SELECTIVE SUPPORTS: AN EXPLORATORY STUDY OF URBAN EDUCATORS' PREFERRED BEHAVIORAL INTERVENTIONS

by

Michael Valenti

BS, Psychology & Communications, University of Pittsburgh, 2004

MS, Applied Developmental Psychology, University of Pittsburgh, 2006

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This dissertation was presented

by

Michael Valenti

It was defended on

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and approved by

Dr. Carl Johnson, Associate Professor, Psychology in Education

Dr. Roger Klein, Associate Professor, Psychology in Education

Dr. Charlene Trovato, Associate Professor, Administrative and Policy Studies

Dissertation Advisor: Dr. Mary Margaret Kerr, Professor, Psychology in Education

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Michael Valenti, PhD.

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Responding to inappropriate student behavior is a significant challenge for many educators. Behavioral interventions and strategies are tools that teachers can use to reduce the occurrence of difficult behaviors while promoting positive alternatives. Factors that influence teacher *selection* of behavioral interventions are well-documented by the literature. However, which interventions teachers actually *use* has received much less attention. This paper provides an exploratory review of the preferred behavioral interventions and strategies of a large sample of urban school teachers.

Participants responded to an anonymous online survey which asks how often teachers use different interventions and strategies. Results were reviewed to uncover which strategies teachers use the most/least often, whether teachers match intervention intrusiveness to the severity of problem behavior, and to determine if teachers use evidence-based practices more often than those that are not evidence-based. Results demonstrate that teachers are familiar with most of the interventions in the survey and use them to varying degrees of frequency. In addition, teachers report that they use evidence-based practices more frequently than interventions that are not evidence-based. However, teachers may not always match intervention intrusiveness to the severity of problem behaviors. Implications for school administrators and teacher trainers, as well as recommendations for improving professional development are discussed.

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1.0 ACKNOWLEDGEMENTS

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2.0 INTRODUCTION

In May of 2009, teachers from a large urban school district responded to an anonymous online survey as part of a professional development initiative. This initiative was charged with increasing the capabilities of schools to respond effectively to challenging student behaviors. Namely, trainers sought to promote consistent individual classroom and school-wide disciplinary procedures that would reduce the occurrence of inappropriate behaviors while increasing appropriate alternatives. As such, the purpose of the survey was twofold: (1) to assess which behavioral interventions and strategies teachers indicated that they used to most often, and (2) to use these data to construct a consistent, collaborative system of discipline in each school.

Data were collected, organized, and shared with school staff members during intensive summer professional development sessions. The goal of these sessions was to use the survey data to inventory teachers' current practices in addressing misbehavior while facilitating the development of a shared vision regarding behavioral expectations, rules, and interventions. By reviewing the survey data, teachers uncovered inconsistencies in how they enforced the school's existing rules. For example, certain teachers would send a child to the office for a minor behavior, while others would use a classroom-based strategy. Because many children, specifically those at-risk for problem behaviors, have difficulty adjusting to the varied interventions used by school staff, trainers were able to use these inconsistencies as an impetus for procedural change.

Trainers engaged teachers in a discussion of their current practices, and challenged them to reevaluate the behavioral supports in their schools. Using the survey data to guide them, teachers began to talk about school discipline in a way that they never had before. With help from the facilitators, teachers self-selected evidence-based interventions to use when addressing student behaviors in the classroom. They also decided which behaviors should result in removal from the classroom, and which behaviors should be handled with a classroom-based intervention. The end-result of these trainings was a tiered system of interventions and strategies that staff members agreed upon and took ownership of.

This work depicted in this paper describes an action-oriented approach to research conducted within the sphere of this training initiative. While the survey data were used on-site in schools to inform classroom management practices, the data were also being collected for a large scale study of urban educators' preferred behavioral interventions. Due to a lack of research in this area, I wanted to add to the literature of preferred interventions with the results from this large-scale sample. In addition, I wanted to extrapolate findings that could inform my own practices as a teacher trainer and educator. To a certain extent, this paper reflects an effort to blend the often segregated worlds of research and practice. While the primary focus of this document focuses on the descriptive results of the survey, one should also consider the implications that these findings have for schools, teachers, and the students that they serve.

2.1 STUDY RATIONALE AND OUTLINE

Dealing with challenging student behavior is a primary concern in school settings (Putnam, Luiselli, Handler, & Jefferson, 2003). In fact, student behavior is crucial to school success

(Sheldon & Epstein, 2002). Thankfully, researchers have noted that many strategies exist to help educators elicit positive student behaviors and reduce disruptive behaviors (Gresham, 2004; Cooper, Heron, & Heward, 2007; Alberto & Troutman, 2009). Educators can choose from this array of successful strategies when responding to challenging behaviors. These strategies range from specialized interventions for individual students (Wilcox, Turnbull, & Turnbull, 2000; Lane, Umbreit, & Beebe-Frankenberger, 2000) to school-wide discipline programs (Lewis, Sugai, & Colvin, 1998; Luiselli, Putnam, & Handler, 2001).

A large body of research exists within the educational literature that attempts to understand *how* and *why* teachers select interventions and strategies when responding to behaviors (Wolf, 1978; Kazdin, 1980; Elliot, 1988; Miltenberger, 1990; Finn & Sladeczek, 2001). Specifically, these studies seek to uncover the underlying mechanisms that influence how educators select their responses to student behavior. Understanding how this selection process operates is certainly an important area of research, yielding many significant implications for teacher trainers, school psychologists, and administrators. However, this work neglects to assess what teachers *actually do* when responding to student behavior.

It is equally important to know *what* interventions and strategies educators use as it is to know *why* they chose them. Many contextual variables operate during any instance of inappropriate student behavior in the classroom setting. Is the student's behavior relatively minor or severe? Does the teacher have time to properly implement an intervention? Has he been trained to use the intervention? Are the supposed effects of the intervention in line with his personal expectations for student behavior? Exploring the factors that influence a teacher's decision to choose one strategy or response over another is complicated, because it is nearly impossible to delineate the effects of each underlying variable.

On the other hand, exploring the *frequency* in which teachers use common behavioral interventions potentially could generate practical knowledge for teacher trainers. Are teachers using evidence-based strategies, or do they rely on strategies that may bring an immediate end to the behavior problem, but worsen student behavior in the long run? Do teachers employ an assortment of strategies, or do they default to the same strategy each time a student misbehaves? Are they matching the intrusiveness of the intervention to the severity of the problem behavior, or are they using invasive interventions for minor behaviors? Answering these questions could assist trainers by helping them guide staff to align their responses to student behaviors with best-practice. In addition, exploring which interventions teachers use most frequently could provide trainers with a baseline assessment from which more efficient trainings could be developed. Finally, determining the interventions and strategies teachers use the *least often* could help trainers focus their efforts.

Unfortunately, only a small number of studies have sought to explore the behavioral strategies used by educators. Furthermore, these studies are limited by small sample sizes and flawed instrumentation. The scarcity of this research indicates that we simply do not know which behavioral interventions and strategies are preferred by educators. To obtain a more representative picture of the preferred behavioral strategies of educators, a large-scale study is required. The existing literature is inadequate in this area.

The current study seeks to ameliorate this sizable gap in the literature by exploring the preferred behavioral interventions and strategies of a large number of educators in one urban school district. First is a discussion of the relevance of schools as settings for improving the behavior of children and adolescents. Second is a review of the history of the development of school-based behavioral interventions from multiple theoretical perspectives. Thirdly, there is a

brief review of selected behavioral interventions to provide context for the use of these strategies in schools. Due to the sizable literature in this area, behavioral interventions are further categorized into three systems of supports and reviewed separately based on their proven effectiveness. This review is followed by an examination of barriers that may influence educators' selection of best-practice interventions.

Fourth is a review of research that addresses why teachers choose specific interventions. Specifically, the mechanisms of teacher choice are examined through the lenses of *social validity* and *treatment acceptability* literature. Common findings are discussed first, followed by a critical review of the practical limitations of this research, as well as the methodological limitations of common instrumentation.

Lastly, an assessment of the literature on educators' preferred behavioral interventions is posed as an impetus for this study. While findings are modest, the research lays the foundation for the work completed here. The current study attempts to extend this work by exploring the preferred behavioral interventions of a large sample of educators through the use of an alternative survey instrument.

It is anticipated that the results from this exploratory investigation will fill the void left by previous research in this area. Furthermore, results may inform and improve teacher training efforts by a) providing a description of commonly used behavioral interventions, and b) exploring which interventions educators do not use because they are unaware of the intervention or unsure if they can implement it with high fidelity. This information should help teacher trainers to focus and scaffold their professional development opportunities with school staff members.

2.2 SCHOOL ENVIRONMENTS FOR IMPROVING STUDENT BEHAVIOR

Inappropriate student behaviors are commonplace in the school environment and often impede academic learning (Gottfredson & Gottfredson, 2001). More importantly, as many as one fifth of a school's student population meet diagnostic criteria for a mental health disorder, and up to 9% meet criteria for a serious emotional disturbance (Rones & Hoagwood, 2002). Considering these statistics, it is likely that most adults working in schools will encounter a situation where they will interact with a student with disruptive behavior.

Statistics detailing the extent of inappropriate student behavior are not required to understand the issue at hand. Most experienced teachers (and former students) would attest that challenging behaviors exist in the school setting; completely avoiding these behaviors is simply not a feasible expectation. All teachers are charged with responding to these behaviors. Unfortunately, many teachers may be unprepared to respond to students that display unwanted behaviors such as arguing, inattentiveness, noncompliance, and aggression.

In addition, many teachers' attentiveness to addressing a student's behavior competes with their ongoing instructional duties and commitment to other students in the classroom (Witt, VanDerHayden, & Gilbertson, 2004). In fact, some argue that the foremost objective of schools is the academic development of students, and that schools are not responsible for addressing students' behavioral and/or mental health concerns (Walker, 2004). However, it is possible that schools may be the *ideal* environment for improving student behavior. As Gresham (2004) notes, "Schools are unique because they are the one place that teachers and students spend a significant amount of time together in both structured and unstructured contexts, thereby creating numerous intervention-related opportunities" (p. 326). In fact, nearly 80% of children who receive mental health services receive them at school, and for many families, children only receive these

services while attending school (Burns, Costello, & Angold, 1995; Rones & Hoagwood, 2002). Clearly, schools serve an essential role in preventing and addressing the behavior and related mental health concerns of children and adolescents.

Traditionally, schools have been ill-equipped to prevent or respond to challenging behaviors. Until recently, behavioral support services were offered only when a student was referred for special education services. In the past, schools took a "passive" approach in regards to behavior, expecting that students would arrive to school with a set of acquired competencies and adherences to social standards already in place (Kerr & Nelson, 2010). Of course, students do not always come to school possessing all the required skills and acceptable behaviors. When this is the case, students may benefit from supportive services offered earlier in their lives. That is, schools must take a more proactive approach to addressing behavior and preparing responses to the entire spectrum of students' behavioral needs (Kerr & Nelson, 2010).

Considering that most children begin school at age five (if not earlier), schools may be a fitting environment to initiate behavioral and mental health services. In the last decade, efforts have focused on integrating more mental health services into the school setting. The terms *school-based behavioral health (SBBH)* and *school-based mental health (SBMH)* refer to any mental health services and behavioral supports delivered within the school environment (Kutash, Duchnowski, & Lynn, 2006). In recent years, the rising total of students requiring services for emotional and behavioral disorders (EBD) has led to an increased adoption of *behavioral interventions* in the school environment (Kratochwill & Stoiber, 2000). Of course, students with EBD are not the only individuals who exhibit challenging behaviors - any student can misbehave. Behavioral interventions have become fixtures in schools as teachers attempt to resolve challenging classroom behaviors.

2.3 DEFINING BEHAVIORAL INTERVENTIONS

Consider a student whose classroom behavior is chronically inappropriate. Any reasons could account for these behaviors, some of which may have little to do with the immediate school environment. Perhaps the child became embroiled in a fight with her parents before coming to school, or she was sleep deprived and more irritable than normal. It is also possible that she has Oppositional Defiant Disorder (ODD), which makes her prone to arguments and defiance. Or, she may have poor relationships with her classmates, making disputes commonplace. While any single influence may be considered to be the "cause" of the student's behavior, it is more likely that a combination of factors lead to challenging behaviors on any given day. Regardless of what factors lead to behaviors, however, her teacher is required to respond to her behaviors.

Unfortunately, her teacher may be unprepared or ill-equipped to handle difficult behaviors. Nonetheless, there is a clear need for effective strategies for addressing and eliminating unwanted student behavior in the school setting. Teachers need tools to help them intervene when students misbehave. These tools are commonly referred to as *behavioral interventions.* Interventions can be delivered by individual teachers, or as part of a more comprehensive school-based service. Rones and Hoagwood (2000) defined these services as "any program, intervention or strategy applied in a school setting that (is) specifically designed to influence students emotional, behavioral, or social functioning" (p. 224). Gresham (2004) explains that most behavioral interventions can be categorized based on four different theoretical perspectives: applied behavior analysis (ABA), social learning theory, cognitive behavioral therapy (CBT), and neobehavioristic theory. Gresham differentiated between these perspectives as follows.

Applied behavior analysis (Skinner, 1953) interventions utilize events that occur before and after unwanted behaviors to identify the function of the behaviors. Ultimately, this behavior is replaced by more appropriate behaviors that serve similar functions. Most behavioral interventions were developed through this theoretical perspective. Social learning theory (Bandura, 1977) proposes that behaviors are learned by observing and emulating others. Consequently, these interventions often use several forms of modeling or role-playing for improving behavior. Cognitive behavioral therapy (Beck, 1976) presupposes that inappropriate behaviors result from maladaptive thought processes. As such, CBT interventions attempt to alter these processes. Finally, neobehavioristic interventions (Hull, 1943) are based in respondent conditioning and assume that behaviors can be elicited by their pairing with specific environmental cues.

Together, these approaches have led to a burgeoning field of research that describes strategies to improve behavior. Regardless of the theoretical orientation, the goal of any behavioral intervention is to improve the life of the person who is the target of that intervention (and improve the experiences of those around them). These improvements may lead to positive outcomes such as improved social relationships, acquisition of meaningful skills, and an overall increase in positive affect or mood. Other interventions may simply eliminate unwanted behaviors, or reduce their frequency to a more tolerable, socially appropriate rate. Abundant behavioral interventions exist, resulting in an expansive catalogue from which professionals may choose.

2.3.1 Categorizing behavioral interventions into systems of support

Perhaps more important than the theoretical underpinnings behind the development of any behavioral intervention is the type of behavior for which it was designed. As Gresham (2004) argues, "Perhaps the most important concept in delivering school-based behavioral interventions is the notion of matching the intensity of the intervention to the intensity and severity of the presenting problem behavior" (p. 329). This concept speaks to providing the appropriate amount of support necessary in response to unwanted behaviors. For example, it would be wasteful to initiate an intensive evaluation procedure to discover why a particular student sometimes forgets to throw his trash away at lunch time. In fact, many behavior problems can be addressed effectively with simple, unobtrusive interventions (Reschly, 2004). Conversely, a series of simple verbal reminders directed towards a student with severe, chronic behavior problems is not likely to constitute an adequate intervention package. Practically speaking, different behavior problems require different types of interventions and supports. Some students require general, broad-based interventions such as classroom rules, while others require more focused, skill-based interventions such as functional behavioral assessment (Knoff, 2009).

One approach to school-based behavioral health that follows this reasoning is School-wide Positive Behavioral Interventions and Supports (SWPBIS) (Sugai & Horner, 2002). SWPBIS is a positive, proactive approach to student behavior which considers the range of intensity of various behaviors. SWPBIS uses a three-tiered approach to classifying and responding to student behavior based on a United States Public Health Service model. In this model, efforts to improve behavior include three types of interventions. These interventions are based on intensity or severity of students' problem behaviors and are known as universal, targeted, and intensive interventions (Kerr & Nelson, 2010).

Universal interventions are designed to support each child in the school environment. As such, these interventions are broad in scope and do not offer intensive supports for serious behavior problems. Universal interventions "focus on enhancing protective factors in schools and are intended to prevent students from falling into risk" (Kerr & Nelson, 2010, p. 7). Examples include teaching students the behavioral expectations of the school environment and creating an incentive system to reward appropriate behavior. *Targeted* interventions are designed to provide support to individuals who do not respond to more universal, less-intrusive procedures. These interventions are often more intrusive than universal interventions. Consequently, these interventions are more appropriate for behavior problems which are more severe in nature. Examples of targeted interventions include social skills groups, self-monitoring, peer mediation, and individual meetings with students. Finally, *intensive* interventions are highly concentrated, individually-focused procedures based on a functional behavioral assessment (Sugai & Horner, 2009). Often, intensive interventions require a rearrangement of the individual's environment to prevent or address problem behavior and involve supplemental procedures for monitoring individual progress (Kerr & Nelson, 2010). These interventions are best when used with chronic and severe behavior problems.

2.4 EVIDENCE-BASED INTERVENTIONS

While research in the area of improving student behavior has resulted in a large menu of interventions, it is important to understand the potential impact and appropriate uses of these interventions before putting them to use. That is, there are important characteristics to consider before approving an intervention for use with students in the school environment. The first

consideration is the extent to which an intervention is evidence-based, and the second consideration speaks to the location in which an intervention is suitable.

Some interventions and strategies are more likely to elicit meaningful behavioral change than others. Generally, interventions known to be effective are *evidence-based practices (EBP)* or *evidence-based interventions (EBI)*. Hoagwood et al. (2001) define EBP in relation to children's mental health as "a body of scientific knowledge about service practices . . . or about the impact of clinical treatments or services on the mental health problems of children and adolescents" (p. 1179). Simply put, EBPs are effective interventions that have passed through the rigors of the experimental method with consistent, replicable results. EBP is also synonymous with the term *research-validated practices,* and all EBPs must satisfy certain criteria in order to be labeled as such. These criteria include (a) the use of a rigorous experimental design, (b) demonstration of validation, (c) carefully detailed instructions for implementation, (d) generalizable and replicable results, and (e) evidence that any improvements in behavior can be maintained (Kerr & Nelson, 2010).

A wide variety of EBPs exist for most behavior problems and challenges. However, it is possible that interventions considered to be EBPs in one setting do not maintain this status in others. One of the factors that may alter the characterization of an intervention as an EBP is the environment in which the intervention is applied (Hoagwood et al., 2001). Some interventions are designed for use in the clinical setting, while others may be designed for use in the home or school environments. For example, advanced, highly intensive interventions are best when implemented by highly trained professionals in a clinical environment. An untrained parent attempting to implement this type of intervention at home may make numerous mistakes, reducing its effectiveness, and thus, its status as an EBP.

To help discern the suitable uses of EBPs and other strategies, Schoenwald and Hoagwood (2001) introduced the constructs of *efficacy* and *effectiveness*. These constructs help to make an important distinction in regard to the outcomes of evaluation research of EBPs. Efficacy refers to the results from studies that use ideal conditions when evaluating behavioral interventions. These conditions typically include highly trained researchers, procedures to monitor fidelity of the intervention, sufficient resources, and a significantly structured empirical design. Interventions demonstrating favorable results (successful in improving behavior) under these conditions are said to have high efficacy. Efficacious studies are typically conducted in a controlled clinical setting. Conversely, effectiveness refers to favorable results achieved by implementing the intervention in the setting that it was designed for, often without the additional resources that most well-funded clinical studies can afford (e.g., technical assistance from researchers, costly materials, etc.). These interventions are conducted by laypersons (teachers, parents, etc.), not researchers. For example, a teacher-directed intervention that improves behavior in the classroom setting is said to have high effectiveness.

For practical reasons, teachers are more concerned with effectiveness than efficacy. A teacher working in an elementary classroom is likely to have a more favorable impression of an intervention if positive results have been enacted by a teacher, not a researcher in a laboratory. As Hoagwood (2001) and her colleagues state "treatments that fail to reach those who benefit from them cannot be said to be effective" (p. 1182). Unfortunately, it is often much more challenging to demonstrate effectiveness than it is to demonstrate efficacy (Walker, 2004). It is not surprising, then, to find a behavioral intervention with high efficacy but low effectiveness. Moreover, many efficacious interventions have not been attempted by schools, leading to questions regarding their potential effectiveness (Hoagwood, 2004). This does not mean that

educators are left without an arsenal of practical interventions to employ, however. On the contrary, many effective behavioral interventions exist for use within the school environment.

For purposes of brevity, interventions proven to improve behavior in the school environment are referred to as *effective evidence-based practices (EEBP)* in the remainder of this document. These are effective interventions with proven reliable and valid results in schools. What follows is a brief discussion of a selection of EEBPs. Interventions are categorized using the three tiered systems discussed previously (universal, targeted, and intensive). Given the scores of interventions in these areas, this list is not comprehensive. Rather, this discussion is intended to provide a general overview of EEBPs.

2.4.1 Universal interventions

Recall that EEBP universal interventions are those designed to address minor behavioral infractions or to prevent the onset of misbehavior. As such, most of these interventions are practical, easy to implement, and do not require substantial effort on the part of the educator. It is said that these interventions will be effective in eliminating inappropriate behaviors for approximately 80% of a student population (Sugai & Horner, 2009). Teachers who implement a combination of these interventions are likely to minimize behavior problems, increase academic engagement, and foster a positive student-teacher relationship (Conroy, Sutherland, Snyder, & Marsh, 2008).

2.4.1.1 Rules and expectations for appropriate behavior

Perhaps the most basic universal strategy is creating a system of school-wide rules and expectations for student behavior. A universal set of school rules is one of the most effective

methods that schools can employ to help reduce student misbehavior. Most students behave appropriately when staff clearly define appropriate behaviors (Horner, Todd, Lewis-Palmer, Irvin, Sugai & Boland, 2004). In this sense, creating rules serves as a universally preventative measure, setting the standards for appropriate conduct in the school environment. For this strategy to be most effective, however, school staff must also dedicate time to review these rules and expectations with their students. Most researchers agree that behavioral rules and expectations must be *explicitly taught* to students (McMullen, Shippen, & Dangel, 2004). Dedicating the time to teach behavioral expectations can have a positive effect on student behavior (Lohrmann & Talerico, 2004).

2.4.1.2 Active supervision and proximity control

Another strategy that falls under the umbrella of universal interventions is active supervision (Lewis, Sugai, & Colvin, 2000). Active supervision is a preventative strategy that requires adults in the school to be both physically and mentally aware of their surroundings at all times. Specifically, staff members must move about their classrooms and the hallways of the school while visually scanning the areas and making eye contact with students (moving closer to students is sometimes referred to as *proximity control*). Staff members should focus on locations, activities, or individuals known to cause problems. Students exhibiting appropriate behaviors receive immediate positive reinforcement while misbehaving students are redirected. Moreover, adults should make keen efforts to interact with students frequently by engaging them in conversations or providing helpful redirection (Kerr & Nelson, 2010). This includes engaging the student during instruction, and providing additional guidance as required. Together, these steps can be effective in preventing minor behavior problems from occurring or escalating.

2.4.1.3 Opportunities to respond (OTR)

Within the classroom, another effective intervention is increasing students opportunities to respond (OTR) to academic instruction (Council for Exceptional Children, 1987). OTR requires that teachers embed abundant opportunities for their students to participate during instruction. Methods to increase OTR include asking more questions, providing additional prompts for correct responding, individualizing instruction to accommodate students with varying proficiencies, and providing corrective feedback (Conroy et al, 2008). When implemented correctly, OTR has been shown to increase on-task behavior and reduce disruptive behaviors (Sutherland, Gunter, & Alder, 2003). In addition, redirection through effective feedback and error correction may increase students' engagement in school activities (Conroy et al, 2008).

2.4.1.4 Maximizing environmental structure

Another universal intervention to implement within the classroom is maximizing the structure of the students' environment (Hewitt, 1968). Generally, this is not one unique intervention, but rather a system of intertwined strategies often referred to as "environmentally mediated interventions" (Kerr & Nelson, 2010; p. 202). These strategies include altering the seating arrangement so that each student has unobscured visual access to the teacher, posting the daily schedule and class rules, increasing teacher directed activities, and establishing consistent routines. Strategies such as these ensure that students know what is expected of them, reduce unnecessary confusion, and establish consistency in the classroom. These interventions work in concert with one another to promote academically and socially productive behaviors such as compliance and attentiveness (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008).

2.4.1.5 Positive reinforcement and contingent praise

Recognizing and reinforcing students when they behave appropriately is another effective intervention that comes in many different forms. These interventions are based on the concept of positive reinforcement, which requires teachers to provide their students with a desired stimulus directly after the student exhibits an appropriate behavior (Skinner, 1953; Cooper, Heron, & Heward, 2007). The effect of positive reinforcement is to increase the rate of desired behaviors. Perhaps the most accessible adaptation of this strategy is contingent praise (Sutherland, 2000). When using this strategy, teachers provide praise for appropriate behaviors that is both specific (identifying the behavior within the praise statement) and contingent (only delivering praise for specific behaviors). Successful use of contingent praise can lead to increased student engagement and responding (Sutherland, Wehby, & Copeland, 2000).

2.4.1.6 Planned ignoring and response cost

Most researchers agree that reinforcement-based interventions should be the first strategies teachers use when addressing student behavior because of their ability to increase desired behaviors (Iwata, Rolider, & Dozier, 2009). However, some students' behavior is initially resistant to change and requires interventions designed to *reduce* their disruptive behaviors. Two evidence-based interventions which can reduce behavior are planned ignoring and response cost (Simonsen et al, 2008). When planned ignoring is used, the teacher purposefully withholds her attention when a student misbehaves (Allen, Hart, Buell, Harris, & Wolf, 1964). Planned ignoring can be effective in reducing behavior when attention from adults is desirable. In response cost, teachers remove a desired stimulus contingent on a student's inappropriate behavior (Azrin & Holtz, 1966). These stimuli may include earned points, money for the school store, special privileges, or participation in preferred activities. Response cost has proven to be

an effective behavior reduction strategy, particularly when paired with reinforcement-based interventions (Kazdin, 2001).

2.4.2 Targeted interventions

Targeted interventions are those designed to intervene with students who do not respond to universal interventions (Hawken & Horner, 2003). These interventions are most appropriately used with behaviors that are more persistent or serious than those addressed by universal interventions. It is said that these interventions will be effective in eliminating inappropriate behaviors for the 15% of the student population whose behavior is unchanged by universal interventions alone (Sugai & Horner, 2009). Recall that it is important to match the intensity of interventions to the intensity of student behavior. Targeted behaviors are generally more disruptive and serious in nature, and thus, targeted interventions are typically more intrusive and time-consuming than universal interventions. However, many targeted interventions can be implemented successfully and rapidly in the classroom setting. Three of these will be discussed here: self-monitoring, group contingencies, and contingency contracting. Additional examples of evidence-based secondary interventions include staff/peer mentoring programs, peer mediation programs (Johnson, 1970), and social skills instruction (Fairbanks, Simonsen, & Sugai, 2008).

2.4.2.1 Self-monitoring

One of the most practical evidence-based targeted interventions is self-monitoring (Snyder, 1974). Self-monitoring is an intervention which can help increase self-regulation and self-management skills while decreasing inappropriate behaviors (Cooper, Heron, & Heward, 2007). Self-monitoring requires students to keep daily tabs on their own behavior by recording instances

of selected target behaviors. Self-monitoring can be used to track both desired and unwanted behaviors. One example of self-monitoring is the Behavior Education Program (BEP), or Check In, Check Out (CICO) (Hawken & Horner, 2003). In this intervention, students track their behaviors throughout the school day via a daily point sheet. Upon the conclusion of each class period, the students receive encouraging feedback from their teachers and can earn points based on good behavior. Each student works on specific target behaviors and is assigned daily goals in relation to these behaviors. Students also meet with designated staff members at the beginning and conclusion of each school day to review their progress, helping to foster positive communication with adults.

2.4.2.2 Group contingencies

Another universal intervention based on reinforcement principals is a group contingency. There are three variations of group contingencies, but they are all rooted in the same principles. In a group contingency, a teacher sets up common expectations for individuals or groups of students. Each individual or group has an equal opportunity to earn a reward, contingent upon these expectations. One example of a group contingency is the Good Behavior Game, a strategy that has been proven to be effective with students of varying ages and abilities (Barrish, Saunders, & Wolf, 1969; Conroy et al, 2008). In the Good Behavior Game, students in a class are divided into two teams. When a team member violates a classroom rule, the teacher places a checkmark on the board, which is attributed to that team. At the end of the class period, the team with the fewest marks wins a reward. In another variation, teams attempt to earn fewer marks than a set criterion instead of competing against one another, which allows for both teams to earn the reward. Group contingencies such as the Good Behavior Game have been shown to increase positive interactions while decreasing negative interactions (Hansen & Lignugaris, 2005), foster

self and peer management skills (Davies & Witte, 2000), and increase appropriate classroom behaviors (Lohrmann, Talerico, & Dunlap, 2004).

2.4.2.3 Contingency contracts

A contingency contract or behavior contract is a signed agreement between a student and school staff members. The contract specifies when a particular reward is given to the student, contingent upon a target behavior (Alberto & Troutman, 2009). Contracts typically include three pieces of information: a) the task, b) the reward, and c) the task record (Cooper, Heron, & Heward, 2007). The task defines the target behavior to improve upon, including how often the behavior should occur, and where. The reward describes the earned reward, including who delivers the reward, how much of the reward is given, and when. Finally, the task record is a space on the contract used to track and monitor the target behavior. The use of contingency contracts has been shown to improve academic and social behaviors (Newstrom, McLaughlin, & Sweeney, 1999).

2.4.3 Intensive interventions

Finally, intensive interventions are designed for students with chronic and severe behavior problems whose behavior often indicate serious violations of school rules. Students typically receive intensive interventions when universal and targeted interventions are deemed insufficient to improve behavior. Typically, approximately 5% of a student population will be served by intensive interventions (Sugai & Horner, 2009).

Intensive interventions begin with a concentrated assessment procedure known as a functional behavioral assessment (FBA; Wolf, Bimbrauer, Williams, & Lawler, 1965; Iwata, Dorsey, Slifer, Bauman, & Richman, 1982). These assessments are based on experimental

procedures used to determine the maintaining variables of problem behaviors. Triangulating data from observations of student behavior, interviews with related adults, and other available assessment data (grades, academic testing, discipline referrals, etc.), these assessments identify events that predict and reinforce inappropriate behavior. Information from the FBA leads to the creation of a comprehensive, individualized plan for intervention: the behavior support plan (BSP) or behavior intervention plan (BIP). These plans comprise of a conglomeration of strategies and require consistent data collection to track student progress. The plan includes steps to improve and maintain behavior, as well as resources to foster generalization of any improvements across different settings.

Teachers in the classroom can implement most universal and many targeted interventions with minimal assistance from others. However, due to the rigorous, highly detailed nature of intensive interventions, a *team* of adults must work together to create and implement the plans successfully. Often, these teams include teachers, parents, counselors, behavior specialists, and school administration (Fairbanks, Simonsen, & Sugai, 2008). The team is charged with collecting extensive behavioral and academic data, creating the FBA/BSP, and introducing the plan to the student and any relevant staff members. In addition, the team must periodically meet to review and adjust the support plan accordingly. While this process is often taxing for school personnel, FBAs and BSPs are widely considered to be the preferred intervention approach for students with severe behavioral challenges (Wilcox, Turnbull, & Turnbull, 2000; Ingram, Lewis-Palmer, & Sugai, 2005).

2.4.4 School-based interventions unsupported by research

While it is essential to understand which interventions are EEBP it is equally important to know which are not. Some interventions can have little to no effect on improving behavior while others may actually worsen behavior (Hoagwood et al, 2001). These interventions are not supported *consistently* by research, and typically they are employed to reduce disruptive behaviors. When educators are aware of the regrettable effects of these interventions, such practices can be avoided. Perhaps even a cursory understanding of these interventions may prevent their use in the school setting.

Despite evidence of effectiveness, detentions, in-school suspensions (ISS), referrals to individuals outside of the classroom (often referred to as office discipline referrals, or ODRs), and expulsions are techniques often used by schools (Kerr & Nelson, 2010). Each of these techniques is a reactive, punitive response that only serves to remove students from the instructional setting (Sprague, Walker, Golly, White, Myers, & Shannon, 2001). It should be evident that students miss valuable instructional time when they are removed from the classroom for disciplinary reasons. Losing instructional time could potentially exacerbate behavior problems, as students begin to fall behind on their class work, increasing their frustrations. Furthermore, there are many legal and ethical concerns to consider when applying exclusionary procedures, particularly suspensions and expulsions. Many argue that the use of these punitive procedures is stigmatizing and unnecessarily invasive (Mayerson & Riley, 2003). In addition, research demonstrates that African American students are more frequently targeted for suspensions and expulsions than their Caucasian counterparts (Skiba, Michael, & Nardo, 2000).

Removing a student from school for an extended period of time can have obvious detrimental effects on academic progress. Furthermore, federal regulations place restrictions on

the use of these interventions with students who have disabilities, reducing their applicability in many situations. Unfortunately, many schools have a history of applying these techniques as general disciplinary measures without considering the complexity of a student's behavior, often leading to disappointing results (Sprague et al, 2001).

2.4.5 Interventions and strategies with mixed results

While most researchers agree about the ineffectiveness of the aforementioned procedures, the evidence for some interventions is inconsistent in the literature. That is, some studies have demonstrated their effectiveness, while others result in less than favorable findings. Often, the use of these strategies in the school setting creates debate among researchers and practitioners alike. Two of these strategies are discussed here: overcorrection and time-out.

2.4.5.1 Overcorrection

Many forms of overcorrection have been used in schools. While the exact application of these interventions changes upon the type of overcorrection used, each shares an important similarity. Every overcorrection strategy involves a teacher requiring a student to perform a specific behavior contingent upon misbehavior (Foxx & Azrin, 1973). For example, a student who uses profanity in class may be forced to complete a written assignment such as scribing "I will not swear in class" a certain amount of times. Often, schools insist that students draft a written apology to the person(s) whom they offended. Overcorrection strategies have been proven to reduce inappropriate behaviors, but are often time-consuming and aversive (Kerr & Nelson, 2010). The same can be said for another intervention, time-out.

2.4.5.2 Time-out

The use of time-out in schools has generated a particularly large amount of controversy in recent years (Wolf, McLaughlin, & Williams, 2006). Time-out occurs when the loss of access to positive reinforcement, contingent upon a specific behavior, results in a decreased frequency of that same behavior (Wolf, Risley, Johnston, Harris, & Allen, 1967; Cooper, Heron, & Heward, 2007). Some schools may even seclude the student in a room designated for the time-out intervention. More commonly, however, students are moved to a different space within the same classroom, or they are temporarily assigned to a different classroom in the school. Theoretically, the separation of the student from the reinforcing stimulus (e.g., peer/adult attention) leads to a reduction in inappropriate behavior (Everett, Olmi, Edwards, Tingstrom, Sterling-Turner, & Christ, 2007).

Time-out shares many of the same legal and ethical concerns as suspensions and expulsions, as governmental regulations restrict its use with students with disabilities. In addition, time-out interventions are easily misapplied, leading to ineffective results. Time-out can be a complicated intervention – it is not enough simply to remove an individual from the time-in setting for a short period of time. Time-out may be ineffective if (a) it is used with a child whose behavior is maintained by task avoidance, (b) if the child still has access to positive reinforcement when in time-out, (c) the duration of the time-out is too lengthy, or (d) the child is placed in time-out only to provide an escape from inappropriate behavior for the adult (Wolf, McLaughlin, & Williams, 2006). Despite these concerns, some studies have shown that time-out can be an effective means of reducing inappropriate behavior (Ryan, Peterson, & Rozalski, 2007). In fact, in certain circumstances, time-out can be just as effective as positive reinforcement-based procedures (Iwata, Rolider, & Dozier, 2009).

2.5 ARE TEACHERS USING EEBP?

By definition, EEBPs such as those discussed are rigorously tested interventions that are both practical and effective in improving student behavior. These interventions have consistently demonstrated their success in improving students' academic and social competencies (Kehle & Bray, 2004). Therefore, it is desirable for teachers to employ these practices when working with students. Universal interventions, for example, should be used always, while targeted and intensive interventions should be employed when student behavior becomes more serious. In addition, it would be advantageous if teachers avoided practices that are not considered to be evidence-based. Often, these interventions may be aversive or might have the undesirable effect of worsening behavior (Jacobson, Foxx, & Mulick, 2005).

Research reveals that educators steadfastly fail to adopt evidence-based interventions when working with students (Carr, Taylor, & Robinson, 1991; Kratochwill & Stoiber, 2000; Hoagwood et al, 2001; Walker, 2004). This leads to a rather regrettable situation where an array of helpful interventions exists, but teachers are reluctant to use them (Kehle & Bray, 2004). Perhaps even more worrisome to experts in the field is that many schools have created a reactive climate of discipline where teachers send students to the office without ever attempting to resolve the behavior in the classroom (Witt, VanDerHeyden, & Gilbertson, 2004). Simply put, overreliance on reactive procedures such as referrals, suspensions, and expulsions is not an acceptable method for improving student behavior. Why, then, are educators avoiding evidence based interventions?

2.5.1 Barriers to EEBP implementation

Many researchers have attempted to explain educators' reluctance to use EEBP. However, this is a particularly challenging venture, as schools are "ever-changing, complex environments that can differ substantially in leadership qualities, student population, family involvement, school climate, and expectations for addressing students' academic and mental health needs" (Kratochwill & Stoiber, 2000; p. 247). Nonetheless, research has uncovered viable explanations for this troubling phenomenon. What follows is a brief summary of forces that may serve as barriers to implementation of evidence-based practices in schools.

2.5.1.1 Accessing the literature

Perhaps the most routine explanation for neglecting to use EEBPs is that many teachers do not have a straightforward, practical avenue to access the literature on evidence-based interventions (Walker, 2004). One possible way for teachers to learn about these interventions is to read journals that specialize in school-based behavioral interventions. However, it is implausible to expect that most teachers will review these journals on their own time due to an already demanding schedule which includes lesson planning, grading assignments, setting up the classroom, meeting with parents, serving on school committees, etc. In addition, trends such as increasing class sizes and reductions in staff conspire to limit teachers' time to access these resources (Walker, 2004).

2.5.1.2 Lack of direct training

Of course, there are some teachers who do indeed review the academic journals on behavioral interventions. However, even teachers who devote their time to review these studies are likely to

experience significant challenges when attempting to implement an intervention. Understandably, simply reading an article does not always provide a teacher with the skills required to implement an intervention effectively. In truth, reviewing journals alone is an ineffective way to teach behavioral interventions; additional training from experienced professionals is required (DuPaul, 2003).

Whether this type of training is even available to teachers is another issue which may contribute to the supposed negligible existence of evidence-based interventions in schools. Simply put, teachers may not have sufficient training in the use of many EEBPs. Many teachers who enter the field upon conclusion of their certification programs are not prepared to deal with the complex behaviors presented by students – particularly students with disabilities (Giangreco & Doyle, 2007). One reason is that the majority of training time is allotted to resources that target academic improvement only. The lack of direct training time for behavioral interventions has been particularly reduced in recent years, as federal regulations such as No Child Left Behind require schools to demonstrate substantial yearly improvements related to academic achievement (DuPaul, 2003). Not surprisingly, then, some studies show that teachers consistently express their desire for more training in the area of behavioral interventions and strategies (Maag, 1999).

2.5.1.3 Inconsistency in training procedures

Yet another reason for teachers' failure to embrace EEBPs is inconsistency in training procedures (Pryzwansky, 1999). That is, trainers may use varying methods to convey the same type of information. Due to this, it is likely that the quality and type of professional development offered to teachers is highly variable. In addition, many trainers are not "trained to train." That is, those who are charged with understanding and disseminating information about behavioral

interventions may not be skilled or knowledgeable trainers. In truth, little is known about the amount of programs that prepare these professionals to train others in the realm of evidence-based interventions (Stoiber & Kratochwill, 2000). Considering this, it is possible that teachers (who may already be ill-equipped to respond to student behavior) receive ineffective initial preparation or coaching in behavioral interventions in the school setting.

2.5.1.4 Theoretical orientations of behavioral interventions

The final barrier is the potential influence of the theoretical orientations responsible for the development of many interventions. Unfortunately, how this barrier effects the selection of interventions and strategies in schools is largely unknown. What follows is a brief review of the predominant theoretical orientation underlying most *behavioral* interventions, behaviorism. Historical significance, definitions, and the role of competing ideologies are discussed as well.

As the name suggests, most behavioral interventions were developed by researchers who studied under the behaviorist theoretical perspective. Behaviorism is a broad theoretical perspective which encompasses the work of a large number of researchers. Early behaviorists include Edward Thorndike, John Watson, Clark Hull, and others, but many associate behaviorism with the work of B.F. Skinner. Skinner's theory of behavior focuses on the experimental analysis of overt behaviors, ignoring most internal mental states and processes. As Skinner (1953, p. 35) explained, "the objection to inner states is not that they do not exist, but that they are not relevant in a functional analysis." Behavioral interventions developed under this logic focus on observing and modifying behavior by adjusting environmental variables. Examples of these variables include classroom seating arrangements, teacher/peer attention, and daily schedules. Little, if any, attention is placed on a person's thoughts, ideas, or mental formulations of concepts when implementing a behavioral intervention. Adjusting or eliminating

environmental variables in this manner in order to improve behavior is commonly referred to as behavior modification or Applied Behavior Analysis.

Until the late 20th century, behaviorism was the predominant psychological orientation that influenced educational practices in schools (Brown, 1994). However, educators were not always keen to welcome behaviorists' ideals and practices into the school setting. Skinner's early work and publications on behaviorism met with widespread criticism when introduced to the public (Pilgrim, 2003). At the heart of this criticism was that behavioral techniques established a form of behavioral control – the notion that any person's behavior is merely a function of their environment and nothing more. If this were true, then behavior can viewed to be predetermined, not chosen by the individual himself (Staddon, 1999). This perceived loss of control over one's own behavior upset many psychologists and philosophers of the time. Perhaps the most famous critique of behaviorism came from Noam Chomsky (1959), who excoriated Skinner for predicting that the results of his experiments on pigeons and rats would translate to human behavior. Chomsky also criticized the thought of behavioral control, aligning the concept with the mechanisms associated with totalitarian states of government.

In recent years, there has been a paradigm shift in the way that educators approach learning and behavior in schools. Many researchers and psychologists have denounced behaviorism as the prevailing theoretical perspective in favor of cognitive psychology (Kuhn, 1997). The chief difference between cognitive psychology and behaviorism is that cognitive psychology is more concerned with internal mental processes than overt behavior (Cooper, 1993). While the differences between these two theoretical orientations are more complex than this paper allows, the shift from behaviorism to cognitive psychology is similar to a shift from an external to an internal locus of control.

Chomsky is often credited as the grandfather of the cognitive psychology movement, but the collective works of John Dewey, Jean Piaget, and Lev Vygotsky are similarly influential. In particular, Piaget's work was primarily responsible for beginning the cognitive revolution in developmental psychology. In particular, Piaget (1967) was concerned with the mental processes involved in how children developed and acquired knowledge. For example, he believed that young children develop knowledge by accommodation (modifying one's conceptualization to appropriately fit the environment) or assimilation (transforming the world to meet one's own conceptualization). Piaget (1967, p. 14) also believed that "all knowledge is tied to action;" a person's understanding of the world is constantly revised when faced with new experiences. In other words, new information provokes learning and leads to new constructions of knowledge (experiential learning).

The idea of experiential learning was introduced into schools in the early 20th century by Dewey. Dewey espoused that effective teachers understand the mental means for arousing the curiosity of children (Archambault, 1964). Hence, teachers must continuously assess children's level of mental engagement and provide enriching educational experiences. This idea eventually became known as constructivism, a cognitive approach to learning at odds with the more didactic behavioral approach. In addition, theories regarding a child's motivation to learn are often at the center of debates among constructivists and behaviorists. Most behaviorists tout the advantages of *extrinsic* reinforcement (such as adult praise) as motivating factors in the classroom. Conversely, many constructivists argue that these external attempts to increase motivation are tantamount to bribery, and may actually damage a child's internal desire to learn (Kohn, 2006). According to the cognitive perspective, children are *intrinsically* motivated to learn.

Some researchers have attempted to explain the recent shift towards cognitive practices in schools. For example, Roediger (2004) offers two potential explanations: (1) cognitive psychology is the newer of the two perspectives, and (2) behaviorists have become too focused on highly specific problems, resulting in an unintentional ignorance of the larger, more relatable ideas. The first explanation assumes that educators prefer cognitive psychology simply because the ideas are newer. However, this explanation is based on an assumption that individuals will gravitate towards new ideas and resources. Roediger's second explanation, that the work of behaviorists has become too specialized, means that behaviorists are not currently focusing on the problems that are transparent in the public domain, leading to less interest in the behavioral approach. Once again, this claim is not based on research, but assumption.

Another reason for the rise of cognitive psychology in education may be that it places less responsibility on the teacher for students' behavior. The behavioral notion that overt behaviors should be the target of an intervention has very practical implications for educators. This perspective places more emphasis on the role of the teacher as an active change agent for behavior. Because behavior can be changed by the manipulation of environmental variables alone, teachers must take more responsibility for their students' behavior (Daniels & Shumow, 2003). Conversely, cognitive psychologists may attribute behavior to internal processes or states that a teacher can do little to change in the classroom environment. This allows for alternative explanations for maladaptive behaviors that do not hold teachers accountable.

Finally, it is possible that the vilification of behaviorism by Chomsky and others helped to create a negative perception of behaviorist techniques. Witt (1986, p. 38) once asked "why is it that some teachers are not only not receptive to the use of many (behavioral) interventions in their classroom, but are actively antagonistic toward their use?" A negative perception of

behaviorism could partially describe this phenomenon. Research has demonstrated that this may indeed be the case. Witt, Moe, Gutkin, and Andrews (1984) conducted a study to test whether the theoretical orientation of a classroom intervention influenced teachers' perceptions of the intervention. They described one intervention to different groups of teachers using language and rationale consistent with three different theoretical orientations. Teachers viewed the behaviorist explanation (of the same intervention) to be the most negative. Similarly, Woolfolk, Woolfolk, and Wilson (1977) videotaped a teacher using a token economy system and presented the tape to two groups of teachers. They told one group that the video was an example of "behavior modification," and the other group that the video represented "humanistic education" (another theoretical orientation at odds with behaviorism). Participants rated the intervention to be more effective, and evaluated the teacher in the video more positively, under the humanistic condition. These studies demonstrate that there may indeed be a "stigma" associated with behavioral techniques. However, they do not address if or how this stigma has persisted over time.

The negative perceptions surrounding behaviorism and by proxy, Applied Behavior Analysis, present a puzzling contradiction considering the success of a popular school-based intervention process known as School-wide Positive Behavioral Interventions and Supports (SWPBIS). School-wide Positive Behavioral Interventions and Supports is a federally funded, evidenced-based system of practices designed to prevent misbehavior in schools. Currently, thousands of schools are implementing SWPBIS as a means of preventing and responding to challenging student behaviors (Sugai & Horner, 2009). The popularity and success of SWPBIS as an acceptable means for improving student behavior is perplexing in the face of evidence that suggests that interest in behaviorism is waning. As Rob Horner (2000), the founder of SWPBIS explains, "there is no difference in theory or science between [SWPBIS] and behavior

modification. These are the same approaches with different names" (p. 99). Why, then, has SWPBIS garnered national support and popularity in an educational environment that currently prefers cognitive psychology over behaviorism? One possibility is that SWPBIS leaders may purposefully neglect to acknowledge or make mention of behaviorism or ABA in their literature (Mulick & Butter, 2005). In effect, SWPBIS may have succeeded by simply distancing itself from the negative stigma associated with behaviorism (Johnston, Foxx, Jacobsen, Green, & Mulick, 2006).

When considered together, the aforementioned barriers may help to explain why some teachers may avoid the use of behavioral tactics, including EEBPs. However, the validity of these explanations and their pervasiveness in education has not been fully explored. Truthfully, while many current researchers emphasize cognitive practices, many teachers may still use behavioral principles in the classroom. In fact, "a general conclusion from research on teacher cognition is that many pre-service teachers lean toward a behaviorist perspective. Those beliefs are quite stable over time and contexts, despite efforts to change them" (Daniels and Shumow, 2003, p. 505). Moreover, some research demonstrates that nearly all teachers use some form of behaviorism in their classrooms (Fabiano & Pelham, 2003). Conflicts inherent in the literature suggest that more research on teachers' perceptions of behaviorism and their use behavioral interventions is required to completely understand this phenomenon.

2.6 HOW DO TEACHERS SELECT BEHAVIORAL INTERVENTIONS?

The above concerns may increase our understanding of why many educators are *not* using evidence-based practices in the classroom. However, we also need to know which interventions

educators *are using*. In the absence of effective training and a clear understanding/access to academic research, how do teachers decide which interventions they use when responding to student behavior? The interventions frequently used by teachers are called *preferred interventions*. It is important to understand the characteristics of preferred interventions that may lead to widespread adoption in the school setting. Two related domains of research which attempt to answer this question are the constructs of *social validity* and *treatment acceptability*. Together, these constructs help to explain why teachers choose particular behavioral interventions over others.

Social validity refers to whether a particular intervention is seen to have value (or, is "socially valid") in the society or context under which it operates. This is a rather broad concept, but with respect to behavioral interventions, common social contexts include communities, schools, hospitals, and the child's home. According to Wolf (1978), social validity exists on three levels: "(1) the social significance of goals ('Are the specific behavioral goals really what society wants?'), (2) the social appropriateness of the procedures ('…do the participants, caregivers, and other consumers consider the treatment procedures acceptable?'), and (3) the social importance of the effects of the procedures ('Are consumers satisfied with the results?')" (p. 207).

The nature of this definition dictates that social validity is a subjective concept. Declarations of which behavioral interventions have social value are assigned by each of the stakeholders in a society. In the field of behavioral interventions, these stakeholders include professional practitioners, parents, caregivers, and children. To understand social validity is to understand which outcomes are relevant, as defined by these stakeholders. The field of behavioral interventions is a service, one that is provided to each of the stakeholders discussed

above. These stakeholders must agree with the goals of any intervention for it to be considered socially valid – why bother to offer a service that no one wants?

For example, consider a senior in high school who has skipped so many days of school that he is in danger of being held back one grade level. Suppose that a likely goal that contains social value for him and his family is graduation. Any behavioral intervention implemented should include mechanisms to help him achieve this goal. In this scenario, it may not be wise to introduce an intervention that improves social skills only, because these skills may not lead to the stakeholders' desired end-result, graduation. In sum, for behavioral interventions to be accepted as a valuable service to society, they must always consider the values of stakeholders. As Wolf (1978) stated, understanding what people believe to be socially valid "…will bring the consumer, that is society, into our science, soften our image, and make more sure our pursuit of social relevance" (p. 207).

In addition, the mechanisms by which a behavioral intervention achieves its results must also be agreeable with the stakeholders. Returning to the example above, an intervention which requires the student to finish his senior year in a partial hospital program (PHP) may not be suitable to his parents, if they feel that their son will be stigmatized by not remaining in public school. Socially valid behavioral interventions, then, are those that produce desired results through acceptable means.

The concept of *treatment acceptability* derives from this theoretical construct of social validity. Whereas social validity addresses the value of an intervention in the context of society, treatment acceptability reflects an *individual's personal opinions* about the intervention (Eckert & Hintze, 2000). Kazdin (1980) defines treatment acceptability as "the judgments about the treatment procedures by nonprofessionals, lay persons, clients, and other potential consumers of

treatments…Judgments of acceptability are likely to embrace evaluation of whether treatment is appropriate for the problem, whether treatment is fair, reasonable, and intrusive, and whether treatment meets with conventional notions about what treatment should be" (p. 259). In essence, treatment acceptability explains how an individual acknowledges, understands, and consents to the application of various interventions.

Returning to the aforementioned definition of social validity, in order for a behavioral treatment to be "acceptable," it must satisfy each of the conditions that fall under the umbrella of the definition. In terms of the goals of behavioral interventions, researchers must create behavioral objectives for the interventions by obtaining information from the consumers themselves. For example, if the goal of an intervention is to increase parent warmth, then the researcher must observe and interact with consumers (e.g., parents) to define behaviors that fall under the "warmth domain." In terms of social appropriateness, Wolf refers to ethics, cost, and practicality of the treatment (1978). Finally, the effects of the procedures speak to the individual's satisfaction with the results of the intervention. Did the treatment improve behavior? Did it solve the person's problems? Taken together, these three levels of social validity helped to formulate the initial questions of treatment acceptability. In this sense, questions regarding whether a treatment is acceptable are comparable to asking whether the treatment is socially valid. It is not surprising, then, that the definitions of social validity and treatment acceptability above are remarkably similar.

One characteristic of these early definitions of social validity and treatment acceptability is that they are consumer-centric. Both Wolf (1978) and Kazdin (1980) use the term *consumers* in their definitions to refer to individuals who are the target of interventions (typically children or adolescents with behavioral challenges and their families). However, this term fails to recognize

the importance of other essential stakeholders: those who implement the interventions (teachers, clinicians, support staff, etc.). To differentiate this group from consumers, the term *practitioner* is used. Together, the opinions of both consumers and practitioners help to define the accepted outcomes of behavioral interventions. Practitioners cannot be ignored because their opinions also help to form what is commonly considered to be socially valid and acceptable. In terms of school-based interventions, the practitioner is most often the teacher.

The concept of treatment acceptability is also useful for developing an understanding of why many teachers ignore evidence-based practices. Considering the construct of treatment acceptability leads to a number of interesting questions. What does a teacher think of an intervention that only results in a modest improvement in behavior? Do the outcomes of an intervention align with the desired goals of the teacher? Is the methodology of the intervention at odds with the teacher's concept of acceptable practices?

2.6.1 The significance of assessing treatment acceptability in schools

Assessing what teachers believe about the treatment acceptability of behavioral interventions has numerous important implications for work with children and adolescents struggling with behavior problems in school. First, acceptability may help determine which interventions are adopted by teachers when working with children with behavior problems (Kazdin, 1980). The term *adoption rate* refers to how often a particular intervention is selected for use by a teacher. Interventions with high acceptability are said to be preferred interventions (high adoption rate), while those with low acceptability may be generally avoided (low adoption rate). Simply put, if an individual is accepting of an intervention, he or she is more likely to implement it. As Wolf

(1978) stated, "if participants don't like the treatment, they may avoid it…thus, society will be less likely to use our technology (behavioral interventions)" (p. 206).

Understanding which interventions are acceptable is a vital source of information for researchers whose goal is to increase the adoption rate of EEBP. It would not make sense, for example, to push teachers to use interventions they do not find to be acceptable, because the rate of implementation would likely be low. Furthermore, it is possible that interventions proven to be effective will be ignored if they are not deemed to be *acceptable*. This concept may resonate with many school administrators and consultants who find that teachers avoid the use of many excellent evidence-based interventions. Understanding treatment acceptability is also useful for school psychologists, who often work in tandem with teachers and parents to design behavioral intervention plans and individualized education plans (IEPs) (Erchul & Martins, 2002).

Assessing treatment acceptability is also important given the array of EEBPs available to teachers. For any single behavioral problem, a number of effective techniques exist. However, it is likely that these interventions vary in their acceptability across users (Kazdin, 1980). Understanding which interventions are acceptable and which are not accepted may help school administrators choose which of these they prefer teachers to use. For example, consider a school struggling to reduce the externalizing behaviors of its eighth grade boys. When choosing interventions for the staff to learn, the school's principal and psychologist must choose from a large menu of effective strategies. Often, such a choice is based upon personal history or familiarity with certain strategies. However, if the principal and school psychologist can ascertain which strategies the staff would find acceptable, then they might witness more consistent application of these procedures. This scenario aligns with Miltenberger's (1990)

pronouncement that information about treatment acceptability is necessary during the treatment selection process.

While understanding how treatment acceptability may influence the adoption rate of EEBPs is important, acceptability alone does not explain *how* these interventions are implemented. Perhaps the most important characteristic of treatment acceptability is its apparent effect on another important variable, *treatment integrity*. Gresham (1989) defined treatment integrity as the extent to which interventions are implemented as they are designed. At a basic level, there is a likely connection between acceptability and integrity. If teachers do not agree with or *accept* a certain intervention, they are not likely to *implement* the intervention with high integrity. Conversely, those who agree with a specific intervention may be more apt to implement it correctly and effectively. In this sense, it is possible that treatment acceptability may serve as a prerequisite for the successful implementation of evidence-based behavioral interventions (Lentz, Allen, & Erhardt, 1996; Girio & Sarno Owens, 2008).

This connection between acceptability and integrity may indeed exist; studies have demonstrated that increased treatment acceptability often leads to a substantial increase in treatment integrity and effectiveness (Kazdin, 2000; MacKenzie, Fite, & Bates, 2004). For example, a study of elementary school teachers found that the participants' willingness to employ certain interventions was critical to successful implementation of those interventions (Pisecco, Huzinec, & Curtis, 2001). Similarly, DiGennaro, Martens, and Kleinmann (2007) proposed that the high variability in teachers' treatment integrity was in part due to their low acceptability ratings of the interventions reviewed by the study. These findings emphasize the importance of understanding treatment acceptability in the educational setting. Both Kazdin (1977) and Wolf (1978) argued that treatment acceptability is equally as important as the

effectiveness of behavioral interventions. In sum, the field of education must develop a comprehensive understanding of how teachers' perceptions of interventions affect intervention processes and outcomes (Pelham, Wheeler, & Chronis, 1998).

2.7 FACTORS INFLUENCING TREATMENT ACCEPTABILITY

Considering that treatment acceptability has significant effects on treatment adoption rate and treatment integrity, it is necessary to discuss the many variables that influence an individual's acceptance of behavioral interventions. Treatment acceptability studies have postulated that numerous factors have varying effects on a person's judgment of treatment acceptability. While the magnitude and nature of their effects may fluctuate amongst studies, seven variables are considered to be key factors influencing treatment acceptability. These factors include effectiveness of the intervention, intrusiveness of the intervention, severity of the problem behavior(s), teachers' understanding of the intervention, personal characteristics of the teacher/student, secondary effects of the intervention, and cost of the intervention (Miltenberger, 1990). Each of these factors will be discussed separately here.

2.7.1 Effectiveness of the intervention

Perhaps the most influential factor related to treatment acceptability is the effectiveness of the intervention in question. In the early behavioral intervention literature, effectiveness of an intervention was the *only* criterion required for an intervention to be considered acceptable (Lennox & Miltenberger, 1990). Or, as Baer, Wolf, and Risley (1968) stated in their foundational

work on treatment acceptability, "[behavioral interventions'] practical value, specifically [their] powers in altering behavior enough to be socially important, is the essential criterion" (p. 96). Clearly this statement has face validity – why would teachers consider *ineffective* strategies to be acceptable for use? If one of the primary goals of teachers working with students with behavioral challenges or disabilities is to improve behavior in a socially acceptable way, then the ability of an intervention to enact these improvements should be paramount. Not surprisingly, many studies have found that effective interventions are rated to be more acceptable than those that are ineffective or less effective (VonBrock & Elliot, 1987; Reimers & Wacker, 1988; Spreat & Walsh, 1994; Michaels, Brown, & Mirabella, 2005).

However, some research shows that many teachers do not use evidence-based interventions, which, by definition, are effective in improving student behavior. In addition, research shows that many teachers rely on reactive, ineffective procedures when handling student behavior (Maag, 2001). If the perceived effectiveness of an intervention is so vital in influencing treatment acceptability (and by association, adoption rate), then why aren't teachers using EEBPs more reliably? This conflict may be answered by considering that effectiveness is not the only variable which has authority over teachers' impressions of the treatment acceptability of behavioral interventions.

2.7.2 Intrusiveness of the intervention

Another variable that influences one's acceptability of behavioral interventions is the *intrusiveness* (or restrictiveness) of the intervention. Interventions considered *intrusive* include coercive procedures, procedures that suspend participation in preferred activities, and procedures which may cause harm or discomfort to the individual (Michaels, Brown, & Mirabella, 2005).

Intrusive interventions often take more time and require more staff resources than less inrusive interventions Examples of intrusive procedures include time-out, office discipline referrals, suspensions, and detentions. Inversely related to intrusive procedures are *unobtrusive* approaches such as teaching expectations of behavior and positive reinforcement. Positive interventions seek to teach new behaviors or increase the frequency of appropriate behaviors already in the consumer's repertoire. The perceived intrusiveness of an intervention is a highly influential factor; intrusiveness may be secondary only to effectiveness in its effects on treatment acceptability (Spreat & Walsh, 1994).

The influential effects of intrusiveness are intriguing; treatment acceptability is inversely related to the restrictiveness or intrusiveness of the intervention (Smith & Linscheid, 1994). That is, interventions or procedures that are more restrictive are generally considered to be less acceptable, while positive procedures are perceived to be more acceptable (Miltenberger, Lennox, & Erfanian, 1989). Once again, a puzzling inconsistency arises: if teachers rate intrusive procedures to be less favorable than positive approaches, why do they rely so heavily on restrictive procedures such as discipline referrals and detentions? Of course, it may not be prudent to discuss the effects of intrusiveness on treatment acceptability without also considering the severity of the problem behavior to which the intervention is applied.

2.7.3 Severity or intensity of the problem behavior

Before we can discuss the interrelated effects of intrusiveness and severity of problem behavior, we must first define *severity*. Severe problem behaviors include those that have the potential to cause harm to oneself or others. Examples of severe behaviors include self-injurious behaviors (SIBs) and physical aggression. Less severe behaviors include talking in class, off-task

behaviors, and not responding to adult directives. Recall that it is important to match the intrusiveness of behavioral interventions with the severity of the problem behavior. Severe problem behaviors may require an intensive intervention such as FBA/BSP. Less severe behaviors are more appropriately addressed by less intrusive, universal interventions.

When considering outcomes of treatment acceptability measures, one must be careful to consider the severity of the problem behavior(s) to which an intervention is applied. Measures of acceptability do not occur in a vacuum – they are employed to assess perceptions of interventions that reduce problem behaviors or increase the frequency and/or magnitude of more appropriate behaviors. In general, studies demonstrate that the more severe the problem behavior, the more acceptable the intervention is for teachers (Kazdin, 1980; Tarnowski, Rasnake, Mulick, & Kelly, 1989). This is a likely pronouncement, as reducing the risk of harm or self-injury is a primary concern for all practitioners. Moreover, it is likely that severe behaviors must be eliminated before teaching of appropriate replacement behaviors can begin.

It is possible that an interaction effect exists between intrusiveness and severity of the problem behavior. That is, acceptability of restrictive interventions increases for severe problem behaviors (Smith & Linscheid, 1994). In addition, less intrusive interventions are rated to be more acceptable for less severe behaviors than they are for severe behaviors (Miltenberger, Lennox, & Erfanian, 1989; Tarnowski et al., 1989). Thus, the intrusiveness of interventions aligns with the severity of problem behaviors. Less intensive, unrestrictive interventions are preferred for less severe behaviors and vice versa. It is likely that teachers become more favorable of restrictive, intrusive procedures after simpler procedures have proven to be ineffective. As was mentioned previously, it is also essential to prevent an individual from

causing harm to himself or others (Cooper, Heron, & Heward, 2007). In light of this, restrictive procedures may be viewed as an acceptable alternative to dangerous outcomes.

2.7.4 Teachers' and students' understanding of the intervention

Yet another influential factor is the level of a teacher's understanding of the behavioral intervention in question. The more knowledge a teacher has of an intervention and how it works, the more likely they are to view it as acceptable (Miltenberger, 1990). Perhaps understandably, individuals may be reluctant to testify to the acceptability of unfamiliar interventions. Recall that some of the barriers to teacher implementation of EEBPs are a lack of training in behavioral interventions and the absence of a clear bridge between research literature and teacher practice. It is possible that teachers are reluctant to use many EEBPs because they simply do not possess the knowledge base to implement them effectively. In fact, they may not be aware that certain interventions exist!

Perceptions of treatment acceptability may be likely to change as teachers become more aware of behavioral interventions. Indeed, Tingstrom's (1989) study of education students exemplifies this notion. The students completed measures of treatment acceptability before and after they attended lectures on three different behavioral interventions. Tingstrom found that students' perceptions of acceptability for the behavioral interventions increased *after* attending the lectures. In another study, Vereb and DiPerna (2004) assessed teachers' treatment acceptability of behavioral treatments for Attention Deficit-Hyperactivity disorder (ADHD). Teacher ratings of treatment acceptability of the treatments increased after they participated in training. These findings are important for schools that seek to introduce staff members to evidence-based interventions. Providing extensive training in unfamiliar interventions may

increase acceptability, and, consequently, increase implementation integrity and adoption rate of the interventions.

2.7.5 Personal characteristics of teachers and students

Demographic characteristics also may influence an individual's rating of the acceptability of different behavioral interventions. These include characteristics of both teachers and students. One teacher-specific characteristic that may affect ratings of treatment acceptability is years of experience working in the field (Vereb & DiPerna, 2004). In their study, Vereb and DiPerna found that teachers with more teaching experience gave higher ratings of treatment acceptability for ADHD treatments than newer teachers. In a similar study, Girio and Owens (2009) found that teachers with more teaching experience considered time-out to be more acceptable than a peer-tutoring intervention. Considering these results, it is possible that teaching experience has a profound influence on the acceptability and adoption rate of certain behavioral interventions.

One influential student characteristic that may influence teacher's impressions of treatment acceptability is gender. Pisecco, Huzinec, and Curtis (2001) found differences in teachers' acceptability ratings of interventions between male and female students. Specifically, teachers viewed medication as more acceptable as a treatment for ADHD in boys than in girls. This sample of teachers also viewed behavioral interventions such as a Daily Report Card (DRC) as more acceptable for use with girls. These findings mirror an earlier study by Witt (1986) which also found teachers' acceptability ratings of various behavioral interventions to be higher for girls.

Finally, studies have also found differences in the perception of treatment acceptability between varying populations. Examples include differences between clinical and community

based staff members (Miltenberger, Lennox, and Erfanian,1989), low income and high income parents (Heffer & Kelly, 1987), and parents and children (Kazdin, 1984). However, more work is needed to uncover why these differences may exist.

2.7.6 Secondary effects of the intervention

Many behavioral interventions focus on improving a single skill deficit or reducing one persistent behavior problem. While behavioral interventions may succeed in these goals, it is possible that behaviors not targeted by the intervention are affected, or dimensions of behaviors currently in the student's repertoire are altered. For example, consider a student who calls out in class without raising his hand to get his teacher's attention. Unfortunately, this behavior is disruptive to the rest of the students in the classroom. To reduce this behavior, his teacher instructs him to flash an index card to signal her whenever he needs instructional help. While this simple intervention may indeed reduce his calling out behavior, it also has an unintended effect – the frequency in which the student asks for teacher assistance increases greatly and begins to demand more of the teacher's time.

Research has demonstrated that interventions that introduce negative secondary effects such as the one described above are rated as less acceptable than interventions that do not appear to do so (Kazdin, 1981; Reimers et al., 1987). However, more research on the effects of potential side effects is needed, because this area of work is relatively limited (Miltenberger, 1990). In particular, it may be enlightening not only possess a greater comprehension of the influences of secondary effects on acceptability ratings, but also to assess teachers' and students' awareness of these effects.

2.7.7 Cost of the intervention

Finally, both Wolf (1978) and Kazdin (1980) cite the cost of behavioral interventions as a primary factor that influences treatment acceptability. Typically, when researchers speak of the cost of an intervention, they are referring to two interconnected factors: monetary cost and personnel resources. Monetary considerations include availability of funding and budgetary concerns. Personnel resources include student-to-staff ratio, the time requirements of an intervention, and availability of staff members to implement an intervention. Predictably, a number of studies have indicated that interventions requiring less time to implement are rated more favorably than demanding interventions (Witt, 1986; Reimers, Wacker, & Koeppl, 1987; Kazdin, 2000). In terms of monetary resources, low-cost interventions are perceived to have higher acceptability ratings than cost-prohibitive procedures (Reimers et al., 1987).

For practical reasons alone, both monetary and personnel resources may have significant impacts on perceptions of treatment acceptability. A deficiency in either of these resources will certainly prevent schools and staff members from adopting certain procedures. Consider an elementary school teacher with 35 students in her classroom. Clearly, it would be quite challenging for this teacher to effectively implement an intensive, one-on-one intervention with a struggling student while also monitoring her other 34 students. Without the assistance of a classroom aide, implementing this intervention may not be feasible. In this setting, it is probable that the teacher would not have a favorable opinion of the acceptability of this intervention in her classroom. Similarly, what if this supposed intervention required costly materials such as textbooks, props, and video tapes? Faced with budgetary constraints, the school's administrator is unlikely to consider this treatment to be acceptable.

Time may be a particularly salient characteristic as far as the adoption of certain behavioral interventions is concerned. Consider that many of the aversive techniques unsupported by research or resulting in mixed findings (suspensions, expulsions, referrals to the office, time-out, etc) require the student to leave the classroom. If a student misbehaves during instructional time, his behavior may become disruptive to the classroom. The teacher, then, must respond to this behavior in order to provide effective instruction to the rest of her class. The teacher may be willing to attempt to implement a number of evidence-based interventions to eliminate the behavior, but these interventions often take time. Practically speaking, it would be easier for the teacher to remove the student from the setting so that she can continue with her lesson. Sending the student to the principal's office, for example, would provide the teacher with immediate relief from the student's poor behavior. Perhaps this is why such a large number of teachers may rely on reactive disciplinary procedures despite evidence of ineffectiveness.

2.7.8 Additional findings

Unmistakably, the opinions of teachers about the acceptability of any behavioral intervention are likely to be influenced by a number of personal, contextual, and environmental variables. Considering this, one might expect that studies of treatment acceptability often conclude with highly variable results. That is, acceptability ratings will frequently vary from one person to the next. Indeed, this is often the case (Kazdin, 1981; Heffer & Kelley, 1987). However, many studies have also indicated that certain commonalities exist among groups.

Perhaps the most prevalent finding is that practitioners generally view interventions based on positive reinforcement as more acceptable than punishment-based interventions (Tingstrom, 1989; Jones & Lungaro, 2000; Iwata, Rolider, & Dozier, 2009). This may be

representative of a paradigm shift in the minds of those who use behavioral interventions from decelerative techniques to more proactive, positive approaches (Michaels, Brown, & Mirabella, 2005). That is, recent research and legal documents urge individuals seeking to improve behavior to use positive interventions that teach new behaviors (or augment responses already in the individual's repertoire) over punishment-based interventions. In addition, many laypersons view punishment-based interventions to be intrusive, suppressive, and unnecessarily punitive (Mayerson & Riley, 2003). Reflecting upon these factors, it is unsurprising that most studies of treatment acceptability find reinforcement-based interventions to be highly favored. Of course, this fact is not always reflected in the adoption rate of these procedures. While treatment acceptability may be high, adoption rate remains low for many positive evidence-based interventions (Maag, 2001).

Additional commonalities can be unearthed by reviewing the effects of the seven influential factors described previously. Throughout the years, many studies have documented the effects of these variables on ratings of treatment acceptability. While the influential mechanisms for some of these factors have not been pinpointed, the literature is clear in how these factors affect treatment acceptability. Generally, these effects are consistent among groups and environments (Miltenberger, 1990). From these factors, one can discern that interventions are likely to be considered acceptable if they are: (1) effective in improving behavior, (2) unobtrusive, (3) not prohibitive in terms of monetary, personnel, or time costs, (4) used to address severe problem behaviors, and (5) produce little to no secondary effects.

These five characteristics are likely to lead to favorable ratings of treatment acceptability. What is not known is how these characteristics interact to influence decision making on the part teachers in regards to treatment acceptability. This question is difficult to answer with

generalizability, as one must always consider the contextual factors involved within complex intervention settings such as schools. For example, consider an intervention that is highly effective, but requires a sizable time commitment on the part of site personnel. In a small school with a 1:1 student to staff ratio, this intervention may be viewed as acceptable. Conversely, staff members working in a large school with a 20:1 ratio may not view the intervention as acceptable regardless of its effectiveness, as it is simply not feasible to implement.

How these influential variables of treatment acceptability interact may be difficult to determine. This interaction is important, because the relationship will help to determine if an intervention is likely to be considered acceptable and thus, adopted in the school setting. However, the converse is also true – it is certainly possible that a teacher views an intervention to be acceptable, but never actually uses it with her students. As such, the relationship between *treatment acceptability* and *adoption rate* is not perfectly correlated. Rather, it is a complex association moderated by a myriad of environmental, personal, and behavioral characteristics. Consequently, both constructs require extensive research due to their influences on teachers' responses to student misbehavior.

Of the two constructs, only treatment acceptability has been researched extensively. While the interest in this construct has waned at times, there have been multiple periods of resurgence resulting in an extensive body of research about the treatment acceptability of behavioral interventions. The previous discussion of characteristics reflecting treatment acceptability ratings is a sample of the research in this area. Conversely, the adoption rate of interventions, or "what teachers actually do," has received far less attention by researchers. Only a handful of studies which directly address this construct exist. Nevertheless, it is important to

review the measures and methodologies commonly used by researchers to investigate both treatment acceptability and adoption rate.

2.8 ADMINISTERING TREATMENT ACCEPTABILITY MEASURES

Before one can begin to discuss the various measures used in the *assessment* of treatment acceptability, one must first consider the administration procedures regularly employed in using these measures. Most studies concerning treatment acceptability use either a *clinical* or *analog* administration procedure. This section will discuss the advantages and disadvantages associated with each approach. Understanding the differences between these procedures provides an enhanced understanding of the commonly used measures of treatment acceptability, as each measure uses either clinical or analog administration.

2.8.1 Clinical administration

While its namesake may suggest otherwise, clinical administration procedures are not exclusive to clinical settings such as hospitals or residential treatment facilities. Schools and homes are also acceptable environments for these procedures. In a study that uses clinical administration, service providers implement one or more interventions with actual clients and complete rating scales multiple times throughout treatment. The rating scales assess the provider's acceptability of the intervention *as it is used*. For example, over a two month span, a school teacher may implement a differential reinforcement procedure (e.g., differential reinforcement of other, alternative, or incompatible behaviors) to reduce the inappropriate verbalizations of one of his

students. If the teacher were participating in a clinical study, he may be asked to complete an acceptability rating scale before, during, and after he terminates the reinforcement procedure. By requiring the teacher to complete multiple scales, a researcher could assess whether the teacher's acceptability of that intervention changes as he becomes more familiar with its use. An example of research using clinical administration procedures is Kazdin's (2000) study of the treatment acceptability of cognitive problem solving skills training (PSST) as a strategy for reducing conduct problems in children participating in outpatient therapy. Participants and their parents completed measures of treatment acceptability before the training began and after it concluded. Kazdin's findings suggested that treatment acceptability increased if the participants experienced positive therapeutic change.

Clinical administration procedures such as the one described above include a number of advantages and disadvantages. One disadvantage is that clinical administration permits the assessment of only those procedures proven effective and appropriate with certain behavior problems. A punishment-based intervention, for example, could be very difficult to assess in a clinical scenario, as many practitioners believe that these interventions should be used only to prevent dangerous or self-injurious behaviors (Cooper, Heron, & Heward, 2007). In addition, it would not be ethical to employ a particular treatment in an applied setting solely for the sake of assessing treatment acceptability. When working to improve student behavior, teachers should select strategies and interventions likely to be successful – it would be unscrupulous to select a strategy only because a researcher wishes to assess acceptability. Considering this constraint, many studies using clinical administration procedures are limited as to which interventions can be assessed.

The main advantage of treatment acceptability studies using clinical administration procedures concerns the validity of participant responses. Most studies that do not use clinical administration procedures (such as analog) ask their participants to evaluate interventions or strategies even if they have little to no experience in those strategies. However, studies that use clinical administration may be more valid than analog studies because participants rate *actual* treatments as opposed to theoretical procedures (Miltenberger, 1990). Analog administration is discussed next.

2.8.2 Analog administration

In an analog assessment, participants first read a short story or vignette which typically depicts a child struggling with his or her behavior. After reading the vignette, the participant then completes an acceptability rating scale in reference to one or more possible interventions which can theoretically be used to help improve the child's behavior. In contrast to clinical administration studies, the rater does not have to actually implement any interventions. A study completed by Jones and Lungaro (2000) serves as a good example of a research experiment which uses analog administration. The goal of the study was to assess whether a sample of elementary school teachers found *function-based* interventions (such as FBA/BSP) more acceptable than arbitrarily selected interventions. Teachers first read a vignette that described the results of a functional assessment for a fictional child. Next, they completed a treatment acceptability rating scale on one of three interventions. The researchers found that teachers rated functionally-relevant interventions as more acceptable than the interventions not associated with the functional assessment.

Most treatment acceptability studies have chosen analog administration over clinical administration (Eckert & Shapiro, 1999). The principal reason for this discrepancy is a practical one – analog procedures require less time and effort to complete, because participants rate interventions without having to implement them with actual children. The swiftness of analog administration procedures allows researchers to assess a larger number of treatment procedures than clinical studies would allow. As previously mentioned, however, the validity of responses in analog studies may come into question, as participants may have limited practical experience with the target interventions and strategies. Considering the aforementioned benefits and pitfalls of the different administration procedures, the decision to use an analog or clinical assessment is based largely on the researcher's time, resources, and sample size.

2.9 COMMONLY USED TREATMENT ACCEPTABILITY MEASURES

Regardless of the administration method, most studies rely on the use of a rating scale to assess treatment acceptability. Many scales exist; over time, some scales have been shortened or adapted for use in various settings and populations. The most commonly used scales include Kazdin's (1980) *Treatment Evaluation Inventory* (TEI), and the *Intervention Rating Profile* (IRP; Witt & Martens, 1983). These instruments require participants to complete a set of Likert-scale items about the acceptability of a single treatment procedure. Both the TEI and IRP have been demonstrated to be empirically reliable and valid (Newton, Nabeyama, & Sturmey, 2007; Lane et al., 2009). The following sections will review the TEI, IRP, significant differences between them, and their derived measures.

2.9.1 Treatment Evaluation Inventory (TEI)

Kazdin introduced the TEI following his initial work on social validity and treatment acceptability (1980). Consistent with his definition of social validity, Kazdin designed the TEI to reflect the following dimensions of the construct:

> … whether the treatment would be recommended or endorsed for broad application; whether it was unfair or cruel; whether it would be appropriate, if applied to someone who was not capable of giving consent; and whether treatment was consistent with commonly held notions of what treatment should be. (p. 261)

The original TEI consists of 15, 7-point Likert scale items administered with analog procedures. Kazdin's factor analysis resulted in the 15 items all loading onto one primary factor, "acceptability." To assess the aforementioned dimensions of social validity, the TEI includes questions such as "How willing would you be to carry out this procedure yourself if you had to change the child's problems," and "How much do you like the procedures used in this treatment" (p. 261). Higher scores indicate positive feelings about the validity of the target intervention. Scores from participant responses then are summed to create an overall acceptability score.

The TEI was the first measure of treatment acceptability. Initial studies typically involved undergraduate students using the TEI with an analog procedure (Kazdin, 1980, 1981). However, the scope of research using the TEI has been expanded since this preliminary work. Over time, many researchers have either modified the TEI or used the scale as a starting point for the creation of similar instruments. Examples include efforts to make the scale more suitable for child raters (Kazdin, French, & Sherick, 1981) or low SES samples (Miltenberger, Parrish, Rickert, & Kohr, 1989), and the development of short forms (Kelley, Heller, Grisham, & Elliot, 1989; Newton & Sturmey, 2004). The TEI and these derived measures are primarily used to

evaluate the acceptability of treatments for general child behavior problems (Miltenberger, 1990). While a handful of clinical studies exist, the proper utility of the TEI appears to be within the context of theoretical research studies as opposed to practical application (Finn & Sladeczek, 2001). This quality suggests that the TEI may not be the most appropriate measure for use with teacher samples. Table 1 lists a sample of scales derived from the TEI and whether these scales were used with clinical or analog administration.

Table 1: Treatment Evaluation Inventory (TEI) and Derived Measures of Treatment Acceptability

Measure	Reference	Purpose and/or Alterations	Used Analog Administration?	Used Clinical Administration?	Population(s)
Treatment Evaluation Inventory (TEI)	Kazdin, A.E. (1980). Acceptability of alternative treatments for deviant child behavior. *Journal of Applied Behavior Analysis, 13(2),* 259-273.	Initial measure of treatment acceptability.	Yes	No	Undergraduate psychology, education, and human development students.
Treatment Acceptability Rating Profile (TARF)	Reimers, T., & Wacker, D. (1988). Parents' ratings of the acceptability of behavioral treatment recommendations made in an outpatient clinic: A preliminary analysis of the influence of treatment effectiveness. *Behavioral Disorders, 14,* 7-15.	Added items related to social validity missing from the TEI, and increased applicability to clinical populations.	Yes	Yes	Parents seeking professional child behavior management assistance.
Treatment Evaluation Inventory Short Form (TEI-SF)	Kelley, M., Heffer, R., Gresham, F., & Elliott, S. (1989). Development of	A simpler version of the TEI which reduced the number of items (15 to 9),	Yes	No	Undergraduate psychology students (study 1); mothers of children between the

	a modified treatment evaluation inventory. *Journal of Psychopathology and Behavioral Assessment, 11(3),* 235-247.	shortened the rating scales (7-point to 5-point Likert scale) and removed complex language.			ages of two and twelve (study 2).
Treatment Evaluation Questionnaire (TEQ)	Miltenberger, R.G., Parrish, J.M., Rickert, V., & Kohr, M. (1989). Assessing treatment acceptability with consumers of outpatient child behavior management services. *Child and Family Behavior Therapy, 11(1),* 35-44.	Reduced the number of items (15 to 12) and shortened the rating scales (7-point to 5-point Likert scale).	No	Yes	Low SES parents and caregivers receiving outpatient child behavior management services.

While the TEI is a stalwart measure in the treatment acceptability literature, a number of potential limitations exist. The instrument does not require participants to respond to questions about cost and ease of administration of the interventions, which may also be relevant dimensions of treatment acceptability (Kazdin, 1980). Additionally, some researchers conducting independent factor analyses of the TEI found the measure to have a two-factor structure (Finn & Sladeczek, 2001). This is in contrast to Kazdin's factor analysis, which resulted in one factor, "acceptability." These studies have found a range of secondary factors, including "Ethical Issues/Discomfort" (Kelley et al., 1989) "Effectiveness," (Spirrison, Noland, & Savoie, 1992), and a factor regarding the negative side effects of interventions (Calvert & Johnston, 1990). The fact that multiple studies have found different factors for the same measure raises questions about the construct validity of the TEI. Finally, concerns have been levied against the technical language contained within TEI, and some have argued that the measure is inappropriate for use with low-literacy samples (Kelley et al., 1989) and children (Elliott, 1988).

2.9.2 Intervention Rating Profile (IRP)

Witt and Martens (1983) developed the Intervention Rating Profile (IRP) as an alternative measure of treatment acceptability. The authors wanted to develop an instrument that measured the variables that affect *teachers'* opinions of behavioral interventions. As such, where the TEI is more of a general measure of behavioral interventions, the IRP primarily evaluates school-based interventions (Miltenberger, 1990). As such, the IRP is the measure of choice for researchers who seek to assess the treatment acceptability of behavioral interventions in schools.

The IRP is similar in form to the TEI; the original version contains 20 6-point Likert scale items used to assess treatment acceptability. These items are summed to create an overall

acceptability score, with higher scores once again indicating greater acceptability. An example item is "Most teachers would find the intervention suitable for the behavior problem described." The IRP contains five factors – one primary factor ("acceptability") and four secondary factors related to the time required to complete the intervention, the skill required to complete the intervention, the amount of child risk involved, and whether the intervention affects other students in the classroom (Finn & Sladeczek, 2001). This factor structure has been confirmed by other studies (Meller, Martens, & Hurwitz, 1990).

Initial studies of the IRP called upon preservice and student teachers to provide ratings of school-based interventions (Witt & Martens, 1983). More recent research expanded upon the school-based population, including general education teachers and special education teachers (Dunston, Hughes, and Jackson, 1994). These studies, as well as most other IRP studies, have been used most often with analog administration procedures (Finn & Sladeczek, 2001).

Like the TEI, the IRP has also been adapted by numerous researchers. The IRP-15 (Martens, Witt, Elliott, & Darveaux, 1985) is a short form, the Children's Intervention Rating Profile (CIRP, Witt & Elliot, 1985) is a child-friendly version of the IRP, and the Behavior Intervention Rating Scale (BIRS, VonBrock & Elliot) adds a handful of items to assess treatment effectiveness in addition to acceptability. Table 2 lists a sample of scales derived from the IRP and notes whether these scales used clinical or analog administration.

Table 2: Intervention Rating Profile (IRP) and Derived Measures of Treatment Acceptability

Measure	Reference	Purpose and/or Alterations	Used Analog Administration?	Used Clinical Administration?	Population(s)
Intervention Rating Profile (IRP-20)	Witt, J.C., & Martens, B.K. (1983). Assessing the acceptability of behavioral interventions used in classrooms. *Psychology in the Schools, 20(4),* 510-517.	Measure of treatment acceptability for school-based interventions.	Yes	No	Pre-service and student teachers.
Intervention Rating Profile Short Form (IRP-15)	Martens, B.K., Witt, J . C , Elliott, S.N., & Darveaux, D. (1985). Teacher judgments concerning the acceptability of school-based interventions. *Professional Psychology: Research and Practice, 16(2),* 191-198.	Shorter version of the IRP-20. Reduced the number of items (20 to 15) and shortened the rating scales (7-point to 5-point Likert scale).	Yes	No	Regular and special education teachers.
Children's Intervention Rating Profile (CIRP)	Witt, J.C., & Elliott, S.N. (1985). Acceptability of classroom management strategies. In T.R Kratochwill (Ed.), *Advances in school psychology*. (Vol. 4,	Adapted the IRP-15 for use with children. Reduced the number of items (15 to 7) and language complexity.	Yes	No	Large sample of African American and Caucasian fifth grade students.

	pp. 251-288). Hillsdale, NJ: Lawrence Erlbaum.				
Behavior Intervention Rating Scale (BIRS)	VonBrock, M.B., & Elliott, S.N. (1987). The influence of treatment effectiveness information on the acceptability of classroom interventions. *Journal of School Psychology, 25(2),* 131-144.	Extended the IRP-15 (from 15 to 25 items) to assess a more comprehensive definition of treatment acceptability.	Yes	No	Teachers attending graduate courses.
Primary Intervention Rating Scale (PIRS)	Lane, K.L. Kahlberg, J.R., Bruhn, A.L., Driscoll, S.A., Wehby, J.H., & Elliott, S.N. (2009). Assessing social validity of School-wide Positive Behavior Support Plans: Evidence for the reliability and structure of the Primary Intervention Rating Scale, *School Psychology Review, 38(1), 135-144.*	Used to evaluate school-wide behavioral interventions and supports.	Yes	No	Elementary, middle, and high school teachers working in schools with Positive Behavior Support (PBS) plans.

The main limitation of the IRP is that it was developed with one population in mind: teachers. This improves the instrument's validity for use within this specific population, but it also raises questions about the appropriateness of its use with other populations such as parents, children, and school psychologists.

2.9.3 Limitations of treatment acceptability measures

While the TEI and IRP are excellent instruments that have contributed to an influential body of literature, they are not without their limitations. Perhaps the most striking limitation is that neither the TEI nor the IRP allow participants to rate more than one treatment procedure at a time. This is not a limitation concerning validity; the process of rating one procedure at a time is likely to produce accurate data, as participants can clearly focus on one procedure. It is probable that the creators of these instruments had this in mind, as it is possible that asking participants to rate a group of procedures on the same assessment may decrease the validity of their responses.

However, researchers who wish to evaluate the acceptability of a large number of interventions currently do not have an efficient tool to do so. Using one of the aforementioned rating scales to evaluate a large set of interventions would be remarkably time-consuming, because it would require each participant to complete *one form for each intervention*. This problem is exacerbated in studies with large sample sizes. Consider obtaining the treatment acceptability ratings for 20 interventions in a study of 200 participants. Using one of the traditional scales would require researchers to collect and analyze 4,000 rating forms! In addition, each participant would be required to complete 20 forms, which could become tedious and affect their responses. For many researchers, this type of large-scale study is simply not feasible, as it would require an abundance of time and resources. While both the TEI and IRP are

useful instruments, it would be helpful if there were a more efficient alternative assessment to evaluate multiple interventions in a large sample.

Another problem with traditional measures of treatment acceptability is that they were designed to assess targeted and intensive intervention procedures only. The vast majority of studies of treatment acceptability have focused on the evaluation of these types of intervention procedures, neglecting universal interventions. Additionally, many studies of treatment acceptability focus on the use of punishment-based strategies, neglecting to assess more positive approaches (Michaels, Brown, & Mirabella, 2005).

However, it is equally important to assess universal-level interventions applied to an entire population (for example, every student enrolled in an elementary school). Recall that these interventions are those that are employed to address minor behavior problems. Unfortunately, neither the TEI nor the IRP have been validated for use with these universal interventions (Lane, Kahlberg, Bruhn, Driscoll, Wehby, & Elliot, 2009). This may explain the lack of research assessing the treatment acceptability of universal interventions. Some researchers, however, have begun to address this gap in the literature. For example, Lane and her colleagues (2009) adopted the IRP to develop the Primary Intervention Rating Scale (PIRS), an instrument that assesses the treatment acceptability of universal interventions. Initial results suggest that the PIRS is a reliable and valid instrument for the assessment of universal interventions. Yet, the PIRS can be used only to assess one intervention at a time. In addition, the PIRS was developed to address *only* universal interventions. As such, it may not be valid for use with targeted or intensive procedures.

One final concern is that existing treatment acceptability measures exist in paper-and-pencil format only. While this is true of many standardized research instruments, this format

does have some practical limitations. Any data collected from hard copy assessments must be eventually transported into a computerized format for analysis. Typically, this arduous task is completed by research assistants who type information from the assessments into a database or statistical software package. Several potential problems arise with this practice. First, transferring data introduces delays into the research process, increasing the time required to complete a study. Second, research assistants must be trained to enter and code data reliably. After training, the process of transporting data into a computer can often take weeks or even months to complete. In a small study, these concerns may not be significant, but studies with large samples often experience great delays through this process. The third problem of this practice is concerned with data integrity. It is likely that even well-trained, focused research assistants will make errors when transferring hard-copy data. While most studies can diminish this concern through careful training and frequent reliability assessments, mistakes still occur.

These concerns would be alleviated if participants could enter their data directly into a computerized database. An electronic entry system eliminates the need for research assistants to enter and code data. This system significantly reduces the time and resources required to complete a research study. Additionally, researchers do not have to worry about breaches of data integrity through transporting procedures, as any data stored into the database would be original participant data. Finally, computerized entry also abolishes the need for researchers to physically store, copy, and sort their paper-and-pencil assessments.

2.10 MEASURING ADOPTION RATE OF SCHOOL-BASED BEHAVIORAL INTERVENTIONS

Measuring teachers' treatment acceptability ratings of behavioral interventions provides both researchers and practitioners with information that can potentially inform intervention work with students. Knowing which interventions teachers view to be acceptable can provide invaluable insight into which procedures they prefer to use when working with students. How, then, is this information distilled into actual practice? Can schools make use of treatment acceptability ratings to improve their behavioral supports for students? Does treatment acceptability research inform us about what teachers actually do?

Recall that researchers have primarily studied social validity and treatment acceptability in reference to behavioral interventions for two reasons: (1) to determine which interventions are adopted by practitioners, and (2) to discover which interventions teachers choose in the face of competing alternatives. Considering this, it could be said that assessing the *frequency* (adoption rate) of how often individuals use certain procedures may result in more practical implications for practitioners than assessing treatment acceptability alone. What does the acceptability or social validity of an intervention tell us if that intervention is rarely used? Is it more important for schools to know if a teacher considers an intervention to be acceptable, or if she actually uses it? The latter question may be indirectly answered by measures of treatment acceptability because we know that if an intervention is considered acceptable, it is more likely to be adopted (Wolf, 1978). However, a more direct approach for measuring adoption rate would simply ask teachers which interventions they use, and how often they use them.

It could be argued that measuring the adoption rate of school-based behavioral interventions can lead to more practical findings than treatment acceptability. For example,

according to the treatment acceptability research, teachers prefer to use unobtrusive, less intensive interventions over intrusive, reactive interventions unless the student's behavior is severe (Miltenberger, 1990). Research on the adoption rate of intrusive, reactive interventions conflicts with this finding, however: many teachers rely on these types of interventions regardless of the severity of student behavior (Sprague et al., 2001). As most researchers would suggest that teachers cease their reliance on these interventions (Sprague et al, 2001; Michaels, Brown, & Mirabella, 2005; Kerr & Nelson, 2010), this is a pertinent finding. In essence, teachers report that they view these interventions to be unacceptable in most circumstances; however, their behavior indicates that they implement these procedures with regularity.

One of the primary goals of behavioral intervention research is to improve the ability of teachers to support their students. It is vital, then, to know what interventions teachers *implement* when students misbehave. The literature agrees that teachers should rely on evidence-based behavioral interventions (Reschly, 2004). Knowing what interventions teachers currently use is essential for trainers who wish to reconstruct teacher responses to misbehavior towards these best practices (Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000). This is particularly important considering that ineffective discipline practices may harm the student or reinforce the problem behavior (Alvarez, 2007). One major limitation of treatment acceptability research is that it results in a teacher's relative *opinion* about the worth of an intervention, but neglects to assess whether the teacher *uses* that intervention. Moreover, it is possible that treatment acceptability measures are "socially and psychometrically invalid," (Schwartz and Baer, 1991) as teachers may tend to report on which interventions they think are "supposed" to be viewed as acceptable rather than those they actually believe to be acceptable.

In sum, while knowing what a teacher thinks of an intervention is important information, it is more helpful to know what that teacher *does*. This will allow researchers to focus their efforts on identifying and changing unfavorable practices and barriers to using evidence-based interventions. Examining the adoption rate of behavioral interventions in the school setting accomplishes this task. Unfortunately, there is little research dealing with teachers' preferred interventions for behavior problems (Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000; Tillery, Varjas, Meyers, & Collins, 2010). Truthfully, little is known about what interventions are implemented in actual practice (Reschly, 2004).

However, some researchers have sought to uncover the adoption rate of school-based behavioral interventions by teachers. In response to a perceived absence of connection between treatment acceptability research and adoption rate, Marstens, Peterson, Witt, and Cirone (1986) asked teachers to rate how often they used 49 interventions to correct student behavior in the classroom. Teachers reported that the two strategies they most often used were redirection and manipulation of rewards. Similarly, teaches also found these interventions to be the easiest to implement, as well as the most effective. Finally, teachers reported that the interventions they most seldom implemented were those that called for a removal of the student from the classroom (referral to the office, time out, suspension, etc.).

Johnson and Pugach (1990) continued this line of inquiry in their study of intervention strategies for minor behavior and academic problems. They asked 309 elementary school teachers to rate how often they used 57 interventions designed to be used *before* a student is referred for special education services. Of the behavioral interventions, the most rarely used were providing encouragement to the student about improving his or her behavior, and self-monitoring. The most commonly used interventions were establishing clear rules for behavior,

removing student privileges, and after-school detention. Overall, in contrast to the Marstens et al. study, teachers reported higher frequency ratings for less desirable interventions that remove the student from the classroom (Johnson & Pugach, 1990).

Another study of the preferred interventions of elementary school teachers found somewhat contrasting results, however. Two-hundred elementary teachers were asked to rate their preferred interventions in response to minor behavior problems such as off-task behavior, talking without teacher permission, moving around the classroom and talking back to the teacher (Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000). Teachers in this study reported that they preferred to use "neutral" practices (such as planned ignoring) over punitive practices (such as detention or removal of privileges). In addition, the researchers found varying frequency ratings for interventions based on the type of problem behavior. Teachers were more likely to use punitive interventions for behaviors that caused a classroom disruption. Understandably, this suggests that the intervention selected by a teacher is influenced by the presenting problem behavior.

Studies that examine teachers' self-report data on preferred interventions all rely on quantitative measures; however, it could be argued that more descriptive information could be garnered from qualitative data (Tillery et al., 2010). To address this gap in the adoption rate literature, Tillery and colleagues conducted in-depth interviews with 20 elementary school teachers. To address the issue of preferred interventions, teachers were asked questions such as "How do you prevent negative behavior in the classroom?" and "How do you interrupt negative behavior in the classroom?" Themes extracted from the qualitative data indicated that teachers used a range of strategies and behavioral interventions when dealing with individual student behavior. Positive strategies identified include verbal praise, proximity control, positive

reinforcement through rewards, and classroom contingencies. Reactive strategies included response cost/removal of privileges, office discipline referrals, and contact with parents. The teachers also identified a number of universal interventions used to prevent misbehavior, such as teaching school rules and expectations, and promoting the use of daily agendas. Aside from these, the teachers in the study reported little information on behavioral interventions directed towards groups of students.

2.10.1 Limitations of adoption rate research

While the above studies begin to bring forth many of the trends regarding teachers' use of behavioral interventions, many limitations exist. Foremost is that no standard instrument exists to measure adoption rate. Studies of this construct each employ a unique instrument, from surveys specifically created for the study (Marstens et al, 1986) to structured interviews (Tillery et al., 2010). While the reliability and validity of these original measures are often cited, the lack of a uniform measure means that comparing results from independent studies is difficult. Moreover, the use of diverse surveys often means that different studies measure different interventions. For example, Marstens and colleagues (1986) asked teachers to rate 49 interventions, while the Johnson and Pugach (1990) study required teachers to rate 57 interventions. Another concern that derives from the use of assorted measures is that the phrasing of items may differ. One measure may include "proximity control," while another may include "move near student." These items refer to the same intervention, but may produce varying results, because not all teachers may be aware of the former term. This inconsistent terminology further reduces the feasibility of comparing results from separate studies.

Another concern is that some adoption rate measures do not consider the severity or type of problem behaviors. Respondents are asked to rate how often they use an intervention, but are given no context as to when they do so. This can lead to unnecessary confusion on the part of the raters, as teachers may be likely to use an intervention only for certain types of behaviors. It would be preferable for measures to explicitly align interventions with behaviors based on severity. This practice could reduce confusion on behalf of the respondents and provide researches with additional information such as the ability to compare how often the same interventions are used with annoying and severe behaviors.

Yet another concern refers to the size and homogeneity of samples typically collected in adoption rate studies. Typically, adoption rate studies focus on a relatively homogeneous group of teachers such as elementary school teachers. While some of these studies collect data from a large number of teachers (Johnson and Pugach, 1990; Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000), no study has assessed a sizable, district-wide sample. Obtaining data from such a sample would yield interesting results, as data from many teachers of different aged students may differ from smaller samples dealing with only one or two grade levels.

One final concern with this area of research is that most studies have focused on suburban or rural teacher samples. An extensive review of the literature found no studies which examine the adoption rate of behavioral interventions for urban teachers. One large-scale study did include an urban sample (District of Columbia), but respondents were principals, not the teachers implementing interventions (Gottfredson & Gottfredson, 2001). This leaves an important gap in the literature as schools, particularly urban schools, are becoming more ethnically diverse (Cartledge, Gardner, & Ford, 2009). It is possible that teachers working in schools containing diverse student populations may report the use of different behavioral

interventions than their rural counterparts. For example, it has been demonstrated that many teachers rely more heavily on detentions, office discipline referrals, and suspensions when disciplining African American students (Skiba, Michael, Nardo, & Peterson, 2000). This example raises significant questions about the behavioral interventions selected by urban teachers.

2.11 AN ALTERNATIVE ASSESSMENT

Considering the essential role that adoption rate research plays in the selection of effective behavioral supports in schools, as well as the limitations of current adoption rate instrumentation, an alternative assessment measure was created. The present study employed the use of this new scale to assess adoption rate, or, more specifically, the frequency that teachers use various school-based behavioral interventions. This scale, the Survey of Behaviors and Strategies (SBAS; Valenti & Kerr, 2009), asks participants to provide a frequency rating in regards to how often they use different behavioral interventions when responding to student behaviors. Participants can also indicate which interventions they are unfamiliar with.

The SBAS was designed both as a research tool, and a practical tool that can help to facilitate the creation of consistent disciplinary practices in schools. When designing the assessment, careful consideration was made so that the SBAS could appropriately serve both of these purposes. For example, certain intervention names were changed to avoid technical language and increase teachers' familiarity with the intervention (i.e., the survey item for self-monitoring was changed to "form to monitor behavior"). Decisions such as this make the survey

more accessible to teachers, while maintaining the ability to measure interventions that may be otherwise unfamiliar.

The SBAS also alleviates a number of the limitations of both adoption rate and treatment acceptability measures. Foremost is that many measures can only assess one intervention at a time. The design of the SBAS is such that it can assess many interventions at a time and also has the capability to assess the entire spectrum of behavioral supports (universal, targeted, and intensive). Recall that many treatment acceptability measures assess targeted or intensive interventions only. In addition, the absence of a commonly used adoption rate measure leads to instruments which include varying amounts of interventions. This places these studies at risk for omitting certain research-validated, effective practices. The SBAS includes a comprehensive list of universal, targeted, and intensive interventions garnered from the literature (Cooper, Heron, & Heward, 2007; Simonsen et al, 2008; Alberto & Troutman, 2009; Kerr & Nelson, 2010). To obtain an accurate measure of what interventions teachers use, the SBAS includes EEBPs, non-evidence-based interventions, and interventions with mixed findings regarding their effectiveness,

Second, the SBAS is designed to be used with a very large sample, indicating a need for speedy data processing. As such, the SBAS eschews paper and pencil copies in favor of an electronic format. This design makes the SBAS suitable for use with both small samples and large samples alike, allowing researchers to collect and compile large sums of data with relative ease. The electronic format also increases the ease in which researchers can obtain data from multiple sources, which allows for the collection of data from more heterogeneous samples. This includes data from teachers of all grade levels to teachers from different schools, districts, and locations.

Procedurally, the SBAS employs a pseudo-analog administration method. Recall that traditional analog methods require participants to first read an example scenario before evaluating behavioral interventions. The SBAS eschews these vignettes entirely and asks participants to rate interventions in respect to their personal working environment. There are multiple reasons for this type of question construction. First, the SBAS was designed to evaluate numerous intervention procedures at once. It would be difficult to ask participants to report how often they use of a large number of interventions based on *one* scenario, because some interventions are simply not relevant to the particular problem behavior described in the scenario. For example, it may not be appropriate to ask a participant to report how often she uses an intervention designed to reduce off-task behavior for a student who is always on-task. However, the same intervention may be perfectly appropriate for use with a student who is easily distracted. As this example demonstrates, it is impossible to ask participants to rate multiple interventions in this way, as they will be appropriate in some cases but avoided in others. If the SBAS were to ask participants to evaluate interventions based on one scenario, the instrument would lose face validity. Second, it could be argued that adoption rate cannot be measured in relation to fictional vignettes considering that the goal of this research is to measure which teachers use with their actual students. Understandably, asking teachers to record the frequency in which they use interventions based on an imagined child may not be a valid process.

When measuring adoption rate, however, it is also necessary to provide teachers with some context when referring to interventions – they cannot be rated in a vacuum. For practical reasons, providing teachers with some context establishes a conceptual framework or schema that can be used to organize their thinking about student behaviors and interventions. It is for these reasons that the SBAS instructs participants to report their adoption rate of behavioral

interventions in reference to groups of behaviors which share a similar characteristic rather than one behavior depicted by a vignette. Specifically, behaviors are organized into four groups known as *intensity levels*. Each intensity level contains a set of behaviors which are similar in severity in reference to how disruptive they are to learning. This design choice aligns with the concept that school-based interventions should match student behavior in terms of severity or intrusiveness (Gresham, 2004; Reschly, 2004). Following this logic, the sets of behaviors on the survey parallel the systems of behavioral supports discussed previously (universal, targeted, intensive). Higher intensity levels contain behaviors that are more disruptive to learning, or intensive behaviors. In contrast, low intensity behaviors may hardly disrupt learning at all (low intensity or severity behaviors). For example, Intensity I Behaviors are described as "annoying behaviors" usually not very serious in nature, while Intensity III Behaviors are described as "severe or dangerous behaviors."

Upon reading each list of behaviors, participants are provided with an inventory of school-based behavioral interventions and are asked to rate how often they use each intervention when responding to that particular set of behaviors. This streamlined structure and format of the SBAS allows users to rate multiple interventions rather quickly. The decisions to exclude vignettes, requiring participants to rate multiple behavioral interventions at a time, and relying on frequency ratings may prompt questions regarding the construct validity of the SBAS; however, construct validity is always a concern with survey measures.

2.12 USING THE SBAS TO MEASURE TEACHERS' ADOPTION RATE OF BEHAVIORAL INTERVENTIONS

The present study uses the SBAS to address a number of the gaps in the adoption rate and treatment acceptability literature. Responding to the lack of a large sample of teachers, particularly teachers from different grade levels, this study collected data from teachers ranging from kindergarten to twelfth grade. In addition, this study utilizes data from an urban school district to examine the disciplinary practices of teachers working in culturally diverse environments. Together, these questions formulate a preliminary exploratory analysis of which behavioral interventions are used by a representative sample of urban teachers.

In addition, it is important to measure whether different behavioral interventions are used in regards to student behaviors of varying severity. Many researchers argue that teachers responding to misbehavior should increase the intrusiveness of interventions to match the severity or frequency of a student's behavior (Gresham, 2004; Reschly, 2004; Sugai & Horner, 2009). This requires that teachers must employ a selection of behavioral interventions from all systems of support. This study uses the SBAS to explore whether teachers do indeed adhere to this notion by matching interventions with behaviors of equivalent severity. In line with previous research in this area, the teachers in this sample are not expected to match intervention intrusiveness to behavior severity.

One final question is how often urban teachers rely on the use of EEBPs. Of particular interest is whether this group of urban teachers uses EEBPs more often than those not universally supported by empirical or practical research. While some samples have reported a lack of use of the latter interventions (Marstens et al, 1986; Tillery et al, 2010), most researchers agree that teaches tend to rely heavily on punitive, reactive disciplinary practices (Sprague et al, 2001;

Reschly, 2004; Michaels, Brown, & Mirabella, 2005). Combined with the research that documents the overrepresentation of minority students in reactive disciplinary measures (Skiba et al, 2000) the urban teachers in this sample are expected to report the use of these procedures more frequently than evidence-based interventions.

In sum, this study intends to:

1. Provide a preliminary exploratory analysis of which behavioral interventions urban teachers report they use most often.
2. Detect whether teachers in the sample report that they match intrusiveness of interventions and strategies with severity of problem behavior.
3. Detect whether teachers in the sample report using evidence-based interventions more frequently than interventions not universally supported by research.

3.0 METHODS

3.1 DESCRIPTION OF THE INSTRUMENT

The SBAS consists of a total of 94 items with two distinct subscales: a Behavioral Importance Subscale (BIS) and a Corrective Responses Subscale (CRS) (see Appendix B for a copy of the instrument). Only the CRS was utilized for this study. The Behavioral Importance Subscale includes a list of problem behaviors organized by the aforementioned intensity levels. Overall, there are 50 five-point Likert scale items contained within this subscale. Each question contains two items that correspond to a disruptive behavior typically exhibited in a school environment. Respondents are asked to provide two distinct ratings for each behavior: a personal rating and a school rating. First, they are asked to "rate each behavior's importance as a problem to you personally" (personal rating). Participants can rate each behavior as 1(not important), 2 (of little importance), 3 (moderately important), 4 (very important), or 5 (extremely important). Next, they are asked to "indicate how often the behavior occurs in your school" (school rating). Participants can choose 1 (never), 2 (rarely), 3 (sometimes), 4 (often), or 5 (always).

After participants answer questions about each behavior by an intensity level, they are asked to provide a rating for how often they use certain interventions in reference to these behaviors. This is the Corrective Responses Subscale. Specifically, participants are asked to "tell us which strategies you use to prevent or respond to intensity X (e.g., 'Intensity II') behaviors".

In total, there are 40 of these items which, when taken together, make up the CRS. These questions are five-point Likert scale items in which the participant can choose 1 (I never use this strategy), 2 (I rarely use this strategy), 3 (I sometimes use this strategy), 4 (I often use this strategy), or 5 (I always use this strategy). In addition, participants can select "unsure without more information," an option which can help to assess participants' familiarity with various interventions.

These 40 items cover 19 separate interventions, as participants must rate a handful of interventions more than once. Asking individuals to rate certain interventions multiple times allows for comparison of how often participants use the same intervention with behaviors of varying intensities. For example, "positive reinforcement (behavior contract, token economy, incentive system, Good Behavior Game, etc.)" appears as a treatment for behaviors under each intensity level because it can be an effective treatment for a wide range of behaviors. Conversely, "referral to administrator" may not be appropriate for low intensity behaviors, but participants are asked nevertheless to provide a frequency rating across intensity levels for this procedure. Obtaining multiple frequency ratings for "referral to administrator" can help assess whether teachers are applying this procedure to low intensity behaviors.

The final four items on the survey provide participants with the opportunity to give open-ended responses. First, in the section entitled "Intensity IV Behaviors," (including severe or dangerous behaviors that usually require student suspension or expulsion) participants are not asked to rate anything but can write comments about these behaviors. Next, participants are asked, "Are there any behaviors important to you personally that we missed?" Participants then have the option of rating each of the open-ended responses using the same five-point Likert scale used for the personal ratings under the Behavioral Importance Subscale. Following this,

participants can add if there "are any behaviors that you see at your school that we missed?" Participants can rate these responses using the same five-point Likert scale used for the school ratings under the Behavioral Importance Subscale. Finally, the last open-ended question allows participants to suggest their own strategies that "were not included on any of the lists."

Because the SBAS is designed to allow researchers and practitioners to collect information from large samples, swift dissemination procedures are required. To create rapid access to the data, the SBAS is a web survey that is distributed on-line. Prior to distribution, users of the SBAS are encouraged to provide participants with an explanation of the survey. An introductory email or preliminary site visit typically serves this purpose. To view the survey, participants also receive a link to an internet website via email. From there, they can complete the survey through the website, as there is no software to download. This process permits users to complete the assessment on their own time if desired. The on-line format of the SBAS also allows participants to complete the instrument in a timely manner. Pilot tests demonstrate that the survey takes approximately 15 minutes to complete. Once a participant completes the survey, the results become visible to the researcher instantaneously. Therefore, the SBAS expedites data collection because researchers are not required to visit multiple data sites in order to obtain a large set of responses.

3.2 PARTICIPANTS AND PROCEDURE

The study took place in an urban district serving approximately 29,445 students in kindergarten through Grade 12 in 74 schools. The district employs approximately 5,180 employees, including 2,315 teachers. The SBAS was sent to all 74 schools, but nine schools chose not to participate.

Excluding teachers from these nine schools, a total of 2071 teachers received the survey. In total, 1215 individuals in 65 schools, including 24 K-5 (N = 401) schools, 11 middle schools (grades 6-8; N = 205), 14 K-8 schools (N = 259), eight high schools (N = 236), and eight special/other schools (N = 114) participated in the current study. The overall response rate was 59%. This represents an acceptable response rate as most email and internet surveys obtain an approximate 35% response rate (Sheehan, 2001). Anonymous data were collected from staff members in each of the schools using the SBAS. Participation was not mandatory. Maintaining the anonymity of participants was essential because data were shared with each school administrator upon conclusion of the survey for training and planning purposes. Therefore, demographic information was not collected to protect staff identities. In addition, anonymity increased the probability that participants' responses were entirely truthful. If participants thought that their identity could be uncovered, they might have answered items differently. Additional identifying information such as ethnicity, age, gender, and years of teaching experience were not collected for this study.

The survey was disseminated electronically to each participant through email. Each principal received an e-mail from the author that included an explanation of the survey and that school's survey hyperlink. Principals were asked to forward the electronic invitation to all teachers currently working in their schools (See appendix C for the invitation). Upon receiving the survey, teachers were permitted to complete the survey on their own time. Outside providers (i.e., individuals working with students but not employed by the district) and non-teaching staff (cafeteria workers, custodians, etc.) were excluded from the survey. A reminder e-mail was sent one week later. Teachers were given two weeks to complete the survey.

3.2.1 Attrition analysis

Missing data were reviewed and cases with missing data on more than three items on the CRS were removed from all analyses. Using this criterion, a total of 51 cases were removed, bringing the size of the dataset to 1164. Because the SBAS measures individual reports, no statistical imputations were performed to substitute missing data, as these procedures can bias results (Scheuren, 2005). An independent samples *t*-test was conducted to see if there was a significant difference between the removed cases and the final sample on the primary dependent variable, frequency ratings of behavioral interventions. Prior to conducting the *t*-test, a total score composite measure was created by summing the frequency ratings of each item in the CRS. Results indicated a statistically significant difference on these composite scores, $t(41.86) = -11.807$, $p < .001$. However, the practical significance of this difference is trivial, given that the removed cases were targeted for deletion due to missing data on the dependent variable. Composite scores from removed cases were likely to be significantly lower than those from the remaining dataset solely because of missing data.

3.2.2 Reliability analysis

Reliability analyses for each Behavioral Importance Subscale and each Consequence and Responses Subscale were computed using Cronbach's alpha. According to Gravetter and Wallnau (2007), Cronbach's alpha values must exceed .7 to demonstrate internal consistency (reliability). Internal consistency coefficients for each Behavioral Importance Subscale (Intensity I: $\alpha = .928$; Intensity II: $\alpha = .921$; Intensity III: $\alpha = .884$), as well the total BIS ($\alpha = .962$) were sound. Sound internal consistency coefficients for each Consequence and Responses Subscale

(Intensity I: α = .831; Intensity II: α = .853; Intensity III: α = .884), as well the total CRS (α = .941) were also found.

3.2.3 Analytic plan

To reiterate, the research questions proposed by this study included: a) What are the preferred behavioral interventions of teachers in one urban school district, b) Do teachers match intervention intrusiveness to the severity of problem behaviors, and c) Do teachers prefer evidence-based interventions over ineffective interventions? The following sections explain the data analysis undertaken to answer these three questions.

3.2.3.1 What are the preferred behavioral interventions of urban teachers?

The primary goal of this study was to provide an initial exploration of the preferred behavioral interventions of a large sample of urban teachers. To obtain this information, an extensive review of descriptive statistics from the SBAS took place. Because demographic data were excluded from this study, frequency ratings from the CRS provided the bulk of the descriptive analysis. These ratings were used to uncover which interventions teachers in the sample reported to (a) use the most often and (b) use the least often. Means, standard deviations, and ranges were also used to provide a more descriptive analysis of the survey data. In addition, teachers' familiarity with behavioral interventions was assessed by reviewing how often teachers could not rate their use of each intervention by selecting the "unsure about using without more information" response option.

Each piece of open-ended data from item 10 of the SBAS ("Are there any strategies you use that were not included in any of the lists?") was read as well. While no statistical analysis

was completed on this data, preliminary findings could serve to support trends discovered in the quantitative survey data. Reviewing these data would also assess whether teachers report using interventions not included on the survey.

3.2.3.2 Do teachers match intervention intrusiveness to the severity of problem behaviors?

Research suggests that interventions are most effective when they are used with behaviors of equivalent severity or intensity. That is, uncomplicated or unobtrusive interventions are best when used with minor behaviors. Conversely, intrusive or invasive interventions should be used only when a student's behavior is severe or persistent (Gresham, 2004). Interventions and strategies were classified into groups using the universal, targeted, and intensive support level classifications discussed previously. Figure 1 (p. 94) displays the organization of SBAS survey items based on these classifications. Severity of problem behavior was defined operationally using the intensity levels from the SBAS. Higher intensity levels indicate more severe problem behaviors (i.e., Intensity III is more severe than Intensity II or Intensity I).

To test whether the teachers in this sample reported to matching intervention intrusiveness to the severity of problem behavior, intervention intrusiveness was cross-tabulated with severity of problem behavior. There were three levels of behavior severity: Intensity I, Intensity II, and Intensity III. To perform the cross-tabulation, three intervention intrusiveness composite scores were created for each level of intrusiveness (one for each intensity level). Due to the varying number of total items in each cell, mean scores were computed. Raw total scores were not used to create the composite scores.

Treatment acceptability research demonstrates a potential interaction effect between intervention intrusiveness and severity of problem behaviors. That is, acceptability of restrictive interventions increases as severity of problem behaviors increases (Smith & Linscheid, 1994). In

addition, less intrusive interventions are rated to be more acceptable for less severe behaviors than they are for severe behaviors (Miltenberger, Lennox, & Erfanian, 1989; Tarnowski et al., 1989). In accordance with this research, it was hypothesized that:

1. Frequency ratings of universal interventions would be highest with Intensity I behavior;
2. Frequency ratings of targeted interventions would be highest with Intensity II behaviors;
3. Frequency ratings of intensive interventions would be highest with Intensity III behaviors.

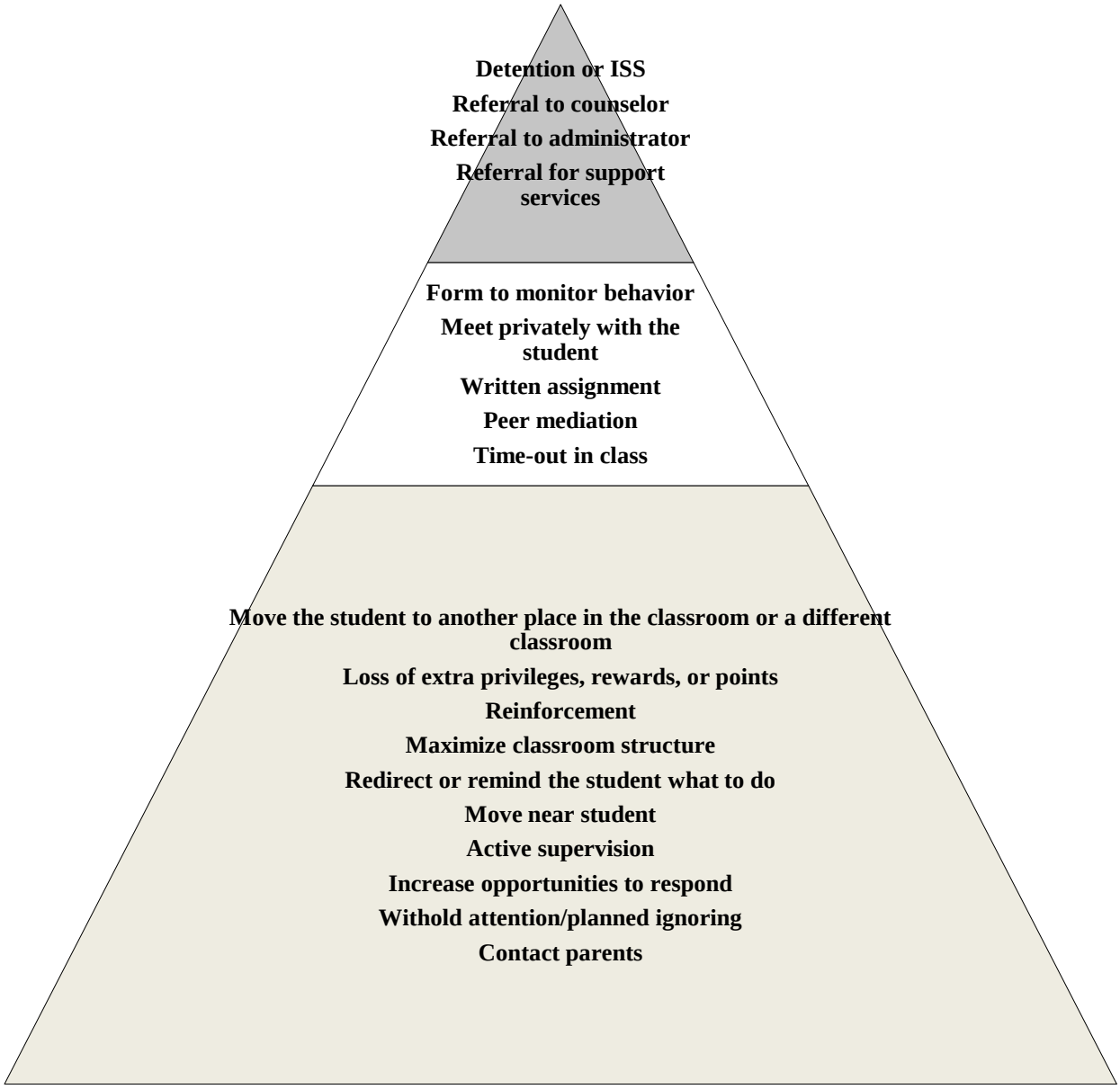

Figure 1: SBAS Interventions by support level.

3.2.3.3 Do teachers prefer evidence-based interventions over ineffective interventions?

Ideally, teachers should use evidence-based interventions when responding to challenging student behaviors because these interventions have been proven to positively influence student behavior. Conversely, teachers should avoid the use of interventions with limited evidence to

support their effectiveness. These interventions and strategies may not improve behavior, and could potentially have the unintended effect of worsening behavior.

To test whether teachers report using evidence-based interventions more frequently than those that are not clearly evidence-based, a paired samples *t*-test was performed. Specifically, the frequency ratings of evidence-based interventions were compared to the ratings of non-evidence-based interventions and mixed-results interventions. Mixed-results interventions were grouped with non-evidence-based interventions due to the debated efficacy of their use in the literature. Of all the interventions included on the SBAS, five qualified as non-evidence-based or mixed-results interventions. These were: "move student to another place in the classroom or different classroom," "referral to administrator," "detention or in-school suspension," "time-out in class," and "written assignment." Since the number of survey items that address evidence-based interventions was much higher, means were calculated prior to performing the statistical test. In accordance with research that demonstrates that teachers may fail to use evidence-based interventions (Carr, Taylor, & Robinson, 1991; Kratochwill & Stoiber, 2000; Hoagwood et al, 2001; Walker, 2004), it was hypothesized that teachers would report using non-evidence-based and mixed-results interventions more often than evidence-based interventions.

To further assess this research question, another paired samples *t*-test was performed to compare frequency ratings of evidence-based interventions to ratings of non-evidence-based interventions *only* (excluding mixed-results interventions). Once more, it was hypothesized that teachers would report using non-evidence-based interventions more often than evidence-based interventions.

4.0 RESULTS

4.1 WHAT ARE THE PREFERRED BEHAVIORAL INTERVENTIONS OF TEACHERS?

The primary research aim of this study was to explore the preferred behavioral interventions and strategies of a representative sample of urban teachers. Table 3 (p. 99-101) displays means and standard deviations of teachers' frequency ratings of behavioral interventions and strategies included on the SBAS. Teachers in this sample reported using "redirect or remind the student what to do" (*M* = 4.53), "active supervision" (*M* = 4.47), "move near student" (*M* = 4.33), "maximize classroom structure" (*M* = 4.16), and "contact parents" (*M* = 4.12) most often. Furthermore, more than half of teachers reported that they always use "active supervision" (60.7%), "redirect or remind the student what to do" (62.3%), and "contact parents" (50.6%) when addressing challenging student behaviors. Conversely, "written assignment" (*M* = 2.51), "peer mediation" (*M* = 2.66), "referral to counselor" (*M* = 2.82), "detention/ISS" (*M* = 2.86), and "time-out in class" (*M* = 2.96) were reported to be used least often. This indicated that, on average, teachers reported using these interventions either "rarely" or "sometimes" when responding to student behavior. Teachers reported that they used every intervention at least "rarely;" no interventions received an average rating of "never." Overall, teachers reported using intensive interventions the least often (*M* = 2.91), and universal interventions the most often (*M*

= 3.92). Targeted interventions (*M* = 3.35) were used more than intensive, but less than universal interventions and strategies.

Teacher frequency ratings also demonstrated familiarity with most of the behavioral interventions and strategies included on the survey. Teachers were given the option to indicate if they needed additional information about the use of any of the interventions. Of all the interventions on the survey, "increased opportunities to respond" (*N* = 50) had the highest number of these responses. However, these fifty respondents only account for approximately 4% of the sample, meaning that 96% of the teachers reported that they used this intervention to some degree when responding to student behaviors. Because no other intervention received as many "unsure without more information" ratings, it can be assumed that the overwhelming majority of this sample of teachers believed that they possess adequate information to rate interventions on the survey.

Certain interventions appeared in two or three survey items to address their use with behaviors of increasing intensity. For example, "meet privately with the student" appears three times on the survey to assess how often teachers use this strategy with Intensity I, II and III behaviors. Within these items, *variability* of teacher responses mostly increased as intensity level of behavior increased. That is, teachers were less consistent in their reported use of the same interventions or strategies as student behavior became more severe. Of all the interventions measured by multiple survey items, the intervention with the most average reported variability was "detention or in-school suspension" (*SD* = 1.36), followed by "reinforcement" (*SD* = 1.29), "form to monitor behavior" (*SD* = 1.28), and "written assignment" (*SD* = 1.25). Of all the interventions measured by one item, "peer mediation" (*SD* = 1.30) and "referral to supportive

resources" (*SD* = 1.32) had the most variability. The reported range for each intervention and strategy included on the survey was five (*min* = 0, *max* = 5).

Qualitative data was reviewed to assess whether teachers reported using interventions and strategies that were *not* included on the survey. Specifically, the last item on the survey asked: "Are there any strategies you use that were not included in any of the lists?" Overall, only 13% of the sample (*N* = 152) chose to answer this question. However, many of the responses were not valid for several reasons. First, certain responses were not apropos to the question that was asked, such as "no talking in the hallways," which is a rule, not a strategy. Second, many of these responses did not indicate use of a *specific* intervention or strategy, such as "being there for my students beyond instruction." Third, some responses mirrored items that were included on the survey. "Redirection in a low voice" (redirect or remind student what to do) and "public appraisal of good behavior" (positive reinforcement) are examples of this type of response. After removing invalid responses, the total number of valid responses was 67. Overlapping responses were grouped, resulting in 14 unique responses. Table 4 (p. 102) displays the valid grouped responses. Of these responses, 31 teachers reported that they did not use interventions or strategies other than those on the survey. Establishing clear rules and expectations for behavior was the most used strategy that was not on the survey. Teacher modeling, peer modeling, and recess/lunch detention were cited by four or more participants. All other reported interventions and strategies were added by three or less participants.

Table 3: Descriptive Statistics of Teachers' Reported Use of Behavioral Interventions

Intervention	Intensity Level	*N*	*M*	*SD*
Move near student	1	1163	4.33	.742
Maximize classroom structure	1	1163	4.16	.930
	2	1163	4.15	.969
Active supervision	1	1159	4.47	.854
Increase opportunities to respond	1	1156	3.92	1.148
Redirect or remind the student what to do	1	1159	4.55	.701
	2	1160	4.50	.713
Withhold adult attention/planned ignoring	1	1154	3.23	1.074
Form to monitor behavior (self-monitoring or teacher monitoring)	1	1157	3.25	1.218
	2	1160	3.46	1.268
	3	1158	3.43	1.348
Move the student to another place in the classroom, or to a different classroom	1	1162	3.64	.968
	2	1163	3.91	.944

	3	1163	3.93	1.101
Reinforcement (behavior contract, token economy system, incentive program, Good Behavior Game, etc.)	1	1160	3.51	1.256
	2	1161	3.53	1.270
	3	1158	3.47	1.354
Loss of extra privileges, rewards, or points	1	1153	3.58	1.176
	2	1162	3.75	1.134
	3	1154	3.75	1.258
Meet privately with the student	1	1153	4.03	.873
	2	1153	4.00	.929
	3	1153	4.06	.989
Contact parents (call home, send a note, parent-teacher conference, etc.)	1	1153	3.95	.961
	2	1157	4.02	.974
	3	1158	4.23	1.008
Detention or in-school suspension (ISS)	1	1148	2.72	1.313

	2	1152	2.80	1.318
	3	1143	3.05	1.443
Referral to counselor	1	1153	2.63	1.127
	2	1150	2.74	1.205
	3	1143	3.05	1.333
Referral to administrator	1	1155	2.79	1.092
	2	1151	3.00	1.161
	3	1147	3.56	1.284
Written assignment	2	1161	2.53	1.208
	3	1150	2.48	1.288
Time-out in class	2	1154	2.96	1.257
Peer mediation	3	1160	2.66	1.295
Referral for supportive resources (Instructional Support Team, Student Assistance Program, etc.)	3	1132	2.99	1.316

Note. The range for all variables was five (min = 0, max = 5). Teacher reports were made on 5 point scales (0 = *unsure without more information*; 5 = *I always use this strategy*)

Table 4: Teacher Reported Interventions and Strategies for Responding to Misbehavior

Intervention or Strategy	*N*
None or "no"	31
Establishing clear rules and expectations for behavior	7
Teacher modeling	5
Detention (recess or lunch)	4
Peer modeling	4
Class time-out (i.e., five minutes of silence)	3
Group therapy or skills groups	3
Out of school suspension	2
Parents observe class	2
Referred to an outside service provider	2
Calm-down area	1
Child calls home	1
Expulsion	1
Sensory supports	1

4.2 DO TEACHERS MATCH INTERVENTION INTRUSIVENESS TO THE SEVERITY OF PROBLEM BEHAVIOR?

The second research question assessed whether teachers in this sample attested to matching intervention intrusiveness to the severity of problem behaviors. It was hypothesized that the highest mean frequency ratings for each group of interventions would align with the corresponding intensity level of behavior. That is, the frequency ratings of the least intrusive interventions (universal) should be highest in the lowest level of behavior severity, Intensity I. Likewise, the frequency ratings of targeted interventions should be highest in the next level of behavior severity, Intensity II. Finally, the frequency ratings of the most intrusive interventions (intensive) should be highest with the most severe behaviors, Intensity III. Table 5 displays the mean composite scores for interventions grouped by intrusiveness (universal, targeted, intensive) across intensity levels (severity of problem behavior).

Table 5: Mean Frequency Ratings of Interventions Grouped by Intrusiveness across Intensity Levels

Intervention Intrusiveness	Intensity Level I	Intensity Level II	Intensity Level III
Universal	3.93	3.98	3.85
Targeted	3.64	3.24	3.16
Intensive	2.71	2.85	3.16

Unexpectedly, results from the cross-tabulation indicated that teachers in this sample did *not* report matching intervention intrusiveness to problem behavior severity for universal and

targeted interventions. Teachers reported using universal interventions most often with Intensity II behaviors instead of Intensity I behaviors. Similarly, teachers reported using targeted interventions most often with Intensity I behaviors over Intensity II behaviors. As behaviors become more severe, teachers reported using targeted interventions less. Teachers reported using both groups of interventions the least often with Intensity III problem behaviors.

Teachers did, however, report matching intensive interventions with the most severe problem behaviors. The mean composite scores for intensive interventions increased as the severity of the problem behavior increased. That is, the more severe the behavior, the more likely teachers reported using intensive interventions. Mean frequency ratings for intensive interventions were highest for Intensity III behaviors and lowest for Intensity I behaviors. However, teachers reported using targeted interventions just as often (M = 3.16) as intensive interventions (M = 3.16) when responding to severe (Intensity III) behaviors.

4.3 DO TEACHERS PREFER EVIDENCE-BASED INTERVENTIONS OVER INEFFECTIVE INTERVENTIONS?

Finally, this study also assessed whether teachers reported using evidence-based interventions more frequently than those that are not evidence-based. It was hypothesized that teachers would report a preference for non-evidence-based interventions. A paired-samples t-test was performed to assess whether teachers reported using evidence-based interventions more often than non-evidence-based interventions and mixed-results interventions combined. Results indicated a statistically significant difference between teacher reported frequency ratings of these variables, $t(908) = 28.795$, $p < .001$, Cohen's $d = .973$. According to Cohen (1988), this is a large effect size. The proposed hypothesis was not supported, as teachers reported using evidence-based interventions ($M = 3.7$; $SD = .602$) more frequently than non-evidence-based and mixed-results interventions combined ($M = 3.14$; $SD = .747$).

To further test this hypothesis, an additional paired-samples t-test was performed to assess whether teachers reported using evidence-based interventions more often than non-evidence-based interventions *only*. In contrast to the former t-test, ratings from mixed-results interventions were not included in this analysis. Results once again indicated a statistically significant difference between teacher reported frequency ratings of evidence-based interventions and non-evidence-based interventions ($M = 3.3$; $SD = .788$), $t(925) = 17.933$, $p < .001$, Cohen's $d = .57$. According to Cohen (1988), this is a medium to large effect size.

5.0 DISCUSSION

Challenging student behaviors of varying levels of severity are a common occurrence in school settings. When responding to these difficult behaviors, teachers often elect to implement one or more of a selection of behavioral interventions. These interventions range from simple and unobtrusive to complex and restrictive. The current study examines the preferred interventions and strategies of a large group of urban school teachers. The primary charge of the current study is to provide an exploratory view of the preferred behavioral interventions and strategies of a large sample of urban public school teachers. Teachers were surveyed to report on the frequency in which they use a number of evidence-based, non-evidence-based, and mixed-results interventions. The following sections provide an analysis of the results of this study organized by the research questions.

5.1 WHAT ARE THE PREFERRED BEHAVIORAL INTERVENTIONS OF URBAN TEACHERS?

Results indicate that an overwhelming majority of teachers may be *familiar* with all of the interventions and strategies included on the survey. This is indicated by their infrequent selection of the "unsure without more information" response option. Approximately 4% or less of the sample reported that they needed more information about any intervention. This is an

encouraging finding when compared to literature that finds that many teachers feel that their education leaves them unprepared to respond to difficult classroom behaviors (Giangreco & Doyle, 2007) and express a desire for more training in the area of behavioral interventions and strategies (Maag, 1999). Furthermore, many teachers do not read journal articles that describe behavioral interventions (Walker, 2004). Together, these forces would suggest that teachers would either be unaware of certain interventions, or not feel confident implementing them. Yet, the teachers in this sample report overwhelming familiarity with behavioral interventions.

Teachers also reported that they *use* most of the behavioral interventions to varying degrees when responding to challenging student behaviors. Zero survey items resulted in an average frequency rating which would indicate that, on average, that an intervention is never used by teachers in the sample. Rather, most interventions resulted in mean frequency ratings above three or greater, indicating that teachers use these interventions either "sometimes," "often," or "always" when responding to student behaviors. These findings conflict with other self-report studies that demonstrate that teachers do not prefer to use behavioral interventions in the classroom (Jones & Brader-Araje, 2002) or are reluctant to use them (Kehle & Bray, 2004), but agrees with research that suggests that almost all teachers use some form of behavioral intervention (Fabiano & Pelham, 2003).

While the quantitative survey data indicate that teachers in the sample report using and are familiar with the behavioral interventions on the SBAS, qualitative data may indicate that most teachers do not use interventions and strategies other than those on the survey. When asked to list any additional interventions or strategies used in the classroom, few teachers responded. Overall, only 67 qualitative responses were valid, resulting in 14 additional interventions and strategies. Moreover, most strategies were mentioned by three or fewer teachers. Interestingly,

some of the responses included actions that are typically outside a teacher's locus of control. "Expulsion" and "out of school suspension," for example, are decisions made by the school's principal or administrative team. The most commonly mentioned strategies were establishing clear rules and expectations for behavior, teacher modeling, and peer modeling.

Another possible explanation for the sample's reported familiarity and usage of behavioral interventions is that the teachers have received extensive training in these interventions and strategies. That is, teachers employed by this district may have more years of teaching experience or have graduated from preparation programs that stress behavior intervention skills. Due to the anonymous nature of the survey used in this study, this information is unknown. However, there is no reason to suggest that these teachers have had more training or experience implementing behavioral interventions than others. In fact, research suggests that teachers working in urban schools may be *less* prepared to respond to challenging behaviors than other teachers (Oliver & Reschly, 2007).

Results from this study also assessed which particular interventions teachers reported that they used most often. Redirection, active supervision, maximizing classroom structure, proximity control, and contacting parents had the highest adoption rate, each of which is a universal intervention. Conversely, overcorrection, peer mediation, referral to a counselor, detention/ISS, and in-class time-out were reported to be used the least often. Each of these is either a targeted or intensive intervention or strategy. These findings mirror the overall results of frequency ratings grouped by intervention intrusiveness - teachers reported using universal interventions more often than both targeted and intensive interventions.

This preference for universal interventions may be explained by several factors. First, most universal interventions are very quick to implement within the classroom milieu and do not

require an extensive commitment in terms of time, money, or personnel resources. In addition, these interventions and strategies are proven to reduce the occurrence or onset of many problem behaviors (Simonsen et al., 2008). Together, the effectiveness and ease of use of these procedures make them an attractive proposition for educators. Second, universal interventions are designed to prevent or respond to behaviors that are not severe in nature. These types of behaviors are commonplace in many schools and classrooms, including talking out of turn, using an inappropriate tone of voice, or not paying attention. As such, it would be logical to assume that teachers would report frequent use of universal interventions, as "universal" behaviors occur more often than severe or dangerous behaviors. Finally, many universal interventions are often considered to be basic classroom management strategies that are taught in most teacher preparation programs (Siebert, 2005). In contrast, teachers may not receive adequate training in regards to interventions that are more restrictive or challenging to implement (Baker, 2005). Therefore, it is possible that more teachers, particularly newer teachers, are more familiar with universal interventions than targeted or intensive interventions.

5.2 DO TEACHERS MATCH INTERVENTION INTRUSIVENESS TO THE SEVERITY OF PROBLEM BEHAVIORS?

If teachers report using a wide range of interventions, it is possible that they are matching intervention intrusiveness to the severity of problem behaviors. If this were true, it would indicate that teachers use universal interventions for minor behaviors, targeted interventions for moderate behaviors, and intensive interventions for severe behaviors. A cross-tabulation of mean frequency ratings of interventions grouped by intrusiveness across intensity levels of behavior

severity revealed mixed results. Specifically, teachers reported matching intervention intrusiveness to problem behavior severity for severe behaviors only (Intensity III). As behaviors become more severe, teachers attested to using more intensive, restrictive interventions such as detentions and discipline referrals. In many cases this may be the appropriate response, as serious behaviors can often present a threat to the health or safety of others. In this sense, removing the child from the classroom may be the only feasible action.

Teachers did not, however, report matching intervention intrusiveness to the severity of problem behaviors for moderate (Intensity II) or minor (Intensity I) behaviors. Teachers reported using universal interventions most often in response to moderate behaviors instead of minor behaviors. While some universal interventions may indeed be prudent for use with moderate behaviors, they are most effective when implemented in response to behaviors of matching severity (Gresham, 2004). As behaviors become more severe, the practicality and effectiveness of universal interventions decreases. For example, active supervision may help a teacher to recognize off-task students, but its mechanisms are ineffective for resolving an ongoing fistfight between two students. Conversely, it is also possible that teachers use universal interventions as measures to prevent the onset of more severe behaviors, which could lead to the reported high adoption rate of these interventions for moderate behaviors. Returning to the example above, the teacher may report using active supervision not in *response* to the fight, but as a preventative measure employed before the fight began.

Finally, teachers reported using targeted interventions most often with minor behaviors instead of moderate behaviors. Certainly there are some circumstances where using these interventions with minor behaviors is appropriate; however, a reliance on targeted interventions can eventually lead to a misallocation of resources. Consider a student who occasionally forgets

to hand in his assignments before he leaves for the day. His teacher decides to initiate a self-monitoring intervention wherein the student must keep a daily log of his assignment status (not turned in, turned in) across all classes. After each period, the student marks off his sheet and meets briefly with the teacher to discuss his progress. While this intervention may prove to eventually eliminate the problem, the same results may be achieved by simply redirecting or reminding the student to turn in his work before he walks out of the room. In this scenario, using the universal intervention instead of the targeted intervention saves the teacher and his student time while arriving at the same desired result. In most cases, matching intervention intrusiveness to the severity of the problem behavior is the most efficient path to success. When responding to challenging student behaviors, teachers should consider the options available to them and select the intervention(s) that yield the most favorable results without becoming too intrusive.

Finally, while it is true that teachers in this study reported using restrictive procedures the least often, the average reported frequency of the use of these interventions and strategies may be too high. Detention or in-school suspension (M = 2.86) and referral to an administrator (M = 3.1) are restrictive strategies that have been proven to be ineffective in regard to improving behavior. Preferably, these responses should only be used sparingly, as both require removal of the student from the instructional milieu. It is probable that removing students from the classroom for disciplinary infractions will result in missed academic instruction. This can only serve to exacerbate behavior problems.

5.3 DO TEACHERS PREFER EVIDENCE-BASED INTERVENTIONS OVER INEFFECTIVE INTERVENTIONS?

Data reveal that teachers prefer to use evidence-based interventions more frequently than those that are not evidence-based or have received mixed-results in the literature. That is, teachers reported higher adoption rates for EEBP interventions than other interventions. This is a welcome finding, given that EEBP interventions have been proven to improve behavior across several groups and settings (Kehle & Bray, 2004). Teachers' reported use of non-evidence-based or mixed-results interventions was *statistically* significantly less than EEBPs. In studies with large sample sizes, however, statistical significance is easier to achieve (Gravetter & Wallnau, 2007). Due to this, the *practical* impact of this difference may be limited. For example, the overall mean frequency rating for EEBPs was only one-half of a point higher than the overall mean rating for non-evidence-based practices. In terms of the survey's Likert scale, teachers reported using *both* EEBPs and non-evidence-based/mixed-results interventions between "sometimes" and "often." Ideally, teachers' reported use of non-evidence-based interventions would be much lower, as frequent use of these interventions may actually worsen behavior (Jacobson, Foxx, & Mulick, 2005).

Nonetheless, teachers reported a relatively high adoption rate of EEBPs. This conflicts with a large body of research that demonstrates that teachers do not often use evidence-based interventions when working with students (Carr, Taylor, & Robinson, 1991; Kratochwill & Stoiber, 2000; Hoagwood et al, 2001; Walker, 2004). This suggests that teachers in this sample report using a proactive, rather than reactive style of discipline. Furthermore, teachers reported that they do not lean on a small number of strategies when responding to behavior. Rather,

teachers in this sample report using a relatively wide range of disciplinary tactics, including an assortment of universal, targeted, and intrusive interventions.

5.4 LIMITATIONS

A number of limitations must be considered when reviewing the results of the current study. Perhaps the most significant of these is that the study used self-report data as the primary measure of teacher's preferred behavioral interventions and strategies. When responding to self-report measures, it is possible that participants will either overrepresent or underrepresent their actual behavior (Michaels, Brown, & Mirabella, 2005). In terms of the subject of this study, behavioral interventions, it is possible that teachers may know which interventions are considered to be best practice and may respond accordingly. That is, teachers may have purposely skewed their responses to reflect what they thought their supervisors or the researcher wanted to hear. However, evidence suggests that participants answer honestly when asked questions about their use of behavioral interventions (Kemp, Miltenberger, & Lumley, 1996). Self-report data is particularly accurate when respondents are assured of their anonymity, as they were in this study (Brenner, Billy, & Grady, 2003).

Nonetheless, direct observations of teachers' behavior would obtain a more precise measure of the interventions they use. This is certainly a valid approach in small scale studies; however, because the chief goal of this study was to obtain a large sampling of teachers, observations of teacher behavior were simply not feasible. Multiple observations would have to be completed on each teacher to obtain a representative measure of the interventions they use.

Conservatively, observing each teacher in this sample two times would require over 2,200 direct observations.

Another limitation of this study is that it did not allow for more exploration into other factors that may influence a teacher's use or reported use of specific behavioral interventions. Treatment acceptability research identifies several of these factors, including intervention effectiveness, intervention intrusiveness, severity of the problem behavior, teachers' understanding of the intervention, personal characteristics of the child, and cost of implementation (Miltenberger, 1990). The study did address a number of these factors, teachers' understanding of the intervention, child characteristics, and implementation cost were not assessed. While the survey does ask teachers to indicate if they need more information about each intervention, it does not require them to specify their *level* of understanding. For example, a teacher may only have a cursory conceptualization of how to properly implement overcorrection, but considers herself to be an expert in positive reinforcement. How these varying levels of understanding affect teachers' reported use of interventions was not included in this study. Similarly, data regarding personal characteristics of students who exhibit misbehaviors and intervention implementation cost (in terms of time, staffing resources, and fiscal cost) were not collected.

Data about these factors was not collected for two reasons. First, recall that the SBAS was designed to assess multiple interventions at once using a pseudo-analog administration method. When responding to items on the survey, participants consider their use of behavioral interventions in regards to behaviors grouped by varying levels of intensity (to assess severity of the problem behavior). This is in contrast to most treatment acceptability measures that assess one intervention at a time. Designing the SBAS in this way allows researchers to collect data on

a large number of interventions very quickly, but makes it difficult to assess additional contextual variables that may vary depending on distinct instances of a problem behavior (such as child characteristics). Secondly, adding items to assess additional factors would have significantly added to the number of items on the survey, which could potentially discourage participant from completing the assessment reliably. However, because these factors have prospective implications for teachers' intervention selections, researchers who assess preferred interventions are encouraged to explore these factors.

A final limitation is the omission of certain interventions and strategies from the survey design, including several that were not developed through the behaviorist perspective. These interventions include many forms of individual and group therapy, pharmacological medications, and certain classroom instructional techniques. For example, it is possible that many teachers use well-structured and engaging instructional plans as effective means for reducing problem behaviors. A number of behavioral interventions or techniques were also excluded, including behavior support/intervention plans, response blocking (Lerman & Iwata, 1996), contingent electric stimulation (Linscheid, Iwata, Rickets, Williams, & Griffin, 1990), and more. These interventions were excluded for several of reasons. For example, behavior supports plans are complex documents which often describe a distinct package of interventions for individual students, making it impossible for the teacher to rate each intervention with one survey response item. Electric stimulation and response blocking (which requires physical intervention with a student), simply are not permitted by the school district in this study. Finally, considering the extensive menu of interventions available to teachers, several interventions were excluded to ensure that survey completion did not become cumbersome.

6.0 IMPLICATIONS

6.1.1 For Research

Throughout the literature, researchers describe the formulation or validation of behavioral interventions and strategies. Furthermore, many of these techniques are proven to reduce challenging behaviors in the classroom setting. Prior to this study, however, little was known about how often these interventions and strategies are *implemented* in actual practice (Reschly, 2004). Overall, there is a modest research base that examines teachers' preferred interventions for behavior problems (Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000; Tillery, Varjas, Meyers, & Collins, 2010). The current study addresses this sizable gap in the literature by assessing the preferred interventions of a large sample of teachers. This study also addresses a number of the limitations inherent in the existing adoption rate literature. These limitations include small sample sizes, homogeneous samples, and several restrictions related to instrumentation. Table 6 (p. 117) compares the current study to previous studies that assess teachers' adoption rate of behavioral interventions.

Table 6: Comparing the Current Study to Previous Adoption Rate Studies

Instrumentation	Data	Student Behaviors	Intervention or Strategies	Sample Size	Sample Location
Teacher Intervention Questionnaire [a]	Quantitative and qualitative	Mild learning and behavior problems	Interventions used before referral to Special Ed	309 elementary school teachers	Suburban and rural United States
Three-part test battery [b]	Quantitative	Four minor behavior problems: "disobedience, playing the clown, disturbing others, and off-task behavior"	Punitive, social-integrative, and neutral	200 elementary school teachers	Rural Greece
Semi-structured interviews [c]	Qualitative	N/A; "Describe behavior in school"	N/A; "How do you prevent/interrupt negative behavior in the classroom?"	20 Elementary school teachers	Rural United States
SBAS [d]	Quantitative and qualitative	Annoying, moderate, and severe behavior problems	Universal, targeted, and intensive interventions	1,215 K-12 teachers	Urban US

[a] Johnson, L.J., & Pugach, M.C. (1990). [b] Bibou-Nakou, I., Kiosseoglou, G., & Stogiannidou, A. (2000). [c] Tillery, A.D., Varjas, K., Meyers, J., & Collins, A.S. (2010). [d] Current study.

Sample size and homogeneity are two major concerns of previous adoption rate research. To date, this study includes the largest known sample of teachers collected for the purpose of assessing preferred interventions. Overall, 1,215 teachers responded to the survey, representing a sizable increase over samples collected previously. This study's sample also addresses concerns regarding sample homogeneity. Suburban and rural teacher samples are used in most existing studies of preferred interventions. While this is not a limitation par say, no previous study had examined the preferred interventions of urban teachers. In addition, many previous adoption rate studies obtain data from a limited range of teachers (i.e., elementary school teachers only). Doing this may introduce bias into results, as teachers of different ages may use different interventions. The current study addresses the above concerns by collecting a larger, *heterogeneous urban* sample. That is, the sample includes teachers of all age ranges (kindergarten to twelfth grade) from an urban school district.

Instrumentation also presents certain concerns for older adoption rate studies. The primary limitations are related to the student behaviors and teacher interventions assessed by these studies. Specifically, previous studies examine teachers' preferred interventions in response to a limited set of student behaviors. For example, one study may ask teachers how they respond to "mild" behavior problems *only*. Conversely, the SBAS examines teacher responses across the entire spectrum of behaviors, from minor (annoying) to severe. Moreover, because the SBAS includes multiple items for certain interventions, researchers can assess how often a teacher uses the same intervention in response to behaviors of varying severity.

In addition, several previous studies of preferred interventions present a restricted range of potential teacher responses. For example, one study required teachers to only consider interventions used "before referral to special education" (Johnson and Pugach, 1990).

Conversely, the current study offers a range of interventions with varying levels of intrusiveness (universal, targeted, and intensive) and effectiveness (evidence-based, non-evidence-based, mixed-results). This provides an expanded assessment of teachers' reported intervention use.

Implications for *future* research on teachers' preferred interventions are also significant. To whatever extent is possible, future studies should take steps to assess additional factors that may influence teachers' use of interventions and strategies. Specifically, differences among groups should be carefully examined and explored. Collecting additional teacher demographic information such as gender, age, teaching experience, and ethnicity could lead to interesting findings that have substantial implications for service delivery and training models. For example, what if we found that teachers with more teaching experience use evidence-based interventions more often than new teachers? This finding might suggest that newer teachers would benefit from a mentoring program that pairs them with a more experienced counterpart. Additional variables to explore might include the type of training program the teacher graduated from, regional/geographical differences, and differences in teacher self-efficacy concerning the use of behavioral interventions.

Future assessments of teachers' preferred interventions should also include teacher observations and interviews in addition to self report data. Obtaining these data would improve the validity of findings through triangulation from multiple sources. Moreover, examining these data would provide a more detailed analysis of the interventions teachers use, including the motivating factors and contextual variables that may affect their decision to implement a particular intervention.

6.1.2 For Practice

This study expands the knowledge base of teachers' preferred interventions and improves upon the instrumentation used by previous studies. These advances have many useful applications for researchers; however, the truly significant contributions of this work reside in *practical* implementation of the data. In particular, the findings of this study lead to several important implications about the training and supervision of current and future teachers in the area of behavioral interventions. These data can also be used to elucidate differences within and across school settings. Finally, reviewing educators' preferred interventions can be used to foster a shared school culture that promotes a safe and productive learning environment.

6.1.2.1 Data-informed teacher training and supervision

Systematically collecting and analyzing data can help to guide decisions that will improve the success of students and schools (Marsh, Pane, & Hamilton, 2006). For example, sustaining effective classroom management practices relies on data-based decision making, on-site coaching structures, and ongoing and expert training (Sugai & Homer, 2006). Specifically, data from the survey used in this study can help to improve teacher training/professional development practices and facilitate informed supervision. Collecting information about the preferred behavioral interventions and strategies can lead to the development of more effective training procedures. Teacher trainers would be wise to collect data about teachers' familiarity and use of interventions and strategies *prior* to conducting training. Using this information, trainers can adapt their instruction to fit the unique needs of teachers at the district, school, and individual levels.

For example, results from this study indicate that most teachers in the sample report using many behavioral techniques when addressing student behaviors in the classroom. Furthermore, participants indicated a high level of familiarity with most of the interventions included on the survey. Armed with the knowledge that this particular group of teachers seems to be comfortable using an assortment of interventions, a trainer could alter professional development accordingly. For example, it would not be wise to deliver an introductory training about basic classroom management techniques to this group of teachers, as they appear to possess this knowledge already. As such, these data assist trainers by informing them of which interventions and strategies they *do not* need to teach.

Preferred intervention data can also tell trainers about the type of information they *should* provide. For example, if the results of a teacher survey indicate that the participants are unfamiliar with a particular group of interventions, the trainer could adjust his training to provide more detailed instruction on these interventions. Another key focus for trainers and administrators is to ensure that their teachers use interventions that are most appropriate for any given situation. Preferred intervention data can inform these training practices as well. For example, if results show that teachers report frequent use of intensive interventions for minor behavior problems, a trainer could adapt his training to promote less intrusive alternatives. Teachers could also be trained to recognize what interventions are effective with regard to behaviors of varying levels of severity to prevent the use of highly restrictive interventions for minor behavior problems (and vice versa). This type of training may also help to reduce the selection of strategies that remove children and adolescents from the instructional environment (suspensions, time-out, and discipline referrals). Certain events may necessitate the use of these

strategies to prevent a safety risk, but they should not be used to respond to less serious behaviors.

Adoption rate data can also assist administrators to provide effective supervision that promotes consistent disciplinary practices. Consider that many schools possess a structured code of student conduct that prescribes different interventions for behaviors of increasing severity. Often, it is assumed that school staff members respond to inappropriate behaviors in accordance with these written procedures. However, it is possible that survey data may result in high variance in terms of when teachers apply the prescribed interventions, indicating that some teachers follow the procedures more than others. Assessing teachers' use of interventions and strategies can help to notify administrators when their staff members respond inconsistently to similar behaviors. Knowing this, an administrator could direct her supervision to stress the importance of following school procedures. Therefore, information that illustrates differences in the frequency in which teachers use interventions can help to promote consistent responses to student behaviors.

6.1.2.2 Elucidating differences among schools and teachers

Trainings and supervision could be more successful if adapted to fit the needs of different settings. This is an imperative issue when one considers the contextual and cultural differences present in each school. Variables such as teacher experience, effective leadership, size of the student body, cultural belief systems, and level of parental involvement are likely to vary across schools. These variables can have a profound effect on how teachers respond to challenging behaviors. Therefore, it is vital that trainers and administrators understand that use of strategies to improve student behavior can fluctuate across schools, individuals, and contexts. This can help

to develop focused trainings and supervision with content suitable for the unique challenges and strengths of each school.

Disaggregating survey data from the district level to the school and individual levels increases awareness of the differences in these contexts. For example, consider that the participants in this study generally reported use of a varied set of behavioral interventions. Reviewing findings such as this from the entire sample leads to interesting conclusions at the district level, but does not identify differences across and within schools. For example, consider two middle schools similar in size and student population as a case study. Table 7 displays the frequencies in which teachers in Middle School A (N = 23) and Middle School B (N = 20) reported their use of a selection of interventions and strategies.

Table 7: Comparing Two Schools' Reported Use of a Selection Interventions

Intervention or Strategy	Middle School A (M)	Middle School B (M)
Redirection	4.14	4.01
Parent contacted	4.87	2.73
Loss of extra privileges, rewards, or points	3.89	3.29
Peer mediation	3.56	1.85
Detention or in-school suspension	2.45	3.77
Referral to administration	3.21	3.64

There are only minor differences between each school's reported use of redirection, loss of extra privileges, rewards, or points, and referral to administration. However, there are

significant differences between each school's reported use of contacting parents, peer mediation, and detention or in-school suspension. These differences may be attributed to any number of contextual variables operating within each environment.

It is also likely that there will be differences in the frequency in which teachers use certain interventions and strategies. When this happens, it creates several "miniature" systems of discipline operating within the same school. Consider two teachers who both work at Middle School A as an example. Table 8 displays frequency ratings for the same set of behavioral interventions included in the previous comparison of the two schools.

Table 8: Comparing Two Teachers' Reported Use of a Selection of Interventions

Intervention or Strategy	Teacher A	Teacher B
Redirection	I always use this strategy	I always use this strategy
Parent contacted	I sometimes use this strategy	I always use this strategy
Loss of extra privileges, rewards, or points	I sometimes use this strategy	I never use this strategy
Peer mediation	I rarely use this strategy	I rarely use this strategy
Detention or in-school suspension	I rarely use this strategy	I often use this strategy
Referral to administration	I rarely use this strategy	I sometimes use this strategy

As is the case with the school comparison in table 7, there are several similarities and differences between these two teachers. Both teachers agree on the frequency in which they use redirection and peer mediation. Conversely, the teachers report using the remainder of the

interventions with varying frequencies, reflecting diverse styles of classroom management. This demonstrates that staff members within a school will often use different strategies to respond to behavior. These differences often exist despite the existence of prescribed school-wide strategies. Preferred intervention data highlights these differences.

6.1.2.3 Emphasizing and building shared school culture

The case studies above exemplify that the "one size fits all" style of professional development and supervision for teachers may be limited. This is particularly true of schools that have a high level of staff disagreement in terms of how often interventions are implemented. Schools are very complex environments that can be difficult to understand. They have unique traditions, serve different populations, abide by certain norms, and emphasize different values. These variables contribute to the formation of a school culture which is embodied by each staff member and student. Part of this culture is the methods that teachers employ when responding to challenging student behaviors.

Collaborative school cultures have powerful effects such as increased effectiveness and productivity (Deal & Peterson, 1999). To reach optimum effectiveness, this shared culture must reflect reaching a consensus about the systems used to manage disruptive behaviors. Indeed, effective school-wide efforts to reduce behavior problems require a majority of staff members to agree upon which interventions or strategies they use (Duda, Dunlap, Fox, Lentini, & Clarke, 2004; Fanning, Theodos, Benner, & Bohanon-Mdmonson, 2004). Furthermore, successful school-wide discipline systems require *shared* vision and a collaborative effort (Liaupsin, Jolivette, & Scott, 2004; Nelson, Martella, & Marchand-Martella, 2002).

Unfortunately, schools may adjust their policies and procedures for responding to challenging student behaviors without consulting staff. Many reforms are implemented without

considering the opinions or beliefs of the individuals who are charged with implementing that same reform. Neglecting these beliefs can lead to inconsistency in the way that staff members adhere to reforms or procedures. In the absence of a shared culture, teachers may rely on what works for them personally, not what works for the school. Considering this, perhaps the most significant implication of the current study is the ability of preferred intervention data to help understand the culture of a school as it relates to responding to student behaviors. The survey allows schools to (a) tailor prescribed responses to challenging behaviors so that they align with predominant school culture, and (b) encourage a shared school culture by using preferred intervention data to include staff in the development of school-wide behavioral systems. Sharing preferred intervention data can also help staff to uncover inconsistencies in how they enforce the school's existing rules.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The previous section describes why it is important to assess the preferred interventions of teachers and educators. Analyzing these data help to inform teacher training/supervision, uncover differences in teacher responses to behavior, and can help to develop a shared culture in schools. However, additional information is required to completely understand the application of behavioral interventions in the school environment. In the superlative scenario, teachers will implement only those interventions and strategies that are proven to be effective in schools. In addition, intensive individual procedures should only be used when less restrictive methods have failed to improve behavior. Of course, this is not always the case.

Understanding which interventions and strategies teachers use is only one piece of a rather complex puzzle. Efficient training in, and application of, behavioral interventions in schools is dependent on several other factors. For example, assume that we know which interventions a teacher uses most often (her preferred interventions). With this information, we may know which ineffective strategies the teacher is using and use this knowledge to direct her towards successful alternatives. We can also track how often she uses these alternatives over the course of a school year, indicating if the training was a success. However, two key issues are not answered by examining preferred interventions alone: (1) Why did the teacher decide to use (or not use) certain interventions?, and (2) Does she implement the trained alternatives correctly?

Respectively, treatment acceptability and treatment integrity data can answer these questions. Acceptability research defines the factors that are associated with intervention selection. Factors such as cost, intrusiveness, effectiveness, history of success and/or failure, and personal knowledge interact to influence whether an intervention is used. Treatment integrity indicates how well the teacher implements the intervention in the way that it was designed to be used. Alongside knowing which interventions teachers use, treatment acceptability and integrity data are essential components of effective disciplinary practices. Together, these three variables help to navigate a teacher's response (after deciding to intervene) to inappropriate behavior in three phases: the decision phase, the implementation phase, and the evaluation phase. Figure 2 depicts each phase, along with the questions answered by each variable.

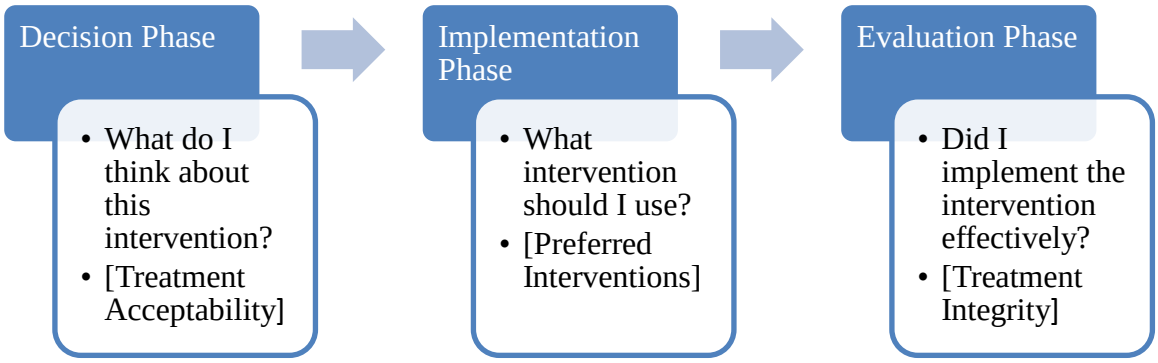

Figure 2: Treatment acceptability, preferred interventions, and treatment integrity in intervention selection and use.

Only by reviewing these three variables in concert with one another can we understand the motivation, influencing factors, and skills that contribute to regular, systematic use of effective behavioral interventions in the classroom. Treatment acceptability conveys what teachers think about interventions, preferred interventions tell us which interventions teachers

use most often, and treatment integrity reviews whether interventions are executed correctly. Teachers, teacher trainers, and administrators should carefully collect and examine data on each of these three concepts. Considering one in the absence of the others may prove helpful, but is likely to omit key factors that lead to consistent, effective use of behavioral interventions and strategies in the school environment. How important is knowing that a teacher finds an intervention to be acceptable if he never uses it? Are we satisfied to know that a teacher is using an intervention without considering whether it is being implemented correctly? What if we know that a teacher has the ability to successfully employ a strategy, but are unaware that he never uses it? Extracting the most practical knowledge from treatment acceptability, preferred interventions, and treatment integrity data can only come from an understanding of all three concepts.

Of course, there are practical limitations to this proposal. In an environment where time is limited, it can be difficult to identify people to collect this data, and set aside the time to do so. However, creative administrators will recognize several existing opportunities to begin to explore these concepts. Teacher evaluations, for example, should always include close assessment of teacher responses to behaviors that upset the instructional environment. These assessments should target which interventions teachers use, as well as whether they implemented them with fidelity. Afterwards, a meeting to discuss the evaluation could explore why the teacher decided to use a particular intervention or strategy. Regular supervision periods, weekly meetings, and professional development trainings can also serve as forums for reviewing these data. If teachers clamor for more training in behavioral interventions (Maag, 1999), then schools should adjust professional development and supervision schedules to accommodate this need. Finally, in lieu of interviews and observations, trainers can administer informal surveys to help

understand the barriers to intervention implementation, preferred interventions, and confidence in which teachers report that they can implement interventions effectively.

Once data are collected, the next step is to create efficient, accessible methods for using these data to help schools create an effective system of school discipline. This system includes individual teacher responses to behavior, as well as the creation of school-wide rules, expectations, and consequences. Data collection allows each staff member to contribute to the formulation of this system and provides schools with a starting point for discussion. However, translating these data into effective behavioral support systems appears to be an arduous endeavor for even the most seasoned trainers and administrators. Our responses to behavior are often deeply personal, reflecting previous experiences, personal standards, and individual belief systems. An open discussion of these responses among adults is likely to lead to arguments and power struggles if left unchecked. Therefore, any trainer who wishes to embark on this process must include a structured procedure that includes mechanisms for: (a) sharing findings, (b) discussing implications, (c) facilitating a constructive dialogue, (d) reaching consensus, (e) communicating decisions, and (f) monitoring and evaluating progress.

In sum, the end-goal of behavioral interventions and strategies is the same as all other school practices, policies, movements, initiatives, or reforms - improving the lives of children and adolescents while preparing them for success outside of the school setting. This success is principally mediated by the adult educators working within the school environment. As such, it is essential to appropriately prepare these adults to facilitate an increase in positive behaviors and a decrease in negative behaviors. "In schools, the key to effective prevention (of difficult behaviors) is in the development of strategies that begin by affecting the actions of adults and environments, resulting in positive outcomes for students" (Scott, Alter, Rosenberg, &

Borgmeier, 2010, p. 513). This is the "trickle-down" theory of education: providing educators with optimally effective trainings and educational opportunities in research-based practices often leads to exemplary service delivery.

Ensuring that effective teacher responses to student behavior are in place requires continued monitoring and targeted training that is based upon data about teachers' beliefs about, and use of, behavioral interventions. While results from this study suggest that teachers may already be familiar with and use a varied set of interventions, research indicates that many teachers desire more information about interventions (Giangreco & Doyle, 2007). Considering these findings, it is possible that teachers do not necessarily need *more* training; rather, they may need more *effective* or more *focused* training. Acceptability, integrity, and preferred intervention data can improve the quality of trainings in behavioral interventions by identifying implementation barriers, recognizing skill deficits, and monitoring the use of these procedures. Taken together, these concepts inform professional development that enables adults to construct safe and supportive school environments that not only promote children's academic, interpersonal, and behavioral success, but also allow educators to find personal meaning and success in their interactions with even the most challenging pupils. Teachers, and the pupils they serve, deserve nothing less.

APPENDIX A

GLOSSARY OF KEY TERMS [A]

Adoption rate	Refers to how often teachers select particular behavioral interventions for use with children and adolescents (frequency of use). A high adoption rate indicates that an intervention is used quite often.
Analog and clinical administration procedures	Studies of treatment acceptability typically use either analog or clinical administration procedures. In an analog study, participants first read a vignette and then complete an acceptability rating scale in reference to one or more behavioral interventions. In a clinical study, service providers implement one or more treatment procedures with actual clients and complete rating scales multiple times throughout treatment.
Behavioral control	The notion that any person's behavior is merely a function of their environment and nothing more.
Behavioral interventions	Strategies and supports designed to improve "emotional, behavioral, or social functioning" (Rones & Hoagwood, 2000; p. 224).
Behaviorism	Skinner's theory of behavior (1953) that focuses on the experimental analysis of overt behaviors, ignoring internal mental states and processes while focusing on the effects of environmental variables.
Behavior modification	Changing external behaviors by adjusting environmental variables.
Cognitive Psychology	A psychological discipline concerned with studying inner mental states over overt behaviors in terms of how knowledge is developed and formulated.
Consumer	Any individual who is the target of a behavioral intervention. The person whose behavior is the subject of improvement.
Constructivism	A theory which espouses that knowledge is created and revised by continuous experiences within the environment.
Effective evidence-based practices (EEBP)	Behavioral interventions that have been validated to be effective in improving student behavior in the school environment.
Efficacy and effectiveness	Efficacy refers to the results from studies that use ideal conditions when evaluating behavioral interventions. Efficacious studies are typically

	conducted in a controlled clinical setting. Conversely, effectiveness refers to when favorable results are achieved by implementing interventions in the setting in which it was designed for use. These interventions are often conducted by laypersons (teachers, parents, etc), not researchers. (Hoagwood, 2001).
Evidence-based practices and evidence-based interventions	Effective behavioral interventions which have passed through the rigors of the experimental method with consistent, replicable results
Intensity (of behavioral interventions)	Refers to the amount of required time and resources, as well as the intrusiveness of procedures designed to improve student behavior. Highly intense interventions are typically more intrusive and designed for use with severe behavior problems.
Intervention Rating Profile (IRP)	Witt and Martens introduced the IRP in 1983 as an alternative to the TEI for measurement of treatment acceptability. The IRP focuses on school-based interventions. Along with the TEI, the IRP is one of the most widely used and adapted measures of treatment acceptability.
Practitioner	Individuals who implement behavioral interventions. Usually, this term refers to teachers, clinicians, and other treatment staff; however, it may also refer to caregivers if they are the individuals who implement the intervention.
Preferred interventions	The behavioral interventions that teachers *choose* to use when responding to student misbehavior.
Universal, targeted, and intensive level interventions	The three levels of behavioral interventions along the PBIS continuum of supports. Universal interventions are school-wide support systems such as school rules and expectations. Targeted interventions are classroom level procedures such as daily report cards and group therapy. Finally, intensive interventions are highly individualized supports, including student-specific behavioral support plans.
School-based behavioral health (SBBH) or school-based mental health (SBMH)	Any mental health services and supports delivered to students within the school environment (Kutash, Duchnowski, & Lynn, 2006).
School-wide Positive Behavior Interventions and Supports (SWPBIS)	PBIS is a school-wide framework of behavioral support systems focused on improving student outcomes. Schools implementing PBIS implement three tiers of behavioral supports which become more individualized as student behavior persists.
Severity (of problem behavior)	Refers to the potential for a behavior to cause disruption or harm to others. Severe behaviors may cause harm to oneself or others, while less severe behaviors are considered to be annoying in nature.
Social validity	In terms of behavioral interventions, social validity refers to whether a particular intervention is seen to have value in the society under which it operates. According to Wolf (1978), social validity exists on three levels: "(1) the social significance of goals, (2) the social appropriateness of the

	procedures, and (3) the social importance of the effects of the procedures."
Survey of Behaviors and Strategies (SBAS)	A measure of the adoption rate of behavioral interventions used in the current study. Unlike other measures of adoption rate, the SBAS permits researchers to collect large sums of data from heterogeneous samples.
Treatment acceptability	Kazdin (1980) defined treatment acceptability as "the judgments about the treatment procedures by nonprofessionals, lay persons, clients, and other potential consumers of treatments." In essence, treatment acceptability explains how an individual acknowledges, understands, and consents to the application of various procedures.
Treatment Evaluation Inventory (TEI)	Introduced by Kazdin in 1980, the TEI is the first empirical instrument used to assess the theoretical construct of treatment acceptability. It is a general measure that has been used in many studies. A number of more recent measures are derived from this instrument.
Treatment integrity	Gresham (1989) defined treatment integrity as the extent to which interventions are implemented as they are designed.

[a] *References for the above citations are found in the References section of this manuscript.*

APPENDIX B

SURVEY OF BEHAVIORS AND STRATEGIES (SBAS)

1. We call the following behaviors "Intensity I Behaviors." These behaviors are classified as annoying behaviors and usually are not very serious in nature. It's important to know your opinion of behaviors that some educators consider as problems. First, please rate each behavior's importance as a problem to you personally (personal rating). Next, please indicate how often the behavior occurs in your school (school rating).

Personal Rating:
(1) not important; (2) of little importance; (3) moderately important; (4) very important; (5) extremely important

- Not paying attention (e.g., making noise, occasional socializing with peers, etc.)
- Not following classroom routines (e.g., not raising hand to speak, not in assigned area, etc.)
- Occasionally arriving late to class (1-5 minutes late)
- Horseplay or running in the hallways
- Violation of school dress code
- Fleeting use of inappropriate language or gestures
- Teasing/name-calling
- Using personal electronics at school (iPod, cell phone, etc.)
- Eating snacks or drinking beverages in halls or in class
- Littering
- Overt displays of affection (kissing, holding hands, etc.)
- Inappropriate tone of voice

School Rating:
(1) never; (2) rarely; (3) sometimes; (4) often; (5) always

- Not paying attention (e.g., making noise, occasional socializing with peers, etc.)
- Not following classroom routines (e.g., not raising hand to speak, not in assigned area, etc.)
- Occasionally arriving late to class (1-5 minutes late)
- Horseplay or running in the hallways
- Violation of school dress code
- Fleeting use of inappropriate language or gestures
- Teasing/name-calling
- Using personal electronics at school (iPod, cell phone, etc.)
- Eating snacks or drinking beverages in halls or in class
- Littering
- Overt displays of affection (kissing, holding hands, etc.)
- Inappropriate tone of voice

2. OK! Now that you have thought about Intensity I Behaviors, let's start thinking about strategies. The following is a list of strategies that some people use with Intensity I Behaviors. Please tell us which strategies you use to prevent or respond to Intensity I behaviors: (1) I never use this strategy; (2) I rarely use this strategy; (3) I sometimes use this strategy; (4) I often use this strategy; (5) I always use this strategy; Unsure without more information.

- Move near student (proximity control)
- Maximize classroom structure (teacher-directed activities, visual dividers, seating arrangement)
- Active supervision
- Increase opportunities to respond
- Redirect or remind student what todo
- Withhold adult attention/planned ignoring
- Form to monitor behavior (self-monitoring or teacher monitoring)
- Move the student to another place in the classroom, or to a different classroom
- Reinforcement (behavior contract, token economy system, incentive program, Good Behavior Game, etc.)
- Loss of extra privileges, rewards, or points
- Meet privately with the student
- Contact parents (call home, send a note, parent-teacher conference, etc.)
- Detention or in-school suspension (ISS)
- Referral to counselor
- Referral to administrator

3. Thanks! Of course, some behaviors require more intervention. Additionally, students can be more persistent when exhibiting these behaviors. We call these behaviors "Intensity II Behaviors." It's important to know your opinion of behaviors that some educators consider as problems. First, please rate each behavior's importance as a problem to you personally (personal rating). Next, please indicate how often the behavior occurs in your school (school rating).

Personal Rating:
(1) not important; (2) of little importance; (3) moderately important; (4) very important; (5) extremely important

- Active or passive defiance; refusing to follow most directives
- Chronic socializing with peers
- Sleeping in class
- Chronic use of inappropriate language or gestures
- Non-verbal intimidation of another student (staring, pointing, etc.)
- Verbal or relational bullying
- Stealing
- Being dishonest (e.g., lying, cheating, plagiarism, etc.)

School Rating:
(1) never; (2) rarely; (3) sometimes; (4) often; (5) always

- Active or passive defiance; refusing to follow most directives
- Chronic socializing with peers
- Sleeping in class
- Chronic use of inappropriate language or gestures
- Non-verbal intimidation of another student (staring, pointing, etc.)
- Verbal or relational bullying
- Stealing
- Being dishonest (e.g., lying, cheating, plagiarism, etc.)

4. Now that you have thought about Intensity II Behaviors, let's start thinking about what strategies you use to prevent or respond to these behaviors. The following is a list of strategies that some people use with Intensity II Behaviors. Please tell us which strategies you use when students exhibit Intensity II behaviors: (1) I never use this strategy; (2) I rarely use this strategy; (3) I sometimes use this strategy; (4) I often use this strategy; (5) I always use this strategy; Unsure without more information.

- Maximize classroom structure (teacher-directed activities, visual dividers, seating arrangement, etc.)
- Redirect or remind the student what to do
- Form to monitor behavior (self-monitoring or teacher monitoring)
- Move the student to another place in the classroom, or to another classroom
- Loss of extra privileges, rewards, or points
- Reinforcement (behavior contract, token economy system, incentive program, Good Behavior Game, etc.)
- Written assignment
- Time-out in class
- Meet privately with the student
- Contact parents (call home, send a note, parent-teacher conference, etc.)
- Detention or in-school suspension (ISS)
- Referral to counselor
- Referral to administrator

5. Sometimes a student's behavior is very persistent or severe. These types of behaviors are "Intensity III Behaviors" – serious violations of school or classroom rules that persist despite various staff interventions. It's important to know your opinion of behaviors that some educators consider as problems. First, please rate each behavior's importance as a problem to you personally (personal rating). Next, please indicate how often the behavior occurs in your school (school rating).

Personal Rating:
(1) not important; (2) of little importance; (3) moderately important; (4) very important; (5) extremely important

- Persistent defiance, refusal to follow any directives
- Sexual harassment
- Spitting on someone
- Physical intimidation, pushing, or shoving without resulting in injury
- Fighting

School Rating:
(1) never; (2) rarely; (3) sometimes; (4) often; (5) always

- Persistent defiance, refusal to follow any directives
- Sexual harassment
- Spitting on someone
- Physical intimidation, pushing, or shoving without resulting in injury
- Fighting

6. Thank you for your patience. Your views are important,and you've almost finished! Due to their severity, Intensity III Behaviors usually require an out of classroom strategy. The following is a list of strategies some people use with Intensity III Behaviors. Please tell us which strategies you use to prevent or respond to these behaviors : (1) I never use this strategy; (2) I rarely use this strategy; (3) I sometimes use this strategy; (4) I often use this strategy; (5) I always use this strategy; Unsure without more information.

- Form to monitor behavior (self-monitoring or teacher monitoring)
- Move the student to another place in the classroom or a different classroom
- Loss of extra privileges, rewards, or points
- Reinforcement (behavior contract, token economy system, incentive program, Good Behavior Game, etc.)
- Peer mediation
- Written assignment
- Meet privately with the student
- Contact parents (call home, send a note, parent-teacher conference, etc.)
- Detention or in-school suspension (ISS)
- Referral to counselor
- Referral to administrator
- Referral for supportive resources (Instructional Support Team, Student Assistance Program, etc.)

7. The last level of behavior, "Intensity IV Behaviors," includes severe or dangerous behaviors:

- Assault on a school employee
- Assault on a student or other person not employed by the school
- Destroying school property/vandalism
- Possession of a weapon or firearm
- Inciting a disturbance or melee
- Possession/use of alcohol, tobacco, or any other drugs
- Severe misuse of computer network
- Undesirable group activity (e.g., gang activity)
- Terroristic threats or conspiracies to commit violent acts
- Arson or setting of false fire alarms

These behaviors addressed in the District's Code of Conduct usually require student suspension or expulsion. Please make any comments you would like about Level IV Behaviors.

8. Are there any behaviors important to you personally that we missed? If so, please tell us about these behaviors. Please write them here and tell us whether to score them (1) not important; (2) of little importance; (3) moderately important; (4) very important; (5) extremely important.

9. Are there any behaviors that you see at your school that we missed? If so, please write them here and tell us how often they occur by rating them 1 (never), 2 (rarely), 3 (sometimes), 4 (often) or 5 (always).

10. Are there any strategies you use that were not included in any of the lists? If so, please write them here.

APPENDIX C

INVITATION TO SCHOOL PRINCIPALS FOR PARTICIPATION IN THE STUDY

Dear Colleagues,

As you know, consistent school-wide discipline is essential for safe and orderly schools. As a part of this agenda, the district is conducting a short web-based survey. This survey will help every school to identify consistent school-wide behavioral expectations and consequences. We are asking teachers to share their views on student behavior.

All responses are anonymous; the survey takes only about 10 minutes to complete. Please complete the survey within the next two weeks. This timetable gives us time to collect, analyze, and prepare the data for review at our August meetings.

Please assist me in securing a 100% response from our school teachers so that we can plan effectively for next year's school-wide positive behavioral support plan.

To complete the survey, just click on this link: (link to survey embedded here)

The survey will open right away. Or, you may cut and paste this link into your Internet browser for use at home. To answer a question within the survey, just move your cursor to the answer and click. When you have finished, the survey may ask if you want the window to close. Select "yes."

If you receive this e-mail in more than one school, you are invited to complete the survey for each school in which you work. You will notice that you receive a slightly different web site address for each school's survey. The reason for this is to separate each school's data, so that data are not mixed across schools.

If you have any questions or concerns about the survey, please feel free to contact me directly. Thank you in advance for your timely assistance.

(Principal’s signature)

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