

*FUNCTIONAL ANALYSIS AND TREATMENT OF  
INAPPROPRIATE SEXUAL BEHAVIOR*

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The results of a functional analysis showed that inappropriate sexual behaviors exhibited by a 9-year-old boy who had been diagnosed with traumatic brain injury were maintained by positive reinforcement in the form of social attention. An intervention consisting of functional communication training and extinction resulted in reduced levels of inappropriate sexual behaviors.

DESCRIPTORS: functional analysis, inappropriate sexual behavior, traumatic brain injury

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Studies that have examined treatments for inappropriate sexual behavior (ISB) exhibited by individuals with developmental disabilities have typically relied on reinforcement-based interventions without prior knowledge of behavioral function. For example, Provinale and Lutzker (1980) used restitutional overcorrection and differential reinforcement of other behavior to reduce ISB exhibited by a 13-year-old boy with Down syndrome. LeBlanc, Hagopian, and Maglieri (2000) used a token economy and response cost to reduce ISB exhibited by a 26-year-old man with moderate mental retardation.

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Although they have been successful in reducing ISB, studies suggest that behavioral treatments based on behavioral function may be more effective than those that are not (Kahng, Iwata, & Lewin, 2002). Furthermore, the use of pretreatment functional assessment may lead to the selection of less restrictive interventions for problem behavior (Kahng et al.). Therefore, the purpose of this study was to conduct a functional analysis of ISB and an evaluation of a function-based behavioral treatment.

#### METHOD

Matt, a 9-year-old boy who had been diagnosed with traumatic brain injury and seizure disorder, had been admitted to an inpatient unit for the assessment and treatment of aggression and property destruction. He had limited vocal speech but used picture cards to communicate his wants and needs. He used a wheelchair as his primary

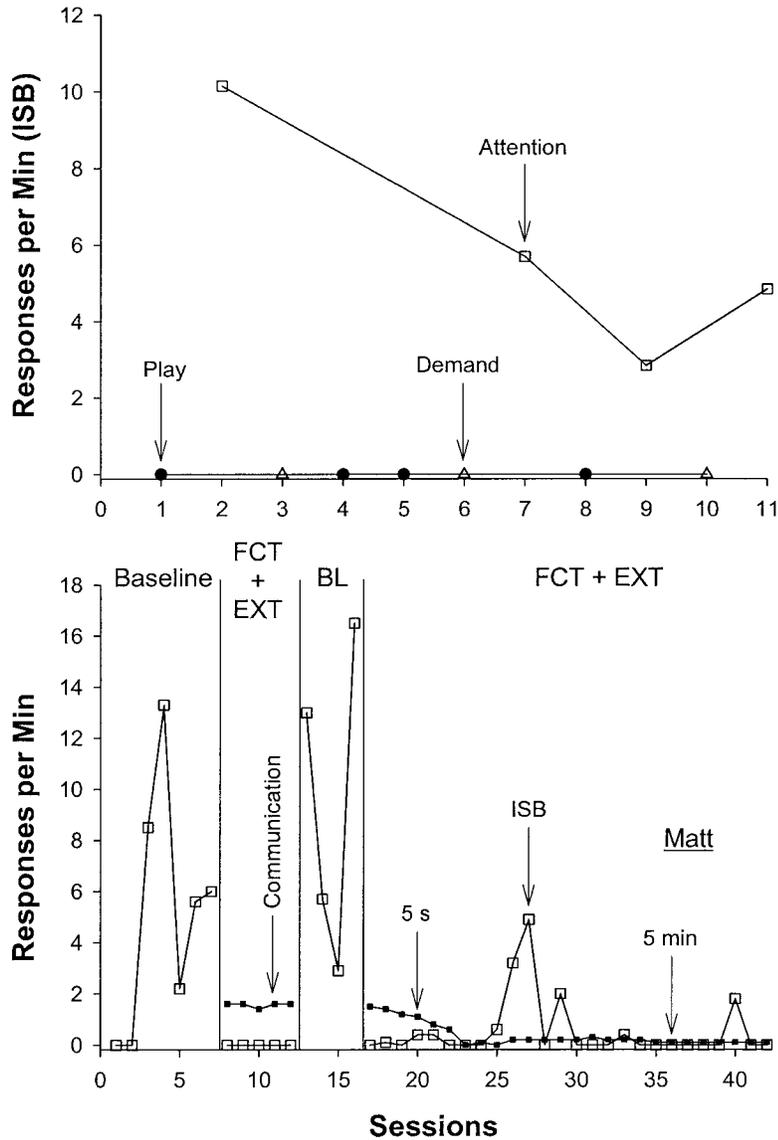


Figure 1. The top panel presents the rate (responses per minute) of ISB during the functional analysis. The bottom panel presents the rate of ISB and appropriate communication during the treatment evaluation.

means of ambulating. ISB was reported as an important secondary behavior of concern because Matt had been placed in a residential facility due to exhibiting ISB towards his siblings.

Data were collected using laptop computers on the frequency of ISB, which was defined as touching or attempting to touch others in the area of the groin, buttocks, or breasts. (Although data were collected on ag-

gression and property destruction, no programmed consequences were provided for either behavior throughout this study.) Data were also collected on appropriate communication, which was defined as handing the "attention" card to the experimenter without prompting. Two observers independently collected data during 38% and 50% of the functional analysis and treatment evaluation sessions, respectively. Interobserver agree-

ment coefficients were calculated by dividing the total number of agreements by the number of agreements plus disagreements and multiplying by 100%. An agreement was defined as two observers recording the same number of responses within a 10-s interval. During the functional analysis and treatment evaluation sessions, the mean agreement coefficients for ISB were 95% (range, 94% to 95%) and 89% (range, 75% to 98%), respectively. The mean agreement for appropriate communication was 99% (range, 97% to 100%) during the treatment evaluation.

All sessions were conducted in a therapy room (6 m by 6 m). Matt was in his wheelchair (without a tray), and the experimenter sat next to him. The experimenter blocked all attempts to engage in ISB.

*Functional analysis.* A functional analysis was conducted using procedures similar to those described by Iwata, Dorsey, Slifer, Bauman, and Richman (1982/1994). Sessions were 20 min in length, and three conditions were conducted: demand, social attention, and toy play. During the demand condition, Matt received a 30-s break contingent on ISB. Compliance with demands resulted in praise. In the social attention condition, Matt received a brief reprimand (approximately 5 s) contingent on ISB. Finally, during the toy play condition, Matt had access to preferred items and received attention on a fixed-time 30-s schedule.

*Treatment evaluation.* Baseline sessions were conducted in a manner similar to the social attention condition of the functional analysis. A reversal design was used to demonstrate experimental control. Following baseline, Matt was taught using a graduated guidance prompting procedure to hand the experimenter an attention card. Treatment consisted of functional communication training (FCT) and extinction. The attention card, which was available only during the treatment conditions, was placed on a

piece of Velcro<sup>®</sup>, which was located on the arm of his wheelchair. Matt received 30-s access to attention contingent on appropriate communication (handing the attention card to the experimenter). Except for the blocking procedure ISB was ignored; that is, the experimenter briefly blocked ISB and then continued to engage in whatever he or she was doing. After a brief reversal to baseline and subsequent return to treatment, the FCT reinforcement schedule was thinned by restricting his access to the attention card (Roane, Fisher, Sgro, Falcomata, & Pabico, 2004). That is, the attention card was initially removed for 5 s, and this delay was gradually increased to 5 min. The delay was increased in subsequent sessions if he had no more than six instances of ISB in a given session (approximately a 90% reduction from baseline).

## RESULTS AND DISCUSSION

During the functional analysis (Figure 1, top), no ISB was observed in the toy-play or demand conditions. However, Matt consistently exhibited ISB in the social attention condition ( $M = 5.9$  per minute). These data indicated that Matt's ISB was maintained by positive reinforcement in the form of adult social attention.

Matt exhibited an average of 6.7 responses per minute across both baseline phases (Figure 1, bottom). FCT plus extinction resulted in a reduction in ISB (an average of 0.4 per minute across both treatment phases). Furthermore, Matt appropriately communicated for attention using the attention card an average of 1.5 times per minute prior to FCT schedule thinning. Overall, treatment resulted in a 94% reduction in ISB. Matt's access to the attention card was also successfully thinned from 5 s to 5 min.

To date, researchers have successfully used functional analysis to identify the behavioral function for a variety of behaviors such as

self-injury, aggression, disruption, bizarre speech, stereotypy, and pica (Mace, Lalli, & Lalli, 1991). This study extends current functional analysis research by demonstrating its utility to a novel behavior, ISB. Furthermore, this study demonstrates that behavioral interventions based on functional analyses can be successful in treating a behavior oftentimes considered to be biologically based and commonly treated by medications.

It is important to note that all attempts to engage in ISB were blocked during the functional analysis and treatment evaluation. Although it is possible that blocking may have suppressed ISB (i.e., it may have occurred at higher rates if not blocked), the relatively high levels of ISB observed during baseline suggest that the effects of blocking, if any, were minimal.

One potential benefit for the use of functional assessment procedures in the treatment of problem behaviors is that the treatments selected are less likely to use punishment-based interventions (Kahng *et al.*, 2002). In the current investigation, the use of a functional analysis allowed the experimenters to consider the function of ISB in the selection of treatment. This resulted in

the development of a reinforcement-based treatment that produced clinically significant reductions in ISB.

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