

THE DIFFERENTIAL EFFECTS OF TEACHER AND PEER ATTENTION ON THE DISRUPTIVE CLASSROOM BEHAVIOR OF THREE CHILDREN WITH A DIAGNOSIS OF ATTENTION DEFICIT HYPERACTIVITY DISORDER

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We conducted functional analyses of classroom disruption during contingent teacher and peer attention conditions for 3 children with attention deficit hyperactivity disorder. Attention provided by peer confederates appeared to function as a distinct form of positive reinforcement for all 3 children.

DESCRIPTORS: peer attention, functional assessment, attention deficit hyperactivity disorder

Recent investigations have demonstrated the generality of a functional analysis model of assessment and treatment (Neef & Iwata, 1994) across response classes and settings. The advantages of functional analysis might be further extended by an examination of other possible functions of problem behaviors. Further demonstrations of the generality of functional analysis across subject populations are also needed. The purpose of this investigation was to evaluate peer attention as a distinct form of positive reinforcement that could be important to treatment planning (Carr, 1994). As part of a functional assessment, contingent peer attention was directly manipulated by providing instructions to peer confederates.

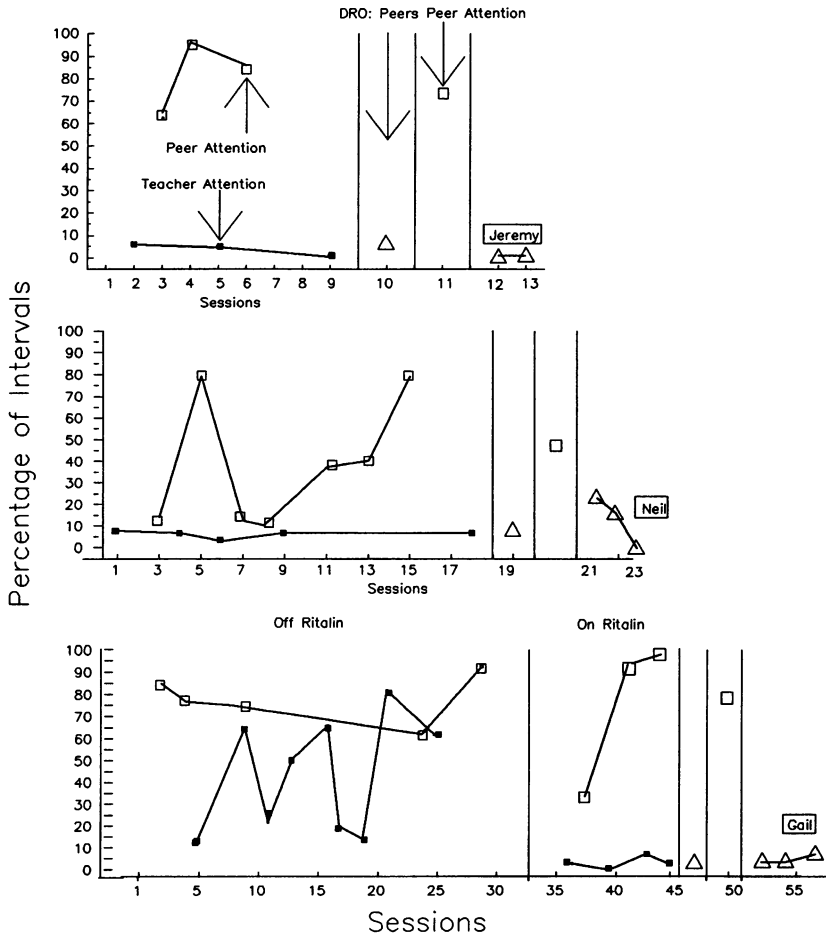
METHOD: *Participants.* Participants were 3 children who attended a summer program at a university laboratory school. Jeremy and Neil were 7-year-old males, and Gail was a 9-year-old female. Each was independently determined to meet diagnostic criteria for attention deficit hyperactivity disorder (ADHD; American Psychiatric Association, 1987) and was of at least average intellectual functioning. Medication (Ritalin) was discontinued for each participant during the time of the study; however, Gail's assessment was conducted both off and on this medication.

Response definitions and measurement. Out-of-seat behavior and inappropriate vocalizations were the target behaviors of interest. *Out-of-seat* behavior was defined as the child's full body weight not being supported by a chair for at least 3 s. *Inappropriate vocalizations* were defined as any verbalization made by the child, excluding appropriate requests made to the teacher. *Teacher and peer attention* were both defined as any statement, gesture, or physical contact between a participant and a teacher or a peer that followed a target behavior during the same or subsequent 10-s interval. Observers recorded all responses using a 10-s partial-interval recording procedure. All sessions lasted 10 min, and three to six sessions were conducted each morning. Interval-by-interval interobserver agreement data ranged from 91% to 97% ($M = 93\%$) and were collected during 46% of sessions. Procedural integrity for the occurrence of the specified consequence ranged from 90% to 95% and the occurrence of noncontingent attention ranged from 1% to 4% across all assessment conditions and participants.

Assessment procedures and design. Functional analysis conditions were conducted in a multielement design followed by brief differential reinforcement of other behavior (DRO) treatment probes. During the contingent teacher attention conditions, Jeremy and Neil were seated at desks faced approximately 3 m away from other students. For Gail, this condition was conducted in an adjacent room, because she attempted to interact with peers from any location in the classroom. Participants were given "easy" math worksheets and instructed to stay in their seats and work quietly. The teacher ignored the participants except to provide a reprimand contingent upon the occurrence of a target behavior. Reprimands consisted of brief statements related to the target behavior.

For the peer attention condition, a peer confederate was asked to be the teacher's "helper." Immediately prior to each session, the peer confederate was privately instructed: "[name of the participant] has a hard time getting all of his [her] work done. Pay attention to what [the participant] is doing and say something to him [her] if you see him [her] get out of his [her] seat or if he [she] talks." Initially, each peer was given examples of things to say; however, the peer was also told to "say whatever you think you should." The participant was seated with two other students at one of four desks that were adjacent to and facing each other. Other instructions and task materials were the same as for the teacher attention condition. During the DRO treatment probes, participants were allowed to earn time with a peer of their choice contingent upon the nonoccurrence of target behaviors. A 2-min DRO schedule was implemented by providing a coupon to the participant that was equivalent to 2 min of time with a peer. Coupons were placed on the student's desk with no interaction by the teacher. Extinction of peer attention was implemented by allowing the other students to earn or lose common classroom rewards for remaining quiet or talking during the session.

RESULTS AND DISCUSSION: The figure shows the percentage of intervals with observed target behaviors for all 3 participants. Contingent peer attention resulted in a substantially higher percentage of target behaviors than did teacher attention. For Jeremy, the percentage of intervals averaged 80% during the peer attention conditions and 5% during teacher attention conditions. For Neil, the percentage of intervals averaged 41% during peer attention conditions and 6% during the teacher attention conditions. When she was not taking Ritalin, Gail displayed target behaviors during peer attention conditions on an average of 78% of the intervals; during the teacher attention conditions, the average was 39%. When she did take Ritalin, Gail's percentage of intervals with target behaviors during the peer attention conditions averaged 77%; during teacher attention conditions, the percentage of intervals ranged from 0% to 3%. For all participants, treatment probes resulted in substantial reductions or zero occurrences of target behaviors.



The results suggest that peer and teacher attention may not be functionally equivalent, that peer attention can function as a unique form of positive reinforcement, and that the differential effects can be identified during assessment. It may be important for treatment planning to distinguish among various forms of attention for children of normal intellectual functioning. Procedurally, the use of peer confederates appeared to be an efficient method of directly manipulating peer attention. The results for Gail also support previous research on interactions between behavioral function and medication and suggest that the functional analysis model might be useful for both assessment and future research related to ADHD.

REFERENCES

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington, DC: Author.
 Carr, E. G. (1994). Emerging themes in the functional analysis of problem behavior. *Journal of Applied Behavior Analysis, 27*, 393-399.
 Neef, N. A., & Iwata, B. A. (1994). Current research on functional analysis methodologies: An introduction. *Journal of Applied Behavior Analysis, 27*, 211-214.

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