

EFFECTS OF TEACHER ATTENTION ON ATTENDING BEHAVIOR OF TWO BOYS AT ADJACENT DESKS¹

MARCIA BRODEN, CARL BRUCE, MARY ANN MITCHELL,
VIRGINIA CARTER, AND R. VANCE HALL

UNIVERSITY OF KANSAS

The effects of teacher attention on the attending behavior of two boys seated at adjacent desks were investigated. Baseline records were obtained of the appropriate attending behavior of two boys who were described as the most disruptive pupils in a second-grade classroom of a poverty area school. During the first experimental phase, the teacher systematically increased the amount of attention for appropriate attending in one of the pair, Edwin. This resulted in a dramatic increase in his attending rate and a lesser, though significant, increase in attending behavior of the second boy, Greg. During the second experimental phase, systematic attention for attending was instituted for Greg and was discontinued for Edwin. This resulted in further increases in attending by Greg and a reduction in attending by Edwin. A brief withdrawal of reinforcement for attending in both Greg and Edwin reduced attending levels for both. Following this reversal appropriate attending for both boys was systematically reinforced and attending returned to high levels.

A number of studies have demonstrated that contingent teacher attention can be used to modify pupil study behavior in regular school classrooms (Hall, Lund, and Jackson, 1968; Hall, Panyan, Rabon, and Broden, 1968; Thomas, Becker, and Armstrong, 1968; Broden and Hall, 1968).

In carrying out reinforcement procedures to improve study behavior of individual disruptive pupils such as those reported by Hall *et al.* (1968), both the teachers and observers had noted increases in appropriate study of pupils sitting near the primary subjects of these studies. This observation was consonant with the often repeated opinion of teachers that one disruptive pupil increases the inappropriate

behavior of his neighbors, and if his behavior is controlled it positively affects that of those around him.

The present study investigated the behavior of a pair of boys who were seated at adjacent desks in a second-grade classroom. The effect of providing social reinforcement contingent on appropriate attending behavior of one, the other, and finally both seatmates was investigated.

Subjects and Setting

The subjects were two boys enrolled in the second grade of an elementary school located in the most economically deprived area of Kansas City, Kansas. One of the pair, Greg, had been retained in the first grade due to poor classroom behavior and academic performance. An individual Stanford Binet given to Greg the previous year indicated an I.Q. of 60. Greg was referred to the experimenters by the teacher and principal because of a high level of disruptive and non-study behaviors, which included talking out to the teacher, talking to neighbors, waving papers in the air, looking around the room, getting out of seat without permission, and playing with various toys.

The second boy, Edwin, sat next to Greg. A Stanford Binet test administered to Edwin yielded an I.Q. of 72. He, like Greg, came from a poverty area home. Although less disruptive

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than his seat partner, he often talked to Greg, laughed at him, stared out the window, and usually failed to do assigned classwork. Edwin and Greg had been referred by the teacher and principal and were considered the most disruptive pupils in the class.

METHOD

Observation

Observations of Edwin and Greg were made daily from 10:00 to 10:30 a.m. during the spelling and writing period. The method of observation was time sample recording similar to that reported by Hall *et al.* (1968) except that instead of recording the behavior of one pupil during every 10 sec, the behavior of Edwin was recorded at the end of the first 5 sec and that of Greg at the end of the next 5 sec. This procedure was repeated throughout the observation session so that each of the boys was observed once during each 10-sec interval. Thus, the observer recorded whether or not each subject appeared to be appropriately attending to a teacher-assigned task 180 times per 30-min session. Attending behaviors included writing if writing had been assigned, looking toward pages in the appropriate book if reading had been assigned, and looking toward the teacher if she was talking. Non-attending behaviors included being out of seat without permission, talking without prior teacher permission, looking toward peers, and other behaviors incompatible with attending to assigned tasks. Teacher attention was recorded if the teacher spoke to a subject during any 5-sec interval he was being observed. In addition a record was also kept of glances (whether or not the subject looked at his seat partner).

The observer entered and left the room quietly and avoided eye contact or any other interaction with the teacher or pupils. Seventeen times and at least twice during each phase of the experiment a second observer made an independent simultaneous observational record. These records were compared by dividing the number of intervals of agreement by the number of intervals observed and multiplying by 100. The agreement of records for attending behavior, teacher attention and glances were computed independently. Agreement ranged from a low of 82% to a high of 93% for all behavior.

Baseline₁

During the first phase (Baseline₁), no attempt was made to change the conditions that existed before time observations were begun.

Increased Attention to Edwin's Attending Behavior

After the Baseline phase, a conference was held with the teacher and the basic principles of positive reinforcement were explained. In addition, the results of previous classroom studies (Hall *et al.*, 1968) in which teacher attention had been used to modify study behavior were presented. The teacher was then asked to begin attending to and praising Edwin whenever she noticed he was attending appropriately in class and to ignore all his inappropriate behaviors. No change was to be made in her approach to Greg, that is, no increased attention contingent on attending behavior was to be given.

Increased Attention to Greg's Attending Behavior

Beginning on the twenty-third day of observation, a second experimental phase was instituted. During this phase, the teacher was asked to discontinue systematic attention to Edwin's appropriate attending but to increase her attention to Greg whenever she noticed him attending to assigned tasks.

Baseline₂

During the next experimental phase (Baseline₂) the teacher was asked to return to Baseline₁ conditions in which she essentially ignored the appropriate attending behavior of both boys and spoke to them only to give instructions and reprimand them for nonattending behaviors.

Increased Attention to Attending Behavior of Both Boys

In the final experimental phase, the teacher was asked to provide both boys with increased attention contingent to appropriate attending behavior.

RESULTS

Baseline₁

Figure 1 presents a record of appropriate attending behavior for Edwin and Greg. Each

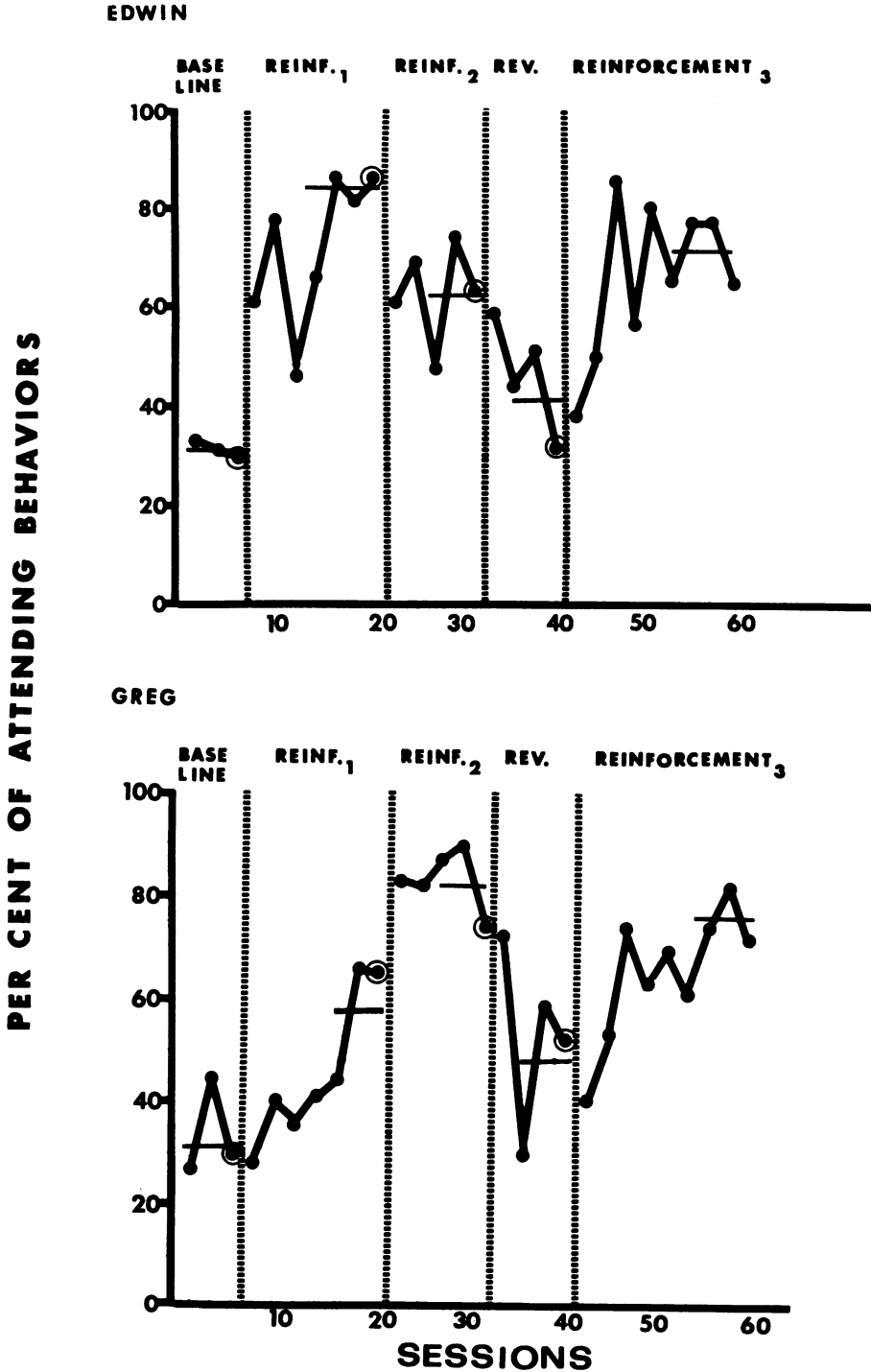


Fig. 1. A record of Edwin's and Greg's study behavior: Baseline₁—prior to experimental procedures. Increased Attention to Edwin's Attending Behavior—systematic teacher attention to attending to task behaviors of Edwin only. Increased Attention to Greg's Attending Behavior—systematic teacher attention to attending behaviors of Greg only. Baseline₂—withdrawal of systematic teacher attention to attending to task behaviors for both boys. Increased Attention to Attending Behavior of Both Boys—reinstatement of teacher attention to attending to tasks for both Edwin and Greg.

data point represents the combined data for two observation sessions. Since not all the phases had an even number of sessions, however, the last data point in the first four phases of the experiment (designated by the circled data points) represents the combined data for three of the sessions rather than two sessions.

During the seven Baseline sessions, the mean of Edwin's appropriate attending behavior was 31%. The mean recorded for Greg was 33%. On the average, Edwin received teacher attention 2.6 times per session during intervals when he was appropriately attending. Teacher attention to Greg during appropriate attending intervals averaged 1.4 per session.

Increased Attention to Edwin's Attending Behavior

During the first experimental phase, when the teacher was asked to give increased attention to Edwin's appropriate attending, his mean rate of attending increased to 73% per session. His mean rate of attending for the last seven sessions of this phase, as indicated by the horizontal line, was 81% compared to the mean of 31% during the seven Baseline sessions. Teacher attention to Edwin while attending appropriately occurred on the average of 7.9 intervals per session.

There was a more moderate, though substantial, increase in Greg's appropriate attending in this phase. Greg's mean rate of appropriate attending for the entire phase was 47%. The mean rate in the final seven sessions was 58%, compared to 33% in the seven Baseline sessions. Teacher attention during appropriate attending intervals increased slightly to 2.9 intervals per session for Greg.

Increased Attention to Greg's Attending Behavior

When the teacher discontinued providing increased attention to Edwin for appropriate attending his mean rate dropped to 62%, as is indicated by the horizontal line in Fig. 1. Teacher attention was recorded in only 1.6 appropriate attending intervals per session for Edwin.

Greg's appropriate attending increased however, as he received teacher attention for attending in 15.2 intervals per session. In the last seven sessions his mean rate of appropriate attending was 82%.

Baseline₂

During the Baseline₂ phase, the Teacher essentially ignored appropriate attending and this decreased attending for both boys. By the final seven sessions of Baseline₂, Edwin's rate of attending was 41% and Greg's was 48%. Teacher attention was recorded in only 1.7 intervals per sessions for each of the boys.

Increased Attention to Attending Behavior of Both Boys

In the final experimental phase, appropriate attending increased once again. By the final seven sessions, Edwin's rate of appropriate attending was 71%, while Greg's had increased to 74%. Teacher attention for attending was recorded in 11.3 intervals per session for Edwin and in 12.3 intervals per session for Greg.

According to the subjective judgments of the teacher and observers, the disruptive behaviors of both Edwin and Greg had also been affected by the experimental procedures. They reported marked decreases in the amount of talking, laughing, and playing with each other.

DISCUSSION

Earlier studies had indicated that contingent teacher attention can effectively modify classroom behavior of individual pupils (*e.g.* Hall, *et al.*, 1968). The present study indicated that increasing the appropriate attending behavior of one of two pupils seated at adjacent desks may be correlated with an increase in the attending behavior of the second pupil as well.

One possible explanation of why the second pupils's attending behavior increased when a neighboring pupil received increased teacher attention for attending might be that the second got some "spillover" of reinforcement from the teacher. This possibility should be considered, for while the teacher was reinforcing attending in one of the pair of pupils, she often moved in close proximity to his desk, which placed her close to the other pupil. Proximity of an adult has been considered a reinforcing consequence by some authors and researchers (Bijou and Baer, 1961). There was in fact a slight increase in the amount of teacher attention to Greg's appropriate attending in the first experimental phase even though the teacher had been asked not to increase her attention to him. Therefore, without intend-

ing to do so, the teacher may have provided more reinforcement to the behavior of the second pupil when she reinforced the behavior of his neighbor.

Another possibility is that teacher proximity acted as a cue or discriminative stimulate (S^D) for appropriate attending. This could occur due to the fact that when the teacher was nearby, a pupil would be more likely to receive reinforcement for appropriate behavior and/or punishment for inappropriate behavior that if she were at a relatively greater distance.

Another possible explanation for increased study in the second pupil might be that when study behavior for one of the pair increased, he was less likely to look at, laugh at, talk to, or otherwise provide social reinforcement for the behavior of this neighbor. These behaviors were incompatible with appropriate attending and were less probable when high rates of appropriate attending were being maintained. In an effort to check this possibility, a record was kept of the number of times the boys looked at each other during the various phases of the experiment. Table 1 presents the mean number of intervals in which Edwin looked at Greg and Greg looked at Edwin in the final seven sessions of each phase of the experiment. Since no attempt was made to manipulate looking behavior, no casual relationship was demonstrated. Generally, however, each boy tended to look at his neighbor at a decreased rate during intervals when his behavior was being reinforced. Further research in which this and/or other peer behaviors are system-

atically manipulated will be necessary to establish whether a functional relationship actually exists between peer behavior and appropriate attending.

Another possible explanation for increased study of the second pupil might be to attribute it to imitation or modeling. Research in a number of studies has indicated that children may imitate behaviors that they see others perform, though they never receive extrinsic reinforcement for those behaviors themselves (Bandura, 1962; Baer and Sherman, 1964; Baer, Peterson, and Sherman, 1967).

Further research will be necessary to determine whether any or all of these explanations are valid. The present study does indicate that as teachers have long surmised, increasing the appropriate behavior of one pupil tends to be associated with increased appropriate behavior of a pupil seated at an adjacent desk.

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Table 1

A record of the number of times Edwin and Greg looked at each other (glances) during the various experimental phases.

| | Edwin to Greg | Greg to Edwin |
|--|---------------|---------------|
| Baseline ₁ | 17 | 19 |
| Increased Attention to Edwin's Attending Behavior | 8 | 7 |
| Increased Attention to Greg's Attending Behavior | 17 | 8 |
| Baseline ₂ | 28 | 20 |
| Increased Attention to Attending Behavior of Both Boys | 8 | 14.5 |