

AN EVALUATION OF ERRORLESS COMPLIANCE TRAINING
IN A GENERAL EDUCATION CLASSROOM

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ABSTRACT

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by Jessica Rames-LaPointe

Errorless compliance training (ECT) is a success-based, nonaversive intervention to reduce child noncompliance that has been shown to be effective in both home and special education settings. In the current study, ECT was evaluated in a multiple baseline across-subjects design with 4 oppositional kindergarten students in their general education classrooms. The researcher delivered a range of classroom requests to each student to determine the probability of compliance for each request. Requests were then arranged in a hierarchy, ranging from those initially yielding high compliance rates (Level 1) to those yielding low compliance (Level 4). At the beginning of treatment, students were presented with a high number of Level 1 requests and provided verbal praise for compliance. Over several weeks, lower probability requests were gradually faded in, at a slow enough rate to ensure continued compliance. One student dropped out during treatment, but the other three students demonstrated considerable improvements in compliance levels during and following treatment. When the teacher delivered requests, results of generalization were mixed, with one student returning to low levels of compliance, and two students showing continued gains. The results provide preliminary support for the use of errorless compliance training as a noncompliance intervention in the general education setting.

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CHAPTER I

INTRODUCTION

Childhood noncompliance is a response class that can have a profound negative impact on personal, social, and academic functioning. Noncompliance has sparked a recent interest in the literature, as it is considered one of the most pervasive problems in schools (Lee, Belfiore, Scheeler, Hua, & Smith, 2004) and one of the most common problems for which children are referred for treatment (Miles & Wilder, 2009). In an extensive analysis of office referral data, Colvin (2009) found that noncompliant behavior in the classroom was the highest ranking reason for office discipline referrals for grades 1 through 12.

Noncompliance has been operationally defined as “the refusal to initiate or complete a request made by another person” (McMahon & Forehand, 2003, p. 2). Noncompliance generally involves one person delivering a command or instruction to another person, but may also include a child failing to follow a previously stated rule that is still in effect. The topography of noncompliant behavior varies and may include yelling, whining, screaming, throwing tantrums, running off, and ignoring requests (Barkley, 1997). Measuring noncompliant behavior typically involves one of the following: a latency measure (failure to initiate demand in a timely manner), or duration measure (failure to complete demand within a given time period).

Children engage in noncompliant behavior for a number of reasons, as the behavior often serves various functions depending on the environmental contingencies in effect. These functions may include access to preferred events such as adult or peer attention, preferred activities, or preferred foods or materials. Another function may be automatic reinforcement, which involves either sensory stimulation or sensory reduction. Children may also display noncompliant behavior to avoid or escape peer or adult attention and interaction, or nonpreferred activities,

foods, materials, or tasks. See Conroy, Brown, & Olive, 2008 and Steege & Watson, 2009 for a discussion of the possible functions of noncompliant behavior.

Historically, interventions for child noncompliance focused on the topography of the behavior, but there has been a recent shift towards taking into account the individual function of behavior prior to designing an intervention. Many researchers have demonstrated increases in the effectiveness of behavioral interventions that incorporate elements of functional assessment (Carr, Horner, Turnbull, Marquis, McLaughlin, McAtee, et al., 1999; Ingram, Lewis-Palmer, & Sugai, 2005). The purpose of such functional assessment is to identify the contingencies that maintain problem behavior in order to develop interventions aimed at modifying the consequences of behavior. Targeting specific contingencies is thought to reduce the need for problem behavior (Hanley, Iwata, & McCord, 2003).

Despite its effective use in research and clinical studies, functional assessment is not commonly accepted or adequately practiced by teachers in school settings, possibly because of the expertise and time required to use this approach effectively (Ducharme & Shecter, 2011). Researchers have noted the large time commitment required to conduct functional assessments effectively (DuPaul & Ervin, 1996). Further, Gresham, McIntyre, Olson-Tinker, Dolstra, McLaughlin, and Van (2004) reviewed 150 school-based interventions published in the *Journal of Applied Behavior Analysis* from 1991-1999 and found that interventions based on functional assessment information were no more effective than interventions designed without using such information.

Interestingly, the defiant behaviors that mark noncompliance are often thought to be developmentally normal for preschool aged children (Kim-Cohen et al., 2005), and it is a common assumption that young children will “grow out” of their noncompliant behavior.

Despite these assumptions, research has shown such antisocial behavior to be very stable over time. Olweus (1979) showed measures of antisocial behavior to be at least as stable over time as intelligence measures. Prevalence rates suggest that anywhere from 8% to 25% of young children display challenging behaviors severe enough to impede their social functioning (Conroy, Brown, & Olive, 2008), suggesting a growing concern for teachers and parents, rather than typical child behavior. Further, compliance has been consistently rated a highly valued skill in the classroom by teachers for decades (Hains, Fowler, Schwartz, Kottwitz, & Rosenkoetter, 1989; Heaviside & Farris, 1993; Lin, Lawrence, & Gorrell, 2003). More recently, Lin, Lawrence, and Gorrell (2003) surveyed 3,305 kindergarten teachers and found that 78% of teachers rated complying with directions as a “very important” and “essential” skill for kindergarteners.

Noncompliant behavior in the classroom can take away valuable instructional time, as teachers spend time encouraging the noncompliant student to follow requests and then re-directing the class. This can result in lost academic engagement for both the noncompliant student and his/her classmates, and subsequent reductions in learning in the classroom. Further, students who display inappropriate behavior in the classroom, such as noncompliance, are more likely to struggle in academic areas such as reading and mathematics (Adams, Snowling, Hennessey, & Kind, 1999).

In addition to being a significant issue in the classroom, child noncompliance can also disrupt family functioning in the home. Barkley (1997) argues that noncompliance in the home typically results in negative parent-child interactions and produces family tension. Most interventions aimed at reducing noncompliance focus on home or clinical settings. One of the most common types of compliance interventions for families is parent management training (PMT), which are treatment programs that train parents to alter their child’s behavior at home

(Pearl, 2009). PMT programs typically begin with an assessment of symptoms and then parents are taught positive skills for interacting with their children, such as reinforcing prosocial behavior and ignoring undesirable mild behaviors that are not dangerous or destructive (Kazdin, 2005).

Parent-Child Interaction Therapy (PCIT) is an example of a parent training program, aimed at enhancing the quality of parent-child relationships, and serving as a foundation for effective behavior change. PCIT involves two phases, the first of which is called child-directed interaction (CDI). Parents first learn to follow their child's lead in dyadic play and to provide positive attention combined with active ignoring of minor misbehavior. Parents learn three important communication skills during this phase: behavioral descriptions, reflections, and labeled praises. The goal is for the parents to learn to provide positive attention to their children, while avoiding commands, questioning, criticism, sarcasm, and negative physical behaviors (Eyberg & Bussing, 2010).

During the second phase, parent-directed interaction (PDI), parents lead their child's activity, learn to give effective instructions, and learn to follow through with consistent consequences, including praise for compliance and a timeout procedure for noncompliance. A hallmark of PCIT is that parents are directly coached while they are interacting with their children. A meta-analysis (Thomas & Zimmer-Gembeck, 2007) suggested that PCIT is an effective intervention, demonstrating large effect sizes for child behavior change from pre to post treatment (d ranging from .58 to 1.31). There are many sources of evidence-based interventions for parents. Although beyond the scope of this analysis, as the focus is on compliance interventions implemented within the school setting, interested readers are advised to seek

McMahon and Forehand (2003), Pearl (2009), and McMahon and Kotler (2008) for reviews of common parent and home interventions.

Noncompliance has been referred to as a “keystone” behavior, in that once such behaviors are eliminated, there may be opportunity for behavioral gains in other areas (Ducharme & Popynick, 1993). For example, increases in compliance have resulted in reductions of other problem behaviors such as aggression, disruption, self-injury, and tantrums (Cataldo, Ward, Russo, Riordin, & Bennett, 1986; Ducharme, Atkinson, & Poulton, 2000; Russo, Cataldo, & Cushing, 1981). In these instances, a type of generalization of compliance occurs, where the reinforcement of specific requests results in increases in nonreinforced requests. Since compliance appears to have an inverse covariate relationship with problem behaviors, noncompliance stands as a vital target for behavioral intervention.

The remainder of the chapter that follows will review the contemporary literature regarding childhood noncompliance and interventions aimed to reduce such behavior in the classroom. Initial sections will discuss traditional punishment methods used to reduce challenging behavior. The sometimes undesirable side effects that can result from using punishment will then be discussed. Reinforcement-based interventions, using positive and negative reinforcement strategies to increase appropriate behavior will be discussed. The review will then cover antecedent-based or proactive interventions for noncompliance, intended to prevent or decrease the likelihood that noncompliant behavior will occur. The review concludes with a description of errorless compliance training (ECT) and a critical review of research using ECT, followed by a discussion of the current study and specific research questions at hand.

CHAPTER II

REVIEW OF LITERATURE

Interventions Strategies

Interventions that have been used to address the issue of childhood noncompliance have involved punishment-based procedures, environmental arrangement procedures, reinforcement-based procedures, antecedent manipulation, or a combination of techniques. Punishment procedures involve the delivery of an undesirable consequence following an unacceptable behavior in an effort to decrease the future occurrence of the behavior (Colvin, 2009).

Environmental arrangement procedures alter the physical, social, or programmatic aspects of classrooms to increase task engagement, facilitate prosocial behaviors, and reduce or prevent challenging behaviors (Davis & Fox, 1999). Interventions that are founded on principles of positive and negative reinforcement and act as direct consequences for appropriate behavior can be classified as reinforcement-based interventions. Antecedent manipulation procedures aim to reduce the likelihood of future occurrences of problem behavior by manipulating the factors that either elicit or set the occasion for the problem behavior (Conroy, Brown, & Olive, 2008).

Punishment strategies are frequently used and misused in home and school settings. Response cost is a punishment-based intervention that has demonstrated its effectiveness in reducing noncompliant behavior and can be easier to implement than other procedures (Walker & Walker, 1991). Response cost is the contingent loss of reinforcers (e.g., a fine), producing a decrease in the frequency of that behavior (Cooper, Heron, & Heward, 2007). Response cost often co-occurs with a token economy or point system, but can also be implemented independently. In a response cost program, following each instance of noncompliance, the child loses points, tokens or privileges that have been earned or awarded. Walker (1983) demonstrated

the effectiveness of response cost in reducing noncompliant behavior. He provides guidelines for the implementation of response cost including a) response cost should be applied to the target inappropriate behavior every time it occurs, b) never allow the student to accumulate negative points, and c) as a general rule, response cost should result in the loss of 1 point and compliance should earn 1 point.

Another punishment procedure that is commonly used but often misunderstood, is time-out. Many parents and teachers think of time-out solely as placing a misbehaving child in an isolated area for an indefinite period of time, however, effective time-out procedures involve briefly removing the child from a reinforcing situation when noncompliance occurs. Time-out is not a punishment procedure unless the child's rate of problem behavior actually decreases. In the *Helping the Noncompliant Child* program (McMahon & Forehand, 2003), parents are taught to implement time-out procedures when the child does not initiate compliance to a clear instruction within 5 seconds. The child is sent to a chair facing the wall for 3 minutes, with a 15 second quiet contingency at the end of the period. During this period, the child must not engage in any disruptive behavior, or else the period is extended for another minute and another 15 second quiet contingency is set. Studies have demonstrated that time-out is most effective when all sources of reinforcement are withdrawn and when the child is removed from time-out based on quiet contingencies (Bean & Roberts, 1981). The time-out interval is suggested to be about 2 to 5 minutes in length (Walker & Walker, 1991), as periods longer than 15 minutes are thought to lose their effectiveness.

Teachers have long been using methods of punishment in an attempt to reduce undesired behavior in their classrooms. Many teachers use techniques such as yelling, verbal reprimands, taking away privileges, and classroom removals to manage misbehavior in their classrooms

(Clunies-Ross, Little, & Kienhuis, 2008). Unfortunately, such punishing consequences have consequences of their own. Vargas (2009) described in detail the often undesirable ramifications of using punishment methods. Punishment procedures frequently lead to escape and avoidance behavior. If a child is noncompliant during mathematics instruction due to task difficulty and is sent to time-out in the hallway, the teacher has most likely inadvertently reinforced the noncompliant behavior as an escape from the math task. In addition, punishment can lead to aggression, as individuals who are punished exhibit a heightened predisposition to act violently and aggressively (Vargas, 2009).

Further, those who rely on punishment methods as a control technique are often forced to increase their level of punishment, as the effects wear off over time. The punishment typically escalates until the method becomes almost entirely ineffective, whether it is the teacher screaming as loud as possible, or a time-out period lasting 30 minutes. In addition, even if the use of punishment does result in behavioral change, it rarely generalizes beyond the circumstances in which the consequence was applied (Lerman & Vomdran, 2002). Ducharme and Harris (2005) have also suggested that problem behaviors are a means of adaptation to challenging environments that children cannot manage effectively with their current behavioral repertoire. Punishment methods are unlikely to provide the child with a skill set that can be used in difficult situations, as they do not focus on building appropriate skills. Overall, Vargas (2009) suggests that punishing consequences are not of benefit to the misbehaving student, to observing students, or to the punisher, and therefore should be avoided if possible. Considering the disadvantages and often negative side effects of reactive approaches, more proactive methods of behavior management are necessary. Preventative methods can eliminate the need for such negative consequences and can aim to build the skills for appropriate behavior.

Reinforcement-based procedures systematically manipulate the contingencies or consequences of behavior. A common intervention used is that of differential reinforcement. Although there are variations of differential reinforcement, differential reinforcement of other behaviors (DRO) is commonly implemented to reduce noncompliance, regardless if the function of the behavior is known. In essence, reinforcement is delivered in the absence of specified undesired responses. For example, suppose a student interrupts his teacher frequently during class instruction. In a DRO procedure, the teacher may award the student with an additional minute of recess for every set interval in which he does not interrupt the teacher. Another variation of differential reinforcement is differential reinforcement of alternative behavior (DRA). In DRA procedures, reinforcement is delivered for a behavior that serves as a desirable alternative to the behavior targeted for reduction, and is withheld following instances of the problem behavior (Cooper, Heron, & Heward, 2007). In the example above, the interrupting student may be taught to raise his hand to gain the teacher's attention. In a DRA procedure, the function of the behavior must be identified, as the inappropriate behavior is replaced with a response that produces the same reinforcing outcome.

Kodak, Miltenberger, and Romaniuk (2003) assessed the effects of differential negative reinforcement of other behavior (DNRO) on compliance rates in two preschool-aged children. During the treatment session, the children were given a 10-s break from an instructional task if they did not engage in problem behavior during the specified time periods, which gradually increased over time. The procedure produced large decreases in noncompliant behavior in both children.

Another important intervention used to decrease noncompliant behavior is extinction. Extinction involves the withholding of a reinforcer, whether positive or negative, following a

child's challenging behavior (Steege & Watson, 2009). If a child engages in disruptive noncompliant behavior to gain teacher attention, an extinction intervention based on positive reinforcement might require a teacher to avoid giving any attention following the behavior. Cote, Thompson, and McKerchar (2005) assessed the effects of a negative reinforcement extinction procedure on toddlers' compliance during transitions in the classroom. The toddlers were given an instruction such as "Sammy, come to the bathroom," during a play activity, which was followed by gestural and physical prompts if the request was not initiated within 3 s. The children were not provided access to the play activity or escape from the toileting routine during the extinction phase, and results demonstrated that compliance immediately increased for all children, while problem behaviors fell to near-zero.

As mentioned earlier, children engage in noncompliance for a number of reasons, serving a variety of functions. Functional Communication Training (FCT) has been used as a procedure to decrease problem behaviors such as noncompliance. FCT involves teaching communication skills that are functionally equivalent with the problem behavior (Steege & Watson, 2009). In this way, the alternative response produces the same reinforcer as the problem behavior and will eventually replace the problem behavior. For example, if a child engages in noncompliant behavior to escape a difficult task, functional communication training would involve teaching the child a way to appropriately let the instructor know that he or she needs a break from the task. FCT is essentially a specific form of differential reinforcement, where the alternative response is reinforced, while the problem behavior is placed on extinction. FCT has been found to be an effective treatment for a variety of challenging behaviors maintained by escape, attention, and access to preferred items (Mildon, Moore, & Dixon, 2004).

Mildon, Moore, and Dixon (2004) examined the effectiveness of a FCT procedure combined with a noncontingent escape procedure (NCE). An initial functional analysis demonstrated that the disruptive behavior of a 4-year-old boy with autism was being negatively reinforced by escape from task demands. A NCE condition was first presented alone, then in combination with FCT (training) condition, and finally, in combination with a FCT (work criterion) condition. In the NCE condition, the child was given an escape from a task on a fading fixed-time (FT) schedule. During fixed-time schedules, the child received a 30 s break regardless of his behavior during the interval. The escape schedule was faded from FT 10 s to FT 10 minutes, fading when the rate of disruptive behavior was at or below .3 responses per minute during any session. The NCE condition was presented alone, in order to decrease disruptive behavior and create an opportunity to teach an alternative response.

During the NCE + FCT (training) condition, the child was taught a self-initiating alternative response of saying “finished” in order to receive a 30 s break and escape instructional demands. During the NCE + FCT (changing criterion) condition, the response requirement was increased before the child could request a break. The work criterion was gradually increased on a fixed-ratio schedule. On a fixed-ratio schedule, a response is reinforced only after a specified number of responses. In this condition, the work criterion increased from FR 2 to FR 10, where the number of tasks that the child had to complete before saying “finished” was reinforced.

Disruptive behavior remained near zero across the three conditions, and compliance with task demands quickly increased and remained at high levels across the three conditions. The researchers found an apparent preference for FCT as a means of obtaining the reinforcement. In the final condition, the child had two ways of escaping the task: working until the NCE interval was met, or saying “finished” after completing the work criterion. The child almost always

obtained the break by emitting the appropriate response, supporting research suggesting that participants prefer to control access to reinforcement (Hanley, Piazza, Fisher, Contrucci, & Maglieri, 1997).

The use of reinforcement systems such as point systems, token economies, behavior charts, and the like, have been a traditional approach to increase compliance in children. These systems involve giving a child a point or token, typically accompanied by descriptive praise, each time a child complies with a request (Walker & Walker, 1991). Items that are commonly used as tokens include points, fake money, stickers or chips. After a certain number or percentage of points has been awarded, the points are exchanged for a backup reinforcer, which might be school or home privileges, or desired tangibles. Colvin (2009) notes that token economies can be especially effective, because the student receives immediate feedback and reinforcement at high rates following the occurrence of a target behavior. Further, because the child often has to earn more points or tokens to receive the backup reinforcer, the child must exhibit the target behavior over a longer period of time, contributing to maintenance of the behavior (Colvin, 2009).

In contrast to interventions that are implemented following a particular behavior, some interventions are implemented *prior* to the occurrence of child noncompliance. Call, Wacker, Ringdahl, Cooper-Brown, and Boelter (2004) examined the impact of selected antecedent variables on noncompliance with two typically developing children. In the first experiment, they compared levels of noncompliance when the child engaged in a difficult task. In the demand plus escape condition, the child was instructed to complete the task, and if noncompliance occurred, they were given a 20 to 30s break and the task materials were removed from the desk. The demand plus attention plus escape condition was the same as the demand plus escape condition,

except that parental attention (verbal praise and encouragement) was provided continuously and noncontingently during the demand. Results demonstrated that both children engaged in a lower percentage of noncompliance in the demand plus attention plus escape condition compared to the demand plus escape condition. The addition of attention to a difficult demand, which involved changes in the antecedent variable of parental attention, resulted in decreases in noncompliance.

Others have assessed the effects of antecedent variables on noncompliance by providing noncontingent escape during an instructional task. Kodak, Miltenberger, and Romaniuk (2003) evaluated changes in compliance by using noncontingent escape (NCE) procedures for problem behavior that was maintained by escape. Two children, who frequently engaged in problem behavior during instructional activities, were given an instructional task during treatment sessions. In the NCE condition, the children were given a 10 s break every 10 s. When they completed two consecutive sessions with problem behavior below a set criterion (85% reduction from baseline), the interval was increased from 10 s, to 20 s, 30 s, 1 min, 1.5 min, and finally to 2 min. The NCE condition resulted in large decreases in problem behavior for both children, while compliance rates increased substantially. Although the procedure did not provide any contingency for compliance, the authors provide a possible explanation: frequent breaks might have made the demands less aversive, and thus reducing the establishing operation for escape.

High-probability request sequences (high-*p*) are methods used to increase compliance to requests, without incorporating elements of punishment. The procedure involves the delivery of a series of high-probability (high-*p*) requests, (requests to which compliance is highly likely), immediately prior to a low-probability (low-*p*) request, (request that is typically followed by noncompliance). For example, a teacher may give her class three high-*p* requests (clap your hands, make a funny face, touch your nose) just prior to a low-*p* request (get out your reading

books). Studies have found high-*p* request sequences to be an effective method for increasing compliance, across a variety of settings (Lee, 2004; Ducharme & Worling, 1994; Ardoin, Martens, & Wolfe, 1999; Lee, Belfiore, Hua, & Smith, 2004). Mace et al. (1988) found that the presentation of the high-*p* requests immediately prior to low-*p* requests, increased the probability of compliance, and decreased both compliance latency and duration. The high-*p* sequence was found to be more effective than both response prompts and contingency management in reducing duration times. Killu (1999) suggested that this procedure is advantageous as it has shown effective in preventing noncompliant behavior, it does not require close physical proximity to a potentially aggressive person, and can be implemented by a variety of individuals across settings.

Mace et al. (1988) first discussed the high-*p* procedure in terms of behavioral momentum, a term coined by Nevin and colleagues (1983). Behavioral momentum was proposed as an effort to explain behavioral persistence under varying reinforcement conditions (Lee, 2005). They suggested a parallel between a behavior's resistance to change and the momentum of objects in motion as described in Newtonian physics, where momentum involves an object's mass and velocity. Objects with greater mass and velocity are more resistant to environmental changes than objects with less mass and velocity. Nevin et al. proposed that behavior has momentum similar to how physical objects have momentum. Mass was considered analogous to response strength (resistance to change under altered contingencies), whereas velocity analogous to response rate. In this theory, behavior with a higher level of momentum is likely to continue over time. Since Nevin's basic research with pigeons, researchers have applied the theory in other settings, in an effort to increase the response rate of behavior, and thus increasing behavioral momentum. The increase in response rate is commonly accomplished by introducing a series of high-*p* requests, as discussed earlier. An applied compliance intervention would be

successful if compliance occurs rapidly and reliably (velocity) and persists after training has discontinued, in other appropriate settings (mass).

Errorless Compliance Training

Errorless compliance training (ECT; Ducharme & Popynick, 1993) is a behavioral intervention that stems from the behavioral momentum and high probability request sequence literature. ECT is based on errorless teaching approaches (Lancioni & Smeets, 1986), in which stimulus fading techniques are employed to teach difficult discriminations. In an errorless teaching paradigm, the learner is initially presented with simple tasks, often supplemented with prompts that are gradually faded over subsequent trials. More difficult conditions are gradually introduced to minimize errors, until the learner responds to the difficult task with the same high rate of correct responses as to the simple tasks (Ducharme, 1996). The number of response errors throughout the training is much lower than would be obtained using a trial-and-error approach, hence the name “errorless.”

In errorless compliance training, Ducharme adapted the errorless approach to child management, in which noncompliant responses are treated as “errors.” In ECT, observational assessment is used to determine the probability of child compliance to a broad range of requests and demands. The requests are then categorized in a probability hierarchy, from the highest probability of compliance to lowest probability. The child is first exposed to requests which were determined to have a high probability of compliance, providing substantial opportunities for reinforcement, typically in the form of praise. Requests to which the child is slightly less likely to comply to are slowly faded in, as to minimize noncompliant responses (errors), and maintain a high rate of compliance. The lower probability responses are gradually introduced until the child

follows all requests at a high rate. Essentially, the momentum of the compliance to simple requests is transferred to more difficult requests (Lutzker & Steed, 1997).

Errorless compliance training poses the benefit of allowing the training to occur without any initial exposure of the child to high demand situations that are often shown to produce high rates of disruptive behavior (Ducharme & Popynick, 1993). ECT is offered as an effective alternative to the use of punitive consequences for noncompliance as well. Furthermore, because the treatment approach begins with requests that the child is already highly likely to follow, there are many opportunities for the child to receive enthusiastic praise and reinforcement for desirable behavior (Ducharme, 1996).

Most of the research on errorless compliance training concerns interventions designed for parents and their children. Ducharme and Popynick (1993) first evaluated the effects of ECT with four parent/child dyads. After treatment, the children demonstrated significant gains in compliance levels to requests, and generalization to untrained requests was also demonstrated. Errorless compliance training has further demonstrated its effectiveness across a variety of clinical situations. ECT was shown to be effective in reducing noncompliance in children with Down syndrome (Ducharme & Popynick, 1993), children with autism (Ducharme & Drain, 2004), and children from violent homes (Ducharme, Atkinson, & Poulton, 2000). Although there are a number of studies supporting the effectiveness of ECT as a home or clinical-based intervention, only a few studies have evaluated ECT as an intervention in the school setting.

Ducharme and DiAdamo (2005) evaluated the effectiveness of ECT with two children with Down syndrome in a special education classroom. Instead of the parent delivering requests and filling out probability questionnaires, the teacher filled out the questionnaires, and a graduate student delivered the requests. Results indicated that the intervention was successful in

improving the students' compliance to requests in the classroom. Due to the start time of the intervention, the researchers were unable to gather follow-up data and determine whether the compliance gains were maintained after treatment.

In 2010, Ducharme, Padova, and Ashworth conducted a case study with a 7-year-old boy with extreme aggression and noncompliance. An ECT intervention was implemented concurrently across the boy's home and school settings, with the mother and teacher conducting all aspects of treatment in the respective settings. Although initial intervention attempts were unsuccessful due to a troubled mother-child relationship, adjustments to the intervention eventually resulted in considerable improvements in compliance at home. The concurrent use of the intervention in the boy's school setting, which was a private school for children with behavioral difficulties, also led to significant gains in classroom compliance. Although the case study provided preliminary support of the use of ECT across settings, the researchers did not collect follow up data in the school setting, nor was any generalization data collected in either setting.

Ducharme and Ng (2012) evaluated the effectiveness of errorless academic compliance training in a special education classroom for children with autism spectrum disorders. Three staff members in the classroom were trained to deliver a range of academic requests and record student compliance for three students with autism spectrum disorders, ranging from grades 1 through 3. Following intervention, all three students demonstrated significantly improved compliance to teacher requests that had often yielded noncompliance prior to intervention. Follow-up sessions were conducted up to a month following treatment and indicated that behavioral gains were maintained over time. However, researchers did not examine generalization to other low probability requests not included in the intervention.

CHAPTER III

CURRENT STUDY

Since only a few studies to date have evaluated the use of errorless compliance training in the school setting, and such studies were done in a special education setting, without examining the generalizability of the treatment, the present study aimed at replicating the Ducharme and DiAdimo (2005) study on improving compliance to classroom requests but in the general education classroom setting. The current study also examined the generalization of treatment effects over time. The present study was designed to answer the following questions: (1) Does errorless compliance training improve compliance for students in the general education setting? (2) Does the training generalize to other low probability of compliance requests not used during treatment? (3) Do intervention effects maintain over a period of a week? (4) Do the effects generalize to a teacher delivering the requests (a naturally occurring person in the classroom)? (5) Do teachers view this training as acceptable, useful, and effective in the classroom setting?

CHAPTER IV

METHOD

Participants and Setting

The study was conducted in two kindergarten classrooms. All sessions occurred in the general education classroom during independent work time so as to minimize the distraction for other students. Participants were four Caucasian male students enrolled in kindergarten. Students 1 and 2 were from a rural school district in a very low income area, with a total enrollment of about 600 students. The elementary school where the study took place had 86% of students receiving free or reduced lunch. The district was given federal grant money for the past few years, to develop a multi-tiered system of support and intervention for improving both reading and behavior. Students 3 and 4 were from a large city public school district, with many affluent families. This large district serves over 11,000 students. Students 3 and 4 were from a school in which 41% of students received free or reduced lunch.

Participants were recommended for the study by their teachers as having difficulty following directions. Students 1 and 2 were recommended by teacher 1 and students 3 and 4 by teacher 2. Student 1 (S1) was a 5 year old boy with no prior diagnoses. He was significantly off task during all classroom activities and highly distractible in the classroom. It would often take the teacher repeating directions and physical prompting before he would comply with a direction. Student 2 (S2) was a 6-year-old boy diagnosed with attention deficient hyperactivity disorder. He was often verbally and physically aggressive in the classroom, and was extremely noncompliant and outwardly defiant to teacher requests. At the time of the study, S2 was not taking any medications or receiving any other treatments. Student 3 (S3) was a 5-year-old boy who was verbally aggressive and noncompliant to daily requests in the classroom. Student 4 (S4) was a 6-

year-old boy who was hyperactive and very noncompliant with teacher requests. Neither S3 nor S4 had any diagnoses at the time of the study.

Research Design

The design was a single-subject, multiple-baseline design across subjects (Barlow & Hersen, 1984). Baseline evaluation began simultaneously for each set of students, whereas the treatment phases (starting with Level 1 requests) were time-lagged across participants, consistent with multiple baseline design procedures. The phases were staggered by at least two data points.

Dependent Variables

Percent Compliance

Prior to the study, the research assistant and teachers were trained on how to collect compliance data. A student was considered compliant if they initiated the behavior within 10 s of request presentation and completed it within 30 s. Researchers used a coding sheet to record participant responses; for each request presented, the researcher made a mark indicating that the participant met compliance standards, or a mark indicating participant noncompliance.

Clinical Assessment of Behavior (CAB; Bracken & Keith, 2004) Results

The two teachers of the students were given the Teacher version of the Clinical Assessment of Behavior (CAB-T) rating scale prior to the study, and again following treatment. The purpose of the CAB-T was to compare how teacher perceptions of student behavior changed, if at all, during the course of treatment. The CAB-T is a behavioral rating scale for teachers used to objectively evaluate students aged five through eighteen and can be used for screening, diagnosing, and planning treatment for students at risk for social and emotional

dysfunction. According to studies done by Bracken and Keith (2004), the CAB has been shown to be technically adequate, with a fairly representative national normative sample, acceptable reliability coefficients, and promising validity studies. The CAB was selected because it is particularly appropriate for use in school settings, as it addresses educationally-relevant areas.

Acceptability for Intervention

Teachers were given an adapted version of the Treatment Acceptability Questionnaire (Hunsley, 1992) following the study, to determine how ethical, effective, and overall acceptable they felt the treatment was within the classroom setting (See Appendix A).

Measures

After parent and teacher consent was granted, the teachers of the participants first completed the CAB-T, rating student behavior using a 5-point scale ranging from 1 = Always or Very Frequently to 5 = Never. The same rating scale was completed again at the conclusion of the study.

Teachers of the participants then completed the classroom version of the Compliance Probability Checklist (CPC; Ducharme et al., 1996; see Appendix B) prior to the intervention. The original checklist was modified to reflect commonly used terms in the classroom (e.g., “Hang up your backpack” instead of “hang up your knapsack”). Particular items that were not appropriate for the general education classroom (transportation items, etc.) were also deleted from the list. Teachers rated each request on the checklist according to the likelihood that the participant would comply with that request, using Levels (Level 1-almost always complies, Level 2-usually complies, Level 3-occasionally complies, Level 4-rarely complies).

Eight items from each level were then selected for observational analysis, during which participants were presented with 32 requests from the teacher checklist throughout three sessions, such that each request was presented three times. Requests that could be delivered most naturally in the classroom were selected for observational analysis. The requests were delivered during independent work time either by the researcher or research assistant, and no consequences were given for either compliance or noncompliance.

Based on the observational analysis of each participant, the 32 requests were then arranged in a hierarchical categorization, or in order from highest to lowest probability of compliance (adapted from Ducharme et al., 1996). The list of requests were then divided into four probability levels to use during treatment, which included approximately six requests from each category (some were less, depending on individual results of the observational analysis). The requests at the top quarter of the list were labeled Level 1, with the highest probability of compliance, and so on, with the bottom quarter of the list being labeled Level 4, with the lowest probability of compliance. The remaining two requests for each level were used for generalization purposes, and therefore were not delivered during treatment phases.

Interobserver Agreement (IOA)

To ensure reliability and validity of the treatment, a second observer conducted independent observations of request delivery and participant compliance in the classroom setting. A school psychologist intern was trained in how to deliver requests and code compliance by using mock request delivery sessions. The second observer independently coded sessions using an identical coding sheet. IOA was calculated by dividing the number of agreements of participant compliance and noncompliance by the total number of trials (number of agreements + disagreements) and multiplying the result by 100%. Interobserver agreement was collected on

38% of baseline requests, 31% of treatment requests, and 33% of generalization requests.

Interobserver agreement scores averaged 89% across all sessions, ranging from 80% to 100%.

Procedure

Baseline

Prior to beginning intervention, three sessions per student were devoted to collecting baseline data. Data sheets, which included the particular requests for each level were used at each respective phase of the study for coding purposes. All sessions took place in the student's respective classroom, during independent work time. During baseline sessions, all Level 4 requests (those with the lowest probability of compliance) were delivered by either the primary researcher or the research assistant. The researcher sat next to the student and delivered the Level 4 requests, separated by a one minute interval. During the baseline phase, no consequences were delivered for either compliance or noncompliance.

Treatment Phases

The procedure for request delivery during treatment was identical to that during baseline, except that standardized praise was delivered contingent on compliance (See Appendix C). Noncompliance to a request resulted in no response on the part of the researcher. Following noncompliance, the researcher sat quietly and waited a minute until delivering the next request. The transition to each subsequent level of treatment occurred when compliance for the previous level was at or above 75% for three consecutive sessions. The advancement criterion was continued for Levels 2, 3, and 4.

Generalization/ Follow-up

In order to examine the generalization of the intervention, an additional generalization phase occurred approximately one week following S1 and S2's treatment phase. S3 moved out of district during the Level 3 phase of treatment, and therefore generalization was not examined for him. Due to the approach of the end of the school year, generalization sessions for S4 occurred only a few days after completing the treatment phase. The Level 3 and Level 4 requests for each participant that were not presented during treatment, which totaled approximately four per participant, were delivered across three sessions, in an effort to examine the generalization of the intervention to novel, previously low probability requests. Procedures were identical to the treatment phase, with the exception that novel requests were delivered.

One week following the completion of the generalization phase, a teacher generalization phase occurred for S1 and S2. Again, due to the end of the school year, teacher generalization was not gathered for the other participants. The classroom teacher was given refresher training on how to deliver the requests and the same standardized praise used in treatment. The teacher was also trained on how to collect compliance data. The teacher then delivered the same requests used during the generalization phase (Level 3 and Level 4 requests not used during treatment) over the course of a week, totaling four sessions for both S1 and S2. The researcher informally monitored the first session to ensure accuracy of data collection.

Following the end of the study, the teachers were given an adapted version of the Treatment Acceptability Questionnaire (Hunsley, 1992) to examine social validity and determine how well the intervention was received in the classroom setting. The teachers were also given the same CAB-T rating scale that they completed prior to the study to examine changes, if any, that occurred in their perceptions of student behavior.

CHAPTER V

RESULTS

Figure 1 illustrates the percentage of compliant responses across all sessions in baseline and treatment for Students 1 and 2. Baseline data points represent the percentage of compliance to Level 4 requests for each session, as these requests resulted in the lowest levels of compliance before treatment and therefore were targeted for intervention. During baseline, Student 1 averaged 55.6% compliance to requests. Student 1 demonstrated 100% compliance to requests during all Level 1 and Level 2 sessions. The percentage of compliance declined a bit during Level 3 and Level 4 phases, however he still averaged much higher compliance rates than during baseline (83.2% and 87.5%, respectively). During the generalization phase (Level 3 and 4 requests not used during treatment), S1 maintained a high rate of compliance to requests, averaging 91.6% compliance. When the classroom teacher delivered the same requests during the teacher follow-up phase, S1's treatment effects were not observed. He demonstrated much lower rates of compliance, averaging only 35.5%.

S2 complied with an average of 64% of requests during baseline, with considerable variability across sessions (ranging from 40% to 80%). Student 2 showed increased rates of compliance during Level 1 and Level 2 as expected (94% average across both phases). During Level 3 and 4 requests, S2 exhibited a slight decrease in compliance, however still averaged a greater percentage of compliance than in baseline (83% and 86.6%, respectively). As can be seen in Figure 1, improvements were maintained by Student 2 during the generalization phase, which included novel Level 3 and 4 requests. Student 2 complied with 100% of requests across all sessions during this phase, showing significant gains over baseline compliance levels. During the

teacher follow-up phase, Student 2 continued to show gains (mean compliance of 83.5%), but demonstrated a slight decreasing trend.

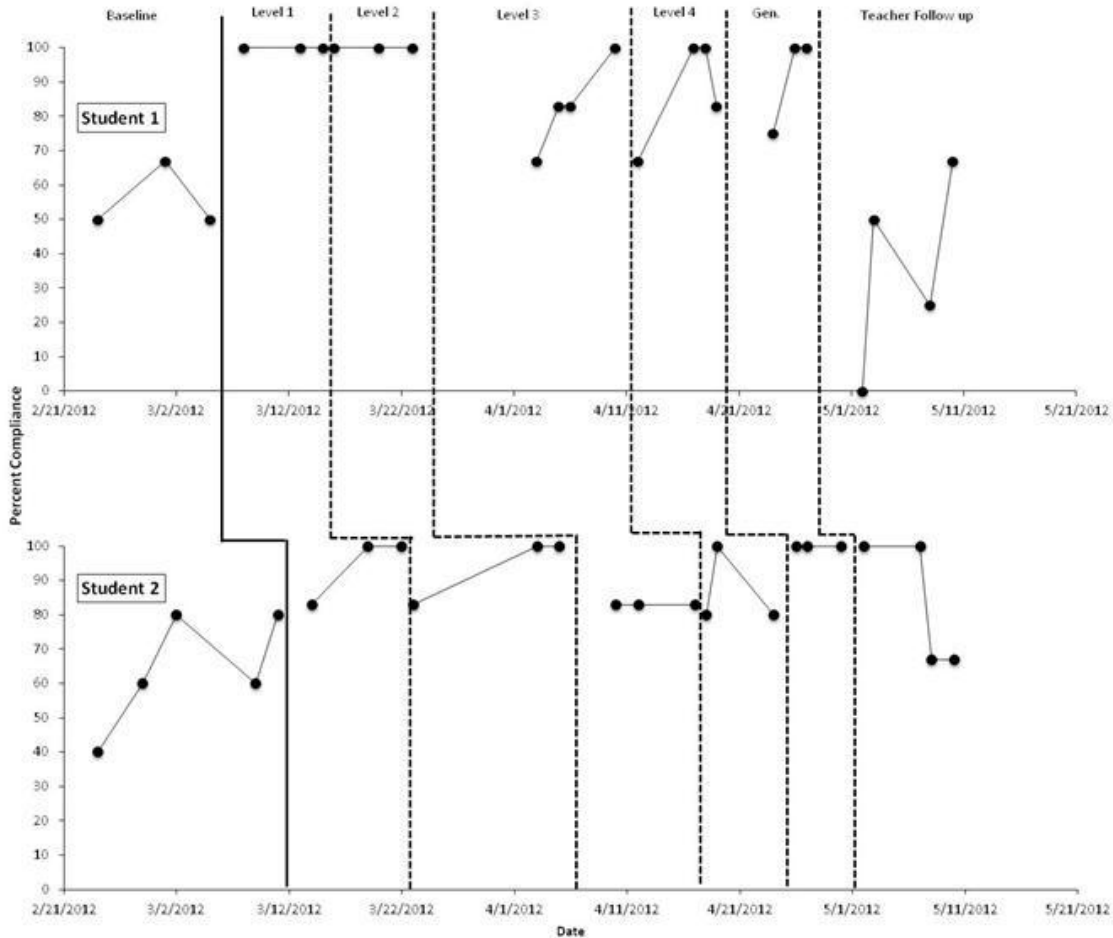


Figure 1. Compliance Results for Students 1 and 2. *The percentage of compliant responses for Students 1 and 2 across all baseline, treatment, and generalization phases.*

The percentage of compliant responses across all sessions in baseline and treatment for Students 3 and 4 is represented in Figure 2. Student 3 demonstrated the highest levels of noncompliance during baseline, with a mean of 33% compliance to requests, with no variability. Student 3 showed significant improvements in compliance rates across both Level 1 and Level 2

phases (mean 83.2% and 88.6%, respectively). During the Level 3 phase, Student 3 exhibited a large drop in compliance, returning to a compliance rate comparable to that during baseline (33.2%). It was during this phase that S3 moved out of district and thus no further data was collected.

Student 4 averaged 66.8% compliance during the baseline phase. As shown in the figure, compliance rates increased to 94.3% during Level 1, and 83.2% during Level 2. Student 4 complied with every request delivered during Level 3 sessions, yielding 100% compliance. During level 4 sessions (same requests given during baseline), S4 continued to show improvements in compliance, with a mean average of 88.6% across all sessions. Behavioral gains generalized to novel low-probability requests during the generalization phase, averaging 83.3% compliance to requests.

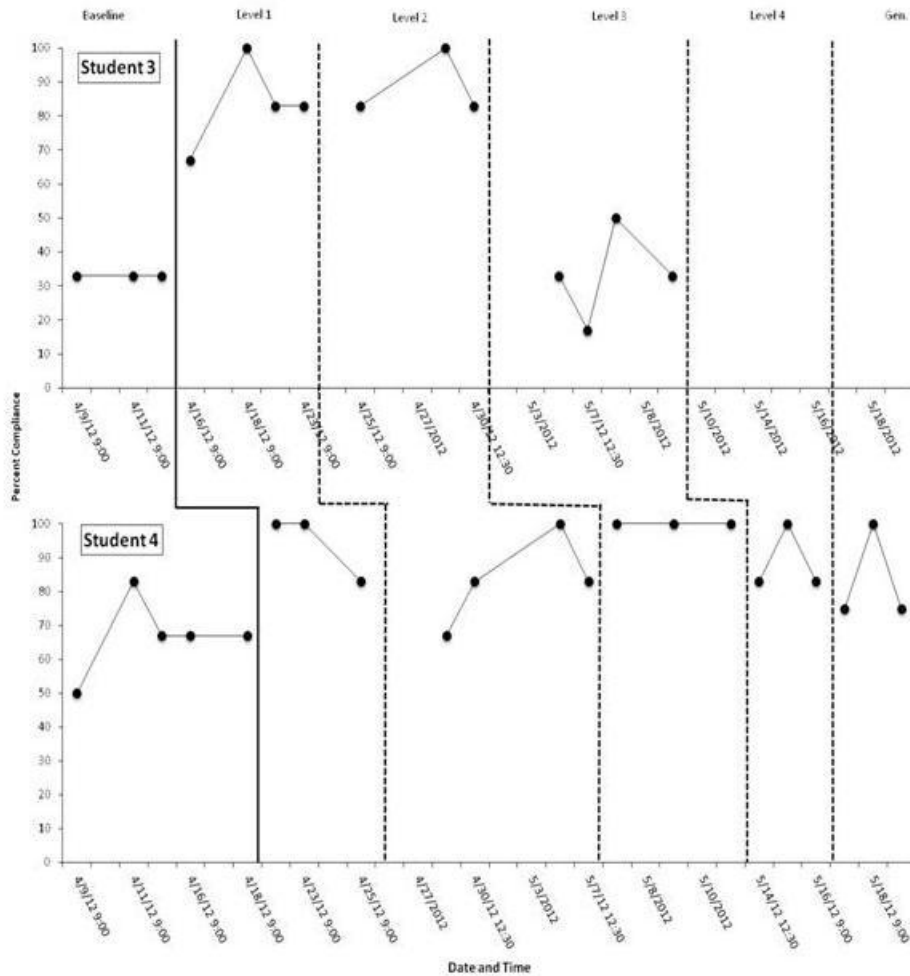


Figure 2. Compliance Results for Students 3 and 4. *The percentage of compliant responses for Students 3 and 4 across all baseline, treatment, and generalization phases.* Note: Student 3 moved out of district during Level 3 and therefore the data points reflect only the sessions that were completed for Student 3.

Pre- and post-intervention ratings on the CAB-T are illustrated in Table 1. Data for Student 3 are omitted due to his relocation during the study. Overall results are described as a CAB Behavioral Index (CBI), which is the best indicator of overall behavioral adjustment and is composed of the clinical and adaptive scales. Results are described as T scores ($M = 50$, $SD = 10$), with scores under 60 considered indicative of normal adjustment for the CBI and clinical scales. For the adaptive scales, higher scores are better than lower scores, with the normal range

being 40-59, scores above 60 indicating an adaptive strength, and scores below 40 representing an adaptive weakness.

Student 1 was rated as being average in all areas prior to treatment. Interestingly, S1 was rated as being in the mild at-risk range in the areas of externalizing behaviors, aggression, bullying, and conduct problems, following treatment. Like S1, S2 was also rated as being within the normal range of behavior prior to treatment. Post-treatment ratings demonstrate an increase in S2's competence scores, resulting in an area of adaptive strength.

Prior to the intervention, S4 was rated as being a mild clinical risk in the areas of externalizing behaviors, anger, aggression, bullying, conduct problems, ADHD, and overall behavioral functioning. Interestingly, scores for autism spectrum behaviors went from being rated as average before treatment to being rated as a mild clinical risk following treatment. S4 went from being rated a mild clinical risk in the areas of ADHD and overall behavioral functioning, to being considered within normal limits.

Table 1. *Pre and Post CAB-T T-scores for Students 1, 2, and 4.*

<i>Student 1</i>	Pre (2/1/12)	Post (5/29/12)
Clinical Scale		
<i>Internalizing Behaviors</i>	53	52
<i>Externalizing Behaviors</i>	56	63*
Clinical Cluster		
<i>Anxiety</i>	46	46
<i>Depression</i>	52	52
<i>Anger</i>	56	58
<i>Aggression</i>	55	64*
<i>Bullying</i>	59	65*
<i>Conduct Problems</i>	57	64*
<i>Attention-Deficit/Hyperactivity (ADHD)</i>	56	58
<i>Autism Spectrum Behaviors</i>	57	54
<i>Learning Disability</i>	52	50
<i>Mental Retardation</i>	55	55

Adaptive Scale		
<i>Social Skills</i>	42	41
<i>Competence</i>	45	45
CAB Behavioral Index (CBI)	55	58

Student 2	Pre (2/5/12)	Post (5/29/12)
Clinical Scale		
<i>Internalizing Behaviors</i>	52	47
<i>Externalizing Behaviors</i>	59	50
Clinical Cluster		
<i>Anxiety</i>	50	44
<i>Depression</i>	51	46
<i>Anger</i>	58	50
<i>Aggression</i>	58	52
<i>Bullying</i>	58	51
<i>Conduct Problems</i>	59	49
<i>Attention-Deficit/Hyperactivity (ADHD)</i>	57	43
<i>Autism Spectrum Behaviors</i>	55	43
<i>Learning Disability</i>	52	42
<i>Mental Retardation</i>	55	39
Adaptive Scale		
<i>Social Skills</i>	46	59
<i>Competence</i>	47	63
CAB Behavioral Index (CBI)	55	43

Student 4	Pre (4/2/12)	Post (6/4/12)
Clinical Scale		
<i>Internalizing Behaviors</i>	56	59
<i>Externalizing Behaviors</i>	62*	61*
Clinical Cluster		
<i>Anxiety</i>	54	55
<i>Depression</i>	57	59
<i>Anger</i>	63*	62*
<i>Aggression</i>	62*	64*
<i>Bullying</i>	62*	61*
<i>Conduct Problems</i>	65*	63*
<i>Attention-Deficit/Hyperactivity (ADHD)</i>	64*	59
<i>Autism Spectrum Behaviors</i>	58	61*
<i>Learning Disability</i>	55	57

<i>Mental Retardation</i>	57	56
Adaptive Scale		
<i>Social Skills</i>	41	44
<i>Competence</i>	43	44
CAB Behavioral Index (CBI)	60*	58

Note. * indicates mild clinical risk, ** indicates significant clinical risk, and **bolded** scores indicate adaptive strength

Teacher responses to the Treatment Acceptability Questionnaire are presented in Table 2. The questionnaire was completed by both teachers upon completion of the study. Questions were worded positively, and each statement was rated on a scale of 1 to 7, with 7 being the most positive. Both teachers rated the ECT treatment as being very acceptable, very ethical, and relatively easy to implement in the classroom. In terms of effectiveness, Teacher 1 rated the treatment as being very effective, whereas Teacher 2 found the treatment to be rather ineffective. For overall satisfaction with the treatment, Teacher 1 and Teacher 2 differed; Teacher 1 was very satisfied with the treatment, while Teacher 2 was somewhat dissatisfied overall.

Table 2. *Mean Rating (1-7 scale) on the Treatment Acceptability Questionnaire by both raters.*

Topic	Teacher 1	Teacher 2
Acceptability	7	7
Ethicality	7	7
Effectiveness	7	2
Ease of implementation	5	6
Overall satisfaction	7	3

CHAPTER VI

DISCUSSION

The present study aimed to evaluate the effectiveness of ECT in a general education kindergarten classroom. Prior to intervention, all four students were identified as having great difficulty following teacher directions in the classroom and demonstrated high rates of noncompliance. Results indicate that errorless compliance training was associated with considerable improvements in compliance to low-probability requests. By the end of treatment, all students demonstrated improved compliance rates to Level 4 requests; the same requests which yielded low compliance rates during baseline. S1 showed the most improvements, as he demonstrated a 57% increase in compliance from baseline to Level 4. S2 and S4 also exhibited marked improvements, with increases of 35% and 33%, respectively. As mentioned previously, S3 moved out of district during the intervention, and therefore conclusions cannot be made in regards to behavioral change. However, preliminary results showed a dramatic increase in compliance during Levels 1 and 2 with a drop in compliance during Level 3. It was during this time that S3 was experiencing family difficulties, which eventually led to his family to leave the area. It is speculated that his sudden decrease in compliance was a result of environmental/extraneous variables outside of the classroom.

The three students who completed the study demonstrated similar gains in compliance to generalization requests after treatment, suggesting that errorless compliance training produced generalized cooperation to other tasks and activities. These results corroborate previous findings (e.g., Ducharme et al., 2000; Ducharme, Spencer, Davidson, & Rushford, 2002; Ducharme & Drain, 2004), demonstrating the persistent nature of treatment effects in ECT.

Since no studies to date have examined whether the generalization effects vary depending on the person delivering the requests, such was a key focus in the current study. When the classroom teacher was trained in delivering generalization requests, S1 showed compliance rates that were even lower than those exhibited during baseline. S2 showed continued gains, however a decreasing trend led to less confidence in the generalizability. Because of time restraints, teacher generalization data was not collected for S4.

These results are curious in that the same requests were given by the researcher and the teacher, yet there was such a difference in compliance rates. It is speculated that the nature of the relationship between the teacher and S1 had been so negative prior to intervention that the student returned to a defiant mode when the teacher began delivering the requests. In addition, when the researcher delivered requests during treatment, the child was given one-on-one attention, as the researcher sat right next to them while delivering requests. During the teacher generalization phase, the teacher delivered the requests throughout the natural course of the classroom routine. This resulted in much less attention given with request delivery. Some theories, such as PCIT, conjecture that a secure, nurturing relationship is a necessary foundation for lasting behavior change (Eyberg & Bussing, 2010). In future studies with ECT in the school setting, it may be important for the teacher and student to engage in positive, structured interactions prior to intervention, in order to foster a positive environment for which behavioral change is more likely to be made.

The results of the CAB-T pre- and post-treatment comparison were interesting. All three students showed increased behavioral ratings in at least one area. There were also unexpected decreases in behavior ratings for both S1 and S4. It is believed that the CAB-T was not sensitive

enough to treatment effects, and also too broad of an outcome measure to capture the specific nature of noncompliance.

In addition to the somewhat mixed results of the CAB-T, results of the treatment acceptability questionnaire were also mixed. Both teachers rated the treatment as being very acceptable, very ethical, and relatively easy to implement in the classroom. However, Teacher 2 viewed the treatment to be rather ineffective and reported dissatisfaction in the treatment overall. It is hypothesized that part of the reason for the teacher's somewhat negative view of the treatment was due to a loss of momentum after initial enthusiasm for the intervention.

VanDerHeyden and Tilly (2010) identified common errors that occur when implementing a new program or intervention. A loss of momentum commonly occurs after a time period of initial enthusiasm. Signs of this error include integrity concerns, lack of follow-through/data, and suggestions of a new path or process. After a few treatment sessions, Teacher 2 expressed her concern with having guests in her classroom so often, and requested that the number of sessions per classroom visit be increased, in an effort to reduce the number of weekly visits. Teacher 2 expressed the amount of pressure she was under during the time of the study and the number of interventions in place in her classroom. It is believed that she was overwhelmed at the time of the study, leading her to view the study as an intrusion in her classroom, rather than a positive behavioral intervention.

This study had other limitations as well. Studies have shown that some individuals do not respond to social stimuli such as praise, and thus praise does not function to reinforce behavior (Kale, Whelan, & Hopkins, 1968). In fact, social attention may be aversive to some people (Hagopian, Wilson, & Wilder, 2001). In the current study, consistent, scripted praise was the only consequence delivered following compliance for all students. It may be possible that praise

was not effective enough as a stand-alone consequence for Student 3, and that pairing praise with a tangible item may have increased the potency of the consequence, leading to greater improvements. For example, two of the more recent studies on ECT (Ducharme & Ng, 2012; Ducharme, Padova, & Ashworth, 2010) used tangible reinforcers (stickers or tokens that were exchanged for other rewards such as toys, snacks, computer time, etc.) in combination with praise.

Another limitation of the current study was the short follow-up period due to the end of the school year. It would be important for future studies to assess how long the treatment effects are maintained to see if errorless compliance training leads to long-term behavioral change. In addition, there were not enough requests identified at each level to have separate novel requests used for the teacher follow-up phase. Therefore, the novel requests used during the generalization phase were the same requests that the teacher delivered during the teacher generalization phase, as mentioned earlier. Although the intent of having a teacher generalization phase was to examine whether treatment effects generalized to a naturally-occurring person in the classroom, baseline data for teacher delivery was not collected, which makes it difficult to draw conclusions from the limited set of data.

Since the focus of this study was on compliance within the classroom setting, no data was collected to see if the effects transferred to the home setting. It would be useful to examine whether school interventions such as errorless compliance training support parent-child interactions at home. Future researchers may also want to look at more general outcome measures, to assess the “keystone” quality of targeting compliance. Behavioral referrals, work completion, and social skills may be of interest as a more generalized indicator of treatment effects.

Although there are several limitations, the results of the study appear to have important educational implications. Despite the limitations mentioned above, all three students who completed the study showed improvements in compliance during the treatment, with only praise as a consequence. The results suggest that errorless compliance training is an effective behavioral intervention within the general education classroom. With consideration of the increasing constraints on teachers' time, and increasing budget restrictions of schools, it is important that the most effective and efficient strategies are used to address student behavior in the classroom. Interventions with a “keystone” quality, such as errorless compliance training, provide the benefit of potentially modifying a range of problem behaviors with intervention focused on just one or a few target areas (Ducharme & Shecter, 2011).

In addition, the foundational principles of ECT could be incorporated into a teacher’s classroom routine relatively simply, in a way to reduce the need for reactive or punitive strategies to suppress problem behaviors. For example, teachers could encourage compliance by delivering a higher proportion of high probability requests, especially to students who have trouble adhering to classroom routines. Teachers can praise compliance to simple requests and then gradually increase the difficulty of demands (Ducharme, 2007), with continued praise for cooperative responding. In summary, this study suggests that elements of errorless compliance training hold great potential as a practical, effective, and efficient strategy for proactive classroom management.

APPENDICES

APPENDIX A

TREATMENT ACCEPTABILITY QUESTIONNAIRE

Name _____

Date _____

Please answer these questions that deal with your reactions to the treatment. Circle the number that best describes your reactions.

1. Overall, how acceptable do you find the treatment to be?

VERY UNACCEPTABLE 1 2 3 4 5 6 7 VERY ACCEPTABLE

2. How ethical do you think this treatment is?

UNETHICAL 1 2 3 4 5 6 7 FULLY ETHICAL

3. How effective do you think this treatment is?

VERY INEFFECTIVE 1 2 3 4 5 6 7 VERY EFFECTIVE

4. How likely do you think it is that the treatment may have negative side effects?

VERY LIKELY 1 2 3 4 5 6 7 VERY UNLIKELY

5. How difficult do you think this treatment would be for you to implement in the classroom?

VERY DIFFICULT 1 2 3 4 5 6 7 VERY EASY

6. Overall, how satisfied are you with the results of this treatment?

NOT SATISFIED 1 2 3 4 5 6 7 VERY SATISFIED

Comments _____

APPENDIX B

SCHOOL COMPLIANCE PROBABILITY QUESTIONNAIRE

Child's Name: _____ Date: _____
 Completed by: _____

Listed below are a series of requests you may present to a child in a given day. What is the likelihood that the child will comply to this request if the request is stated only once? Please check the appropriate box beside each command.

	Almost Always	Usually	Occasionally	Rarely	Skill Not Learned	This Request is Important to me () or (x)
DRESSING						
Get your coat						
Get your shoes						
Put on your coat						
Put on your shoes						
Put on your boots						
Tie the laces						
Fasten your buttons						
Do up your zipper						
Undo your coat						
Take off your coat						
Hang up your coat						
Put your backpack (somewhere)						
Put your boots in the hall						
HYGIENE						
Wash your hands						
Wash your face						
Turn off the water						
Flush the toilet						
Use the soap						

	Almost Always	Usually	Occasionally	Rarely	Skill Not Learned	This request is Important to me () or (x)
Dry your hands						
Dry your face						
PLAY						
Go get your (play item)						
Play with your toys (games)						
Do the puzzle						
Put this piece in the puzzle						
Throw me the ball						
Catch the ball						
Play some music (instruments)						
Sing to the music						
Dance to the music						
Jump up and down						
Ride your (individual item)						
Draw me a picture						
Color the picture						
Turn on the music						
Turn up/down the volume						
Put your hands up in the air						
Stamp your feet						
Play patty cakes with me						
Stack the blocks						
Do a somersault						
Push the toy car						

	Almost Always	Usually	Occasionally	Rarely	Skill Not Learned	This Request is Important to me () or (x)
Hug the doll/stuffed toy						
Pick a toy/activity						
Blow bubbles						
ACADEMIC						
Trace the (particular objects)						
Draw a (particular object)						
Draw a line						
Cut out the picture						
Point to the _____						
Find me a picture of a _____						
Print your name						
Tell me your name						
Show me the _____						
Give me the _____						
Tell me where your ___ is						
Count for me						
Count the _____						
Open the book						
Take the book out of your desk						
Put the book away						
Get your pencil out						
Put your pencil away						
Read this to me						
Turn the page						
Touch your _____						
Place the sticker on the sheet						

	Almost Always	Usually	Occasionally	Rarely	Skill Not Learned	This Request is Important to me () or (x)
SOCIAL						
Give me a hug						
Give me five						
Shake my hand						
Clap your hands						
Hold my hand						
Sit beside me						
Smile						
SNACK TIME						
Come sit down at the table for snack						
Eat your (particular food item)						
Pass the (particular item)						
Sit in your chair						
Drink your (particular drink)						
Wipe your mouth						
Go get a (particular treat)						
CLEAN-UP						
Put away your toys						
Pick up your _____						
GENERAL						
Follow me						
Look at me						
Come here						

	Almost Always	Usually	Occasionally	Rarely	Skill Not Learned	This Request is Important to me () or (x)
Hold this						
Stand up						
Sit down						
Close the door						
Stand in line						
Line up for recess						
Come sit on the carpet						
Sit up straight						
Go to the particular place						
Turn off the music						
Push your chair in						
Bring me (non-play item)						
Tell me your full name						
Come inside						
Bring me your chair						
Do this (particular thing)						
Get your _____						
Speak quietly						
Stop talking						
OTHERS (Please list the requests that are least often followed by this child, if not already listed)						

APPENDIX C

SCRIPT FOR PRAISE

Researcher/person delivering request: “_____ (child’s name), _____ (insert request e.g., “Billy, hand me your pencil.”)

- If the child **does not** follow request: do not say anything, wait 1 minute. Then deliver the next request.
- If the child **does** follow request, say: “Great job following directions, _____ (child’s name)!”

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