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On the Establishing and Reinforcing Effects of Termination of Demands for Destructive Behavior Maintained by Positive and Negative Reinforcement

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The results of functional analyses suggested that the destructive behavior of two individuals was sensitive to escape and attention as reinforcement. In an instructional context, we evaluated the effects of reinforcing compliance with functional reinforcers when destructive behavior produced a break. For one participant we also evaluated the effects of reinforcing compliance with functional reinforcers when destructive behavior produced no differential consequence (escape extinction). We hypothesized that destructive behavior failed to decrease in an instructional context when compliance resulted in a break because presentation of a break evoked attention-maintained destructive behavior. The results of a reinforcer assessment supported this hypothesis by demonstrating that demands functioned as positive reinforcement when no alternative activities were available. These results are discussed in terms of the importance of establishing operations in determining the appetitive or aversive properties of stimuli when destructive behavior is multiply controlled.

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Functional analysis (e.g., Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994) is a method for identifying multiple operant functions of destructive behavior simultaneously. During functional analyses, establishing operations and consequent events are manipulated during different stimulus conditions to test whether destructive behavior is maintained by positive and/or negative reinforcement. For example, instructions are presented in the test condition for negative reinforcement, and the occurrence of destructive behavior results in the removal of instructions (i.e., escape). Interpretation of functional analysis results is based on the relative rates of behavior across test (demand, attention, tangible, alone) and control (play) conditions. For example, when rates of behavior are relatively higher in the demand condition, we assume that the presentation of demands establishes escape as negative reinforcement for destructive behavior.

When a single reinforcer is responsible for behavioral maintenance, treatments then can be developed in which the functional reinforcer is delivered contingent on appropriate behavior (e.g., differential reinforcement) or withheld following destructive behavior (extinction). For example, treatment of escape-maintained destructive behavior might consist of allowing escape (reinforcement) contingent on compliance and continuing demands after destructive behavior (extinction) (Piazza et al., 1997).

When destructive behavior is multiply controlled, it is sensitive to more than one source of reinforcement (Skinner, 1953). For example, destructive behavior might be sensitive to both positive (attention, access to tangible items) and negative (escape from demands) reinforcement. Treatment of multiply controlled behavior presents a clinical dilemma because treatments (e.g., time-out from attention) used in one stimulus condition (e.g., social attention) might worsen behavior during another stimulus condition (e.g., demand) (Smith, Iwata, Vollmer, & Zarcone, 1993). This issue may be important because in many settings a single treatment is implemented for destructive behavior independent of whether it is singly or multiply controlled.

Treatments for multiply controlled destructive behavior have appeared infrequently in the literature. One notable exception was an investigation by Smith et al. (1993), in which the functional analyses of 3 participants suggested that self-injurious behavior (SIB) was maintained by multiple sources of reinforcement. Smith et al. tested the validity of the functional analysis results by examining treatments that either matched the hypothesized function of SIB (e.g., noncontingent attention for attention-maintained SIB) or did not match the function of the SIB (e.g., providing noncontingent access to toys for attention-maintained SIB). Smith et al. concluded that the results of the functional analysis were correct when the matched treatment was effective in reducing SIB, and concluded that the results of the functional analysis were spurious if the matched treatment failed to reduce SIB.

Smith et al. (1993) used a method in which each function of multiply-controlled SIB was treated individually under different analogue conditions (i.e., a specific treatment was developed for each function in each analogue condi-