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# *THE DETRIMENTAL EFFECTS OF PHYSICAL RESTRAINT AS A CONSEQUENCE FOR INAPPROPRIATE CLASSROOM BEHAVIOR*

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Functional analyses produced inconclusive results regarding variables that maintained problem behavior for 2 students with developmental disabilities. Procedures were modified to include a contingent physical restraint condition based on in-class observations. Results indicated that under conditions in which physical restraint (i.e., basket-hold time-out) was applied contingent on problem behavior, rates of these behaviors increased across sessions for both subjects. Implications for the use of physical restraint in the classroom are discussed.

DESCRIPTORS: aggression, basket-hold time-out, functional analysis, physical restraint

Physical restraint is often used to manage severely disruptive classroom behavior. One form of physical restraint, called basket-hold time-out, involves confining the student in a chair or placing the student face down on the floor while restraining the student's arms. This form of physical restraint is used to protect the student or others or to punish problem behavior. Research findings on the basket-hold time-out indicate that it is effective in treating disruptive behavior (Grace, Kahng, & Fisher, 1994).

Nevertheless, the use of physical restraint could be problematic if the function of problem behavior is not identified. Because of the close physical contact required to implement the basket-hold procedure, restraint could function as a positive reinforcer for problem behavior that is maintained by attention from others. Likewise, physical restraint may result in escape or avoidance of aversive events due to its incompatibility with most academic task requirements. The misapplication of procedures (i.e., focusing on procedural form rather than on its behavioral effects) has been evaluated with other common interventions, such as planned ignoring (Iwata, Pace, Cowdery, & Miltenberger, 1994) and chair time-out (Taylor & Miller, 1997).

We hypothesized that the physical restraint used to manage 2 students' problem behavior in the classroom was contraindicated based on behavioral function. To test this hypothesis, we evaluated the effects of physical restraint as a consequence for problem behavior after results of typical functional analyses were inconclusive.

## METHOD

### *Participants and Setting*

Sid, a 13-year-old student who had been diagnosed with Down syndrome, engaged in physical aggression toward teachers and peers and sexual touching of female teachers. Paul, a 13-year-old student who had been diagnosed with mild mental retardation and cerebral palsy, used a wheelchair and engaged in yelling, self-injury, and aggression toward teachers. All sessions were conducted at the participants' school in an unused

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classroom containing tables, chairs, desks, and materials necessary to conduct the experimental conditions.

*Response Measurement and Reliability*

Sid's target behaviors were defined as (a) *aggression:* hitting or kicking others, or throwing objects so that they made physical contact with others; and (b) *sexual touching:* touching others' buttocks or genital area. Paul's target behaviors were defined as (a) *yelling:* vocalizations above normal conversational volume; (b) *self-injury:* hitting his face with a closed fist or biting his hand; and (c) *aggression:* hitting, biting, or scratching others, or throwing objects so that they made physical contact with others. Data were collected using 10-s partial-interval recording. Interobserver agreement data were collected for 25% of sessions. Overall agreement averaged 92% for Sid and 80% for Paul.

*Procedure*

*Functional analysis.* Participants were exposed to four functional analysis conditions alternated in a multielement design, as described by Iwata, Dorsey, Slifer, Bauman, and Richman (1982/1994). Three to five daily 15-min sessions were conducted with each participant, 3 days per week. A different therapist conducted each condition. During the no-interaction condition, the student was in the room with a therapist who did not interact with him. During the attention condition, the therapist ignored the student but made statements describing the behavior following each occurrence of a target behavior (e.g., "You hit yourself," "You are yelling"). During play sessions, the therapist interacted continuously with the participant but withdrew attention for 30 s contingent on any target behavior. During the demand condition, the therapist delivered requests (e.g., "Write your name," "Count the dots") continuously for both subjects. With Sid, the therapist moved away and discontinued requests for 30 s contingent on occurrences of the target behavior. Paul was wheeled into a time-out area for 30 s following each target behavior.

*Evaluation of physical restraint.* Results of informal, naturalistic observations of each participant in the classroom prior to the functional analysis indicated that teachers used physical restraint several times each day following inappropriate behavior. Based on these observations, the effects of physical restraint (i.e., basket-hold time-out) on problem behavior were evaluated. The specific antecedents and consequences were analogous to those observed in the classroom. For Sid, the physical restraint condition was identical to the attention condition except that the therapist placed him face down on the floor and held his arms behind his back for 10 s contingent on target behavior. For Paul, procedures were identical to the demand condition except that following occurrences of the target behavior, the therapist folded his arms across his chest and held his wrists under his armpits for 10 s while he remained seated in his wheelchair. Physical restraint and play conditions were alternated in a multielement design.

## RESULTS AND DISCUSSION

Results of Sid's initial functional analysis are shown in Figure 1. Problem behavior initially occurred in the attention and play conditions but decreased to zero across sessions. High levels of problem behavior occurred in the physical restraint condition. These findings suggested that physical restraint either maintained or evoked Sid's problem behavior.

For Paul, problem behavior occurred in both the attention and demand conditions but increased across sessions only in the de-

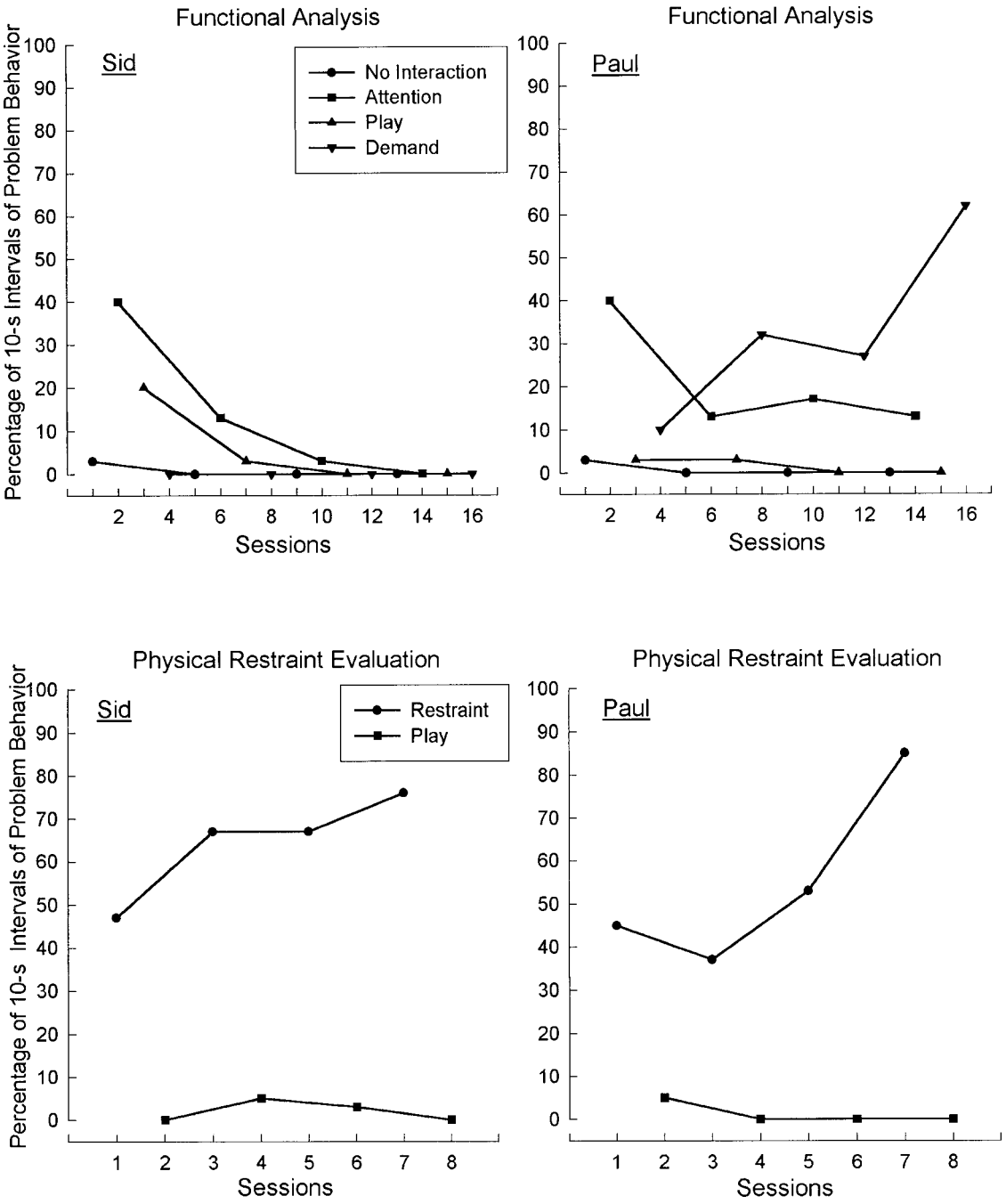


Figure 1. Problem behavior during the functional analysis and physical restraint evaluation for Sid and Paul.

mand conditions (Figure 1). These results suggested that escape from demands and possibly access to attention maintained Paul's problem behavior. High levels of problem behavior continued to occur in the demand condition when physical restraint was used. These results further suggested that Paul's problem behavior was main-

tained by escape from demands and that the use of physical restraint following occurrences of problem behavior was contraindicated because demands were briefly removed while restraint was applied. Based on these outcomes, physical restraint was discontinued in the classroom, and effective interventions involving differential reinforcement and extinction were identified for both students.

These findings highlight the importance of identifying and evaluating idiosyncratic events that may be functionally related to problem behavior, especially when initial assessment outcomes are unclear (e.g., Piazza et al., 1999). For Sid, physical interaction rather than verbal attention was a positive reinforcer for problem behavior. Results for both participants also showed the detrimental effects of using physical restraint when this common classroom intervention is applied without regard for the function of problem behavior.

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