

*NATURALISTIC ASSESSMENT OF CHILDREN'S
COMPLIANCE TO TEACHERS' REQUESTS
AND CONSEQUENCES FOR COMPLIANCE*

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Naturally occurring levels of teacher commands, child compliance to those commands, and positive and negative teacher feedback were studied in 19 teachers and 130 children in kindergarten through third grade. Seventy-five of the children had been identified as "making a good social adjustment" to school (high-rated) and 55 children were identified as "not making a good social adjustment" to school (low-rated). Results of intensive observation over a 4-wk period showed that: (a) individual teachers differed significantly in their overall use of commands; however, they did not differentially respond to high- versus low-rated children; (b) high-rated children were more likely to comply with commands than were low-rated children; (c) although the overall level of positive social consequences was extremely low, there was some indication that high-rated children were more likely to receive positive feedback for compliance than were low-rated children; (d) low-rated children received significantly more positive feedback than high-rated children for noncompliance; (e) teachers gave negative feedback for noncompliance at an equal level to both groups of children; and (f) although repeated teacher commands following noncompliance were equal across groups, low-rated children were exposed to significantly higher levels of repeated commands following compliance than were high-rated youngsters.

DESCRIPTORS: teacher behavior, classroom, assessment, children

Probably the most readily available and on occasion a powerful influence on children's classroom behavior is social reinforcement from the teacher. Over the last decade literally hundreds of classroom-based studies have shown that teachers' delivery of social reinforcement can result in improved academic performance (Hasazi & Hasazi, 1972; Lovitt & Curtiss, 1968); rule-following and good school deportment (e.g., Greenwood, Hops, Walker, Guild, Stokes, Young, Keleman, & Willardson, 1979;

Walker, Hops, & Fiegenbaum, 1976); improved cognitive and linguistic performance (e.g., Bricker & Bricker, 1974); and increased social responsiveness (e.g., Hops, Walker, & Greenwood, 1979; Strain & Timm, 1974).

By comparison, there have been relatively few studies in the behavioral literature that have examined the natural occurrence of social consequences within classroom settings. White (1975) reported findings from a series of studies involving 104 teachers at various grade levels from 1st to 12th grade. Pupils across the 12 grades received more teacher disapproval than approval and when teachers did praise students it was nearly always focused on instructional, on-task oriented behaviors. White's reported findings were closely replicated by Thomas, Presland, Grant, and Glynn (1978) who studied

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rates of approval and disapproval for children's on-task and off-task behaviors. Thomas *et al.* reported that children received disapproval statements at almost three times the rate of approval statements.

Outside of what might be considered the behavioral literature, there are literally hundreds of studies and coding systems designed to assess teacher-child interactions (e.g., Rosenshine, 1971; Travers, 1973). Although it is precarious to make general statements about a literature of such breadth, it seems evident that a high degree of inference characterizes most recording systems. For example, Simon and Boyer's (1970) exhaustive review of the nonbehavioral, classroom interaction literature indicates a clear focus on such elusive phenomenon as teacher dominance, social status differentiation, behavioral intent, interpersonal attraction, and classroom social climate.

The current study on naturally occurring rates of teacher positive and negative social consequences was methodologically dissimilar to earlier behavioral and nonbehavioral reports in several important ways. First, the current study allowed for the analysis of teachers' level and kind of feedback when they were interacting with children who varied considerably in their academic performance and general rule-following behaviors. Second, the coding system in this experiment preserved both positive statements by teachers *and* gestural behaviors (e.g., pats on back) that were delivered. Third, the coding system allowed the first naturalistic assessment of misplaced contingencies (e.g., positive social consequences following unacceptable child behavior, negative feedback following inappropriate child behavior) in classroom settings. Finally, the present study was the first to focus specifically on teacher feedback for compliance to specific commands or requests made by the teacher. This category of child behavior was chosen for study because Hersh and Walker (Note 1) reported recently that compliance is, for most elementary school teachers, the child behavior that is most desirable in their students.

METHOD

Participants and Settings

The 130 elementary school children and 19 teachers who participated in this study were members of a large group (200 children, 45 teachers) currently involved in a longitudinal study of classroom variables that contribute to social and academic competence (Strain, Kerr, & Stagg, Note 2). Of the 19 classrooms, five were kindergarten, four each were 1st and 3rd grades, and six were 2nd-grade classes. The initial group of 19 teachers was selected from five urban schools that together represented the full range of socioeconomic status in Pittsburgh, Pennsylvania.

The first level of child selection involved the 19 teachers rating their pupils on two rating forms designed to assess academic and social competence. The first rating scale (available from the authors) included items selected from two previous studies of academic and social competence in the early school grades by Swift and Spivack (1968) and by Greenwood, Walker, Todd, and Hops (1978). The 16 positive behavioral characteristics included those from the Swift and Spivack and Greenwood *et al.* studies that: (a) were shown to correlate with concurrent, school-determined indices of competence (e.g., no prior referral for testing or special services; positive teacher evaluations; grade-level or above average achievement); and (b) were demonstrated to be amenable to teacher-mediated intervention. The second rating scale provided a global definition of social and academic competence and asked teachers to then list all the children in their class who did or did not fit the description.

From the two rating scales two "extreme" groups were selected. One group, designated as low-rated, was composed of 55 children who teachers nominated as not competent and who received the fewest number (eight or less) of positive behavioral descriptors. The second group, designated as high-rated, was composed of 75 children who their teachers nominated as

competent and who received the most number (15 or 16) of positive behavioral descriptors. Across the 19 classes there was an approximately equal distribution of high- and low-rated students selected. In the low-rated group, boys outnumbered girls 3 to 1; in the high-rated group, girls outnumbered boys by a 1.5 to 1 margin.

Observation and Data Collection

All the observational data reported in this study were collected in the 19 classrooms during group academic instruction periods. Specific activities and instructional formats included under group academic instruction were: (a) teacher giving directions/lecturing to more than one child at a time; (b) children involved in some seatwork while the teacher circulates about the room; and (c) teacher conducting a small instructional group (e.g., reading or math group).

The following categories of teacher behavior were observed:

Command, demand, request. This general category included all noninstructional commands or requests made by the teacher. An instructional command would include comments such as "Tell me what 2 and 2 is"; or "Give Tim the correct answer." Sample noninstructional commands included: "Class, get out your books"; "Everyone sit down"; "Steve, put your coloring in your desk"; "Steve, stop talking."

Positive social consequences. This general category included positive verbal and gestural behaviors on the part of the teacher contingent on (following) child compliance or noncompliance. Verbal behaviors included statements such as "Good, everyone is quiet"; "Good, Tim, you're working very hard"; "I like the way everyone is listening." Gestural behaviors included pats on the head or back and hugs. Positive social consequences could be delivered to a group in which the focus of observation was a member, or to a child who was currently being observed.

Negative feedback. This general category included negative verbal behaviors on the part of the teacher contingent on (following) child compliance or noncompliance. Verbal behaviors in-

cluded such comments as "If you don't sit down you're going to the principal"; "You people have just lost recess"; "What's wrong with you?"; "Tim, how many times do I have to tell you?" Again, comments could be directed to a group of children in which the focal child was a member or to the specific youngster.

Repeated command, demand, request. This general category included all noninstructional commands or requests made by an adult that were identical to original commands or requests complied with or not. Sample commands included, "I told you kids to sit down"; "I'm telling you for the last time to be quiet"; "Steve, sit down, now!"

The following categories of child behavior were observed:

Compliance to adult command, demand, request. This general category of child behavior represented timely (within 5 sec of adult behavior) compliance which included beginning some new activity (walking to front of class) or stopping some ongoing activity (stops talking).

Noncompliance to adult command, demand, request. This general category of child behavior represented a continuation of behavior that the adult commanded, demanded, or requested to be altered. These behaviors included direct refusals such as, "I don't want to"; "No"; or "You can't make me"; or the child "ignoring" the teacher's request.

For each of the 130 subjects, 10 behavior samples were obtained across a 4-wk period. For each 5-min behavior sample, one child was designated as the focal subject and all instances of preselected teacher and child behaviors were observed continuously. (Absolute frequency of occurrence preserved.)

To facilitate data collection and the assessment of observer agreement, a coded data sheet was developed. The data sheet was composed of 30, 10-sec interval blocks, with each block containing codes for a complete sequence (teacher command, demand, or request—child response to teacher behavior—teacher response to child's compliance or noncompliance). Earlier natural-

istic assessment indicated that only one such sequence could possibly occur within a 10-sec time period. When behaviors began in one interval and continued into the next, they were marked only in the originating interval.

Observer Training and Reliability Procedures

Eight college undergraduate students served as data collectors. The observers first read an observational manual that specified the behavioral definitions and the observational procedures (manual available on request to the first author). The observers then practiced the observation system in nonresearch classrooms. Prior to beginning formal data collection, each observer had to demonstrate three consecutive 5-min observation periods with agreement at 80% or above with three different reliability assessors.

Each 10-sec interval on the coding sheet was considered as a unit for agreement calculations. For an instance of agreement to be scored, perfect concordance between corresponding intervals in which target behaviors were marked was required. That is, the corresponding intervals would have to be marked the same with respect to teacher request behavior, child compliance/noncompliance, and teacher response to child behavior. No agreement on nonoccurrence of behavior was included in the calculation of reliability. During the course of the study, observer agreement was assessed on 20% of the total number of 5-min observation sessions. Across all observation sessions percent agreement ranged from 85 to 100, with an average agreement of 92%. These percentage data were obtained by dividing the total number of intervals scored in agreement by that number plus those scored in disagreement, then multiplying by 100.

RESULTS

Teacher's Commands, Demands, Requests

Several differences were noted across the 19 teachers in their emission of commands, demands, and requests. Considered on a rate-per-

minute basis, average levels of behavior ranged from .20 to 2.5 per minute. Considerable stability across time and students was noted for all teachers' emission of these behaviors. For example, commands, demands, and requests typically varied, on the average, .15 per minute across observation sessions for all teachers (range .05-.30). Given this stability, it was not surprising to find that teachers did not engage in differential levels of commands, demands, or requests across the high- and low-rated groups of children.

Students' Compliance

Although the data on teachers suggested that they did not differentiate between the two groups of children on the level of command, demand, or request given, consistent and substantial differences were noted in high- and low-rated children's compliance to these teacher initiatives. High-rated children complied, on the average, with 90% (range 84-100%) of the teacher initiatives. Low-rated children complied, on the average, with 72% (range 0-80%) of the teacher initiatives. Like teacher commands, demands, or requests, behavior levels of compliance were quite stable across observation periods for individual students. High-rated children varied, on the average, slightly less than 10 percentage points across sessions in level of compliance. Low-rated children varied, on the average, 18 percentage points.

Teachers' Positive Social Consequences

Given an episode of child compliance by a member of either group, the probability of positive social consequences (combining verbal and nonverbal behavior) was .10. That is, 10 out of every 100 episodes of compliance was followed by positive feedback from the teacher. Although the extremely low levels of positive social consequences obviate any definitive statements, it would appear that some differential treatment was evident across groups. Specifically, 45 of the 55 (82%) low-rated children *never* received any positive social consequences for

compliance. By comparison, only 20 of the 75 (27%) high-rated children never received positive social consequences for compliance.

Misplaced positive contingencies occurred almost as often as appropriately delivered consequences. For example, given an episode of non-compliance by a child in the low-rated group, there was a .14 probability that positive social consequences would follow. The majority of these instances occurred when a general command, demand, or request was made (e.g., "Everyone, stop talking") and when the focal child did not comply. The corollary probability level for high-rated children was .06. A *t* test between groups' level of exposure to misplaced positive consequences was highly significant, $t(128) = 3.54, p < .01$.

Teachers' Negative Feedback

Given an episode of noncompliance by a low-rated child there was a .14 probability that teachers would respond with some form of negative feedback. The corollary probability for high-rated children was .10. A *t* test between each groups' probability levels for negative feedback following noncompliance did not approach statistical significance.

Misplaced negative contingencies in which negative feedback followed child compliance was equal across groups (low-rated group's probability = .02; high-rated group's probability = .03).

Teachers' Repeated Command, Demand, Request

Given an episode of noncompliance by a low-rated child there was, on the average, a .13 probability of a repeated command, demand, or request. The corollary probability for high-rated children was .12. A *t* test between probability levels did not approach statistical significance.

Although the level of behavior was extremely low, there was evidence of differential use of repeated command, demand, or request following compliance by members of the low- and

high-rated groups. Specifically, there was a .06 probability of a low-rated child receiving a repeated initiative given compliance to the initial request. For high-rated children, the probability of this occurrence was .01. A two-tailed *t* test between these probability levels produced a significant difference $t(128) = 4.53, p < .01$.

Grade Level, School, and Sex Effects

A series of ANOVA's were performed to examine the influence of the following independent variables on teacher and child behaviors: grade level, school (an indirect measure of socioeconomic status), and sex. The only significant effect was noted for grade level. Here, on-task behavior increased at the upper grade levels ($F(3, 116) = 4.62, p < .01$). Post hoc tests revealed that the on-task performance of second and third graders (in both child groups) was significantly higher than that of kindergarten and first graders.

Analysis of outcome by specific school provided an indirect measure of socioeconomic status in that each school served a rather distinctive socioeconomic subgroup, ranging from lower to upper-middle class.

Although there were no differences in the observed child behaviors and behavior of teachers toward children associated with male or female students in the low- and high-rated groups, it should be noted that boys outnumbered girls in the low-rated group by a 3 to 1 margin. In the high-rated group, girls outnumbered boys by a 1.5 to 1 margin. To determine if the behavioral differences between study groups were attributable solely to the sex of the students, the following multiple analyses of variance (Cohen & Cohen, 1975) were performed: first, the behaviors of boys and the behaviors of teachers toward boys in both groups were compared; and second, an identical analysis was conducted on girls in the study. Dunn's multiple comparison tests (Kirk, 1968) showed that there were significant differences according to group membership for boys and girls on *each* child behavior and *each* teacher behavior under study.

DISCUSSION

The results of this study corroborate and expand the findings from previous studies on teacher approval/disapproval in several important ways. The present data confirm the earlier reports by White (1975) and Thomas *et al.* (1978) that teachers are generally inclined to provide more negative than positive feedback (and repeated commands in this study) to students. However, it is also true that the general level of feedback, including both positive and negative, was remarkably low. Although it appears that teachers have very clear ideas about the importance of child compliance in their classroom (e.g., Hersh & Walker, Note 1), the level of feedback offered by the present group of teachers would suggest the operation of something other than clear contingencies for good deportment.

One of the more important findings in this study comes from the analysis of misplaced contingencies. While earlier reports have shown that negative feedback is given more often than positive, this study also shows that a good proportion of positive feedback provided may be contingent on noncompliance. The case is particularly compelling with low-rated children, who were more likely to receive positive feedback following noncompliance than following compliance to a command. Similarly, the low-rated children were six times as likely to receive a repeated command following compliance as were high-rated youngsters. For the low-rated children in this study, the majority of teacher behaviors designed (supposedly) to increase compliance likely operated to increase non-compliance.

While other authors (e.g., Thomas *et al.*, 1978; White, 1975) have argued that disproportionate levels of teacher disapproval may explain, in part, the reported disenchantment of many students toward school, the present data portray an even more disquieting picture. Consider, for example, that in the present study both verbal and gestural forms of positive conse-

quences were included. Even with the addition of "pats" and "hugs," negative forms of feedback were more likely than positive ones. Also consider that the children most in need of systematic feedback (low-rated group) were exposed regularly to contingency arrangements counterproductive to compliance. The teacher and classroom variables (e.g., educational, training, attitudes toward acceptable and unacceptable behaviors, class size and density) that may contribute to these dysfunctional patterns of feedback are now under study by our research group.

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