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EVALUATION OF THE CLASS PASS INTERVENTION FOR TYPICALLY DEVELOPING STUDENTS WITH HYPOTHESIZED ESCAPE-MOTIVATED DISRUPTIVE CLASSROOM BEHAVIOR

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The aim of this study was to evaluate the Class Pass Intervention (CPI) as a secondary intervention for typically developing students with escape-motivated disruptive classroom behavior. The CPI consists of providing students with passes that they can use to appropriately request a break from an academic task to engage in a preferred activity for preset amount of time. In addition, students are incentivized to not use the class passes by continuing to engage in the academic task and instead exchanging them for a preferred item or activity. Using an experimental single-case withdrawal design with replication through a concurrent multiple-baseline across-participants design, the CPI was shown to reduce disruptive behavior and increase academic engagement in three students who engaged in hypothesized escape-motivated behavior. Results also revealed that the effects of the CPI were maintained at a two-week follow-up probe and consumers found it to be acceptable. The limitations and implications of the findings for future research on effective classroom-based interventions are discussed. © 2013 Wiley Periodicals, Inc.

Disruptive classroom behaviors present major challenges to teachers (Bushaw & Lopez, 2010; Langdon & Vesper, 2000; Rose & Gallup, 1999). Students who exhibit disruptive classroom behavior not only miss out on valuable instructional time, but they interfere with their teachers' instructional delivery and their classmates' ability to learn (Hinshaw, 1992; Walker, Ramsey, & Gresham, 2004). Given the negative impact of disruptive classroom behaviors on the learning environment, there is a high need for socially valid interventions that can effectively address students' disruptive behaviors (Gresham, 2004; Stage & Quiroz, 1997; Witt, Martens, & Elliott, 1984).

Researchers have successfully developed and evaluated secondary, tier 2 interventions to address a variety of students' behavior problems. For example, social skills training programs have been found to be an effective intervention for students with acquisition deficits (Cook, Gresham, Kern, Barreras, Thornton, & Crews, 2008); First Step to Success has been shown to be an effective secondary intervention for students at risk for developing antisocial behavior patterns (Walker et al., 2009), and mentor-based programs have been demonstrated to be effective for at-risk students who desire attention from adults (Cheney et al., 2010). The efficacy of these interventions notwithstanding, no single intervention is effective for all behavior problems (La Greca, Silverman, & Lochman, 2009). As a result, it is important to continue to develop and evaluate interventions that target particular types of behavior problems, such as disruptive classroom behavior (Gresham, 2004).

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There is longstanding research supporting the use of applied behavior analysis (ABA) as a means of designing interventions to address challenging behavior (Alberto & Troutman, 2008). From an ABA perspective, all operant behavior is maintained by consequences that follow the behavior. In particular, the presence of disruptive classroom behavior can be explained by its relationship with positive or negatively reinforcing consequences (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982; Skinner, 1953). Positively reinforced disruptive classroom behaviors are maintained because they gain access to or come into contact with a desirable consequence, such as attention from others or a tangible item or activity, which increases the future likelihood of the disruptive behavior (Cooper, Heron, & Heward, 2007). Negatively reinforced disruptive classroom behaviors are maintained because they allow the person to escape, avoid, or minimize contact with an unpleasant stimulus, such as undesirable social attention, an unfavorable directive, or aversive academic tasks (Cooper, Heron, & Heward, 2007). Utilizing an ABA paradigm, researchers have devised methods of uncovering whether particular disruptive classroom behaviors are maintained by positive and/or negative reinforcement.

Functional behavior assessment (FBA) represents a set of ABA methods that are used to uncover the relations between antecedents, behaviors, and consequences, with the purpose of developing a hypothesis that describes the antecedent events that trigger the target behavior and consequences that maintain it (Steege & Watson, 2009). Research has shown that FBA is an effective means of understanding the function of a student's problem behavior and designing behavioral interventions that address it (Ingram, Lewis-Palmer, & Sugai, 2005; Kern, Delaney, Clarke, Dunlap, & Childs 2001; Newcomer & Lewis, 2004; Penno, Frank, & Wacker 2001). Using FBA methods, scholarly work has demonstrated that the two most common reasons why students exhibit disruptive classroom behaviors are to gain attention from others (i.e., positively reinforced attention-maintained disruptive behavior) or escape/avoid aversive academic tasks (i.e., negatively reinforced escape-motivated disruptive behavior) (Hawkins & Axelrod, 2008; McIntosh, Horner, Chard, Dickey, & Braun, 2009; VanDerHeyden, Witt, & Gatti, 2001).

Students with escape-motivated disruptive classroom behaviors present unique challenges to teachers. First, although extinction procedures have been shown to be effective at reducing escape-motivated behavior (DeLeon, Neidert, Anders, & Rodriguez-Catter, 2001), teachers may find it difficult to prevent the student from escaping or avoiding academic tasks. For example, although function-based extinction procedures for dealing with attention-maintained disruptive behavior entails the teacher or classmates ignoring the student after the occurrence of the problem behavior, escape-extinction procedures require that the teacher actively keeps the target student engaged in the aversive task after the disruptive behavior occurs (Cooper, Heron, & Heward, 2007). As one might imagine, teachers may find it challenging to prevent students from escaping or avoiding an academic task, given difficulties with maintaining proximity to the student and potential escalated behavior on the part of the student. Second, a number of side effects related to escape extinction have been noted, such as an inadvertent increase in target behavior, aggressive behaviors, emotional responses, and novel problem behaviors that did not occur prior to the extinction procedure (Lerman & Iwata, 1996; Lerman, Iwata, & Wallace, 1999). Third, escape-motivated behaviors also present a challenge to teachers because the use of common punitive procedures, such as time out, referral to the office, or suspension, will only strengthen these behaviors, because they allow the student to escape from or avoid the academic task at hand (O'Neill et al., 1997). Given the challenges associated with treating escape-motivated disruptive classroom behaviors, there is a need for behavioral interventions that teachers can use to address students who exhibit disruptive classroom behaviors to escape, avoid, or minimize contact with academic tasks.

Recent research has shed light on effective and ineffective interventions for students with escape-motivated behavior. Interventions that focus on building positive interactions with adults and

generic reinforcement for appropriate behavior have been shown to improve behavior for students with attention-motivated behavior but have little effects for students with escape-motivated behavior (March & Horner, 2002; McIntosh, Campbell, Carter, & Dickey, 2009). Also, given the documented relation between academic skills and problem behavior for students with escape-motivated behavior, there have been strong effects for academic intervention on escape-motivated problem behavior (Filter & Horner, 2009; Lee, Sugai, & Horner, 1999; McIntosh, Horner et al. 2008; Preciado, Horner, & Baker, 2009). Enhancing students' academic skills can make academic tasks less aversive and problem behavior less likely. However, these studies focused on providing individualized instruction outside of the general education classroom setting. Although individualized instruction is important to increase students' academic skills, there remains a need for efficient and acceptable interventions for students with escape-motivated disruptive classroom behavior who either continue to engage in these behaviors while receiving individualized instruction or who perform well academically but exhibit them anyway.

There are also a number of other effective intervention strategies that have been investigated to address escape-motivated behavior, including differential reinforcement of alternative behavior (e.g., Durand & Carr, 1991; Hagopian, Contrucci Kuhn, Long, & Rush, 2005), noncontingent reinforcement (e.g., Doughty & Anderson, 2006), and provision of choices (e.g., Harding, Wacker, Berg, Winborn-Kemmerer, & Lee, 2009; Vaughn & Horner, 1997). One of the main limitations of this research is that the vast majority of it has focused on children with developmental disabilities—not typically developing students. Thus, there is limited understanding of the efficacy of these interventions for typically developing students, particularly those with escape-motivated disruptive classroom behavior. Moreover, there is also a dearth of research on the social validity of interventions that are designed for typically developing students with escape-motivated disruptive behaviors, which is vital to understanding whether interventions will likely be used under natural educational conditions. Notwithstanding these limitations, the current research base helped inform the development of an applied behavior analytic intervention that targets students with disruptive classroom behavior and is socially valid according to both teachers and students.

The Purpose of the Current Study

The purpose of the current study was to develop and evaluate the impact of the Class Pass Intervention (CPI) for typically developing students with hypothesized escape-motivated disruptive classroom behavior. This intervention was based on the work by Friman et al. (1999), who developed the Bedtime Pass Program (BPP). The BPP was designed to treat children's bedtime problems, consisting of making complaints, leaving the room at night, and sleeping with parents. The intervention involves providing the child with passes that he can give his parents to escape or leave the bedroom for a prespecified amount of time after bedtime has started. In this example the child is gaining access to a potential functional reinforcer (escape from the bedroom) contingent upon an appropriate alternative behavior (giving the parent a bedtime pass). Once the child uses all the bedtime passes, he or she is no longer permitted to leave the room (extinction). In addition to the bedtime pass, a positive reinforcement contingency is implemented to encourage the child to hold on to the passes and exchange them for a highly preferred item or activity the next day (a powerful nonfunctional reinforcer). Research has shown that children are likely to use the bedtime passes when the intervention is first implemented, but soon choose to hold on to the passes to exchange for a preferred item or activity. The BPP has been shown to be an effective intervention to improve children's bedtime behavior while it is being implemented, and has demonstrated sustainable effects that continue to last once the intervention has been discontinued (Freeman, 2006; Moore et al. 2007).

Based on the success of the BPP, our hypothesis was that a similar approach would be effective for use by teachers to address students with disruptive classroom behavior. Although the specific

purpose of this study was to evaluate the CPI's effectiveness for students with hypothesized escape-motivated disruptive classroom behavior, the CPI was originally designed to include both positive and negative reinforcement components for use with students with either negatively or positively reinforced problem behavior (Cook, 2008). The original purpose of the CPI was to serve as a secondary intervention that cuts across different behavioral functions so it requires limited assessment data to inform its implementation and can be used for a variety of students with disruptive classroom behavior. Although the CPI was originally developed for students with positively or negatively reinforced disruptive behavior, or a combination of the two, the specific purpose of this study was to evaluate its efficacy for students with hypothesized escape-motivated behavior.

One of the main features of the CPI is a bedtime passlike card that serves as a replacement behavior that it provides students with a means of appropriately requesting a break or escape from the academic task rather than exhibiting disruptive behavior. However, simply allowing the student to escape in a more socially acceptable way by using a class pass is unlikely to be acceptable to teachers and parents, as it encourages time away from learning (Elliott, 1988). Like the BPP, this concern can be addressed by including a positive reinforcement component that encourages continued academic engagement. A positive reinforcement component was incorporated into the CPI by creating a contingency in which the student could exchange class passes for a preferred item or activity. The rationale for this intervention component was to encourage the student to continue to participate in the academic task by holding on to the class passes and exchanging them for a preferred item or activity. Given that the focus of this study was on students with hypothesized escape-motivated disruptive behavior, the appropriate issuance of the class pass was considered a functionally equivalent replacement behavior that would allow students to experience the same outcome as the disruptive behavior, but in a more socially acceptable manner.

Four primary research questions guided the design and evaluation of this study:

1. Is there a functional relation between implementation of the CPI and reductions in disruptive behavior and improvements in academic engagement?
2. To what extent were the effects of the CPI replicated across participants?
3. To what extent did the effects of the CPI maintain when it was systematically withdrawn?
4. To what extent did the teachers and students find the CPI to be acceptable?

Method

Participants and Setting

Three students (Jake, Curtis, and Drew) from three separate classrooms in an urban elementary school in Southern California participated in this study. The elementary school had a diverse student body (45% Caucasian, 35% Asian, 14% African American, 5% Latino, and 1% Other) and was moderately sized ($n = 456$) compared to other elementary schools in the area. With regard to socioeconomics, the school had 65% of its students on free and reduced lunch.

Multiple Gating Procedure. The three participating students were selected for participation using a modified multiple gating procedure designed after the *Systematic Screening for Behavior Disorders* (Walker & Severson, 1992). The first gate consisted of teacher nominations of the top three students in their class who met the behavioral definition of disruptive classroom behavior (see below for precise definition). A total of 48 students were passed on to the next gate. Next, teachers completed ratings on four items from a researcher-developed tool that specifically assessed aspects of disruptive classroom behavior. The items were on a 4-point Likert scaling format (Never, Sometimes, Often, Very Often), and students who obtained scores of 10 or higher were passed on the final gate in the selection process. This step resulted in the identification of 10 students for

consideration in the last gate. The last gate consisted of performing an FBA to identify a final pool of students who engaged in hypothesized escape-motivated disruptive classroom behavior. The FBA methods used to identify behavior function are discussed below and the resulting FBA data are presented in the Results section.

Jake. Jake was a fifth grade Caucasian male student. His disruptive classroom behaviors consisted of calling other students names, throwing objects, getting out of his seat, rummaging in his backpack, and humming noises. Jake participated in a general education classroom 100% of the time. He performed below the 10th percentile in both reading and mathematics on the previous year's statewide academic assessment. Records indicated that school staff implemented prior behavioral interventions (e.g., behavior card, school-home note), but without success. During the baseline phase of this study, the teacher was implementing a behavior card intervention, which consisted of the teacher putting checks next to his name on a card. If he received fewer than three checks, he could go to recess, while three or more checks indicated that he could not go to recess.

Curtis. Curtis was a fourth grade Hispanic male student. His disruptive behaviors consisted of asking questions about academically unrelated content, talking to peers, drawing, and singing out loud. Curtis was placed in a general education classroom for 100% of the school day. Academically, he performed at the 36th percentile in reading and the 16th percentile in mathematics as measured by the previous year's statewide academic assessment. At the time of this study, Curtis was referred to the school's student study team for behavioral supports. No prior behavioral interventions had been implemented for Curtis. During the baseline phase of this study, the only behavior supports Curtis was receiving at the time of the study were the basic classroom management strategies implemented by the teacher.

Drew. Drew was a fifth grade African American male student. His disruptive behaviors consisted of talking to peers about non-academic content, getting out of his seat, and making audible noises with objects. Drew was receiving special education services under the category of specific learning disability. He spent 25% of his day in a resource room, receiving specialized instruction in reading. Results from the previous year's statewide academic assessment indicated that he performed at the 2nd percentile in reading and the 24th percentile in mathematics. Records indicated that the primary disciplinary strategy used with Drew was sending him to the office and behavior specific praise.

Measures

Functional Behavior Assessment. Two advanced graduate students, one with Board Certified Behavior Analyst (BCBA) certification and the other working towards BCBA certification, with more than four years each of experience as behavior consultants performed the FBAs. A combination of indirect and direct descriptive procedures was used to conduct the FBAs. Research has shown that descriptive, multimethod approaches to FBA can be reliable, valid, and lead to the design of effective interventions (Dufrene, Doggett, Henington, & Watson, 2007; Kern, Starosta, Cook, Bambara, & Gresham, 2007; McIntosh, et al., 2009; Newcomer, & Lewis, 2004; Stage et al., 2006). The indirect measures included teacher and student interviews derived from O'Neill et al. (1997) and the Problem Behavior Questionnaire (PBQ; Lewis, Scott, & Sugai, 1994). The FBA interviews were used to glean information about the relationships between antecedents, behaviors, and consequences. Based on the interviews, an initial hypothesis regarding the function of each of the ten students' disruptive behavior was devised. The PBQ was then administered to the teachers and scored to cross-compare with the initial hypotheses of behavior function. Those students whose disruptive behavior was

clearly maintained by positive reinforcement (attention or access to preferred item or activity) were excluded from the next step in the FBA. The remaining students were included in the next step of the FBA, which consisted of direct observation.

The direct observations were conducted using the Functional Assessment Observation Form, which collects A-B-C information and was used to confirm or disconfirm the initial hypotheses (O'Neill, Horner, Albin, Sprague, Storey, & Newton, 1997). Direct observations were performed during the time and place in which the teacher reported that the disruptive behavior was most likely to occur, as well as during unstructured, nonacademic task times (e.g., free time). Two 30-minute observations were performed on each student. Observers recorded the presence and absence of disruptive behaviors. The class of disruptive behaviors was defined as behaviors that were not related to the academic task at hand and were interfering with teacher-led instruction or the learning of others, such as blurting out, talking to peers about nonacademic topics, getting out of seat, making noises with objects (e.g., tapping pencil), calling other students names, throwing objects, and making odd noises. Conditional probabilities were calculated to examine the relations between the different antecedent conditions (academic task vs. free time/transition) and the target disruptive behaviors, as well as the relations between the presence and absence of the target disruptive behavior and consequences (attention and escape/avoid). The data were recorded using a combination of momentary-time sampling and partial-interval recording. For the antecedent-behavior relations, observers recorded the antecedent condition on a momentary-time sampling basis, and recorded the behavior as being contiguous to the antecedent event if it occurred at any point during the 10-second interval. For the behavior-consequence relations, all data were recorded using partial-interval recording. If the target behavior occurred at any point during the interval, then observers recorded its presence and then observed for the reminder of the interval to record the contiguous consequence. The results of the FBA are presented in the results section.

Dependent Variables. The PDA version of the Behavioral Observation of Students in School (BOSS; Shapiro, 2004) was used as the direct observation coding system. The primary dependent variables in this study were disruptive behavior (DB) and academic engaged time (AET), as defined and recorded in the BOSS manual. Disruptive behaviors were recorded on a 15-second partial-interval basis and occurrences were defined as behaviors that are distractive to others or interfere with ongoing activities in the classroom (e.g., call outs without raising hand, talking to peer when not permitted, out of seat, making inappropriate noises that draw other peers off-task, playing with object, throwing object, etc.). AET was recorded on a momentary-time sampling basis and occurrences were defined as the student paying attention to the lecture at hand by directing eyes to the teacher, raising hand to ask a questions, actively writing, reading, participating with others on an academic task, or working individually on an academic task (e.g., writing, reading aloud, raising a hand and waiting patiently, talking to the teacher or other student about assigned material, and looking things up that are relevant to the assignment). Each observation was performed for 40 minutes during the academic time in which the participants were most likely to exhibit disruptive behavior. These were also times when the CPI was being implemented. Interobserver agreement (IOA) was collected on 20% of the sessions across participants and phases. The average IOA was estimated by calculating Cohen's Kappa. The average Kappa for AET and DB was .71 (Jake = .74; Curtis = .69; Drew = .70) and .74 (Jake = .77; Curtis = .71; Drew = .74), respectively, indicating acceptable agreement between observers (Viera & Garrett, 2005).

Treatment Acceptability. Treatment acceptability was measured with the Intervention Rating Profile (IRP-15) and Children's Intervention Rating Profile (CIRP). The IRP-15 was selected because it is widely used to assess teachers' perceived acceptability of interventions (Martens, Witt,

Elliott, & Darveaux, 1985). The CIRP includes seven items that assess students' acceptability of an intervention (Witt & Elliott, 1985). Both of these measures include items that are on a 6-point Likert format that ranges from "strongly disagree" to "strongly agree." These measures were administered following the last CPI implementation phase. Both the IRP-15 and CIRP have demonstrated evidence supporting their reliability and validity (Lane et al., 2009). Specifically, the IRP-15 has demonstrated internal consistency reliability estimates that exceed .95 (Witt & Martens, 1983), while the CIRP has demonstrated internal consistency estimates that exceed .85 (Elliot, 1986).

Design

The single-case experimental design used in this study was an ABAB withdrawal design (i.e., baseline-intervention-return to baseline-intervention) with replication through a concurrent multiple baseline across two additional participants design. The follow-up probe was obtained two weeks after the CPI was withdrawn. It is important to note that it was not an authentic follow-up probe, because teachers maintained a positive reinforcement contingency in place to reward participants for meeting daily goals. To demonstrate a functional relation between the CPI and the dependent variables, an ABAB withdrawal design was employed for Jake and embedded within a multiple baseline design framework. The ABAB design for Jake allowed for prediction, affirmation of the consequent, verification, and replication by affirmation of the consequent (see Riley-Tillman & Burns, 2009). Jake received the full version of the CPI (i.e., three class passes) during both phases in which it was implemented. For Curtis and Drew, an AB design with a gradual fading procedure was embedded within the multiple baseline design. This design was used to replicate the findings found for Jake, as well as to examine changes in behavior as a function of gradually fading out the class passes and keeping only a positive reinforcement contingency in place. Therefore, Curtis and Drew started the CPI with three class passes and were systematically reduced by one pass each week thereafter.

Intervention

The CPI was designed as a secondary intervention for students with disruptive classroom behavior. As stated above, the CPI was developed in the spirit of the BPP (Friman, Hoff, Schnoes, Freeman, Woods, & Blum, 1999). Like its predecessor, the CPI was designed purposefully to include both negative and positive reinforcement components in order to be useful as a secondary intervention for students with either attention-maintained or escape/avoid-motivated disruptive behavior. The negative reinforcement component involved providing each student with three class passes or cards they could use to appropriately request a break (i.e., raise hand and wait patiently to give the teacher the class pass) to escape from a nonpreferred academic activity to engage in a preferred activity for 10 minutes. In this way, the issuance of a class pass served as a functionally equivalent replacement behavior that allowed the participants to escape an aversive academic instruction and/or task in a socially acceptable manner. Besides teaching students a socially acceptable replacement behavior to escape/avoid academic tasks, the use of class passes incorporates choice making into the CPI by allowing participants the ability to choose when they want to issue a class pass (see Kern et al., 1998).

Each student was explicitly trained on how to use the class passes (e.g., raise hand and wait patiently until you can give it to your teacher) and the conditions under which the passes should be used (e.g., feeling frustrated with the work, bored, tired, disinterested) using a tell (coaching)-show (modeling)-do (practice) approach. The participants were instructed that they could use the class passes anytime they wanted except (a) during an exam and (b) immediately after using a class pass (wait at least 15 minutes before issuing another pass). During the training, a preference assessment was also conducted to determine the location (e.g., desk, table in the room, library, front office,

adjacent classroom, etc.) and the preferred activities the students would engage in when they issued a class pass (e.g., read a book, visit to the front office, help the librarian, play on the computer, art, etc.). The teachers were also trained on how to use particular prompting procedures to initiate the participants to use a class pass (e.g., "now would be a good time for you to use a class pass") when they started to engage in disruptive behaviors.

The positive reinforcement component was included to provide students with an incentive to continue to work and behave appropriately in the face of the difficult or aversive academic task; that is, to not escape by maintaining academic engagement. Participants were instructed that they could hold on to and exchange the class passes for a preferred item or activity from their reward menu (see below for discussion of reward menu). The more class passes the participants held onto, the better the item or activity they could purchase from their reward menu. The positive reinforcement component was included for three reasons. First, it was included to increase teachers' acceptability of the intervention, since they may be reluctant to just allow the child to escape instructional and task demands whenever the student desires. Second, it was included to minimize the amount of instruction the participants missed, which is particularly important considering that most children with a behavior problem also struggle academically (Lane, Wehby, Menzies, Gregg, Doukas, & Munton, 2002). Last, the positive reinforcement contingency allows for a gradual fading procedure to be administered, so the class passes can be systematically faded out and the positive reinforcement contingency is able to sustain reductions in disruptive behavior and improvements in academic engagement.

As part of the positive reinforcement component, the CPI also entailed conducting a preference assessment to identify items and activities to include in the participants' reward menus. Research has shown that the results of preference assessments are likely to lead to the identification of actual reinforcers (DeLeon & Iwata, 1996; Hagopian, Long, & Rush, 2004). A survey was used as the preference assessment measure because it can include a multitude of stimuli and has been successfully devised to identify preferred items for adolescents and children (e.g., Cautela & Lynch, 1983; Jones, Mandler-Provin, Latkowski, & McMahon, 1988; Resetar-Volz & Cook, 2009). The preferred items and activities identified via the preference assessments were included in each of the participants' reward menus. Each teacher met with their respective student to negotiate the number of class passes that were needed to exchange for each item and activity included in the reward menu. More desirable items and activities were assigned higher values.

The last step prior to implementing the CPI required that staff identify a supervised location where the student could go during his requested break to engage in a preferred activity. A list of potential places and activities was created to facilitate collaboration between the teacher and each participant to identify the place (e.g., computer station, library, another class, administrative office, playground, etc.) and preferred activities (e.g., computer game, help office staff with duties, play basketball, read preferred material, draw, pictures for school paper, etc.) to occupy the participants' time during the requested breaks. The supervising staff person was given a timer to notify the student when the 10 minutes elapsed.

Treatment Integrity

Treatment integrity data were collected via an observer completed checklist of intervention components. The checklist included the following intervention components: (a) if the student was given daily class passes; (b) if the student exhibited disruptive behavior, the teacher prompted the student to use a class pass for a break; (c) if the student used a class pass, he went to the predetermined place and engaged in a preferred activity; (d) if the student returned to academic activity after specified amount of break time elapsed; (e) teacher tallied up the number of class passes retained by the student at the end of the day; and (f) teacher allowed the student to exchange class passes for

preferred item or activity from reward menu. Given that this study represents an initial evaluation of the efficacy of the CPI, an intervention script was provided, and performance-based feedback was employed to ensure high levels of treatment integrity. Treatment integrity data were represented as the percent of components implemented across implementation occasions. Treatment integrity data were collected on 20% of the implementation occasions across participants and phases. The average treatment integrity for Jake, Curtis, and Drew were 95% (minimum 85%; maximum 100%), 98% (minimum 85%; maximum 100%), and 93% (minimum 67%; maximum 100%), respectively.

Procedure

Informed consent was obtained from all teachers and the parents of the students who participated in this study. Prior to implementing the intervention, teachers received a 30-minute training session by one of the authors of this paper. The training session involved describing the intervention (tell), modeling (show), and guided practice with performance feedback (do). During the intervention implementation phases, teachers were provided with performance feedback to ensure that intervention was implemented with integrity. The students also received training during one 30-minute session on how to use the class passes and exchange them for items or activities identified from their preference assessment. Role-play activities were used until the students demonstrated that they understood how and when to use the class passes and that the passes could be held onto and exchanged for a preferred item or activity from their reinforcer menu. After both the teachers and students were trained, the CPI implementation process commenced. The CPI was implemented over the course of six to eight weeks depending on the participant (Jake: eight weeks; Curtis/Drew: six weeks). Direct observations were performed two to three times per week during each phase of the intervention. The CPI was implemented in a staggered fashion to be consistent with extended baseline logic and experimental control of a multiple baseline design across participants design. The order in which the participants received the CPI was determined by random assignment. Jake was randomly assigned to receive the CPI first followed by Curtis and then Drew. A follow-up probe was administered two weeks after the class passes from the CPI were removed to assess maintenance effects.

Results

Functional Behavior Assessment

The results of the indirect FBA methods (FBA interviews and PBQ) indicated that four of the ten students' disruptive classroom behavior was more likely to be maintained by positive reinforcement, particularly attention from others, than negative reinforcement. Given that the data indicated that these four students' disruptive classroom behavior was likely maintained by attention, they were excluded from the next step in the FBA. Direct observations, therefore, were conducted on the remaining six students.

During this part of the FBA, one of the students moved to another school within the district. As a result, only the data for the remaining five students are presented. First the results of conditional probability analysis are discussed. As one can see in Figure 1, the conditional probabilities for the antecedent-behavior relations indicated that students 1 (.13) and 2 (.08) were more likely to engage in disruptive behavior during unstructured times (.35 and .28, respectively), than they were during academic tasks (.13 and .08, respectively), which was counter to the hypothesis that their disruptive behavior was maintained by escape or avoidance of academic tasks. On the other hand, Jake, Curtis, and Drew's antecedent-behavior conditional probability analyses indicated that there was a stronger contiguous relation between academic tasks and problem behavior (.32, .24, and .28, respectively) than between unstructured, nonacademic activities and problem behavior (.05,

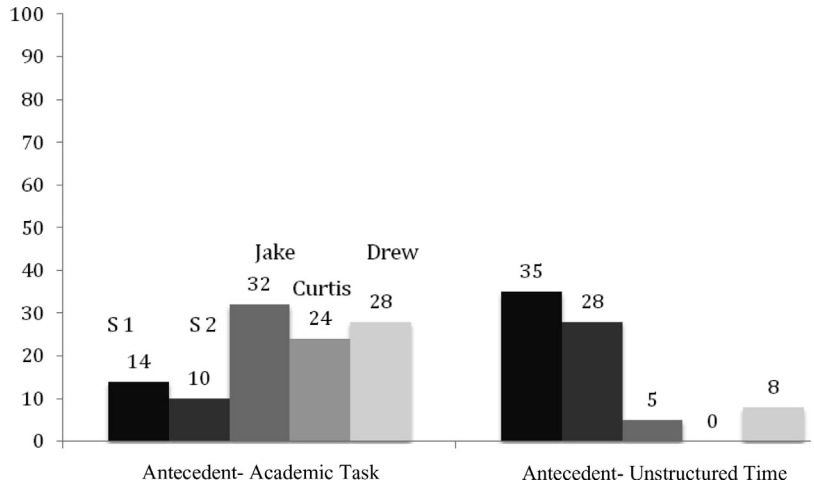

FIGURE 1. Conditional probabilities for antecedent-behavior relations.

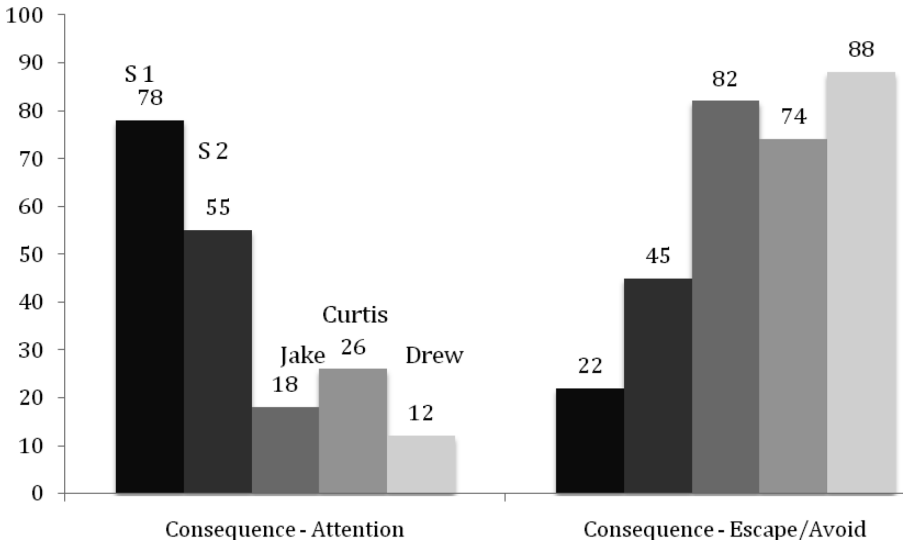

FIGURE 2. Conditional probabilities for behavior-consequent relations.

.00, and .08, respectively), supporting the hypothesis that their behavior was functionally related to the presence of academic tasks. When considering the results of the behavior-consequence conditional probability analyses (see Figure 2), it was clear that two of the students (students 1 and 2) were engaging in disruptive behavior during academic tasks in order to gain access to positive reinforcement, as the majority of instances of problem behavior were followed by access to attention from peers or the teacher (.78 and .55, respectively). On the other hand, instances of Jake, Curtis, and Drew's disruptive behavior were more likely to be followed by escape or avoidance of the academic task at hand (.82, .74, and .88, respectively) and not attention from others (.18, .26, and .12, respectively). Collectively, the conditional probability analyses regarding the relations between

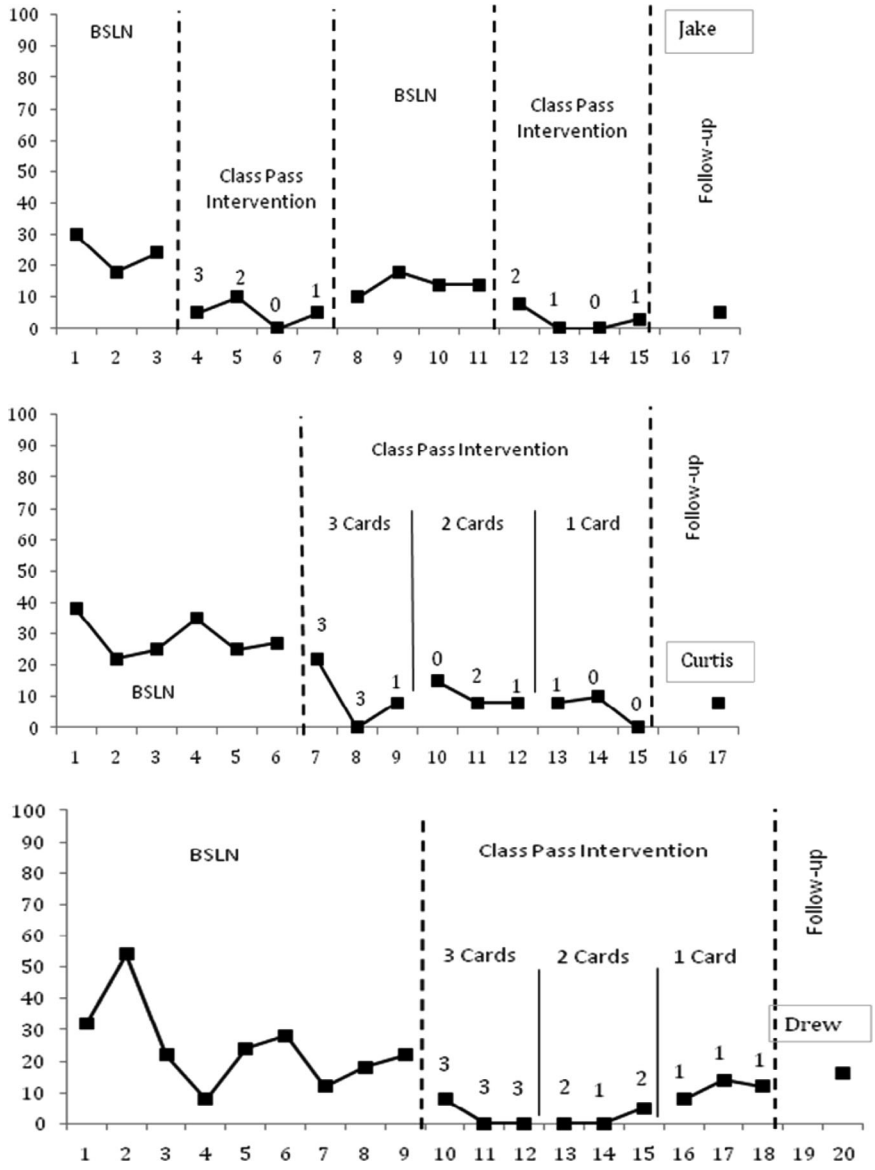

FIGURE 3. Disruptive behavior: multiple baseline design across participants graph with an embedded ABAB withdrawal design.

antecedent-behavior and behavior-consequence provided support for the hypothesis that Jake, Curtis, and Drew's disruptive behavior was maintained by escape or avoidance of academic tasks.

CLASS PASS INTERVENTION

To evaluate the impact of the CPI intervention and answer the foregoing research questions, visual analysis of phase means, levels, and trends was used (Kennedy, 2005). Figures 3 and 4 depict the data for disruptive behavior and AET, respectively.

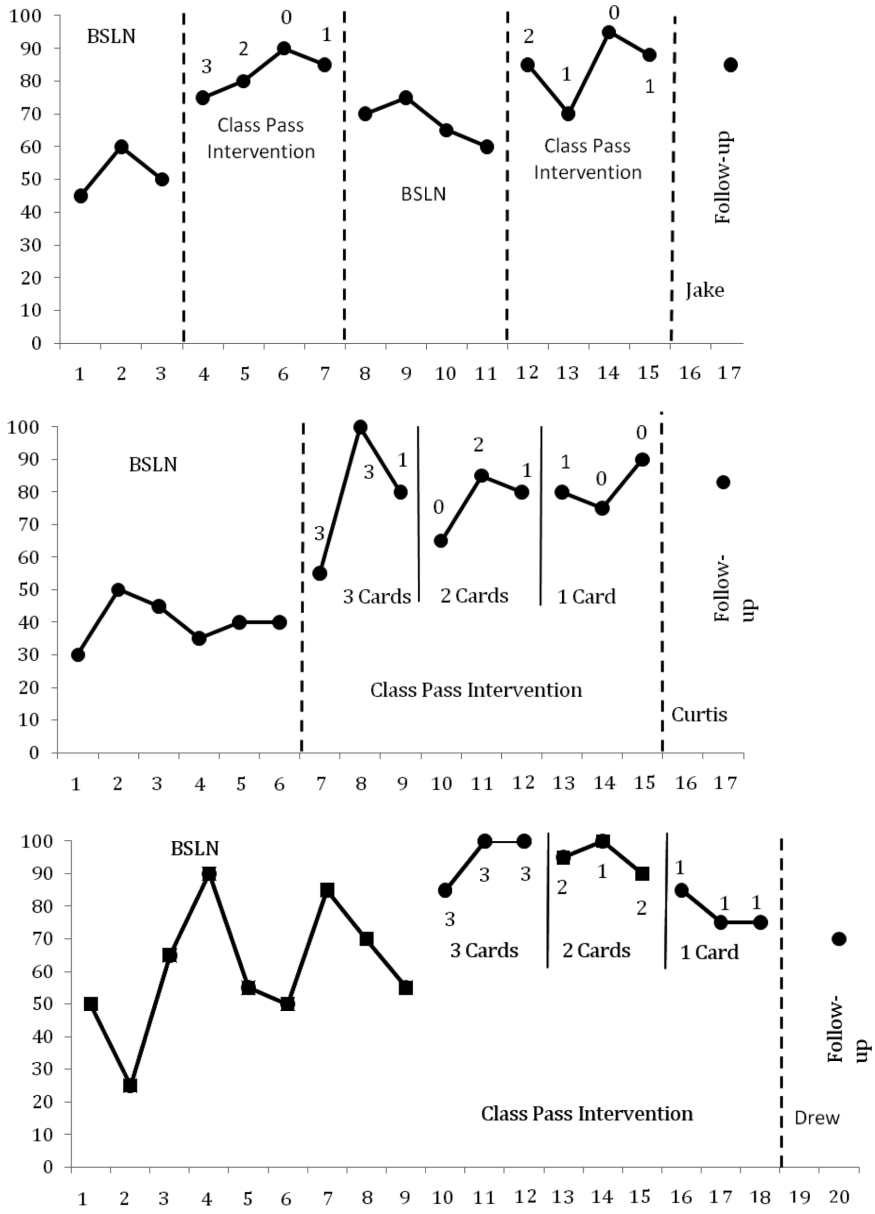

FIGURE 4. Academic engaged time: Multiple baseline design across participants graph with an embedded ABAB withdrawal design.

Research Question 1: To What Extent Was There a Functional Relation Between the Implementation of the CPI and Dependent Variables?

The first research question we attempted to answer was whether the CPI demonstrated a functional relation with reductions in disruptive behavior (DB) and gains in academic engaged time (AET). A functional relation is demonstrated when the systematic presentation and withdrawal of the intervention corresponds to changes in the dependent variables (Horner, Carr, Halle, McGee, Odom,

& Wolery, 2005). To answer this research question, Jake's data from the ABAB withdrawal design were evaluated and interpreted. Beginning first with disruptive behavior, as one can see from Figure 1, significant reductions in the mean and level of Jake's disruptive behavior were observed between the baseline and first CPI phase. Whereas the average of Jake's baseline disruptive behavior was 24% during the first CPI implementation phase, it reduced to an average of 5%. This represented a 19% reduction in disruptive behaviors. Upon withdrawal of the CPI, there was an observable increase in Jake's disruptive behavior, as it increased to an average of 16% during the second baseline phase. When the CPI was re-introduced, the results were replicated results were found, as Jake's disruptive behavior reduced to an average of 3% of the intervals, which resulted in a 13% decrease from the second baseline phase. Collectively, these results demonstrated experimental control and provided support for the functional relation between the presence and absence of the CPI and changes in Jake's disruptive behavior.

Similar results were found for Jake's AET. Visual inspection revealed that there was an increase in the level of Jake's AET from the baseline phase to the first CPI phase. This increase was followed by a near return to baseline when the CPI was removed. Again, when the CPI was implemented there was a clear increase in Jake's AET. Statistically speaking, while Jake's average AET was 52% during baseline, it increased to an average of 83% when the CPI was implemented, for an increase of 31 in AET relative to baseline. While the removal of the CPI resulted in a predictable decrease in Jake's AET to an average of 68%, the systematic re-introduction of the CPI replicated the results of the initial implementation phase by increasing Jake's AET to an average of 85%. This increase was equal to 20 minutes of extra academic engagement per instructional hour or 2 hours of academic engagement for a 6-hour instructional day. Together, visual inspection and interpretation of the phase means provided support for the functional relation between the CPI and Jake's AET.

Research Question 2: To What Extent Were the Effects of the CPI Replicated Across Participants?

Visual inspection of the multiple-baseline across participants graph indicated that the CPI produced replicated effects across the participants with regard to both disruptive behavior and AET. Visual inspection of the data from Figure 3 revealed that consistent reductions in each of the participants' disruptive behavior were not observed until the CPI was introduced. For Curtis, the extended baseline data collection demonstrated experimental control as his disruptive behavior, unlike Jake's, remained relatively stable in baseline and did not exhibit a marked change in level until the CPI was implemented. Further, as Curtis' disruptive behavior decreased as the result of the CPI, Drew's disruptive behavior remained relatively stable as baseline data collection continued. Similar to Jake and Curtis, Drew demonstrated an observable decrease in the level of his disruptive behavior once the CPI was finally introduced. It should be noted that there was a slight decreasing trend in Drew's baseline disruptive behavior. However, despite the decreasing trend in his baseline data, the final baseline data points had an upward trend and a noticeable change in the level of his disruptive behavior was visible when comparing data across baseline and CPI implementation phases.

With regard to AET, replicated effects across participants were also found. Visual analysis of each of the participant's AET in Figure 2 demonstrated that there was a significant shift in the level, variability, and immediacy of behavior change following the presentation of the CPI. The effect sizes also supported replicated effects, as Jake, Curtis, and Drew's percent increase from baseline estimates were 31, 38, and 35, respectively. However, as can be seen in Figure 2, when comparing the data from the CPI phase to the baseline data, level, variability, and immediacy of behavior change were present.

Research Question 3: To What Extent Did the Effects of the CPI Maintain When It Was Systematically Withdrawn?

With regard to the fading procedure, differential findings were noted for Curtis and Drew. As one can see in Figures 1 and 2, Curtis demonstrated sustained improvements in both disruptive behavior and AET as the class passes were systematically withdrawn from 3 to 1. On the other hand, although Drew was able to maintain improvements in disruptive behavior and AET as the class passes were reduced from 3 to 2, once the class passes were reduced from 2 to 1, there was a slight return to baseline in his disruptive behavior and AET, albeit not to original baseline levels. These results indicated that for Curtis the number of class passes could be successfully faded from 3 to 1, thereby limiting the amount of times he escaped academic instruction or tasks. As for Drew, he was able to demonstrate improvements in disruptive behavior and AET until the class passes were reduced from 2 to 1. Despite the diminished improvements, Drew's behavior still maintained above baseline levels of performance when he had only one class pass.

As for the follow-up analysis of the CPI's maintenance effects, it is important to note that the positive reinforcement contingency was kept in place during this phase to reward daily goal attainment for low rates of disruptive behavior and acceptable AET. Therefore, it was a not a pure follow-up. Nonetheless, visual analysis of the follow-up data in Figures 1 and 2 revealed that across all three participants, the effects of the CPI were maintained at follow-up, as there were clear differences in the level of behavior performance during follow-up as compared to baseline. Although Drew demonstrated the weakest maintenance effects, compared to baseline, he still demonstrated significant changes in the desired direction for both disruptive behavior and AET.

Research Question 4: To What Extent Did the Teachers and Students Find the CPI to Be Acceptable?

The post-implementation results for the IRP-15 indicated that teachers found the CPI to be reasonable, acceptable, and effective. The average rating across all 15 items was 5.5 on a scale of 1 to 6, indicating that teachers either agreed or strongly agreed with items assessing the reasonableness, acceptability, and likely effectiveness of the CPI. Seven of the 15 items received an average of rating of 6, indicating that the teachers strongly agreed with the statement. These items included: "this would be an acceptable intervention for a child's problem behavior," "I would suggest this intervention to other teachers," "I would be willing to use this intervention in the classroom setting," "this intervention would not result in negative side-effects for the child," "the intervention was a fair way to handle the child's problem behavior," "this intervention is reasonable for the problem behavior described," and "this intervention is a good way to handle this child's behavior."

The post-implementation results for the CIRP indicated that students also found the CPI to be highly acceptable. The average rating across participants and all items was 5.7, indicating that they endorsed responses indicating that they "agreed" or "strongly agreed" to items assessing their perceptions regarding the acceptability and fairness of the intervention. All three participants rated the following four items as "strongly agreed:" "I liked the method used for my problem behavior," "the child's teacher was not too harsh on me," "the method used by my teacher would be a good one to use with other children," and "I think that the method used for my problem would help others do better in school."

Discussion

There is a need for effective and acceptable interventions to address disruptive classroom behaviors, given the negative impact they have on the learning environment (Gresham, 2004; Rathvon, 2008; Stage & Quiroz, 1997). The aim of this study was to evaluate the efficacy of the CPI as a

secondary intervention for typically developing students with hypothesized escape-motivated disruptive classroom behavior. The CPI includes both negative and positive reinforcement components in order to provide students with the ability to request breaks in a socially desirable manner by using a class pass, yet it provides them with an incentive to maintain engagement (i.e., incompatible with disruptive behavior) in the academic task by holding on to the passes and exchanging them for a preferred item or activity. There are several important findings and implications of this study that are worthy of discussion.

First, Jake's data from the ABAB withdrawal design demonstrated that there was a functional relation between implementation of CPI and both disruptive behavior and academic engagement. Specifically, improvements in Jake's disruptive behavior and academic engagement were consistent with the systematic implementation of the CPI, and the effects on both dependent variables were demonstrated at three points in time. Second, the effects of the CPI were replicated across all three participants. The multiple baseline design across participants demonstrated that reductions in disruptive behavior and gains in academic engagement were observed for each participant only upon the introduction of the CPI. Third, the results provided tentative support for fading the negative reinforcement component of the CPI (i.e., use of class passes to escape) and maintenance of effects. However, one of the participant's, Drew, behavior began to return to near baseline levels as the number of passes was reduced from to 2 to 1, and improvements to his behavior did not maintain as well during follow-up as the other participants. Last, the findings indicated that both the implementing teachers and recipient students found the CPI to be fair, acceptable, and reasonable for use under natural educational conditions. In a school-based setting, where teachers implement the majority of interventions, treatment acceptability is an important construct to take into consideration, because adoption and effective implementation of interventions involves more than just knowing the intervention works (Witt & Elliott, 1985). One of the primary reasons for including the positive reinforcement component was to increase teachers' acceptability of the CPI. Also, the provision of choice via issuance of the class pass relinquishes some control over the students, which may serve to increase their acceptability of the intervention and tolerance to engage in aversive academic tasks (Kearney & McKnight, 1997; von Mizener & Williams, 2009).

Although the CPI allows students the opportunity to escape academic instruction and tasks via the issuance of class passes, the results revealed that the participants did not use all their passes, and they often chose to hold onto the passes and exchange them for a preferred item or activity. One might think that increased disruptive behavior would result with decreased use of the passes; however, the results revealed that comparable levels of behavior performance were observed whether they used all, some, or none of the passes. However, as stated above, for Drew, once he was provided with only one class pass to use, slight increases in disruptive behavior and decreases in academic engagement were noted, which may have been the result of fewer opportunities to escape the academic tasks. These results indicate that the duration and number of passes needed to alter behavior may vary across individual students.

Limitations and Directions for Future Research

This study has limitations that readers should be cognizant of when interpreting the findings. The most apparent limitation was the use of descriptive methods (i.e., nonexperimental) to conduct the FBA. Although a descriptive approach is less rigorous in confirming the underlying behavior function, there are several reasons supporting the use of descriptive FBA methods. The first pertains to the difficulty of conducting functional analyses on typically developing children, as most functional analysis procedures are designed for individuals with developmental disabilities (Conroy, Clark, Gable, & Fox, 1999; Gresham, Quinn, & Restori, 1999). Second, research indicates that the results of descriptive and experimental methods can agree with one another when performed well (Dufrene,

Doggett, Henington, & Watson, 2007; McIntosh, Borgmeier, et al., 2008; Scott, Meers, & Nelson, 2000). Last, consistent with the hypothesized function of the participants' disruptive behavior, they all responded well to the CPI. Despite the rationale supporting the use of descriptive methods, functional analyses would have provided more robust and defensible hypotheses regarding the function of the students' disruptive behavior.

Because this study represents the initial study of the CPI, the results should be replicated. Independent replication, in particular, is a necessary criterion to establish an intervention as evidence based (White & Kratochwill, 2005). The results should be replicated with a larger sample and under different conditions to examine whether the findings generalize to other students, teachers, and school settings.

It is also unclear from the present study whether a single component (e.g., use of class passes for negative reinforcement) or the additive combination of components of the CPI that was responsible for the changes in behavior. Future studies should conduct a treatment component analysis to determine whether the positive findings are the result of the negative reinforcement component, positive reinforcement, choice making, or some combination of these components. In addition to finding the active treatment component(s), research into the moderators of the CPI's effectiveness will be important to determine with whom and under what conditions it is or is not effective. For example, given the relative short-term nature of the CPI, results might vary for students with more severe behavior problems.

In summary, students with disruptive classroom behaviors contribute to disorderly learning environments and present unique challenges when designing and implementing behavioral interventions. The results of this study provide preliminary evidence in support of the CPI as a secondary intervention for typically developing students with hypothesized escape-motivated disruptive classroom behavior. Additional research on the CPI is warranted and researchers should continue to explore the development of effective and acceptable interventions for students with escape-motivated classroom behavior.

References

Alberto, P. A., & Troutman, A. C. (2008). Applied behavior analysis for teachers (8th ed.). New York: Merrill Publishing.

Buscemi, L., Bennett, T., Thomas, D., & Deluca, D. A. (1995). Head Start: Challenges and training needs. Journal of Early Intervention, 20, 1 – 13.

Cautela, J. R., & Lynch, E. (1983). Reinforcement survey schedules: scoring, administration, and completed research. Psychological Reports, 53, 447 – 465.

Cheney, D., Lynass, L., Flower, A., Waugh, M., Iwaszuk, W., Mielenz, C., et al. (2010). The check, connect, and expect program: A targeted, tier 2 intervention in the schoolwide positive behavior support model. Preventing School Failure, 54(3), 152 – 158.

Conroy, M., Clark, D., Gable, R. A., & Fox, J. J. (1999). Building competence in the use of functional behavior assessment. Preventing School Failure, 43, 140 – 144.

Cook, C., Gresham, F., Kern, L., Barreras, R., Thornton, S., & Crews, S. (2008, September). Social skills training for secondary students with emotional and/or behavioral disorders: A review and analysis of the meta-analytic literature. Journal of Emotional and Behavioral Disorders, 16, 131 – 144.

Cook, C. R. (2008). Secondary interventions for students identified as emotionally and behaviorally at risk. Invited talk given at the Louisiana Health Science Center on November 2008.

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). Applied behavior analysis (2nd ed.). Upper Saddle River, NJ: Pearson.

DeLeon, I. G., & Iwata, B. A. (1996). Evaluation of a multiple-stimulus presentation format for assessing reinforcers preferences. Journal of Applied Behavior Analysis, 29(4), 519 – 533.

DeLeon, I. G., Neidert, P. L., Anders, B. M., & Rodriguez-Catter, V. (2001). Choices between positive and negative reinforcement during treatment for escape-maintained behavior. Journal of Applied Behavior Analysis, 34, 521 – 525.

Doughty, S. S., & Anderson, C. M. (2006). Effects of Noncontingent Reinforcement and Functional Communication Training on Problem Behavior and Mands. Education and Treatment of Children, 29, 23 – 50.

Dufrene, B. A., Doggett, R. A., Henington, C., & Watson, T. S. (2007). Functional assessment and intervention for disruptive classroom behaviors in preschool and Head Start classrooms. Journal of Behavioral Education, 16, 368 – 388

Durand, V. M., & Carr, E. G. (1991). Functional communication training to reduce challenging behavior: maintenance and application in new settings. Journal of Applied Behavior Analysis, 24, 251 – 264.

Elliott, S. N. (1986). Children's ratings of the acceptability of classroom interventions for misbehavior: Findings and methodological considerations. Journal of School Psychology, 25, 23 – 35.

Elliott, S. N. (1988). Acceptability of behavioral treatments: Review of variables that influence treatment selection. Professional Psychology: Research and Practice, 19, 68 – 80.

Filter, K. J., & Horner, R. H. (2009). Function-based academic interventions for problem behavior. Education and Treatment of Children, 32, 1 – 19.

Freeman, K. A. (2006). Treating bedtime resistance with bedtime pass: A systematic replication and component analysis with 3-year olds. Journal of Applied Behavior Analysis, 39(4), 423 – 428.

Friman, P. C., Hoff, K. E., Schnoes, C., Freeman, K. A., Woods, D. W., & Blum N. (1999). The bedtime pass: An approach to bedtime crying and leaving the room. Archives of Pediatric and Adolescent Medicine, 153, 1027 – 1029.

Gresham, F. M., Quinn, M. M., & Restori, A. (1999). Methodological issues in functional analysis: Generalizability to other disability categories. Behavioral Disorders, 24, 180 – 182.

Gresham, F. M. (2004). Current status and future directions of school-based behavioral interventions. School Psychology Review, 33, 326 – 343.

Gresham, F. M. (2005). Response to intervention: An alternative means of identifying students as emotionally disturbed. Education & Treatment of Children, 28, 328 – 344.

Hagopian, L. P., Long, E. S., & Rush, K. S. (2004). Preference assessment procedures for individuals with developmental disabilities. Behavior Modification, 28, 668 – 677.

Hagopian, L. P., Contrucci Kuhn, S. A., Long, E. S., & Rush, K. S. (2005). Schedule thinning following communication training: Using competing stimuli to enhance tolerance to decrements in reinforcer density. Journal of Applied Behavior Analysis, 38, 177 – 193.

Harding, J. W., Wacker, D. P., Berg, W. K., Winborn-Kemmerer, L., & Lee, J. F. (2009). Evaluation of choice allocation between positive and negative reinforcement during functional communication training with young children. Journal of Developmental and Physical Disabilities, 21, 443 – 456.

Hawkins, R. O., & Axelrod, M. I. (2008). Increasing the on-task homework behavior of youth with behavior disorders using functional behavioral assessment. Behavior Modification, 32, 840 – 859.

Hinshaw, S. P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. Psychological Bulletin, 111, 127 – 155.

Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. Exceptional Children, 71, 165 – 180.

Ingram, K., Lewis-Palmer, T., & Sugai, G. (2005). Function-based intervention planning: Comparing the effectiveness of FBA function-based and Non-function-based intervention plans. Journal of Positive Behavior Interventions, 7, 224 – 236.

Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1982). Toward a functional analysis of self-injury. Analysis and Intervention in Developmental Disabilities, 2, 3 – 20.

Jones, R. N., Mandler-Provin, D., Latkowski, M. E., & McMahon, W. M. (1988). Development of a reinforcement survey for inpatient psychiatric children. Child & Family Behavior Therapy, 9, 73 – 77.

Kearney, C. A., & McKnight, T. J. (1997). Preference, choice, and persons with disabilities: A synopsis of assessments, interventions, and future directions. Clinical Psychology Review, 17, 217 – 238.

Kennedy, C. H. (2005). Visual data analysis. In Virginia Lanigan (Ed.), Single-Case Designs for Educational Research (pp. 191 – 217). Boston: Allyn & Bacon.

Kern, L., Delaney, B., Clarke, S., Dunlap, G., & Childs, K. (2001). Improving the classroom behavior of students with emotional and behavioral disorders using individualized curricular modifications. Journal of Emotional and Behavioral Disorders, 9(4), 239 – 247.

Kern, L., Starosta, K. M., Cook, C. R., Bambara, L. M., & Gresham, F. M. (2007). Functional assessment-based intervention for selective mutism. Behavioral Disorders, 32(2), 94 – 108.

Kern, L., Vorndran, C. M., Hilt, A., Ringdahl, J. E., Adelman, B. E., & Dunlap, G. (1998). Choice as an intervention to improve behavior: A review of the literature. Journal of Behavioral Education, 8, 151 – 169.

La Greca, A. M., Silverman, W. K., & Lochman, J. E. (2009). Moving beyond efficacy and effectiveness in child and adolescent intervention research. Journal of Consulting and Clinical Psychology, 77, 373 – 382.

Lane, K. L., Wehby, J. H., Menzies, H. M., Gregg, R. M., Doukas, G. L., & Munton, S. M. (2002). Early literacy instruction for first-grade students at-risk for antisocial behavior. Education and Treatment of Children, 25, 438 – 458.

Lane, K. L., Kalberg, J. R., & Menzies, H. M. (2009). Developing schoolwide programs to prevent and manage problem behaviors: A step-by-step approach. New York: Guilford Press.

Langdon, C. A., & Vesper, N. (2000). The sixth Phi Delta Kappa poll of teacher's attitudes toward the public schools. Kappan, 81, 607 – 611.

Lee, Y., Sugai, G., & Horner, R. H. (1999). Using an instructional intervention to reduce problem and off-task behaviors. Journal of Positive Behavior Interventions, 1, 195 – 204.

Lerman, D. C., & Iwata, B. A. (1996). A methodology for distinguishing between extinction and punishment effects associated with response blocking. Journal of Applied Behavior Analysis, 29, 231 – 234.

Lerman, D. C., Iwata, B. A., & Wallace, M. D. (1999). Side effects of extinction: Prevalence of bursting and aggression during the treatment of self-injurious behavior. Journal of Applied Behavior Analysis, 32, 1 – 8.

Lewis, T. J., Scott, T., & Sugai, G. (1994). The problem behavior questionnaire: A teacher based instrument to develop functional hypotheses of problem behavior in general education classrooms. Diagnostique, 19, 103 – 115.

March, R. E., & Horner, R. H. (2002). Feasibility and contributions of functional behavioral assessment in schools. Journal of Emotional and Behavioral Disorders, 10, 158 – 170.

Martens, B. K., Witt, J. C., Elliott, S. N., & Darveaux, D. (1985). Teacher judgments concerning the acceptability of school-based interventions. Professional Psychology, 16, 191 – 198.

McIntosh, K., Borgmeier, C. J., Anderson, C. M., Horner, R. H., Rodriguez, B., & Tobin, T. (2008). Technical adequacy of the Functional Assessment Checklist – Teachers and Staff (FACTS) FBA interview measure. Journal of Positive Behavior Interventions, 10, 33 – 45.

McIntosh, K., Campbell, A. L., Carter, D. R., & Dickey, C. R. (2009). Differential effects of a tier two behavior intervention based on function of problem behavior. Journal of Positive Behavior Interventions, 11, 82 – 93.

McIntosh, K., Horner, R. H., Chard, D. J., Dickey, C. R., & Braun, D. H. (2008). Reading skills and function of problem behavior in typical school settings. Journal of Special Education, 42, 131 – 147.

Moore, B. A., Friman P. C., Fruzzetti A. E., MacAleese K. (2007). Brief report: Evaluating the Bedtime Pass Program for child resistance to bedtime: A randomized controlled trial. Journal of Pediatric Psychology 32(3), 283 – 287.

Newcomer, L. L., & Lewis, T. J. (2004). Functional behavioral assessment: An investigation of assessment reliability and effectiveness of function-based interventions. Journal of Emotional and Behavioral Disorders, 12, 168 – 181.

O'Neill, R. E., Horner, R. H., Albin, R. W., Sprague, J. R., Storey, K., & Newton, J. S. (1997). Functional assessment and program development for problem behavior: A practical handbook (2nd ed.). Cincinnati: Brooks/Cole Publishing.

Penno, D. A., Frank, A. R., & Wacker, D. P. (2001). Instructional accommodations for adolescent students with severe emotional or behavioral disorders. Behavioral Disorders, 25(4), 325 – 343.

Preciado, J. A., Horner, R. H., & Baker, S. K. (2009). Using a function-based approach to decrease problem behavior and increase reading academic engagement for Latino English language learners. Journal of Special Education, 42, 227 – 240.

Resetar-Volz, J., & Cook, C. R. (2009). Group-based preference assessment for children and adolescents in a residential setting: Examining developmental, clinical, gender, and ethnic differences. Behavior Modification, 33, 778 – 794.

Riley-Tillman, T., & Burns, M. K. (2009). Evaluating educational interventions: Single-case design for measuring response to intervention. New York: Guilford Press.

Rose, L. C., & Gallup, A. M. (1999). The 31st annual Phi Delta Kappa/Gallup poll of the public's attitude toward the public schools. Kappan, 81, 41 – 58.

Sasso, G. M., Conroy, M. A., Stichter, J. P., & Fox, J. J. (2001). Slowing down the bandwagon: The misapplication of functional assessment for students with emotional or behavioral disorders. Behavioral Disorders, 26, 282 – 296.

Scott, T., Meers, D., & Nelson, C. M. (2000). Toward a consensus of functional behavioral assessment for students with mild disabilities in public school contexts: A national survey. Education and Treatment of Children, 23(3), 265 – 285.

Shapiro, E. S. (2004). Academic skills problems workbook (2nd ed.). New York: Guilford.

Skinner, B. F. (1953). Science of human behavior. New York: Macmillan.

Sprague, J., Cook, C. R., Wright, D. B., & Sadler, C. (2008). RTI and behavior: A guide to integrating behavioral and academic supports. Horsham, PA: LRP Publications.

Stage, S. A. (2000). The validity of functional behavioral assessment with students of average intellectual ability. Canadian Journal of School Psychology, 15, 67 – 84.

Stage, S. A., Jackson, H. G., Moscovitz, K., Erickson, M. J., Thurman, S. O., Jessee, W., et al. (2006). Using multimethod-multisource functional behavioral assessment with students with behavioral disabilities. School Psychology Review, 35, 451 – 471.

Stage, S. A., & Quiroz, D. R. (1997). A meta-analysis of interventions to decrease disruptive classroom behavior in public education settings. School Psychology Review, 26, 333 – 368.

Umbreit, J. (1995). Functional assessment and intervention in a regular classroom setting for the disruptive behavior of a student with attention deficit hyperactivity disorder. Behavioral Disorders, 20, 267 – 278.

VanDerHeyden, A. M., Witt, J. C., & Gatti, S. (2001). Descriptive assessment method to reduce overall disruptive behavior in a preschool classroom. School Psychology Review, 30, 548 – 567.

Vaughn, B. J., & Horner, R. H. (1997). Identifying instructional tasks that occasion problem behaviors and assessing the effects of student versus teacher choice among these tasks. Journal of Applied Behavior Analysis, 30, 299.

Viera, & Garrett. (2005). Understanding interobserver agreement: The Kappa statistic. Family Medicine, 37, 360 – 363.

Vollmer, T. R., & Northup, J. (1996). Some implications of functional analysis for school psychology. School Psychology Quarterly, 11, 76 – 92.

von Mizener, B. H., & Williams, R. L. (2009). The effects of student choices on academic performance. Journal of Positive Behavior Interventions, 11, 110 – 128.

Walker, H. M., Ramsey, E., & Gresham, F. M. (2004). Antisocial behavior in school: Evidence-based practices. Belmont, CA: Wadsworth/Thomson Learning.

Walker, H. M., Seeley, J. R., Small, J., Severson, H. H., Graham, B. A., Feil, E. G., Serna, L., Golly, A. M., & Forness, S. R. (2009). A randomized controlled trial of the First Step to Success early intervention: Demonstration of program efficacy outcomes in a diverse, urban school district. Journal of Emotional and Behavioral Disorders, 17, 197 – 212.

Walker, H. M., & Severson, H. H. (1992). Systematic screen for behavior disorders: User's guide and administration manual (2nd ed.). Longmont, CO: Sopris West.

White, J. L., & Kratochwill, T. R. (2005). Practice guidelines in school psychology: Issues and directions for evidence-based interventions in practice and training. Journal of School Psychology, 43, 99 – 115.

Witt, J. C., & Elliott, S. N. (1985). Acceptability of classroom management strategies. In T. R. Kratochwill (Ed.), Advances in school psychology: Vol. 4. (pp. 251 – 288). Hillsdale, NJ: Erlbaum.

Witt, J. C., & Martens, B. K. (1983). Assessing the acceptability of behavioral interventions used in classrooms. Psychology in the Schools, 20, 510 – 517.

Witt, J. C., Martens, B. K., & Elliott, S. N. (1984). Factors affecting teachers' judgments of the acceptability of behavioral interventions: Time involvement, behavior problem severity, and type of intervention. Behavior Therapy, 15, 204 – 209.