team member identifies goals for the student to achieve within 3 domains (i.e., social, academic, behavioral). At this point, team members identify both the behaviors they would like to see decrease as well as behaviors they would like to see increase. Next, a consensus on behaviors to be targeted and their operational definitions is reached. Finally, a strategy for measuring behaviors is developed, and data is collected daily throughout baseline and the intervention.

3. **PTR assessment.** The third step involved is the functional behavior assessment which involves the assessment of preventative, teaching, and reinforcement variables. Each team member independently answers questions related to these three areas, and the PTR facilitator synthesizes the information to develop a draft hypothesis based on the data received. The purpose of this step is for team members to come to a consensus on hypotheses regarding the antecedents to the behavior, the function of the behavior, and the events that follow the behavior. The specific areas addressed are as follows:

- **Prevent.** The context in which the problem behavior occurs is identified. In other words, events or circumstances that serve as triggers to the problematic behavior are identified by the team members.

- **Teach.** At this stage, the goal is to identify an acceptable behavior to replace the inappropriate behavior. The replacement behavior can be functionally equivalent to the problem behavior (i.e., escape, attention) or it can be a prosocial, desired behavior that is incompatible with the problematic behavior.

- **Reinforce.** The final stage of the assessment involves identifying ways to change the consequences so that the acceptable behavior is more likely to
occur and the problematic behavior is less likely to occur. To accomplish this, the reinforcements identified during the functional assessment cannot follow the problematic behavior. Instead, the reinforcement provided is matched to the purpose or function of the problem behavior. That is, if the behavior was to receive attention, the reinforcement for the appropriate behavior must have some way for the child to continue to receive attention.

4. PTR intervention. The fourth step involves using the data gathered during the functional behavior assessment to select interventions from a menu provided in the manual. To ensure that the selected interventions align with the hypotheses developed in Step 3, descriptions of each intervention, as well as implementation examples are provided. Information is also provided regarding implementation issues, such as the time required, to ensure that feasible interventions are chosen by the team. In order to reach consensus, members are asked to rank order two to four strategies within each category (i.e., an intervention strategy that prevents problem behavior from occurring by addressing the antecedents; an intervention that teaches the student one new skill or replacement behavior; and a reinforcement intervention to increase the likelihood that the new appropriate behavior will be repeated). After the interventions are selected, the PTR facilitator assists the team in developing the behavior intervention plan with specific descriptions of the intervention strategies as well as a task analysis of each intervention. Once the behavior intervention plan is written, a plan is developed to provide training and support for the teacher to ensure fidelity of the intervention. This training is provided by the PTR facilitator and involves strategies such as role playing, discussion, and question and answers. Teachers are scored prior to implementing the intervention using a checklist.
with all elements of the intervention that should be present. Teachers receive a score of “yes” for adequate performance on each element. Teachers receiving at least 80% of “yeses” on the overall checklist then begin implementing the intervention. A score below 80% means that the teacher receives additional training or, if the teacher continues to receive a score below 80%, a decision is made as to whether the plan should be modified or continued. Additional support is provided with 3 direct observations to ensure fidelity of the intervention.

5. PTR evaluation. The final step involves measuring and evaluating the outcome data through the tool decided in Step 2. At this point, the team determines next steps for the intervention (i.e., expand, fade, change).

Research support for PTR. To assess the effectiveness of the PTR intervention in a typical school setting for students with severe behavior problems, Iovannone, Greenbaum, Wang, Kincaid, Dunlap, & Strain (2009) recruited 245 students across 65 schools, grades K through 8. Students were randomly assigned to either receive the PTR intervention or to receive the services that would usually be delivered to them at their school. Data were collected on students’ social skills and behavior problem through the Social Skills Rating System and academic engaged time through direct observation.

When pre and post data were analyzed, it was found that students who had received the PTR intervention had significantly higher social skills scores and academic engaged times than their peers who had not received the PTR intervention. Additionally, problem behavior scores for students in the PTR intervention group were significantly lower than those students in the comparison group. In addition to demonstrating increases in pro-
social behavior and decreases in problematic behavior, data indicated that teachers found the PTR process to be highly acceptable and effective.

Current Study

As mentioned previously, one of the stated goals of PTR was to create a standardized process for completing an FBA that was feasible for typical school personnel to complete. Analysis of data thus far indicates promising results. However, questions still exist regarding specific teacher characteristics that may moderate the effectiveness of the PTR process. A moderator is a variable that “identifies on whom and under what circumstances treatments have different effects” and can help identify the conditions under which an intervention may be most effective (Kraemer, Wilson, Fairburn, Mphil, & Agras 2002). Researchers have noted a lack of studies that investigate the specific features that influence the effectiveness of FBAs completed in the school environment (Gage, Lewis, & Sticher, 2012). Specific questions regarding whether the individuals who conduct the interventions and assessments influence the effectiveness of FBAs have been identified as areas of necessary future research. Blood and Neel (2007) specifically identified “the connections between types and degree of professional development and the utility of FBA and BIP information in classroom planning” as important topics for future research. As such, analysis of data regarding the effectiveness of PTR that focuses on whether teacher preparation for dealing with challenging behavior is warranted in order to further understand the effectiveness of PTR.

Conclusion

Research indicates that the negative effects of behavior problems in youth are far-reaching and have serious implications for the future well-being of these students. Within
in the school setting, behavioral intervention services are often delivered in a three-tiered model in which increasing problem severity results in more intensive services. For those students who have severe behavioral problems, a functional behavior assessment is often used as a Tier 3 intervention. However, the ability of school teachers to conduct such a process has been questioned. PTR was developed to address some of the concerns raised about the typical FBA process, and data analyses to date reveal positive effects in the use of PTR in schools. However, questions still exist regarding the extent to which variables such as prior teacher training influence the effectiveness of PTR. Therefore, the current study investigated whether teacher preparation moderated the effectiveness of the PTR process for students with significant behavior problems.
CHAPTER III

METHOD

This chapter presents the research method for this study. The chapter is divided into the following sections: Research questions/study design, participants, instrumentation, procedures, and data analyses.

Study Design

This study used archival data from a study investigating the effectiveness of the Prevent-Teach-Reinforce intervention for students with challenging behaviors in grades K through 8. The original study was conducted by researchers at the Florida Mental Health Institute (FMHI) at the University of South Florida (USF).

Description of the archival data. After receiving approval from the university Institutional Review Board to conduct the original study, three school districts in Central Florida and two in Colorado agreed to participate in the study. District personnel recommended potential schools to be contacted. Project staff contacted the principals of the recommended schools, described the study, and scheduled a time to present to the faculty if principals indicated an interest in participating. After providing overviews of the project to faculty, teachers indicating interest in volunteering received further explanation of the research and signed informed consent.
Participants were selected from 65 schools across five public school districts. Three school districts were located in Central Florida, and two were located in Colorado. The number of students served by each school ranged from 20,500 to 194,000.

Teachers who volunteered to participate in the study were asked to nominate students in their classrooms who engaged in severe behavior problems that were disruptive to the school environment and/or dangerous to themselves and others through the use of the Systematic Screening for Behavior Disorders (SSBD). Lack of responsiveness to Tier 1 and Tier 2 interventions was not a requirement for the students who were nominated. The Systematic Screening for Behavior Disorders (SSBD) is a multiple-gating tool used to identify students with behavioral problems (Walker & Severson, 1991). The first gate requires teachers to rank order students with internalizing and externalizing behaviors. Students who were rank ordered in the top three positions on Gate 1 moved on to Gate 2 in which teachers rated behavioral problems through the Critical Events Inventory (CEI). Possible scores on the Critical Events Inventory range from 0 (i.e., no observable problematic behaviors) to 35 (i.e., 35 types of observable problematic behaviors).

The caregivers of each student who was rank ordered number one on Gate 1 and who had a minimum of five critical events on Gate 2 was contacted by the teacher to ascertain whether the family would be interested in the project and would allow the project staff to contact them to provide further explanation. Each family agreeing to be contacted received a visit from a PTR consultant who described the study and attempted to obtain informed consent. If the parent gave consent, the student was randomly assigned to the intervention or wait-list comparison group. If the parent did not give
consent, the second ranked student’s caregivers were contacted, and informed consent was sought.

Recruitment consisted of 2 waves. During the 2005-2006 school year, 100 students were recruited for the study, with 50 being randomly assigned to the treatment condition and 50 students serving as the control group. The following school year (2006-2007), the control group from the previous year received the treatment, and an additional 100 students were recruited for the second wave (50 students for the treatment group and 50 students for the control group). During the 2007-2008 school year, the second control group received the PTR intervention.

Academic engaged time, social skills, and problem behaviors data were collected by trained graduate students at three points in time: Pre-intervention, post-intervention, and at follow-up. On average, 71 days passed between baseline assessment and posttest assessment, and follow-up assessment occurred 6 to 8 months after posttest assessment, which typically was the following school year with a different teacher than the teacher involved in the original PTR process.

**The Current Study**

The current study assessed the effectiveness of the Prevent-Teach-Reinforce intervention for children whose teachers have varying degrees of preparation for dealing with challenging behavior. The following research questions were investigated:

1. Do children whose teachers report at least adequate preparation for dealing with challenging behavior show improvements in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention?
2. Do children whose teachers report minimal to no preparation for dealing with challenging behavior show improvements in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention?

3. Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention for children whose teacher report at least adequate preparation for dealing with challenging behavior?

4. Do children whose teachers report at least adequate preparation for dealing with challenging behavior show improvement in social skills, problem behaviors, and academic engaged time without the student receiving the PTR intervention?

5. Do children whose teachers report little to no preparation for dealing with challenging behavior show improvement in social skills, problem behaviors, and academic engaged time without the student receiving the PTR intervention?

6. For students who do not receive the PTR intervention, is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time among students whose teachers report at least adequate preparation for dealing with challenging behavior?

7. Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time among students whose teachers report at least adequate preparation for dealing with challenging behavior and received the PTR intervention versus students whose teachers report at least adequate preparation for dealing with challenging behavior but did not receive the PTR intervention?

8. Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time among students whose teachers report little to no
preparation for dealing with challenging behavior but received the PTR intervention versus students whose teachers little to no preparation for dealing with challenging behavior and did not receive the PTR intervention?

Participants

Participants for the current study included the 245 students and 218 teachers from the original PTR study. Student demographic information is available in Table 1, and teacher demographic information is summarized in Table 2. All students (i.e., students who received the PTR intervention and those who were in the waitlist comparison group) were described by their teachers as engaging in severe behavior problems that were disruptive to the school environment and/or dangerous to themselves and others, as measured by the SSBD. Furthermore, these behaviors occurred with a frequency of at least one incident per week and were sustained for at least six (6) months.

Instrumentation

Teacher preparation. Data related to the independent variable “teacher training” was collected using the Questionnaire About Teachers and Challenging Behaviors (QTCB; Appendix A). Data for this variable was collected only at the beginning of the original study (i.e., pre-intervention) and was not collected after the intervention was implemented or during the follow-up phase of the original study. The QTCB is completed by teachers and begins with a section in which teachers provide descriptive information about themselves (e.g., type of teaching license) and their students (e.g., number of students with specific disabilities). This is followed by Likert-scale statements that assess teachers’ perceptions of challenging behavior on 7 dimensions. The 7 dimensions are as follows: Perceptions about the cause and potential for improving
challenging behavior, perceived adequacy of pre-service preparation for working with students with challenging behavior, perceived adequacy of in-service preparation for working with students with challenging behavior, confidence in ability to work effectively with students with challenging behavior, strategies used to improve challenging behavior, support and collaboration available for working with students with challenging behavior, and perceived effects of challenging behavior on teachers and students. There are a total of 101 statements on the Likert-scale portion of the QTCB, and the entire questionnaire takes approximately 20 minutes to complete.

Table 1. Student Demographics

<table>
<thead>
<tr>
<th>Variables</th>
<th>n= 245*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>82%</td>
</tr>
<tr>
<td>Female</td>
<td>18%</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
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<tr>
<td>White</td>
<td>50%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>29%</td>
</tr>
<tr>
<td>African American</td>
<td>18%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
<tr>
<td>Lunch Status</td>
<td></td>
</tr>
<tr>
<td>Free</td>
<td>31%</td>
</tr>
<tr>
<td>Reduced-Price</td>
<td>7%</td>
</tr>
<tr>
<td>Regular-Price</td>
<td>54%</td>
</tr>
<tr>
<td>Unknown</td>
<td>7%</td>
</tr>
<tr>
<td>Grade Level</td>
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<tr>
<td>Elementary</td>
<td>93%</td>
</tr>
<tr>
<td>Middle</td>
<td>7%</td>
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<tr>
<td>Education Plan</td>
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</tr>
<tr>
<td>No Plan</td>
<td>45%</td>
</tr>
<tr>
<td>Exceptional Education</td>
<td>48%</td>
</tr>
<tr>
<td>504 Plan</td>
<td>3%</td>
</tr>
<tr>
<td>Unknown</td>
<td>5%</td>
</tr>
<tr>
<td>Academic Instruction</td>
<td></td>
</tr>
<tr>
<td>Self-Contained Class</td>
<td>33%</td>
</tr>
<tr>
<td>Resource Class</td>
<td>1.6%</td>
</tr>
<tr>
<td>General Education</td>
<td>65.4%</td>
</tr>
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</table>

*Age, M= 8.17, SD= 2.08
Table 2. *Teacher Demographics*

<table>
<thead>
<tr>
<th>Variables</th>
<th>n = 218*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
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<tr>
<td>Male</td>
<td>17%</td>
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<td>Female</td>
<td>83%</td>
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<td>White</td>
<td>75%</td>
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<tr>
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<td>4%</td>
</tr>
<tr>
<td>African American</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
<tr>
<td>Unknown</td>
<td>3%</td>
</tr>
<tr>
<td>Type of Educator</td>
<td></td>
</tr>
<tr>
<td>General Education</td>
<td>63%</td>
</tr>
<tr>
<td>Exceptional Education</td>
<td>35%</td>
</tr>
<tr>
<td>Long-Term Substitute</td>
<td>0.1%</td>
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<tr>
<td>Unknown</td>
<td>0.1%</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>33%</td>
</tr>
<tr>
<td>Post-bachelor’s</td>
<td>21%</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>31%</td>
</tr>
<tr>
<td>Post-master’s/ Doctorate</td>
<td>4%</td>
</tr>
</tbody>
</table>

*Years teaching, M = 11.62, SD = 9.23*

For the current study, the “Professional Preparation for Dealing with Challenging Behaviors” section of the QTCB was used to define the variable “teacher preparation.” This section assesses the respondent’s training in the following 7 areas: Principles of applied behavior analysis, functional behavioral assessment, classroom management, individual behavioral interventions, data collection and assessment, school-wide positive behavior supports, and other training. If a respondent endorses “other training” they are asked to specify the type of training in order to determine its applicability to behavior training. However, for the current study, the “other training” category was omitted. The respondent is asked to offer one response on two dimensions of each of these areas of training for a total of 14 responses: 1) degree of pre-service preparation and 2) degree of in-service preparation. Likert-scale responses are as follows: “3” for extensive preparation, “2” for adequate preparation, “1” for minimal preparation, or “0” for none.
The pre-service and in-service portions of the QTCB have been shown to demonstrate acceptable levels of reliability with test-retest correlations of .88 and .96, respectively (Westling, 2009).

The 12 responses for each teacher were averaged in order to yield one mean score which represents the teacher’s preparation for dealing with challenging behavior. Respondents with an average score at or above 1.5 were grouped together to reflect teachers with at least adequate preparation for dealing with challenging behavior. This score was chose as it represents the midpoint between “0” and “3.” Respondents with an average score below 1.5 were grouped together to reflect teachers with little to no preparation for dealing with challenging behavior.

**Social skills.** Data for the dependent variable “social skills” was collected from participants’ teachers at three points in time (i.e., pre-intervention, post-intervention, and follow-up) during the original PTR study. For the current study, however, only data from the pre-intervention and post-intervention was analyzed.

“Social skills” was defined in terms of scores obtained on the Social Skills subscale of the SSRS. Example statements on this subscale include “introduces herself or himself to new people without being told,” and “says nice things about himself or herself when appropriate.” Items endorsed by teachers on this subscale are added to obtain a total raw score. Appendices in the manual are then used to convert the total raw score into a standard score based on the specific child’s grade and gender. Standard scores have a mean of 100 and a standard deviation of 15. Children with social skills scores below 85 are classified as having poorer social skills than the standardization sample, while those with a score above 115 are classified as having better social skills than the
The teacher form, Social Skills subscale of the SSRS has an internal consistency of .94. Negative correlations between the Social Skills subscale and the Problem subscale of the CBCL teacher forms demonstrate the validity of the scale (i.e., total scale scores correlation of -.64.).

The overall standard score on the Social Skills scale was assessed to determine whether social skills increased, decreased, or stayed the from pre- to post-test.

**Behavior problems.** Data for the dependent variable “behavior problems” was collected from participants’ teachers at three points in time (i.e., pre-intervention, post-intervention, and follow-up) during the original PTR study. For the current study, however, only data from the pre-intervention and post-intervention was analyzed. “Behavior problems” was defined in terms of scores obtained on the Problem Behaviors subscale of the SSRS. Standard scores on this subscale are calculated and reported the same as those on the Social Skills subscale (i.e., converting raw scores; scores with a mean of 100 and a standard deviation of 15). The overall standard score on the Behavioral Problems scale was examined to determine whether problematic behaviors increased, decreased, or stayed the from pre- to post-test.

**Academic engaged time.** The outcome variable “academic engaged time” was assessed using a modified version of the academic engaged time (AET) measure from the SSBD (Walker & Severson, 1991; Iovannone, et al., 2009). The AET measures the amount of time a student is actively engaged during independent instruction. To calculate academic engaged time, an observer uses a stopwatch to record the amount of time the student is actively engaged during two separate 15-minute intervals and then divides this time by the total length of the observation. Data for academic engaged time was collected
pre-intervention, post-intervention, and at follow-up during the original PTR study. However, only the pre- and post-intervention data was used during the current study.

The validity and reliability of the AET are dependent on the individuals performing the observations. Data collectors were trained by the project director and data coordinator and instructed on definitions of examples and non-examples of academic engagement. After receiving instruction, data collectors practiced with examples on a DVD and compared and discussed their responses to one another as well as the answer key to the DVD. Once inter-rater agreement was established, the data collectors were permitted to conduct observations for the purpose of the study. Inter-rater reliability was periodically checked throughout data collection, with 20% of observations being checked. Inter-rater reliability for these observations ranged from .93 to .99.

The percentage of intervals that students were academically engaged was assessed to determine whether academic engaged time increased, decreased, or stayed the same from pre- to post-test.

**Procedure**

To conduct the study, the following steps were followed:

1. Approval was requested and received from the University of South Florida’s Institutional Review Board (IRB).
2. The archival data set was obtained from Dr. Rose Iovannone at FMHI.
3. Participants were grouped to reflect the independent variable “teacher preparation.” The computer program Microsoft Excel was used to group these data. Specifically, mean scores were calculated for each teacher using scores on the “Degree of Preservice Preparation” and “Degree of Inservice Preparation”
sections of the Questionnaire about Teachers and Challenging Behaviors. Average scores at or above 1.5 were grouped as “adequate preparation,” while scores below 1.5 were grouped as “little to no preparation.” During the process of grouping data, any data linked to teachers who had incomplete data regarding their level of preparation (e.g., no response was provided regarding their level of preparation in specific areas) were eliminated. A total of 39 teachers had missing data regarding their level of preparation. Therefore, data from these teachers is not included in the following data analyses. A total of 199 teachers were included in the analyses.

**Data Analyses**

Given the primary interest of the current study (i.e., determining the moderating effect of teacher preparation on the effectiveness of PTR), coupled with secondary aims of the study (i.e., determining if specific combinations of factors lead to significantly different rates of change), a 2x2x2 mixed factorial design was used to analyze the relationships between time, PTR, and teacher preparation on each of the three student outcomes of interest (i.e., academic engaged time, social skills, and behavior problems).

Question 1: Do children whose teachers report at least adequate preparation for dealing with challenging behavior show improvement in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention? To address this question, a series of mixed factorial analyses was run for each dependent variable to determine if there are differences in the dependent variable means (i.e., social skills scores, teacher-rated behavior problem scores, and percentage of time academically engaged) from pre-test to post-test for students whose teachers report at least adequate preparation for
dealing with challenging behavior. The significance level for these analyses was set at .05.

Question 2: Do children whose teachers report little to no preparation for dealing with challenging behavior show improvement in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention? A series of mixed factorial analyses was run for each dependent variable to determine if there are differences in the dependent variable means (i.e., social skills scores, problem behavior scores, and percentage of time academically engaged) from pre-test to post-test for students whose teachers report little to no preparation for dealing with challenging behavior. Again, the significance level was set at .05.

Question 3: Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time as a result of the PTR intervention for children whose teachers report at least adequate preparation for dealing with challenging behavior versus children whose teachers report little to no preparation for dealing with challenging behavior? A series of mixed factorial analyses was run for each dependent variable to determine whether the level of change between groups is significant (i.e., whether there is a significant interaction effect). The significance level was set at .05.

Question 4: Do children whose teachers report at least adequate preparation for dealing with challenging behavior show improvement in social skills, problem behaviors, and academic engaged time without the student receiving the PTR intervention? A series of mixed factorial analyses was run for each dependent variable to determine if there are differences in the dependent variable means (i.e., social skills scores, teacher-rated behavior problem scores, and percentage of time academically engaged) from pre-test to
post-test for students whose teachers report at least adequate preparation for dealing with challenging behavior but who did not receive the PTR intervention. The significance level for these analyses was set at .05.

Question 5: Do children whose teachers report little to no preparation for dealing with challenging behavior show improvement in social skills, problem behaviors, and academic engaged time without the student receiving the PTR intervention? A series of mixed factorial analyses was run for each dependent variable to determine if there are differences in the dependent variable means (i.e., social skills scores, problem behavior scores, and percentage of time academically engaged) from pre-test to post-test for students whose teachers report little to no preparation for dealing with challenging behavior and who also did not receive the PTR intervention. The significance level was set at .05.

Question 6: For students who do not receive the PTR intervention, is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time for students whose teachers report at least adequate preparation for dealing with challenging behavior versus students whose teachers report little to no preparation for dealing with challenging behavior? A series of mixed factorial analyses was run for each dependent variable to determine whether the level of change between groups from pre-test to post-test was significant. The significance level was set at .05.

Question 7: Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time for students whose teachers report at least adequate preparation for dealing with challenging behavior and received the PTR intervention versus students whose teachers report at least adequate preparation for
dealing with challenging behavior but did not receive the PTR intervention? A series of mixed factorial analyses was run for each dependent variable to determine whether the level of change between groups from pre-test to post-test was significant. The significance level was set at .05.

Question 8: Is there a difference in levels of improvement in social skills, problem behaviors, and academic engaged time for students whose teachers report little to no preparation for dealing with challenging behavior but received the PTR intervention versus students whose teachers report little to no preparation for dealing with challenging behavior and did not receive the PTR intervention? A series of mixed factorial analyses was run for each dependent variable to determine whether the level of change between groups from pre-test to post-test was significant. The significance level was set at .05.
CHAPTER IV
RESULTS

This chapter presents the results of the data analyses. Descriptive statistics are presented first followed by the results of analyses examining the primary research questions.

Descriptive Statistics

To provide information on noteworthy teacher educational characteristics, descriptive statistics were run. Specifically, information regarding teachers’ highest college degree and type of state certificate was calculated and is reported in Table 3. Overall, it appears that the educational characteristics of teachers with adequate preparation in addressing challenging behaviors are similar to those of teachers who report limited preparation for dealing with challenging behaviors.

Table 3: Educational Characteristics of Teachers

<table>
<thead>
<tr>
<th>Educational Variable</th>
<th>Adequate Preparation (n=118)</th>
<th>Little/No Preparation (n=96)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>57.63</td>
<td>63.54</td>
</tr>
<tr>
<td>Masters</td>
<td>38.14</td>
<td>33.33</td>
</tr>
<tr>
<td>Specialist</td>
<td>2.54</td>
<td>3.13</td>
</tr>
<tr>
<td>Doctoral</td>
<td>1.69</td>
<td>0.00</td>
</tr>
<tr>
<td>Certificate Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>84.75</td>
<td>81.25</td>
</tr>
<tr>
<td>Temporary</td>
<td>15.25</td>
<td>18.75</td>
</tr>
</tbody>
</table>
OUTCOME VARIABLE 1: ACADEMIC ENGAGED TIME

Mean pre- and post-assessment scores for academic engaged time were calculated for all students and are reported in Table 4. As seen, scores were grouped and averaged based on the teachers’ degree of preparation for dealing with challenging behavior and receipt of PTR. Visual analysis of these data indicates that teachers with adequate preparation had students with higher rates of academic engaged time at pre-assessment than those with low preparation. In addition, all groups except for the control group with adequately prepared teachers demonstrated increases in academic engaged time from pre to post assessment. Finally, visual analysis indicates that teachers in both PTR groups had students make greater gains in academic engaged time than those teachers in the control group.

Table 4. Mean Scores and Standard Deviations for Students’ Academic Engaged Time

<table>
<thead>
<tr>
<th>Teacher Preparation</th>
<th>Control Group</th>
<th>PTR Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Little/No Preparation</td>
<td>0.41 (0.24)</td>
<td>0.45 (0.23)</td>
</tr>
<tr>
<td>Adequate Preparation</td>
<td>0.54 (0.30)</td>
<td>0.37 (0.27)</td>
</tr>
</tbody>
</table>

To determine if the observed differences in academic engaged time for each factor and their interactions were significant, data were subjected to a mixed ANOVA. The results of this analysis are reported in Table 5. As is shown, a significant effect was observed for intervention type, $F(1, 195)= 14.12, p<0.001$, indicating that students’ academic engaged time scores were significantly greater for those receiving PTR than those in the control group. A significant change in academic engaged time was also observed by time, $F(1, 195)= 4.95, p<0.05$. In other words, independent of teacher
preparation or receipt of PTR, academic engaged time changed significantly over time. In addition, time also demonstrated significant interaction effects with teacher training, $F(1, 195)= 12.49, p<0.001$; and with intervention type, $F(1, 195)= 27.92, p<0.001$; and with teacher training and intervention type, $F(1, 195)= 4.07, p<0.05$. This can be interpreted as follows: academic engaged time is significantly altered by the combination of time and teacher preparation; the combination of time and the receipt of PTR; and the combination of time, teacher preparation, and the receipt of PTR. Non-significant main effect results were found for teacher training, $F(1, 195)= 0.34, p=0.56$, as well as for the interaction effect of teacher training and intervention type, $F(1, 195)= 0.10$. This means that neither teacher preparation alone nor the combination of teacher preparation and the receipt of PTR significantly alter academic engaged time. Figures 1 and 2 provide a visual representation of these data.

Table 5. AET ANOVA with Time, Group, and Intervention Type and their Interactions

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>0.3</td>
<td>0.03</td>
<td>0.34</td>
</tr>
<tr>
<td>Ix Type</td>
<td>1</td>
<td>1.05</td>
<td>1.05</td>
<td>14.12*</td>
</tr>
<tr>
<td>Ix Type*Group</td>
<td>1</td>
<td>0.21</td>
<td>0.21</td>
<td>2.80</td>
</tr>
<tr>
<td>Error (Group)</td>
<td>195</td>
<td>14.46</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>1</td>
<td>0.19</td>
<td>0.19</td>
<td>4.95*</td>
</tr>
<tr>
<td>Time*Group</td>
<td>1</td>
<td>0.49</td>
<td>0.49</td>
<td>12.49*</td>
</tr>
<tr>
<td>Time* Ix Type</td>
<td>1</td>
<td>1.10</td>
<td>1.10</td>
<td>27.92*</td>
</tr>
<tr>
<td>Time<em>Ix Type</em>Group</td>
<td>1</td>
<td>0.16</td>
<td>0.16</td>
<td>4.07*</td>
</tr>
<tr>
<td>Error (Time)</td>
<td>195</td>
<td>7.67</td>
<td>0.04</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1. Mean Pre and Post AET Scores for Teachers with Little to No Preparation

Figure 2. Mean Pre and Post AET Scores for Teachers with Adequate Preparation

OUTCOME VARIABLE 2: SOCIAL SKILLS

The same data analysis procedures were repeated for the outcome variable “social skills.” Mean pre- and post-assessment social skills scores were calculated for students,
with mean scores calculated by teachers’ degree of preparation and the receipt of PTR. These scores are reported in Table 6. Visual analysis of these data indicates all groups demonstrated somewhat similar pre-assessment scores. Interestingly, teachers in the control groups demonstrated declines in their students’ social skills scores, while teachers receiving the PTR intervention showed increases in students’ social skills scores.

Table 6. Mean Scores and Standard Deviations for Students’ Social Skills

<table>
<thead>
<tr>
<th>Teacher Preparation</th>
<th>Control Group</th>
<th>PTR Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Little/No Preparation</td>
<td>76.88 (15.57)</td>
<td>76.21 (19.63)</td>
</tr>
<tr>
<td>Adequate Preparation</td>
<td>77.91 (17.71)</td>
<td>72.15 (27.93)</td>
</tr>
</tbody>
</table>

To determine if the observed differences in social skills for each factor and their interactions were significant, data were subjected to a mixed ANOVA. The results of this analysis are reported in Table 7. All main effects were found to be non-significant. Specifically, neither teacher preparation, $F(1,195)=0.18, p=0.68$; nor intervention type, $F(1,195)=1.15, p=0.28$; nor time, $F(1,195)=2.41, p=0.12$ resulted in significant changes in social skills. Furthermore, the only significant interaction effects observed were between intervention type and time, $F(1,195)=6.94, p<0.01$. This finding indicates that the combination of PTR and time results in significantly different changes in social skills scores than either of those two factors alone. The interaction between intervention type and teacher preparation was non-significant, $F(1,195)=0.49, p=0.49$. Similarly, the interaction between time and teacher preparation was non-significant, $F(1,195)=1.51, p=0.22$. The interaction of all three variables together was found to be non-significant as well, $F(1,195)=2.64, p=0.11$. This lack of significant interactions indicates that the
presence of these factors together does not significantly alter the trajectory of change for the factors alone. Figures 3 and 4 provide a visual representation of these data.

Table 7. Social Skills ANOVA with Time, Group, and Intervention Type and their Interactions

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>106.98</td>
<td>106.98</td>
<td>0.18</td>
</tr>
<tr>
<td>Ix Type</td>
<td>1</td>
<td>699.13</td>
<td>699.13</td>
<td>1.15</td>
</tr>
<tr>
<td>Ix Type*Group</td>
<td>1</td>
<td>296.70</td>
<td>296.70</td>
<td>0.49</td>
</tr>
<tr>
<td>Error (Group)</td>
<td>195</td>
<td>118405.49</td>
<td>607.21</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>1</td>
<td>485.21</td>
<td>485.21</td>
<td>2.41</td>
</tr>
<tr>
<td>Time*Group</td>
<td>1</td>
<td>304.79</td>
<td>304.79</td>
<td>1.51</td>
</tr>
<tr>
<td>Time* Ix Type</td>
<td>1</td>
<td>1399.53</td>
<td>1399.53</td>
<td>&lt;0.00*</td>
</tr>
<tr>
<td>Time<em>IxType</em>Group</td>
<td>1</td>
<td>533.01</td>
<td>533.01</td>
<td>2.64</td>
</tr>
<tr>
<td>Error (Time)</td>
<td>195</td>
<td>39340.20</td>
<td>201.74</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3. Mean Pre and Post Social Skills Scores for Teachers with Little to No Preparation
**Figure 4.** Mean Pre and Post Social Skills Scores for Teachers with Adequate Preparation

![Graph showing social skills scores](image)

**OUTCOME VARIABLE 3: BEHAVIOR PROBLEMS**

The same data analysis procedures were again repeated for the outcome variable “behavior problems.” Mean pre- and post-assessment behavior problem scores were calculated for students, with mean scores calculated by teachers’ degree of preparation and the receipt of PTR. These scores are reported in Table 8. Visual analysis of these data indicates all groups declined in behavior problems from pre to post assessment. No other trends in the data were readily apparent through visual analysis.

To determine if there were significant differences in behavior problems for each factor and their interactions, data were subjected to a mixed ANOVA. The results of this analysis are reported in Table 9. Main effects were found to be non-significant for teacher preparation, $F(1,195)=0.18$, $p=0.67$ and intervention type, $F(1,195)=0.03$, $p=0.87$. These results indicate that teacher preparation alone and receipt of PTR alone did not significantly impact behavior problems. However, a significant effect was observed for
time, $F(1,195)=6.36$, $p<0.05$, indicating that time alone resulted in significant changes in behavior problems. No significant interaction effects were observed for any combination of factors. Specifically, intervention type and teacher training had no significant interaction, $F(1,195)=0.07$, $p=0.80$. The interaction between time and teacher training was non-significant, $F(1,195)=2.25$, $p=0.14$, as was the interaction between time and intervention type, $F(1,195)=0.77$, $p=0.38$. Finally, the interaction of all three variables together was found to be non-significant as well, $F(1,195)=2.28$, $p=0.13$. The lack of significant interaction effects indicates that no combination of these three factors significantly alters the course of behavior problem change in the students.

Table 8. Mean Scores and Standard Deviations for Students’ Behavior Problems

<table>
<thead>
<tr>
<th>Teacher Preparation</th>
<th>Control Group Pre</th>
<th>Post</th>
<th>PTR Intervention Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little/No Preparation</td>
<td>120.42 (20.09)</td>
<td>117.69 (26.72)</td>
<td>123.43 (21.22)</td>
<td>111.83 (32.65)</td>
</tr>
<tr>
<td>Adequate Preparation</td>
<td>122.41 (20.50)</td>
<td>111.67 (40.06)</td>
<td>121.54 (18.45)</td>
<td>113.16 (27.69)</td>
</tr>
</tbody>
</table>

Given the multiple analyses that were conducted, Table 10 is provided to summarize the results. This table includes p-values for each of the factors and their interactions, which are broken down by each of the three outcome variables that were assessed. A visual review of this table highlights the following: a) a lack of significant results for teacher preparation, b) limited significant results for teacher preparation combined with other factors, c) significant results for PTR, time, and PTR’s interaction with time, and d) a greater number of significant results for academic engaged time in
relation to social skills and behavior problems. These findings will be review and discussed in more detail in the following chapter.

Table 9. Behavior Problems ANOVA with Time, Group, and Intervention Type and their Interactions

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>189.54</td>
<td>189.54</td>
<td>0.18</td>
</tr>
<tr>
<td>Ix Type</td>
<td>1</td>
<td>30.25</td>
<td>30.25</td>
<td>0.03</td>
</tr>
<tr>
<td>Ix Type*Group</td>
<td>1</td>
<td>72.51</td>
<td>72.51</td>
<td>0.07</td>
</tr>
<tr>
<td>Error (Group)</td>
<td>195</td>
<td>209018.76</td>
<td>1071.89</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>1</td>
<td>2130.43</td>
<td>2130.43</td>
<td>6.36*</td>
</tr>
<tr>
<td>Time*Group</td>
<td>1</td>
<td>753.53</td>
<td>753.53</td>
<td>2.25</td>
</tr>
<tr>
<td>Time* Ix Type</td>
<td>1</td>
<td>257.45</td>
<td>257.45</td>
<td>0.77</td>
</tr>
<tr>
<td>Time<em>IxType</em>Group</td>
<td>1</td>
<td>765.81</td>
<td>765.81</td>
<td>2.28</td>
</tr>
<tr>
<td>Error (Time)</td>
<td>195</td>
<td>65368.66</td>
<td>335.22</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5. Mean Pre and Post Behavior Problem Scores for Teachers with Little to No Preparation
**Figure 6.** Mean Pre and Post Behavior Problem Scores for Teachers with Adequate Preparation

![Graph showing mean behavior problem scores for pre and post intervention with adequate preparation.](image)

**Table 10: Summary of P-Values by Outcome Variable**

<table>
<thead>
<tr>
<th></th>
<th>AET</th>
<th>Social Skills</th>
<th>Behavior Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Preparation</td>
<td>0.56</td>
<td>0.68</td>
<td>0.67</td>
</tr>
<tr>
<td>PTR Intervention</td>
<td>&lt;0.001***</td>
<td>0.28</td>
<td>0.87</td>
</tr>
<tr>
<td>Time</td>
<td>0.03*</td>
<td>0.12</td>
<td>0.01**</td>
</tr>
<tr>
<td>Preparation*PTR</td>
<td>0.10</td>
<td>0.49</td>
<td>0.80</td>
</tr>
<tr>
<td>Preparation*Time</td>
<td>&lt;0.001***</td>
<td>0.22</td>
<td>0.14</td>
</tr>
<tr>
<td>PTR*Time</td>
<td>&lt;0.001***</td>
<td>&lt;0.01**</td>
<td>0.38</td>
</tr>
<tr>
<td>Preparation<em>PTR</em>Time</td>
<td>0.04*</td>
<td>0.11</td>
<td>0.13</td>
</tr>
</tbody>
</table>

**Note:**
Teacher Preparation = independent variable (i.e., adequate preparation for dealing with challenging behavior versus little to no preparation for dealing with challenging behavior)
PTR Intervention = independent variable (i.e., receipt of PTR intervention versus control group)
Time = independent variable (i.e., pre assessment versus post assessment)
Preparation*PTR = interaction of factors “teacher preparation” and “PTR Intervention”
Preparation*Time = interaction of factors “teacher preparation” and “Time”
PTR*Time = interaction of factors “PTR Intervention” and “Time”
Preparation*PTR*Time = interaction of factors “Teacher Preparation” and “PTR Intervention” and “Time”

* = p<0.05
** = p<0.01
*** = p<0.001
CHAPTER V

DISCUSSION

The current study used archival data from a larger research study that investigated the effectiveness of Prevent-Teach-Reinforce for students with challenging behavior in grades kindergarten through 8. The purpose of the current study was to investigate the moderating effect of teachers’ preparation for dealing with challenging behaviors on the Prevent-Teach-Reinforce intervention. This chapter begins with a review of the major findings of the study. Subsequently, the limitations of the research, contributions to the literature, and directions for future research are discussed.

Prior Teacher Training as a Moderator of PTR

The primary aim of the current study was to investigate the moderating role of teachers’ previous preparation in dealing with challenging behaviors on PTR. Given the multiple analyses that were conducted and the resulting data that were generated, Table 11 is provided in order to highlight the specific factors and interactions that were significant for each outcome variable. As is shown in Table 11, results from data analyses revealed that for all three student outcomes measured, a teacher’s preparation alone was not sufficient to significantly improve student outcomes. However, when PTR alone was examined, significant improvements were noted in students’ academic engaged time. These results indicate the utility of a structured functional behavior assessment for addressing behavior problems, regardless of prior teacher training in working with youth
with challenging behaviors. When PTR was examined with teacher preparation as a moderating factor, the trajectory of improvement did not change, indicating that teachers’ prior preparation for dealing with challenging behavior does not impact the effectiveness of PTR. In other words, the results indicate that teachers need not have prior extensive knowledge of how to deal with problematic behavior in order to see significant improvement in their students in at least some areas using PTR. Furthermore, these results indicate that even teachers who have received more extensive training than their peers in dealing with challenging behavior benefit from additional assistance or support through the PTR process when dealing with a student who displays persistent challenging behaviors.

Table 11: Summary of Variables Impacting Outcomes for Students

<table>
<thead>
<tr>
<th>AET</th>
<th>Social Skills</th>
<th>Behavior Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation<em>PTR</em>Time</td>
<td>PTR*Time</td>
<td>Time</td>
</tr>
</tbody>
</table>

Time

Preparation*Time

PTR Intervention

PTR*Time

Note:
Teacher Preparation= independent variable (i.e., adequate preparation for dealing with challenging behavior versus little to no preparation for dealing with challenging behavior)
PTR Intervention= independent variable (i.e., receipt of PTR intervention versus control group)
Time= independent variable (i.e., pre assessment versus post assessment)
Preparation*PTR= interaction of factors “teacher preparation” and “PTR Intervention”
Preparation*Time= interaction of factors “teacher preparation” and “Time”
PTR*Time= interaction of factors “PTR Intervention” and “Time”
Preparation*PTR*Time= interaction of factors “Teacher Preparation” and “PTR Intervention” and “Time”

A secondary aim of the current study was to further assess the relationship between time, teacher preparation, and PTR on student outcomes. Interestingly, time alone yielded
significant changes in academic engaged time and behavior problems. However, it is important to note that time alone was related to decreases in academic engaged time, providing support for the idea that behavioral difficulties may worsen if left unaddressed. Another significant finding related to time was that both academic engaged time and social skills were altered when the presence of PTR was considered, indicating that teachers implementing PTR saw a change in these outcomes that was different than what would have been observed if they had not implemented PTR and simply measured change over time. Similarly, when teacher preparation was considered in conjunction with time, as well as with time and the presence of PTR, the trajectory of change was again impacted but only for academic engaged time.

Results from the current study indicate that time appeared to be an important factor in addressing the behavioral concerns of students. Specifically, time alone appears to adversely affect behaviors. This finding is not surprising, however, given the extensive literature that documents the negative effects behavior problems can have over time. Behavior problems deteriorate the quality of relationships with peers, as well as encourage on-going negative interactions with teachers (Dishion, Spracklen, Andres, & Patterson, 1996; Kauffman & Brigham, 2009). In addition, long passages of time (i.e., from childhood and adolescence into adulthood) are often still characterized by behavioral difficulties (e.g., incarceration, unemployment; Chen & Kaplan, 2003; Fergusson, Swain-Campbell, & Horwood, 2002; Ronka, Kinnunen, & Pulkkinen, 2000; Sprague, Walker, Stieber, Simonsen, & Nishioka, 2001). Therefore, the current results support the existent literature base, which has repeatedly found that, if left untreated,
behavioral difficulties worsen over time. This highlights the need for continued efforts to address behavioral issues in children.

The results in their totality indicate that teacher preparation for dealing with challenging behavior (prior to engaging in PTR) played a limited role in student outcomes. Specifically, when the data from students’ behavior problems is reviewed, it appears that behavior problems decreased over time, regardless of a teacher’s level of preparation for dealing with challenging behaviors. In addition, these behavior problems decreased over time, regardless of the receipt or non-receipt of the PTR intervention.

When examining results from social skills, it again appears that social skills changed over time, regardless of a teacher’s level of preparation for dealing with challenging behaviors. However, if a teacher participated in the PTR intervention, this change over time was significantly different than those teachers who did not engage in the PTR intervention.

Finally, data from academic engaged time indicates that those teachers with adequate training saw significantly different changes over time than those teachers with little to no training. In addition, teachers who participated in PTR saw significantly different changes over time than those teachers who did not participate in PTR. When all three factors are considered (i.e., time, training, and PTR), significant changes in trends are seen, indicated that changes in academic engaged time for students are affected by the combinations of these three factors.

These results are encouraging, given our current knowledge regarding typical teacher preparation as well as barriers to the implementation of effective school-based behavioral interventions. Many general education teachers often receive little college coursework in behavior management and therefore often enter the field of teaching with little
understanding of how to address behavioral issues that arise among their students (Baker, 2005; Malderez, Hobson, Tracey, & Kern, 2007; McCann, Johannessen, & Ricca, 2005; Reinke, Stormont, Herman, Puri, & Goel, 2011; Tillery, et al., 2010). Despite their limited training in behavior management, IDEIA mandates that teachers meet the academic and behavioral needs of students in the least restrictive environment, which often places teachers with limited training in a position of meeting the needs of students with intensive needs. At times, this combination of limited training and significant need leads teachers to feel less confident in their ability to meet their students’ needs and therefore resistant to engage in implementing or monitoring intensive behavioral interventions (Baker, 2005; Emmer & Stough, 2001; Herzog, 2002; Meister & Melnick, 2003; Westling, 2009; Woolfolk-Hoy & Burke-Spero, 2005). Therefore, the finding that teachers can see changes in students after going through the PTR process despite having limited background in dealing with challenging behaviors has the potential to promote teachers’ confidence and encourage teachers to take an active role in addressing significant behavior issues. Along these lines, though, one caveat should be mentioned. Results showed that teachers who were classified in this study as having adequate preparation for dealing with challenging behaviors saw a significant decrease over time in their students’ academic engaged time. One hypothesis that might explain this finding is that teachers with adequate preparation feel confident that their previous training has equipped them with sufficient strategies to address their students’ behavioral problems and therefore are not receptive to suggestions from other individuals. The current findings then highlight the need to engage in team-based problem solving when significant issues are present, since reliance on previous training may not be sufficient to
significantly improve these issues. Other explanations for the finding that teachers with adequate training showed decreased academic engaged time over time are also possible. For instance, these teachers may have had students with more severe behavior issues, leading to fewer improvements over time. Therefore, it cannot be assumed that teacher-specific characteristics such as previous adequate training were the cause of the current results.

The current study’s finding that the implementation of PTR is more important than teacher training in addressing the behavioral concerns of students provides further encouragement. As noted previously, many teachers enter the field with little training in behavior management, which has been proposed as a barrier to implementing FBAs in schools. For instance, past studies have shown that even when teachers have been involved in the creation and implementation of an FBA/PBIP, they demonstrated limited knowledge of the critical components of the plan (Blood and Neel, 2007). This lack of teacher understanding, however, could be partly due to the varied procedures used across schools in creating an FBA (Sasso, Conroy, Peck-Stichter, & Fox, 2001; Scott, Meers, & Nelson, 2000). The development of PTR attempted to address these issues by using a standardized procedure that provides background information along the way, thus eliminating the documented issues related to teachers’ lack of knowledge as well as a lack of clear procedures. Therefore, the current results indicate that while teachers may not receive explicit training for dealing with challenging behaviors, their existing skills are sufficient to effectively improve behavior issues in their students if they are provided with support and information via a standardized team-based process for conducting an FBA, such as PTR.
Further review of the current results indicates that it may be important to more fully consider the specific outcomes that yielded significant results. Specifically, academic engaged time demonstrated significant changes in five out of the seven factors and interactions assessed. Conversely, social skills and behavior problems each demonstrated significant changes in only one out of the seven factors and interactions assessed. Two hypotheses are offered in an attempt to explain the finding that academic engaged time yielded more significant results than social skills and behavior problems.

The first hypothesis relates to the use of direct versus indirect measures to collect information on the outcome variables. Direct assessment measures are characterized by the following: a precise definition of the behavior of interest; extensive training by the person measuring the behavior in order to know what is and is not an example of the behavior of interest; and measurement of the behavior of interest as it occurs (Miltenberger, 2012). Conversely, indirect measures require that the person providing the information respond via their recollection of the behavior of interest. Indirect assessment also does not measure the behavior as it occurs and can be influenced by the respondent’s interpretation of the behavior. Given these characteristics, direct measures are often favored for measuring specific behaviors of concern. However, for the current study, only academic engaged time lent itself to measurement via direct assessment. Specifically, academic engaged time occurs often enough in the school setting that direct assessment data can be collected. In addition, academic engaged time is easily defined and measured. Therefore, the original PTR study used a direct assessment tool to measure this outcome variable. However, for the purposes of the PTR study, both social skills and behavior problems lent themselves more to indirect assessment measures.
The individuals collecting the data for academic engaged time versus social skills and behavior problems also differed greatly. For academic engaged time, research team members were trained to observe the behavior during class instruction while the participating teacher was instructing the class. As such, the presence of an unfamiliar individual in the classroom may have affected the behavior of the teacher and/or the target student, referred to as reactivity (see Miltenberger, 2012). Therefore, the data that was collected may have been skewed. For both social skills and behavior problems, teachers provided the data via behavior scales. Given the persistent behavioral problems of the student participants and research documenting the adverse effect of such behaviors on teacher and student relationships, it is possible that teachers may have been negatively biased in their reports of students’ behavior, thus potentially impacting measured change in these behaviors (Carr, Taylor, & Robinson, 1991; Kauffman & Brigham, 2009).

The second hypothesis that offers some explanation for why academic engaged time yielded different trends than social skills and behavior problems is the nature of the behaviors of interest. Academic engaged time is a relatively simple behavior. In other words, this behavior consists of a series of rather simple behaviors (e.g., eyes tracking teacher) in one, consistent environmental setting (i.e., classrooms). Social skills and behavior problems, however, are more complex in that they often require somewhat higher levels of thinking on the part of the individual because they must interpret the environment and then decide what behaviors are appropriate in that particular setting. For example, it may not be necessary for a child to ask permission to use the bathroom at home or the school cafeteria, but a student must ask permission from their teacher if they are in the classroom and need to use the restroom. The more simplistic nature of
academic engaged time may mean that it is more easily improved by PTR. Said differently, it may be more conducive to a teacher’s classroom environment to teach a student what academically-engaged behavior is. Conversely, when new behaviors or skills must be taught or a student must learn to discriminate the settings in which specific behaviors are appropriate, PTR may not lead to improvements as quickly. This may be because the teacher would need to teach a behavior that is not necessarily relevant to the academic task at hand. For instance, a teacher would be required to allot time to teach a student the appropriate behaviors for accessing the restroom, beyond the academic instruction already planned for that time.

**Contributions to the Literature**

The current study provides valuable information that contributes to the literature base in several ways. First, previous research indicates that if left unaddressed, significant behavioral issues put children on a trajectory in life characterized by negative relationships with peers and teachers, negative school experiences, and negative community experiences (Carr, Taylor, & Robinson, 1991; Dishion, Spracklen, Andrews, & Patterson, 1996; Henricsson & Rydell, 2004; Kauffman & Brigham, 2009; Kauffman & Landrum, 2009; Walden & Losen, 2003). Results from the current study add to this knowledge base by again showing a decrease in social skills over time when no interventions are in place. This continuation of studies documenting a negative trajectory which starts with childhood behavioral difficulties highlights the need for continued research efforts to identify effective means for addressing these issues.

Additional research literature documents the effectiveness of FBAs in reducing problematic behaviors. However, this process is not typically effective in school settings
(Blood & Neel, 2007). The development of Prevent-Teach-Reinforce attempted to address many of the issues identified in the research literature as impacting the success of FBAs in schools such as a lack of standard procedures for carrying out this process (Dunlap, Iovannone, Kincaid, Wilson, Christiansen, Strain, & English, 2010). However, one issue not explored in the original PTR research which is documented as affecting the success of FBAs in typical school environments is limited teacher training in dealing with classroom behavior issues (Malderez, Hobson, Tracey, & Kern, 2007; Westing, 2009; Woolfolk, 2004).

Given the research literature regarding variability in teacher knowledge of classroom management and behavior principles, coupled with the lack of analyses in the previous PTR research that investigated this topic, the current study attempted to understand what role teacher preparation in dealing with challenging behavior had on the effectiveness of a structured functional behavior assessment procedure. Results from the current study contribute to the research literature by providing information regarding which teachers may benefit from implementing PTR. Specifically, the current study provided evidence that previous preparation for dealing with challenging behaviors is not a necessary characteristic for teachers who use PTR. In fact, the results presented here provide evidence that all teachers, even those who already have extensive training in areas related to FBAs (e.g., applied behavior analysis) may benefit from going through PTR, as opposed to relying on their own knowledge to address significant classroom behavior concerns.

Taken a step further, the current results demonstrate that adequate preparation for dealing with challenging behavior should not be viewed as an indicator that a teacher will
be able to remedy significant behavior issues. Instead, this study highlights the
importance of working as team to problem-solve significant behavior issues in the
classroom. This is an important finding, given that the current service delivery model
used in schools embraces this philosophy. Specifically, in the school setting, students
who do not respond to a teacher’s classwide behavior management strategies which have
been effective for the majority of peers are viewed as being in need of more intensive
services. Decisions regarding how to deliver more intensive services to the student are
decided in a team-based, problem-solving format, with the teacher serving as a member
on the problem-solving team (see Averill & Rinaldi, 2011).

Limitations

As is true with all research, certain limitations of the present study must be
considered. One limitation to the current study was the use of a self-report, retrospective
measure for measuring teachers’ previous in-service and pre-service preparation. Self-
report measures are prone to issues such as mixed interpretation regarding what is being
asked and reporter bias; these issues may have been present in the current study and
therefore influenced how teachers responded and were subsequently grouped (Barlow,
Nock, & Hersen, 2009). In addition, this was a retrospective measure in that teachers
were asked to recall all previous training they had received that was applicable to the
question being posed. The ability of teachers to recall this information may have differed
greatly, which could have influenced the way teachers were grouped (i.e., adequate
preparation versus little to no preparation). This point is highlighted in the fact that 40
teachers provided incomplete information regarding their previous preparation for
dealing with challenging behavior and therefore were not included in the current study.
While it cannot be assumed that teachers did not complete this because they could not remember the information, it is one reasonable explanation. Therefore, it is possible that using a different tool to measure teacher preparation may have yielded different groupings and therefore different results. Similarly, teachers were classified based on an arbitrary cut-off score of 1.5. If a different strategy was selected to group teachers (e.g., select a cut-off score so that the sample is equally divided into the two groups), different results may have emerged.

A second potential limitation of the current study is the aforementioned tools used to measure the outcome variables “social skills” and “behavior problems.” For both variables, the teacher report form of the SSRS was used to measure the behaviors of interest. It is possible that teachers may have been biased in their reports of students’ behavior, thus potentially impacting measured change in these behaviors (Carr, Taylor, & Robinson, 1991; Kauffman & Brigham, 2009). A potential finding that supports this idea is that the variable “academic engaged time” demonstrated somewhat different trends than “social skills” and “behavior problems” on some analyses. This is noteworthy since academic engaged time was measured by observers other than the classroom teachers. In addition, this academic engaged time data was collected using a direct measure of the behavior of interest (i.e., occurrence or non-occurrence of the behavior was recorded at the moment it occurred or did not occur).

A third potential limitation is also related to the outcome variable “academic engaged time.” During the PTR process, all teachers were guided towards monitoring academic engaged time by researchers in the original study and then this behavior was measured during instructional time by research members. Because this variable was
measured by someone other than the teacher, it is possible that the presence of this observer influenced the teachers’ behaviors and/or the target students’ behaviors (i.e., reactivity). Again, the finding that academic engaged time appeared to display trends different than those for social skills and behavior problems supports this hypothesis. Therefore, it is possible that different means for measuring this variable may have yielded different results.

**Directions for Future Research**

Although this study has provided some initial information about previous teacher training as a moderator of PTR outcomes, additional research in this area is needed. Results of the current study highlight the need for additional research using alternative methods of measuring behavior change for students whose teachers engage in PTR. For instance, reactivity may have been an issue in the current study’s measure of academic engaged time. Therefore, future research may wish to collect direct observation data via someone who is normally present in the classroom (i.e., a participant observer), thus potentially reducing reactivity (Miltenberger, 2012).

Also related to issues regarding measurement of behavior, future researchers may want to replicate this study and measure all outcome variables in one consistent manner. Specifically, the current study used a combination of direct and indirect measures of behavior, and analysis of results indicate that the interpretation of behavior change may be influenced by the tool used. Therefore, additional research is needed which would provide more information regarding trends in outcomes when those outcomes are measured in the same way.
A second line of future research relates to the aforementioned hypothesis that teaching new behaviors may be more difficult for teachers with students with challenging behaviors than eliciting situation-specific behaviors. Specifically, social skills and behavior problems did not demonstrate the same trends in improvement as did academic engaged time, and this may be because teaching social skills and reducing behavior problems are more complex endeavors than teaching and/or eliciting academically-engaged behavior. Therefore, future research to examine the specific components of PTR is needed. That is, is a teacher’s ability to prevent or reinforce a behavior significantly different than their ability to teach a new behavior? This line of inquiry could potentially influence how PTR is used. Specifically, if it was discovered that teachers do struggle more with teaching a new behavior than reinforcing or preventing other behaviors, then more time would need to be devoted in PTR group meetings to problem-solve how to make sure this component of the process is effective.

A third line of research which is still needed is related to the practical significance of PTR. Specifically, several questions still exist regarding the use of PTR in everyday school settings. First, the current data was taken from a study which utilized researchers to aide in the intervention process and had extensive coaching and fidelity checks throughout the process. Therefore, while PTR is designed so that school personnel need not have extensive knowledge of behavioral principles in order to participate as a team member, it is not clear at this time if typical school personnel would be able to effectively implement the PTR process with only typical school resources available (i.e., no researcher involvement and instead having one school-based individual serving as the PTR facilitator). Also related to practical significance is the current finding that while
students in the current study demonstrated significant improvements, they did not move out of the at-risk range for social skills. Therefore, additional research is still needed which would investigate if this significant improvement is adequate to significantly improve the quality of their school experience, or if other interventions would be necessary to lead to appreciable effects.

A final line of future research is proposed. The current study examined the role of teacher training for dealing with challenging behavior, without attention to the role of teacher confidence in dealing with challenging behavior. However, previous research indicates that teachers with limited training feel less confident in their ability to meet the needs of their students (Emmer & Stough, 2001; Herzog, 2002; Meister & Melnick, 2003; Westling, 2009; Woolfolk-Hoy & Burke-Spero, 2005). Additional research shows that these teachers are less likely to engage in the FBA process (Baker, 2005). Therefore, future research which investigates the relationship between teacher confidence and the PTR process is warranted in order to examine if teachers with limited confidence demonstrate student improvements and confidence improvements after engaging in the PTR process.

**Conclusion**

The compounding effects of school-based behavioral issues are well documented in the research literature. Therefore, studies continue to investigate the most effective way to address these behavioral issues in typical school settings. The purpose of the current student was to investigate the role that teachers’ preparation for dealing with these challenging behaviors plays in the implementation of a structured functional behavior assessment procedure in a typical school environment. This was done by
analyzing data regarding students’ social skills, behavior problems, and academic through a series of mixed factorial analyses.

Several significant findings were noted in the current study. First, data analyses provided additional support for the idea that, if left untreated, behavior problems continue to worsen over time and put students on a negative trajectory in life. Secondly, results revealed that a teacher’s previous preparation for dealing with challenging behavior does not yield significant improvements in student outcomes. In addition, results support the conclusion that teachers’ previous preparation in dealing with challenging behavior does not moderate the effectiveness of PTR, thus indicating that the process is equally beneficial to all teachers. Of note was the finding that teachers who did not participate in the PTR intervention but who had adequate training demonstrated significant decreases in academic engaged time, highlighting the need for teachers to engage in team-based problem-solving for significant behavior issues, even when they have adequate training. Overall, these results provide support for the idea that all teachers, no matter their level of previous training, would benefit from using PTR to address serious behavioral issues in their classrooms.
REFERENCES


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APPENDIX A

Questionnaire about Teachers and Challenging Behaviors

Created by:
David L. Westling, Ed.D.
Department of Human Services
Western Carolina University
Cullowhee, North Carolina 28723
Purpose of the Questionnaire

This questionnaire is designed to gather information about practicing teachers’ views and approaches to dealing with challenging behavior exhibited by their students. It is designed for elementary and secondary classroom teachers, special education teachers, and specialty area teachers (e.g., music, PE, art). It is not intended for school administrators, school psychologists, counselors, behavioral consultants, or others not involved in directly teaching students on a day to day basis. If you are not a teacher, please indicate so and return the non-completed questionnaire to the address below.

The results of the questionnaire may be helpful in designing preservice or inservice instruction, assessing the effects of past instruction, or recommending reforms to assist teachers in addressing challenging behaviors. In order for the results to have maximum utility, candid responses are required.

An alphanumeric code is attached to the questionnaire in order to allow follow-up of non-returned questionnaires. Individual responses will remain anonymous and no individual responder will be identified. The purpose of the questionnaire is not to evaluate the information provided by a single responder, but to assess responses from large groups.

Your participation is greatly appreciated and it will make a helpful professional contribution. You should be able to complete the questionnaire in 20 to 30 minutes. Thank you.

DLW

Please return the completed questionnaire to:

Sarah Donadio
Fax: 813-974-6115
**Definition and Examples of Challenging Behavior**

As used on this questionnaire, challenging behaviors are **intense behaviors** that present physical, instructional, or social concerns to the teacher. They **disrupt learning**, are **dangerous** to the student or others, **cause physical pain**, **cause property damage**, or seriously **disrupt the teaching-learning process**. Challenging behaviors are **demonstrated frequently** by a student and are **difficult to manage**. Challenging behavior can include any of the following:

- Defiance and non-compliance: Refusing to follow directions, e.g. not participating in required activities, challenging authority, purposefully ignoring rules, etc.
- Destruction: Damaging significant property, e.g. intentionally breaking windows, tearing up books or other material, breaking classroom equipment, etc.
- Disruption: Interfering with the normal flow of activities, e.g. interrupting instruction, group activities, etc.
- Illegal behavior: Engaging in acts that violate public laws, e.g. theft, vandalism, technology abuse, substance abuse, etc.
- Physical aggression: Physically attacking another person, e.g. hitting, kicking, fighting, etc.
- Self-injury: Causing physical damage to oneself, e.g. self-hitting, self-biting, etc.
- Social withdrawal: Demonstrates reluctance to participate in normal activities, tends to retreat and avoid interpersonal contacts, e.g. does not like to participate in typical classroom or recreational activities with other students
- Socially inappropriate behavior: Engaging in unacceptable behavior, e.g. making inappropriate sounds, talking too loud, talking about an inappropriate subject, making offensive gestures, etc.
- Stereotypy: Engaging in repetitive acts, e.g. hand flapping, spinning, twirling, etc.
- Verbal aggression: Verbally attacking another person, e.g. taunting, challenging, name calling, threatening, etc.

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**Your Beliefs about Challenging Behavior**

Directions: Please indicate your level of agreement with each of the following statements about the challenging behaviors that occur in your classroom. Use this scale:

- 5: I strongly agree
- 4: I agree
- 3: I do not agree or disagree
- 2: I disagree
- 1: I strongly disagree

<table>
<thead>
<tr>
<th>Statement</th>
<th>5 4 3 2 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many challenging behaviors are due to the person’s personality</td>
<td></td>
</tr>
<tr>
<td>Many challenging behaviors are due to a medical or physical reason</td>
<td></td>
</tr>
<tr>
<td>Many challenging behaviors are due to a person’s disability</td>
<td></td>
</tr>
<tr>
<td>Many challenging behaviors originate in the home or community</td>
<td></td>
</tr>
<tr>
<td>Many challenging behaviors are learned</td>
<td></td>
</tr>
</tbody>
</table>
Most challenging behaviors can be improved

### You and Your Teaching Assignment

Directions: Please check the appropriate response(s) for each of the following and write a response to the last question.

| What is your current teaching assignment? (Check one only) | Preschool or kindergarten
| | Elementary classroom
| | Secondary classroom
| | Special education (pre-K or kindergarten)
| | Special education (elementary)
| | Special education teacher (secondary)
| | Specialty area teacher (art, music, PE)
| | Other

| If you are a special education teacher, in which of the following settings do you work? (Check all that apply) | Pre-K or kindergarten
| | Regular classroom
| | Resource classroom
| | Special classroom in a regular school
| | Special classroom in a special school
| | Itinerant teacher for different schools
| | Hospital/ homebound
| | Other

| What type of state certificate or license do you have for your current teaching assignment? (Check one only) | Regular, standard or advanced
| | Probationary, provisional or temporary
| | Emergency
| | Not certified

| What is your highest college degree? (Check one only) | Doctoral
| | Specialist
| | Masters
| | Bachelors

| How many years have you been teaching? (Enter the number of years including the current year) | 5 4 3 2 1

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# Your Students and Their Behavior (Part 1)

Directions: Enter the number of students that you teach in each of the following categories, and of that number, the number of students who exhibit any type of challenging behavior, based on the definition given above. Use only the student’s primary category, do not count a student in more than one category. If you are not sure, please use approximate numbers.

<table>
<thead>
<tr>
<th>Category of Students</th>
<th>Number of Students in this Category</th>
<th>Number in this Category Who Exhibit Challenging Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Identified Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autism or other PDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deaf-Blindness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Disturbance/Behavior Disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing Impairment/Deafness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild – Moderate Mental Retardation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe – Profound Mental Retardation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orthopedic Impairments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Health Impairments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Learning Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech or Language Impairments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traumatic Brain Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual Impairment/Blindness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Your Students and Their Behavior (Part 2)

Directions: How many of your students exhibit behaviors in the following categories. (Use the definition and examples previously given.) You can count a student more than once if the student exhibits a behavior in more than one category. If you are not sure, please use approximate numbers.

<table>
<thead>
<tr>
<th>Category of Challenging Behavior</th>
<th>Number of Students Who Exhibit This Kind of Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Defiance and non-compliance</td>
<td></td>
</tr>
<tr>
<td>• Destruction</td>
<td></td>
</tr>
<tr>
<td>• Disruption</td>
<td></td>
</tr>
<tr>
<td>• Illegal behavior</td>
<td></td>
</tr>
<tr>
<td>• Physical aggression</td>
<td></td>
</tr>
<tr>
<td>• Self-injury</td>
<td></td>
</tr>
<tr>
<td>• Social withdrawal</td>
<td></td>
</tr>
<tr>
<td>• Socially inappropriate behavior</td>
<td></td>
</tr>
<tr>
<td>• Stereotypy</td>
<td></td>
</tr>
</tbody>
</table>
### Your Professional Preparation for Dealing with Challenging Behaviors

Directions: Please indicate the quality of preservice preparation and inservice preparation you have received in the following areas, and your confidence in your ability to apply the skills you have learned in these areas. Use the rating system provided for your response.

<table>
<thead>
<tr>
<th>Area of Training</th>
<th>Degree of Preservice Preparation</th>
<th>Degree of Inservice Preparation</th>
<th>Confidence in Ability to Apply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3: Extensive 2: Adequate 1: Minimal 0: None</td>
<td>3: Extensive 2: Adequate 1: Minimal 0: None</td>
<td>3: Highly confident 2: Confident 1: Little confidence 0: Unconfident</td>
</tr>
<tr>
<td>Principles of Applied Behavior Analysis</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
</tr>
<tr>
<td>Functional Behavioral Assessment</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
</tr>
<tr>
<td>Classroom Management</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
</tr>
<tr>
<td>Individual Behavioral Interventions</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
</tr>
<tr>
<td>Data Collection and Assessment</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
</tr>
<tr>
<td>School-wide Positive Behavior Supports</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
</tr>
<tr>
<td>Other Training (specify)</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
<td>3 2 1 0</td>
</tr>
</tbody>
</table>

### Your Confidence in Your Ability to Deal with Challenging Behaviors

Directions: Please indicate your level of agreement with each of the following statements. Use this scale:

5: I strongly agree  4: I agree  3: I neither agree nor disagree  2: I disagree  1: I strongly disagree

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>I had adequate preservice professional training to deal with most</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>challenging behaviors.</td>
<td></td>
</tr>
<tr>
<td>I had adequate inservice professional training to deal with most</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>challenging behaviors.</td>
<td></td>
</tr>
</tbody>
</table>
Since I have been teaching, I have increased my ability to deal with most challenging behaviors. 5 4 3 2 1
At this time, I have sufficient knowledge and skills to deal with most challenging behaviors. 5 4 3 2 1

<table>
<thead>
<tr>
<th>Current Strategies You Use for Dealing with Challenging Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directions: Please indicate how often you use each of the following strategies when attempting to improve challenging behavior. Use the following scale:</td>
</tr>
<tr>
<td>5: I always use this strategy</td>
</tr>
<tr>
<td>4: I usually use this strategy</td>
</tr>
<tr>
<td>3: I sometimes use this strategy</td>
</tr>
<tr>
<td>2: I rarely use this strategy</td>
</tr>
<tr>
<td>1: I never use this strategy</td>
</tr>
</tbody>
</table>

| I observe the student and take notes about the behavior to determine what causes the behavior to occur. | 5 4 3 2 1 |
| I interview and take notes from other people, like parents or other teachers, to try to determine what causes the behavior to occur. | 5 4 3 2 1 |
| I try to identify conditions that trigger the behavior (antecedents) so that they can be avoided. | 5 4 3 2 1 |
| I try to determine the purpose or function of the behavior and teach a more acceptable behavior or skill. | 5 4 3 2 1 |
| I try to reinforce desirable behavior and avoid accidentally reinforcing undesirable behavior. | 5 4 3 2 1 |
| When I use positive reinforcement, I use social reinforcement such as praise and attention for appropriate behavior. | 5 4 3 2 1 |
| When I use positive reinforcement, I use tangible reinforcement such as food, rewards, or free time for appropriate behavior. | 5 4 3 2 1 |
| I frequently measure the behavior (by counting it or timing it) to see if it is occurring more or less often when I try to improve it. | 5 4 3 2 1 |
| I try to improve out of classroom conditions that might affect the behavior (such as diet, home conditions, or other factors). | 5 4 3 2 1 |
| I change my interactions with students to try improve their behavior, e.g. by offering choices, by the way I speak. | 5 4 3 2 1 |
| I change the physical arrangements or conditions in my classroom to try to improve behavior. | 5 4 3 2 1 |
| I change my curriculum or teaching approach with some students to try to improve their behavior. | 5 4 3 2 1 |
| When challenging behavior occurs, I ignore it. | 5 4 3 2 1 |
| When challenging behavior occurs, I place the student in time out. | 5 4 3 2 1 |
| When challenging behavior occurs, I take away a privilege or desirable activity. | 5 4 3 2 1 |
| When challenging behavior occurs, I verbally reprimand the student. | 5 4 3 2 1 |
When challenging behavior occurs I send the student to the office. | 5 4 3 2 1
Overall, I use a behavior intervention plan based on observational data and information acquired through interviews. | 5 4 3 2 1

**Support and Collaboration You Receive When Dealing with Challenging Behaviors**

Directions: Please indicate your level of agreement with each of the following statements about the support you receive when you must deal with challenging behaviors. Use this scale:

- 5: I always have this type of support
- 4: I usually have this type of support
- 3: I sometimes have this type of support
- 2: I rarely have this type of support
- 1: I never have this type of support

| Support from other teachers or paraeducators | 5 4 3 2 1
| Support from behavioral specialists | 5 4 3 2 1
| Support from building administrators | 5 4 3 2 1
| Support from district administrators | 5 4 3 2 1
| Support from parents and family members | 5 4 3 2 1
| Support from community agency professionals | 5 4 3 2 1
| Support from a team in developing a written behavior intervention plan | 5 4 3 2 1

**The Effects of Challenging Behavior on You and Your Students**

Directions: Please indicate your level of agreement with each of the following statements about the effect challenging behavior has on you or your students. Use this scale:

- 5: I strongly agree
- 4: I agree
- 3: I do not agree or disagree
- 2: I disagree
- 1: I strongly disagree

| Challenging behavior takes up a significant amount of my time | 5 4 3 2 1
| Challenging behavior increases my level of stress | 5 4 3 2 1
| Challenging behavior causes me to be a less effective teacher | 5 4 3 2 1
| Challenging behavior makes me think about quitting teaching | 5 4 3 2 1
| A student with challenging behavior learns less because of the behavior | 5 4 3 2 1
| Other students learn less because of the behavior of their classmate | 5 4 3 2 1
Please write any other comments you wish to add about students with challenging behaviors.