Students’ leaving a designated area without permission or supervision is referred to as elopement (Bodfish, 1992), and such behavior clearly presents a unique set of challenges for educational professionals. Elopement is seen in children and youth with a variety of developmental disabilities, including those with intellectual disabilities or autism, as well as those identified with or at risk for emotional and behavioral disorders (EBD). In milder forms, elopement may be simply disruptive and annoying (e.g., students leaving their seats without permission, or students who do not wait, line up, or gather at the appropriate spots when transitioning from one location to another). In more serious forms, students may run, literally leaving their classrooms, school buildings, and even school grounds, which creates potentially serious safety concerns. Elopement often requires teachers to react immediately to prevent students from leaving instructional contexts and entering potentially dangerous situations (e.g., running into traffic, encountering strangers, becoming lost). This may result in teachers leaving other students unsupervised while moving to block or retrieve the eloping student, which ultimately interrupts instruction for all students in the classroom.

Not surprisingly, elopement may have long-term consequences for students as they continually miss critical instruction and time in the classroom. Students who leave designated areas are likely to miss instructional stimuli and opportunities to practice valuable skills alongside their peers. The resulting skill deficits, coupled with the staff support required to address serious elopement, may result in students being moved to more restrictive educational placements (Garner, 1991).

Though it appears logical that elopement may be associated with an escape function, researchers have demonstrated that elopement may be maintained by access to attention (Kodak, Grow, & Northup, 2004), tangibles (Gibson, Pennington, Stenhoff, & Hopper, 2009), and automatic reinforcement (Falcomata, Roane, Feeney, & Stephenson, 2010), as well as escape from aversive contexts (Rapp, Vollmer, & Hovanetz, 2006). This adds to the difficulty in treating elopement in that sometimes teachers’ responses may actually increase students’ elopement. For example, if a teacher uses physical assistance to guide a student back to the classroom and the function of the student’s behavior was to gain attention, the teacher may inadvertently reinforce the student’s problem behavior. Fortunately, researchers have demonstrated that the function of elopement can be determined through behavioral assessment, and that the use of function-based strategies can result in favorable outcomes.

The majority of research teams have used function-based strategies to address elopement. That is, strategies are selected that teach conventional responses (e.g., asking for a break, following a directive) that help students access reinforcement more effectively while weakening students’ effect on the environment through elopement. Several research teams have evaluated functional communication training (FCT) to reduce elopement. Following functional behavior assessments, researchers taught students to make conventional requests for reinforcing stimuli in lieu of eloping (Falcomata, Roane, Feeny, & Stephenson; Gibson et al., 2009; Tarbox, Wallace, & Williams, 2003). Researchers also have applied a variety of other reinforcement strategies. For example, Piazza and colleagues (1997) conducted functional analyses to determine the function of children’s elopement. For each child they implemented a different reinforcement procedure that resulted in decreases in elopement. These procedures included differential reinforcement of other behavior (i.e., reinforcement contingent on the nonoccurrence of elopement), noncontingent reinforcement (i.e., free access to a preferred item), and differential reinforcement of alternative behavior (i.e., access to running for appropriate walking). Lang and colleagues (2010) conducted separate functional analyses in two settings (i.e., classroom, resource room) for a child with Asperger’s syndrome (AS). They provided noncontingent access to preferred stimuli (i.e., attention, DVD) in each setting, which resulted in decreases in elopement across both instructional areas.

Some researchers have combined reinforcement and punishment strategies. For example, Kodak, Grow, and Northup (2004) used noncontingent reinforcement, but also applied time-out procedures.
contingent upon instances of elopement for a child with attention deficit-hyperactivity disorder (ADHD). Hovanetz (2005) used reinforcement, prompting, and blocking attempts of elopement to decrease flopping to the ground and elopement exhibited by an adolescent with autism. In these studies, the researchers implemented treatment packages involving punishment procedures. Since punishment procedures have several established side effects (Cooper, Heron, & Heward, 2007), it is important that educators first consider strategies that involve increasing students’ access to reinforcement.

Despite the risks associated with elopement, there is very little research addressing interventions for treating elopement. Moreover, few investigations have been conducted in school settings. In the next section, we describe the application of a differential reinforcement procedure in a public elementary school to address the elopement of a 7-year-old male with ASD. This study extends the research on elopement in three ways: (a) all sessions were conducted in a classroom setting, (b) the researchers trained the classroom staff to conduct all sessions, and (c) a prosthetic device, the MotivAider® (2005) was used to prompt the classroom teacher to deliver reinforcement. The purpose of this study was to assess the effects of training a special education teacher to implement differential reinforcement procedures to decrease student elopement during a seated instructional activity.

Participant and Settings

Jackson was an African American 7-year-old male diagnosed with autism. His teacher reported that Jackson frequently left instructional settings and wandered around the room. He attended a self-contained special education classroom for students with moderate to severe disabilities. One teacher and two teacher assistants delivered the majority of instruction in the classroom.

The teacher conducted all sessions during “calendar time,” in which all eight students were expected to stay seated on the carpet, orient toward the teacher, and respond to teacher direction. The sessions were conducted at approximately the same time each day. The duration of the activity ranged from 6 to 9 min.

Experimental Design and Response Definition

A withdrawal design (ABA) was used to investigate the effectiveness of differential reinforcement of alternative behavior (DRA) procedures in reducing Jackson’s elopement. Elopement was defined as leaving the carpet area, wandering around the carpet area (knees or buttocks off of the carpet), and lying or rolling on the floor. We used a video camera to record all sessions. Across all baseline and treatment conditions, we recorded data using a 20 s partial interval recording procedure. Observation periods were divided into 20 s intervals. We recorded a “+” if the behavior occurred at any point during the interval. A second observer independently watched the videotapes and recorded instances of elopement in order to determine interobserver agreement (IOA) for 25% of baseline sessions and 25% of treatment sessions. IOA was calculated by dividing agreements by the sum of agreements and disagreements and multiplying by 100%. IOA was calculated to be 100%.

Procedures

Functional Behavior Assessment.
The special education teacher completed the Functional Assessment Screening Tool (FAST) (Iwata, 1995). The FAST is an interview that identifies environmental factors that may influence problem behaviors. The results of the FAST indicated positive reinforcement (i.e., attention) as a possible function of Jackson’s elopement. In addition, we conducted direct observations and recorded narrative antecedent–behavior–consequence (ABC) data. During observations, staff members consistently delivered verbal attention more frequently following occurrences of elopement than during appropriate behavior. Additionally, elopement occurred more frequently in situations where task demands were low. The experimenter hypothesized that Jackson’s elopement was maintained by social positive reinforcement (teacher attention).

Baseline. During baseline, the classroom teacher prompted Jackson to join the group on the carpet. If Jackson did not join the group, the staff repeated the requests multiple times. Between asking Jackson to return to his seat, she delivered typical task demands (e.g., “point to the day of the week”) to the entire group and randomly asked individual students to respond to specific directives.

Staff training. We conducted brief trainings with Jackson’s staff prior to treatment. We gave the lead teacher a copy of written procedures and verbally explained the research design, treatment, and relevant principles of behavior addressed by the study. Furthermore, the lead teacher received a MotivAider and observed a demonstration of its use. We also gave specific directions to the classroom teacher assistants and explained the methods in terms of basic behavioral principles.

Differential reinforcement of alternative behaviors (DRA). During intervention, the teacher implemented DRA procedures. At the beginning of each session the teacher prompted Jackson to sit on the carpet. If Jackson sat on the carpet within 5 s, the teacher delivered praise. If Jackson did not sit on the carpet within 5 s, problem behavior was recorded as occurring. Once
Jackson sat on the carpet, the teacher delivered praise on a variable interval schedule (VI-40 sec; average interval length was 40 sec) for appropriate behavior (i.e., looking, pointing, sitting on the carpet, verbal responding). The teacher and experimenter agreed to use a VI-40 sec schedule because it allowed the teacher to deliver instruction to her other students with minimal interruption. Problem behavior was ignored. Each interval was signaled using a device called a MotivAider. A MotivAider emits a vibration at the end of a designated time interval. The MotivAider is worn like a pager and can be set to vibrate on a fixed or variable interval schedule. If the student was engaged in problem behavior at the end of an interval, the teacher was instructed to withhold reinforcement until the problem behavior ceased for 5 s.

Results

Figure 1 shows the effect of DRA on Jackson’s elopement. During baseline, Jackson exhibited high rates of problem behavior (M = 50% of intervals, range = 25–85%). When Jackson’s teacher delivered verbal attention contingent on appropriate behavior (DRA), elopement decreased by 72% from baseline sessions. (M = 14% of intervals, range = 0–28%). When the DRA procedure was withdrawn, Jackson demonstrated an increase in elopement. (M = 18.5% of intervals, range = 0–45%).

Discussion

The school-based study described here demonstrates how differential reinforcement can be effectively applied in public school contexts to treat elopement. We conducted a functional behavioral assessment and then developed an intervention to address the hypothesized function of Jackson’s elopement. Since data suggested that attention maintained the target behavior, we provided attention for alternative behaviors while simultaneously withholding attention during instances of problem behavior. Jackson’s elopement decreased during intervention but did not fully return to baseline levels when the treatment was withdrawn. One possible explanation is that the
Table 1  GUIDELINES FOR DEVELOPING INTERVENTIONS FOR ELOPEMENT

1. Conduct a functional analysis to determine the function of elopement behavior.
2. Consider safety issues first when designing and testing interventions.
3. Implement strategies that teach students appropriate ways to access reinforcement first.
4. Collect continuous data to monitor effects of intervention and make changes as needed.

The current investigation and previous research offer some general guidelines for addressing elopement behavior, which we believe can be applied effectively and efficiently in classroom contexts for a variety of students with or at risk for emotional and behavioral disorders. These guidelines are described in Table 1. First, teachers must conduct a thorough functional behavioral assessment to determine the contextual variables that evoke and maintain elopement. Consider all components of the environments, including both antecedents (e.g., task difficulty, clarity of expectations, availability of reinforcers) and consequences (e.g., teacher attention, escape from demands, access to stereotypy). Also, consider that different reinforcers can maintain elopement across settings (e.g., classroom, gym, cafeteria). For example, a child could elope during a physical education class to avoid the loud screams of his classmates and later in the day, elope to attract his teacher’s attention during a silent reading activity. This step is critical in that interventions selected without prior assessment data may result in undesirable outcomes, including the strengthening of problem behavior.

Second, safety precautions always should be taken prior to implementing interventions. Teachers should first train new or alternative responses to elopement in controlled contexts prior to more dangerous settings. For example, the teacher might teach a student to recruit interaction to remove the child from elopement. In the current study we extended the research on elopement by developing effective and practical procedures for use in the classroom by a special education teacher. We trained the teacher to use DRA procedures because their implementation did not require her to leave the area or otherwise interrupt the instruction of the other students in the classroom. In addition, the teacher was given a Motiv Aider to reduce the complexity of monitoring a VI schedule of reinforcement while simultaneously delivering instruction. The teacher reported that she found the procedures easy to implement. In addition, the teacher independently used the Motiv Aider during other instructional activities and with other students.

Though it was not included as a dependent variable, informal data from video observations and teacher reports demonstrated additional increases in Jackson’s appropriate behavior. The teacher reported increases in hand raising, question answering, orienting toward the teacher, looking at the teacher, and staying seated. The teacher also reported that she had increased positive feelings associated with Jackson’s levels of participation.

Recommendations

The current investigation and previous research offer some general support staff to block access to dangerous areas by standing at playground entrances, hallway exits, and classroom doors. Third, teachers should first attempt interventions that teach students appropriate ways to access reinforcement. Consider using strategies to teach conventional communication responses, or walking behaviors commensurate with their same age peers. These strategies are more likely to improve long-term outcomes for students and may result in less avoidant behavior as a result of punitive interventions. Fourth, teachers should collect continuous data (i.e., every day) on student elopement and continually evaluate the effects of treatment. If the student’s behavior does not respond to intervention in a relatively short time (i.e., a few weeks), adjustments should be made to the intervention plan. Finally, as mentioned previously the program team’s first priority is student safety. If the student is engaging in a behavior that is dangerous (e.g., climbing on a table, running out the door), teachers must always intervene, but should do so with just enough interaction to remove the child from the situation. These “emergency responses” to behavior should be included within the behavior intervention plan.

Elopement can have serious and lasting ramifications if left untreated. Fortunately, researchers have established that basic reinforcement procedures can be used to intervene with eloping students. Through judicious application of these techniques, which are often part of special education teachers’ existing repertoire, educators can provide safe
and instructionally rich environments for all students.

REFERENCES


