

Brief Report: Comparison of Two Short Overcorrection Procedures on the Stereotypic Behavior of Autistic Children¹

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Stereotypic behavior represents a problem exhibited by many developmentally disabled children. Broadly defined, stereotypy consists of repetitive motor responses that have no functional utility for the individual. The reduction of stereotypic behavior is important for acquiring adaptive skills (Koegel, Firestone, Kramme, & Dunlap, 1974) since high rates of stereotypy have been shown to interfere with learning and responsiveness to the environment.

The most effective techniques in reducing stereotypic responding involve the use of response interruption/contingent effort procedures (Luiselli, 1981). These methods consist of, first, physically preventing the behavior from continuing, and second, prompting the individual to perform some task requiring effort. One of the most effective procedures of this type is overcorrection (Foxy & Azrin, 1973). Two components of overcorrection are restitution (returning the environment to an improved state) and positive practice (repeatedly practicing appropriate forms of the relevant behavior). These overcorrection components have been used separately and in combination in the treatment of stereotypic behavior (e.g., Luiselli, 1981).

The use of overcorrection in treating maladaptive behaviors is appealing because it enables the practitioner to reach an alternative response. However, overcorrection is usually applied for periods ranging from 5 to

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20 minutes (Marholin, Luiselli, & Townsend, 1980), and thus its use may significantly decrease time spent learning academic and social tasks.

The effects of short durations of overcorrection have begun to be investigated. For example, Luiselli (1984) successfully implemented 30- to 40-second overcorrection procedures. Although shorter durations of overcorrection are currently being used, little research has compared the differential effectiveness of short durations of overcorrection. Recently, Carey and Bucher (1983) found that a 30-second overcorrection procedure was just as effective as a 3-minute procedure.

The purpose of the present study was to evaluate the differential effectiveness of two short (20-second and 60-second) overcorrection procedures. Unlike most studies examining overcorrection, this paper provides a comparison between short durations, which may further clarify optimum treatment durations necessary for suppression of stereotypic behaviors.

METHOD

Subjects and Settings

Craig, aged 7 years 2 months, was diagnosed as autistic. He was nonverbal, lacked most self-care skills, but could carry out simple one-step instructions. His social age score was 1.6 years on the Vineland Social Maturity Scale.

Matt, ages 12 years 10 months, was also diagnosed as autistic. He was nonverbal, but was able to feed and toilet himself, and could carry out simple one-step directions. His social age score was 2.9 years on the Vineland Social Maturity Scale.

Both children attended a private special education school. The class was composed of five developmentally disabled children and was staffed by one teacher and an assistant. The children were taught basic communication, self-care, and play skills.

Target Behaviors and Data Collection Procedures

The target behavior for Craig consisted of his holding a piece of string, cloth, or paper between his thumb and fingers and flapping it back and forth or up and down. This behavior had become such a problem that, if left unsupervised, Craig would open drawers and search through garbage cans to find any paper, string, or cloth. At one point, these objects had been removed from the classroom.

The target behaviors for Matt consisted of his moving his hands back and forth in front of his face as well as clapping repetitively. These behaviors interfered with his participation in classroom activities and were conspicuous and unappealing.

Data were collected using an interval recording technique (Kerr & Nelson, 1983) during 15-minute sessions each day. Three undergraduate students recorded the presence and absence of stereotypic behaviors for 10-second intervals from an observation room with a one-way mirror adjacent to the classroom. Sessions were conducted during the children's individual lessons with the teacher. Craig was taught to string blocks and use a lace board, while Matt was taught to sort and categorize shapes, colors, and objects.

Throughout the study, reliability was assessed by dividing the number of interval agreements on occurrence and nonoccurrence of the behavior by the total number of agreements plus disagreements. Overall interobserver reliability for Matt averaged 94% (range 88% to 100%) and for Craig 92% (range 80% to 100%).

Experimental Design and Procedures

A reversal design was used for both children. One child received the 20-second procedure, while the other received both a 60-second and a 20-second procedure, with a period of reversal separating the two procedures.

Baseline. The teacher ignored both children's stereotypic behaviors but socially reinforced the children when they were working productively on their tasks.

Overcorrection. Overcorrection for both children consisted of a variation of the procedure developed by Foxx and Azrin (1973). Immediately after the onset of self-stimulation, the teacher said a stern "No stimming" and briskly guided the child's hand through a series of exaggerated arm movements—"hands out to the side," "hands over the head," "hands on head," and "head down." Each movement was maintained for 5 seconds. The 60-second overcorrection procedure consisted of the same procedure as the 20-second treatment; however, it was repeated three times in succession.

RESULTS AND DISCUSSION

During the initial seven sessions of baseline, Matt engaged in stereotypic behavior an average of 47.1% of the intervals. The application of the

20-second overcorrection procedure resulted in a dramatic decrease to an average of 3.8% of the intervals. During nine sessions of subsequent baseline, self-stimulation increased to an average of 54.0% of the intervals. The 60-second procedure was not used with Matt due to the dramatic decreases resulting from the 20-second procedure.

During the initial seven sessions of baseline, Craig engaged in stereotypic behavior an average of 70.4% of the intervals. With the application of the 20-second overcorrection procedure, self-stimulation decreased to an average of 20.5% of the intervals. During six sessions of subsequent baseline, self-stimulation increased to an average of 68.3% of the intervals. Because the 20-second procedure did not result in nearly total suppression, the 60-second procedure was then employed. Following the 20-second procedure, five additional sessions of baseline resulted in stereotypic behavior occurring an average of 58.6% of the intervals. The application of the 60-second overcorrection procedure resulted in a dramatic decrease to an average of 2.0% of the intervals. During five sessions of subsequent baseline, self-stimulation increased to an average of 69.0% of the intervals.

The purpose of this study was to assess the effects of two short-duration overcorrection procedures. Nearly total suppression was achieved for one child using a 20-second procedure, while it was necessary to implement a 60-second procedure to produce similar rates of reduction in the other child. Generally, overcorrection procedures have been criticized for the time they require (Doleys, Wells, Hobbs, Roberts, & Cartelli, 1976). Whereas most overcorrection procedures are applied for periods ranging from 5 to 20 minutes (Marholin et al., 1980), the procedures in the present study lasted only 20 or 60 seconds.

The current results are consistent with those obtained by Carey and Bucher (1983), who found that a 30-second overcorrection procedure was as effective as a 3-minute procedure. Luiselli (1984) also found that 30- to 40-second overcorrection procedures effectively suppressed stereotypic responding. The present results suggest that, at least for some children, a 20-second procedure may be sufficient.

Brief overcorrection, in contrast to longer durations of overcorrection, is desirable because students are removed from the instructional environment for shorter periods of time, as well as its being less time-consuming for teaching personnel. Further, teachers may believe that short overcorrection procedures are more acceptable and, therefore, teachers may be more likely to implement shorter procedures more consistently than longer procedures. Also, shorter durations may produce less student opposition and negative side effects (Carey & Bucher, 1983). These are important considerations in designing educational programs for the developmentally disabled where a central goal is maximizing learning opportunities and skill acquisition. In

addition, current ethical guidelines would seem to dictate that shorter durations be used where possible because they constitute a less restrictive treatment procedure. The current results, along with those of Carey and Bucher (1983) and Luiselli (1984), strongly suggest that overcorrection procedures of 1 minute or less are effective in significantly reducing stereotypic behaviors. However, the current results also suggest that some variability in responding exists between children, and in some instances, relatively longer durations of overcorrection may be required to produce rates of suppression similar to those achieved through very short durations.

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