

SETTING GENERALITY: SOME SPECIFIC AND GENERAL EFFECTS OF CHILD BEHAVIOR THERAPY¹

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The present study attempted to assess experimentally, functional relationships between home and school settings. Two children, both considered deviant in their homes and in their schools, were observed in both settings. The observations revealed that the children's deviant behaviors at home were quite similar to their deviant behaviors at school. Contingency operations were then performed in the children's homes. Results showed that the children's behavior changed predictably in the homes and remained at baseline level in school.

Deviant and normal child behavior can be modified if its environmental contingencies are appropriately modified. Within the last few years, this contention has received considerable support. Evidence is available to show that reinforcement contingencies provided by the behavior of parents, teachers, and other children can modify or support a variety of deviant and normal child behaviors (*e.g.*, Patterson, Ray, and Shaw, 1969; Thomas, Becker, and Armstrong, 1968; Wahler, 1967).

One implication of these findings concerns the specificity of child behavior. If a child's behavior is a principal function of its short-term environmental consequences and antecedents, one could argue that the behavior is situation-specific. That is, the child's behavior in various settings should conform to the contingencies present, regardless of between-setting contingency differences. Thus, the child's behavior in his home might be quite different from his behavior in school or neighborhood if the stimulus contingencies in these settings are different. Likewise, while contingency changes in the child's home should affect his behavior in this setting, his behavior in other settings might be unaffected, if the contingencies in these settings remain constant.

This argument holds clear importance for child behavior modifiers. It is often true that a child referred for treatment of problem behaviors occurring in the home may also present

behavior problems in the school or elsewhere. In other words, deviant children commonly produce their deviant behaviors in multiple settings.

Most empirical investigations of child behavior therapy have focused on single settings, primarily the school and the home. A few investigators (*e.g.*, Risley, 1968; Patterson *et al.*, 1969) have extended their treatment techniques to both settings. However, we have yet to see an assessment of setting generality: the influence of operations performed in one setting on the child's behavior in other settings. While the previous arguments seem reasonable concerning the low likelihood of setting generality *per se*, the question is an empirical one.

The present study was a limited attempt to evaluate the setting generality of commonly used child behavior modification techniques. More specifically, deviant child behavior in school settings was evaluated as a function of contingency changes in the children's home settings.

METHOD

Subjects

Two boys (ages 5 and 8 yr), referred to an outpatient clinic for psychological problems, were both considered by their teachers to present problems serious enough to warrant psychological help.

Interview information obtained from the subjects' parents revealed that both children also presented problems at home that were quite similar to those reported by the teachers. In addition, both sets of parents pointed out

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that their children presented equally similar problems in other settings. However, because of the difficulties in monitoring these settings (grandparents' homes and the local supermarket) they were not formally considered in this study.

Recording Techniques and Observers

Recordings of subject, parent, and teacher behaviors were obtained through a behavior checklist similar to one described by Hawkins, Peterson, Schweid, and Bijou (1966). The method essentially required an observer to make coded checks for the occurrence of a behavior class and its stimulus contingencies within successive 10-sec intervals: any occurrence of a class, regardless of its duration during an interval, was scored as a single unit.

All observers used in this study were sophisticated in the use of operant techniques and natural science principles of observation. Two sets of observers were used: one set restricted their observations to the homes and the other to the school. Efforts were made to restrict communication between the sets by telling them that they were working on two separate cases; however, since all observers were graduate students in the same department, this problem was not easy to handle. According to observer reports, the two sets were unaware of their over-lap on the same case.

All contingency manipulations were conducted without informing the observers. The author met with the subjects' parents and teachers and provided detailed instructions concerning appropriate changes in their interactions with the subjects.

General Procedure

Several of the initial home and school sessions were used to adapt the subject, his parents, and teachers to the observers' presence, and to obtain written records of the subject's social interactions. Using these records in conjunction with teacher and parent reports, classes of problem behaviors were formulated. That is, observers made special note of those responses that appeared to represent instances of problem behavior as reported by the teachers and parents. Responses provided by the teachers and parents immediately after these classes were considered as single stimulus classes, labeled teacher and parent attention.

Response and stimulus classes. Four classes

of child behavior were recorded. For subject number one (Steve), two response classes adequately described his deviant behavior and other responses that appeared incompatible with this behavior. These classes were: oppositional behavior and cooperative behavior. Both were defined in a functional sense as specific responses following teacher or parental commands. When a request or command was presented to Steve, observers scored his future behavior as either oppositional or cooperative, depending on whether or not the instruction was followed. In order for one unit of cooperative behavior to be scored, the child had to comply with the instruction for a full 10 sec. Thus, any period of non-compliance during a 10-sec interval resulted in that interval being scored as oppositional. Observers continued to score the child's behavior into these two categories until he completed the requirement or until a new request or command was presented; oppositional or cooperative scoring was then considered in light of the new instruction. Thus, these two categories were inversely related; Steve's behavior was considered either oppositional or cooperative for each 10-sec interval.

For subject number two (Louis), two response classes adequately described his deviant and desirable behavior. These classes (disruptive behavior and study behavior) were composed of several discrete behaviors. Study behavior was essentially defined as attention to learning materials. Observers scored this category whenever any of the following behaviors occurred for a duration of 10 sec: printing or drawing with pencil or crayon; looking at reading material or pictures; looking at teacher or parents when the latter were presenting instructions.

Disruptive behavior included responses that appeared incompatible with study behavior. Observers scored this category whenever any of the following behavior occurred during a 10-sec interval: getting out of his seat or chair, looking around the room or out a window, talking to peers or siblings, playing with any object (*e.g.*, pencil or comb). As was true for Steve, these two response classes were inversely related. When observers did not score study behavior during a 10-sec interval, they almost always scored disruptive behavior.

Parent and teacher behaviors were considered as two stimulus classes. These classes (par-

ent social attention and teacher social attention) were considered scorable during those 10-sec intervals containing any of the previously described response classes. Any verbal or physical behavior that clearly involved the child was scored into these categories. The principal parent and teacher behaviors composing this category included talking to the child and physical contact with him. Eye contact and looking at the child were initially scored into these categories, but observer reliability problems required they be omitted.

A third stimulus class (instructions) was devised for Steve's parents and his teacher. Instructions were scored because of their function in defining Steve's oppositional and cooperative behavior. Any requests or commands were scored into this stimulus category.

Observer reliability and baseline observations. When behavior and stimulus classes were formulated, the 10-sec unit checklist was used to obtain frequency counts of the classes. Observations were scheduled once weekly and each observation session was restricted to 30 min. In order to simplify the observational scoring and to maximize the likelihood of observing deviant response classes, certain rules were provided for teachers and parents. These rules were in effect for the duration of the study. In Steve's case, the parents and his teacher were told to provide instructions for him at a fairly even pace during the observation sessions. The instructions presented were taken from a list of household and classroom tasks that the parents and his teacher considered aversive to Steve (*e.g.*, folding clothes, stop talking).

Louis's observation sessions were scheduled during times usually devoted to paper work or reading, thus making study behavior the desirable behavior during the sessions. Also, Louis' parents were instructed to schedule his homework during the home observation sessions.

Half of the observation sessions within each baseline and treatment period were evaluated for observer reliability. After reliability check sessions, an agreement or disagreement was tallied for each 10-sec interval and the percentage of agreements for the observers was computed for each response and stimulus class. Agreement percentages were always 90% or better (range = 90% to 97%). Baseline observations were continued until unit counts of all behavior and stimulus classes appeared stable

across sessions. At that point the experimental procedures were initiated.

Behavior modification procedures, home only. After the baseline sessions, the parents were instructed in the use of a differential attention program; for Steve this program also included a timeout procedure. Both sets of parents were told to use their approval after instances of cooperative behavior (for Steve) and study behavior (for Louis). The definition of "approval" was left to the parents, although they were told that such attention could involve both verbal and physical actions as long as they were of brief duration. Further instructions to the parents concerned the scheduling of their approval. They were told initially to dispense these events "frequently" and then to thin out the schedule. No greater detail was provided.

In addition to the above directions, Louis's parents were told to ignore his disruptive behavior. Examples of study behavior and disruptive behavior were provided and an explanation of reinforcement theory was also given, with particular reference to the concepts of reinforcement and extinction.

Because of prior research, indicating that extinction procedures are inefficient in dealing with extremely oppositional children (Wahler, 1968), it was decided to utilize a timeout procedure for Steve. Explanations of reinforcement theory for these parents thus employed the concept of punishment as well as reinforcement and extinction. The parents were told to isolate Steve (in his bedroom) immediately after oppositional behavior occurred. He was to remain isolated for approximately 5 min unless he exhibited undesirable behavior such as screaming or crying. If these behaviors occurred, he was to remain in isolation until the behavior terminated.

Parental training in the above techniques was carried out several hours before the regularly scheduled observation sessions. These sessions were designed to provide frequent feedback to the parents following their correct and incorrect responses to the subjects' behavior. The author observed the parents as they attempted to implement the procedures and held brief discussions with them during Louis' "study breaks" or during timeout periods for Steve. The length and number of these training periods depended on parental effectiveness in mastering the procedures. Louis's parents

required only two periods and these varied from 35 to 50 min (including study breaks). Steven's parents required three periods, varying from 42 to 70 min including timeouts. Observation sessions differed from the training periods in that the author was not present and the observers provided no feedback to the parents. In addition, study breaks or timeouts were never used. That is, both sets of parents provided a full 30 min of differential attention for the two children.

There were two reasons for the decision to eliminate study breaks and timeouts during the observation sessions: (1) to make the session lengths comparable to the baseline sessions, and (2) if Steve's parents had been permitted to use timeout, and to use it correctly, oppositional behavior would have been restricted to one 10-sec unit per instruction. Under such conditions, Steve's readiness to follow instructions (as reflected in total number of oppositional units) could not have been evaluated.

Experimental demonstrations of parental reinforcement control. As later data will show, the parents were able to implement the treatment procedures; and implementing these procedures was followed by predictable changes in the subjects' home behavior. At this point, experimental sessions were scheduled to assess the role of the treatment procedures in producing the effects.

Experimental tests were conducted by instructing the parents to resume their baseline contingencies for the subjects' behavior. These instructions were briefly provided by the author several hours before the first session. After several of these sessions, all parents were instructed to resume the treatment program. These instructions were in effect for the remainder of the study.

Behavior modification procedures, home and school. After the second manipulation of parent-child contingencies, it became evident that the home and school settings were functionally independent with respect to the subjects' problem behaviors. To provide more conclusive evidence of this contention, it would have been desirable at this point to perform contingency operations in the school while holding the home contingencies constant. However, because of parental concern over the prospect of continuing baseline conditions at home for additional weeks this step was not taken. Instead,

the subjects' teachers were instructed in the use of the contingency change procedures used in the home, and the parents resumed their use of the procedures.

Teacher training in the behavior modification procedures was much like the parent training. The author met with the teacher and her class several hours before observation sessions, and brief conferences were held with the teacher to provide the needed corrections or to provide reinforcement for correct teacher behavior. A timeout location for Steve's oppositional behavior presented no problems due to the presence of a "quiet room" in the kindergarten. Steve's teacher required three training periods, varying from 30 to 80 min (including timeouts). Louis's teacher required only one training period, lasting 60 min.

Observation sessions again were characterized by lack of observer feedback to either teacher or parent. Again, study breaks and timeouts were never used.

In summary, the present design did not permit a complete experimental analysis of functional relationships between the subjects' home and school settings. While statements could be made concerning the influence of home operations on the subjects' behavior in school, statements in the other direction were not possible.

RESULTS

Case Number 1

Steve (age 5) was referred to the Clinic by his kindergarten teacher for evaluation and treatment of his "stubborn and disruptive behavior". According to Steve's teachers, he was quite oppositional to teacher instruction; for example, he reportedly refused to take naps, talked and yelled during story time, and frequently refused to share toys with other children.

Steve's teacher felt certain that his problem behavior in school was caused by factors within his home. Based on her conferences with Steve's parents, it was apparent that Steve displayed his oppositional behavior at home as well as in school. The teacher then inferred that Steve's parents were responsible for maintaining as well as developing his school problems. At this point, no efforts were made to explore the teacher's role in the maintenance of Steve's problem behavior.

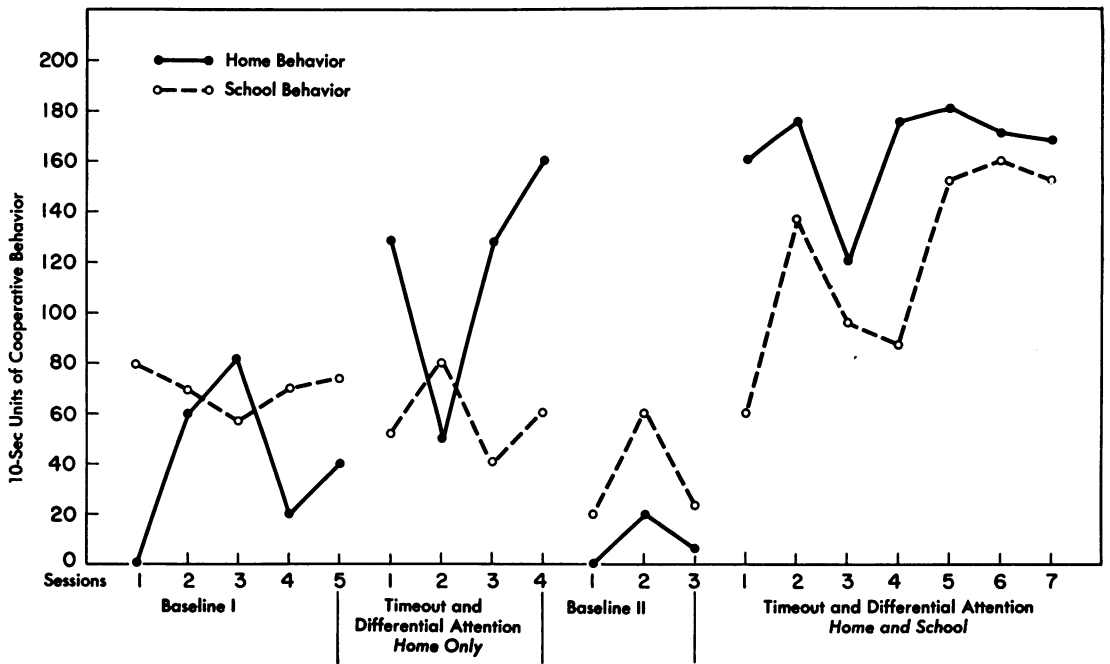


Figure 1

Steve's parents were contacted after the interview with the teacher and both agreed to participate in the treatment program. They readily admitted that Steve was "difficult to control", not only at home, but also at his grandparents' home and at the local supermarket.

As described in the procedure section, two response classes were monitored for Steve. One of the classes (cooperative behavior) was considered desirable by Steve's parents and teachers, and the other class (oppositional behavior) was considered undesirable. To simplify the data presentation, only cooperative behavior is presented in the following section. Since oppositional behavior was defined as the reciprocal of cooperative behavior, its frequency can be easily determined from the occurrence of cooperative behavior during the various sessions. It should be remembered that each of the one hundred eighty 10-sec intervals composing an observation session was scored as either oppositional or cooperative.

Figure 1 describes 10-sec units of Steve's cooperative behavior over all treatment phases at home and at school. As expected, Steve's cooperative behavior at home varied in accordance with parental responses to this behavior; unit counts of cooperative behavior were much

higher during treatment sessions than during baseline sessions. Notice, however, that Steve's cooperative behavior in school remained at baseline level over the home treatment periods. Not until contingency changes were performed in the school were stable increments evident in unit counts of cooperative behavior.

Table 1 provides information relevant to the data presented in Fig. 1. Notice first that variations in either parent or teacher instructions could not account for the systematic variation in Steve's oppositional behavior. While instructions did vary over sessions, the variations were not in the direction expected to reduce oppositional behavior. That is, more instructions were given during the treatment sessions than during the baseline sessions. In addition (although not seen in Table 1), an examination of the pacing of parent and teacher instructions within sessions showed little variation over all sessions.

Of greatest interest in Table 1 are the proportions of parent and teacher attention to cooperative behavior. Substantial increases in parent attention are evident during both treatment periods, indicating their selective attention to Steve's cooperative behavior; however, teacher attention remained roughly at baseline level until the final treatment phase. There-

Table 1

Number of parent and teacher instructions to Steve. Per cent of parent and teacher attention during units of Steve's cooperative behavior. These percentages were computed from teacher and parent social attention recorded for both cooperative behavior and oppositional behavior.

Sessions	Baseline 1					Timeout and Differential Attention Home Only				Baseline 2			Timeout and Differential Attention Home and School						
	1	2	3	4	5	1	2	3	4	1	2	3	1	2	3	4	5	6	7
Parent Instruction	5	7	9	3	8	6	10	13	14	5	7	3	8	4	6	10	6	9	8
Teacher Instructions	3	14	8	6	8	12	5	11	9	6	4	10	6	9	8	11	4	10	7
% Parent Attention To Coop.	7	18	6	8	13	86	92	98	96	8	11	3	97	98	96	100	94	98	100
% Teacher Attention To Coop.	6	8	2	9	12	6	3	11	4	8	2	10	87	91	90	96	98	100	92

fore, the low frequency of Steve's cooperative behavior at school over the first three periods shown in Fig. 1 would have been expected on the basis of low proportions of teacher social attention to this behavior. At least there would be no reason to expect increments in cooperative behavior until the final treatment period. Thus, the most likely explanation for the lack of change in the school has to do with the lack of change in teacher behavior.

Case Number 2

Louis (age 8) was referred to the Clinic by his second-grade teacher for evaluation and treatment of his "low motivation for school work". According to his teacher, Louis spent much of his class time looking out windows, talking to other children, or wandering about the room. As a result, he accomplished little relevant work in the classroom and his achievement level reflected this.

The teacher also pointed out that her efforts to have Louis do homework were ineffective. She was convinced that Louis's parents "babied" him, and seldom required him to assume responsibilities, such as homework. Thus, like the teacher in Case Number 1, this teacher assumed that the parents were maintaining Louis's study problems at school.

Louis's parents readily admitted their faults in the development of this problem behavior. They pointed out that they had always been "too easy on Louis" and rarely required him to do things for himself. Both parents saw the

homework problem as an example of Louis's inability to assume responsibilities. Unless they worked directly with him, his attention was likely to wander.

Two response classes were formulated for Louis's behavior. One of the classes (study behavior) was considered desirable by Louis's teacher and parents and the other class (disruptive behavior) was considered undesirable. Although disruptive behavior was not defined to be the reciprocal of study behavior, observer scoring revealed this to be true for almost every session. That is, in most observation sessions, each of the one hundred eighty 10-sec units was scored as either study behavior or disruptive behavior. In only three of the school sessions and two of the home sessions (all in Baseline 1) did some of the units remain unscored for either category. Of these sessions, the unscored units never amounted to more than five per session. Thus, as in Case Number 1, the two response classes could be considered to be inversely related to one another. This being the case, only study behavior is presented in the following section in order to simplify the data presentation.

Figure 2 describes 10-sec units of Louis's study behavior over all treatment periods at home and at school. As expected, selective parental attention to study behavior strengthened this response class at home. In addition, further manipulations of parental attention contingencies produced predictable effects on study behavior, demonstrating parental rein-

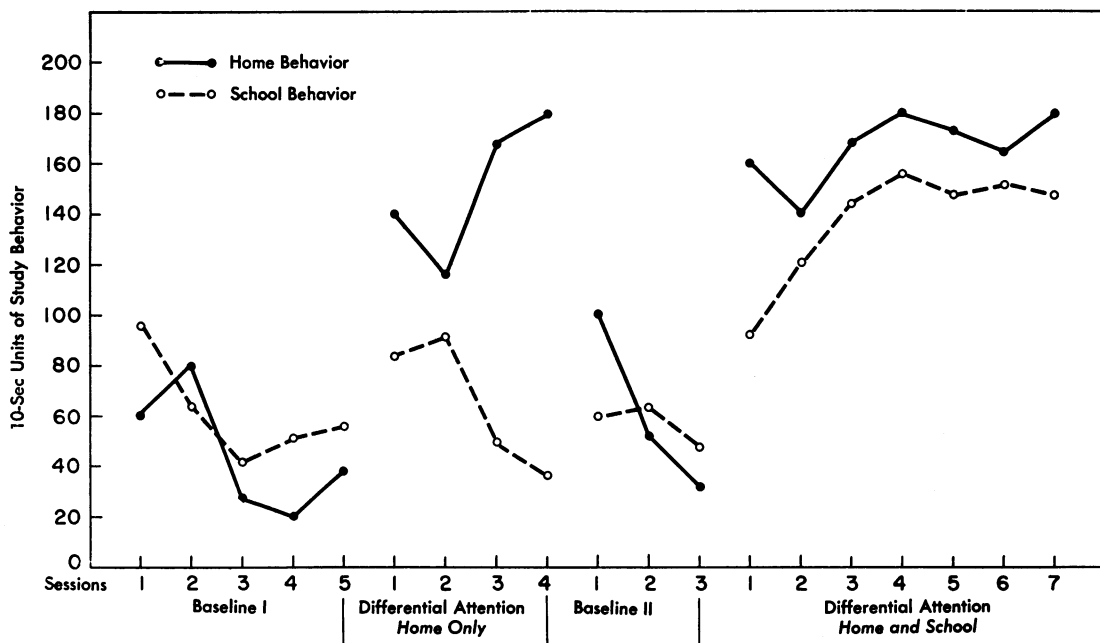


Figure 2

forcement control of this class of behavior.

As was true in Case Number 1, parental operations at home were not followed by behavior changes in the school. Figure 2 shows no evidence of changes in Louis's study behavior until the final treatment period, which included the modification of teacher contingencies.

Table 2 provides information relevant to the data reported in Fig. 2. As these data show, the proportion of parental attention to study behavior varied as a function of the treatment program; and reference to Table 2 and Fig. 2

will reveal that these changes in the proportion of parental attention to study behavior resulted in predictable changes in unit counts of that behavior.

Table 2 also provides an explanation for the lack of change in school study behavior over the first three periods shown in Fig. 2. Notice that the proportion of teacher attention to study behavior consistently remained low over these periods. Not until the teacher was instructed to make her attention selectively contingent upon study behavior did this behavior increase in frequency.

Table 2

Per cent of parent and teacher attention during units of Louis's study behavior. These percentages were computed from teacher and parent social attention recorded for both study behavior and disruptive behavior.

Sessions	Baseline 1					Differential Attention Home Only				Baseline 2			Differential Attention Home and School						
	1	2	3	4	5	1	2	3	4	1	2	3	1	2	3	4	5	6	7
% Parent Attention To Study	20	9	11	14	21	82	76	91	93	14	6	8	90	86	94	97	82	87	90
Behavior % Teacher Attention To Study Behavior	18	17	11	21	15	15	9	14	13	19	12	9	73	81	92	76	81	79	75

DISCUSSION

The data presented provide no evidence of setting generality, at least as far as home and school environments are concerned. Contingency operations performed in the homes of two children were followed by predictable changes in the children's behavior within these settings. However, the children's behavior in the school setting was unaffected by these operations. Only when similar contingency operations were performed in the school were behavioral changes apparent within this setting. In other words, the settings appeared to be functionally independent, with certain qualifications. That is, while home operations were clearly unrelated to child behavior in the school, design problems did not permit an assessment of the influence of school operations on child behavior in the home. However, there is little reason to believe that functional relationships in the school-home direction should be much different than those in the home-school direction.

In the introductory section it was noted that findings like the above should hardly be considered surprising. As expected, the children's deviant and desirable behaviors conformed to the stimulus contingencies presented within the settings. Although the school and home settings supported similar child behaviors during baseline periods, this proved no guarantee that the settings were members of a common stimulus class.

These findings present some practical problems. Children do tend to produce their devi-

ant behaviors in multiple settings, and some of these settings may not be accessible to the behavior therapist. For example, the delinquent child is apt to produce his law-breaking activities when likely intervention agents are absent. While these aspects of his behavior may be modified in some settings (e.g., a detention home, the school), the generalization of these modifications is dubious. This discussion opens a further question of importance: what behaviors in what settings must be modified in order to effect general changes in setting function?

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