

REDUCTION OF SELF-INJURIOUS HAND MOUTHING USING RESPONSE BLOCKING

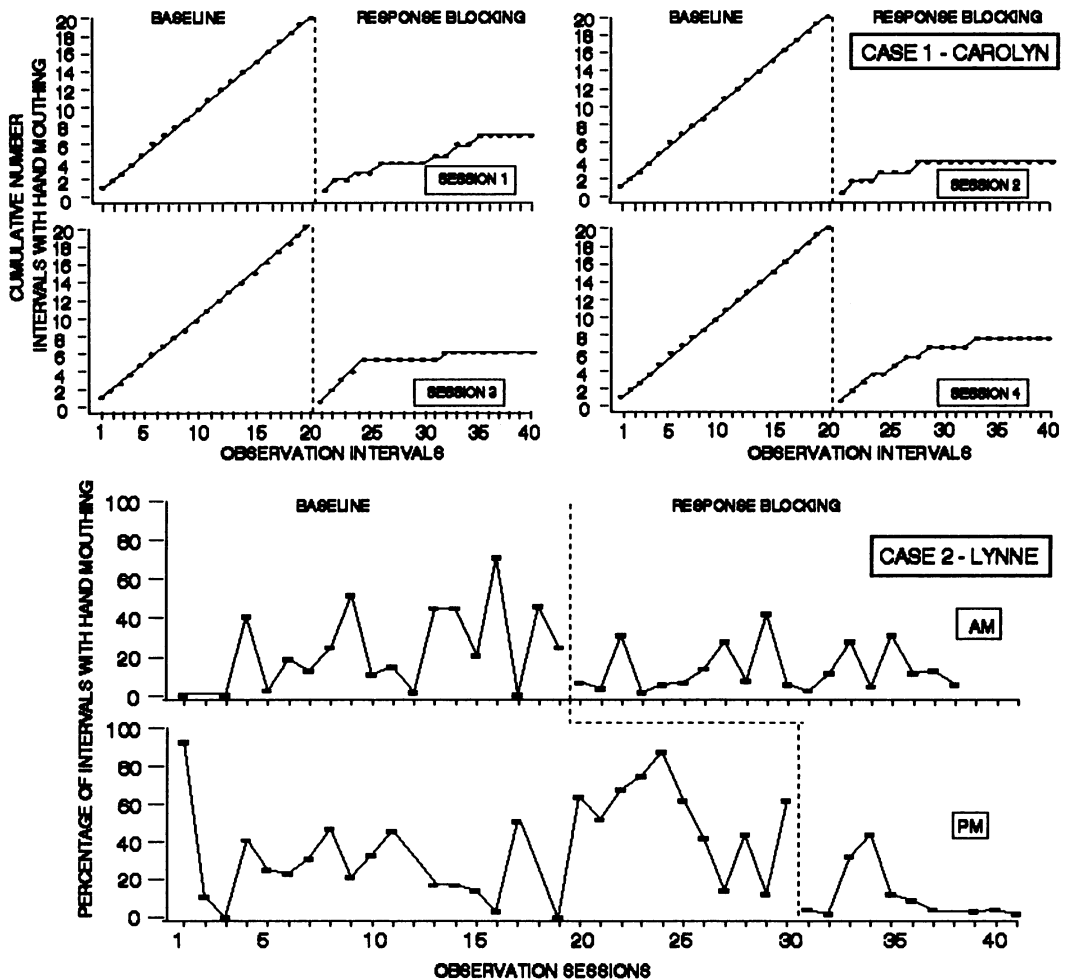
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We evaluated a response-blocking procedure for reducing the self-injurious hand mouthing of 2 adults with profound disabilities. The procedure reduced mouthing in both cases. The results suggest research is warranted to delineate the behavioral process responsible for the effect of response blocking and to determine the procedure's long-term utility.

DESCRIPTORS: self-injurious behavior, severely handicapped, profound multiple handicaps, response blocking, hand mouthing

A common type of self-injury among people with profound multiple disabilities is persistent hand mouthing. Hand mouthing can result in serious harm, ranging from facial lesions to loss of fingers (Rast & Jack, 1992). To date, frequent hand mouthing has proven difficult to treat (see Rast & Jack, 1992, for a summary), and most interventions have included restrictive components (Richmond, 1983). The purpose of this investigation was to evaluate a nonrestrictive treatment procedure, response blocking, for reducing self-injurious hand mouthing.

METHOD: The 2 participants had profound mental and physical impairments, and lived in a public residential facility. Carolyn, 57 years old, had cerebral palsy with spastic quadriplegia. Lynne, 27 years old, had diffuse brain damage and spastic diplegia. Both had a history of medical problems resulting from hand mouthing. Systematic observations showed that mouthing occurred across different situations and suggested that mouthing served a self-stimulatory function (Rast &



Jack, 1992). *Hand mouthing* was defined as any part of the hand inserted between the lips. A mouthing *attempt* also was included in the definition, and was defined as moving the hand toward the mouth and touching the experimenter's hand that was in front of the participant's mouth.

Hand mouthing was recorded using partial-interval procedures. For Carolyn, the procedure entailed 10-s observation intervals separated by 5-s recording intervals. Lynne's mouthing was recorded during consecutive 15-s intervals. Interobserver agreement, assessed on 25% of observations across conditions, was calculated based on interval-by-interval comparisons of observer records and averaged 91% for occurrence of mouthing.

Baseline. Prebaseline time samples showed that Carolyn exhibited continuous mouthing at times, but she did not mouth most of the day. During baseline, an experimenter conducted periodic observations in Carolyn's living unit to determine if she was mouthing. If she was, baseline observations were conducted for 20 observation intervals and were followed by the intervention. Prebaseline observations indicated that Lynne's mouthing was more frequent than Carolyn's. Hence, Lynne's baseline consisted of one morning and one afternoon 2-hr observation session per day.

Response blocking. Because mouthing was hypothesized to serve a self-stimulatory function, the intervention was designed to prevent the presumed self-stimulation resulting from the hand being inside the mouth. Each individual was allowed to bring her hand to her mouth but not to put her hand in her mouth. An experimenter blocked the hand from entering the mouth by placing the palm of his or her hand approximately 2 cm in front of the participant's mouth. The participant's mouthing attempts resulted in her hand coming into contact with the back of the experimenter's hand. The experimenter did not manipulate the participant's hand, but only blocked it from entering the mouth.

Experimental design. The experimental design for Carolyn was a series of four AB replications. Following baseline observations, response blocking was implemented on each of the four occasions for a period of time equal to the preceding baseline observations. A multiple probe design across the morning and afternoon sessions was used with Lynne.

RESULTS AND DISCUSSION: Carolyn mouthed her hand during every interval of each baseline session (the figure, top panel). In contrast, mouthing occurred during 35%, 20%, 30%, and 40% of the intervals during the four blocking sessions. Mouthing occurred most frequently at the beginning of each blocking session and then decreased in frequency. When response blocking was implemented with Lynne (the figure, bottom panel), mouthing decreased from baseline averages of 24% and 38% in the morning and afternoon, respectively, to averages of 10% and 12%. Response blocking was then implemented throughout most of Lynne's waking hours. Observations conducted at approximate 30-min intervals across the day indicated that Lynne's mouthing decreased from a preintervention average of 26% of observations to an average of 8% while the procedure was in effect and decreased to 2% after 10 days of the all-day application.

Results indicate that response blocking may be a nonrestrictive means of reducing self-injurious mouthing among people with profound disabilities. It is hypothesized that the procedure's effect was due to sensory extinction, in which the sensory reinforcement resulting from putting the hand in the mouth was removed by preventing the hand from entering the mouth. However, such an explanation is speculative. Research is needed to delineate the behavioral process responsible for the reduction of mouthing as well as to evaluate the procedure's long-term utility.

REFERENCES

- Rast, J., & Jack, S. (1992). Mouthing. In E. A. Konarski, J. E. Favell, & J. E. Favell (Eds.), *Manual for the assessment and treatment of the behavior disorders of people with mental retardation* (pp. 1-11). Morganton, NC: Western Carolina Center Foundation.
- Richmond, G. (1983). Evaluation of a treatment for a hand-mouthing stereotypy. *American Journal of Mental Deficiency, 87*, 667-669.

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