



The Use of Arbitrary Reinforcers to Reduce Self-Injury

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Introduction

Self-injurious behaviors maintained by automatic reinforcement can be difficult to eliminate due to lack of control over the maintaining consequence, as blocking every instance of self-injury is often impractical. In addition, physically blocking self-injury may not be effective with individuals who exhibit self-injury and self-restraint. Fisher, et. al. (1997) found that noncontingent delivery of arbitrary reinforcers (not related to the function of the target behavior) may be an effective intervention for self-injury, even when maintaining reinforcers are not withheld. Mazaleski, et. al. (1993), however, found that the extinction component of a Differential Reinforcement of Other behavior (DRO) intervention was critical when intervening on self-injury. The purpose of the current study was to evaluate the effectiveness of a DRO utilizing arbitrary reinforcers without extinction in the reduction of the self-injury.

METHOD

Participants

The participant was a 20-year old male diagnosed with autism, who resided at campus-based residential facility and attended the adjacent special education school. Previous functional analyses indicated that self-injury (SIB) was maintained by automatic reinforcement, and blocking was shown to increase it due to self-restraint correlates. Noncontingent access to preferred self-restraint items was not effective in reducing self-injury to acceptable or safe rates.

Setting and Materials

All sessions were conducted in the participant's residence. Materials used were coffee, timers, and datasheets. Access to coffee was restricted at all other times.

Dependent Measures

Data were collected on self-injurious behavior, defined as any instance of using an open or closed hand to hit chin or a hard object. Frequency data were collected throughout the study.

Procedural Integrity Data

Procedural integrity data were collected for 42% of sessions, and averaged 89%. Inter-Observer agreement on the frequency of self-injurious behavior was not collected.

PROCEDURE

Baseline: For five minutes prior to the beginning of each treatment session, data were collected on the frequency of self-injurious behavior. The participant was engaged in preferred leisure activities and had noncontingent access to self-restraint items. All instances of self-injurious behavior were ignored.

Differential Reinforcement of Other Behavior: The participant was instructed to sit at the dining room table. He was shown coffee and a timer and told, "You need to have calm hands for coffee". If the participant did not engage in SIB during the interval, when the timer sounded, he received a sip of coffee and verbal praise. If the participant did engage in SIB, he was told, "You have to try again." and the timer was reset.

In the initial phase of treatment, the DRO interval was set according to the rate of SIB during baseline. The interval progressively increased during the session if the participant was successful.

In the second phase of treatment, the DRO was set at a variable 30 s interval for each session. This interval was set based on the earning percentage in the initial phase of treatment.

RESULTS AND DISCUSSION

Initially, data indicated that the DRO was effective in reducing SIB. During the first four sessions, baseline rate of SIB averaged 8.75 per minute, while average rate while the DRO was implemented was 1.32 per minute. Also, the average percentage of earning coffee was 74% of opportunities. As intervals increased, however, the average percentage of earning decreased to 58% of opportunities, and there was little difference between baseline and treatment rate of SIB (BL- 1.86 ; TX- 2.24). In the second phase of treatment, the percentage of earning increased to an average of 69%, but a similar rates of SIB remained (BL- 1.8; TX- 1.5).

While the DRO with an arbitrary reinforcer showed an initial effect, overall, the intervention was not successful in reducing the rate of SIB. In addition, the interval length was not able to be increased to allow the intervention to be practical. One possible explanation for this is ratio strain. As the schedule of reinforcement was thinned it no longer competed with SIB. Anecdotal reports, however, indicate that the participant enjoyed the treatment; it could be effective for other target behaviors. Finally, implementation of arbitrary reinforcers plus extinction could be evaluated.

