

Effects of High-Probability Request Sequences on Preschoolers' Compliance and Disruptive Behavior

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A high-probability request sequence was implemented with three preschool children with developmental delays within their classroom during typical activities. A multiple baseline design across subjects was used to evaluate the effects of the high-probability request sequence on compliant responding to low-probability requests and the occurrence of disruptive behavior. Results of the study indicate that the use of the high-probability request sequence was effective in increasing compliant responding to low-probability requests delivered by two different trainers for all children. No increases in disruptive behavior were noted as a result of using the high-probability request sequence. When the high-probability request sequence was withdrawn, compliant responding to low-probability requests was maintained for all children across time and in different settings.

KEY WORDS: behavioral momentum; high-probability request sequence; compliance; preschoolers.

Noncompliance, or a failure to follow instructions, has been noted as a common problem for children with and without disabilities (Walker,

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1993). Within the classroom setting, following instructions and rules is not only expected, but considered to be a critical component of appropriate school performance (Forehand, 1977; Patterson, 1982). Children with developmental delays may be already educationally disadvantaged, but the problem is exacerbated for some who do not follow instructions (Karsh, Repp, Dahlquist, & Munk, 1995). Breiner and Forehand (1982) observed a higher incidence of noncompliant behavior in children with developmental delays than with typically developing children. Engelmann and Colvin (1983) indicate that "compliance is the least-negotiable learner characteristic that teachers of mainstreamed children express as essential to success. Because compliance occurs when the learner does what the teacher directs, compliance is at the foundation of instruction" (p. 3).

There is evidence that young children who exhibit problematic behavior are at risk for future adjustment problems (Campbell, March, Pierce, Ewing, & Szumowski, 1991; Neel, Jenkins, & Meadows, 1990). For young children who engage in excessive noncompliant responding, adult interactions with these children can be affected, often to the point where a child's opportunity to participate in activities is limited (Carr, Taylor, & Robinson, 1991; Wahler & Dumas, 1986). Consequently, other factors such as academic success and peer relationships may be affected adversely.

When teachers or trainers implement strategies to facilitate compliant responding, a variety of options become available (Engelmann & Colvin, 1983). A child's compliant responding reduces unpleasant scenarios which become inappropriate models for other children in the classroom. Compliant responding facilitates positive interactions between individuals, providing a more appropriate model, and fostering a relationship conducive to instruction and learning. Most importantly, when a child is compliant, the teacher is free to work on skills that facilitate the acquisition of functional and adaptive skills. To remediate the behavioral limitations of many non-compliant children and foster an independent and successful future for them, the implementation of effective intervention strategies is essential.

The need for strategies to promote compliant behavior in young children is apparent in the literature. Researchers and practitioners are continually striving for valid and effective intervention techniques to remediate the maladaptive behavior of children and adults. Influenced by the desire to facilitate compliant and appropriate responding, while also employing a proactive and non-aversive strategy, the high-probability request sequence has emerged. The strategy involves presenting a sequence of requests having a high probability of compliant responding (a high-p request sequence) in close temporal proximity to a request having a low probability of compliant responding (a low-p request). Use of this technique has been found to establish a pattern of successful responding and increase the probability

of responding to a request having a low occurrence of compliance (e.g., Davis, Brady, Hamilton, McEvoy, & Williams, 1994; Davis, Brady, Williams, & Hamilton, 1992; Davis & Reichle, 1996; Ducharme & Worling, 1994; Harchik & Putzier, 1990; Horner, Day, Sprague, O'Brien, & Heathfield, 1991; Houlihan, Jacobson, & Brandon, 1994; Kennedy, Itkonen, & Lindquist, 1995; Mace & Belfiore, 1990; Mace, Hock, Lalli, West, Belfiore, Pinter, & Brown, 1988; Sanchez-Fort, Brady, & Davis, 1995; Singer, Singer, & Horner, 1987; Zarcone, Iwata, Hughes, & Vollmer, 1993; Zarcone, Iwata, Mazaleski, & Smith, 1994).

Although numerous studies utilizing the high-p request sequence have demonstrated the success of the procedure in increasing compliant responding, little research has specifically examined the use of the high-p request sequence when embedded into typical classroom activities. Several researchers have advocated embedding instructional objectives into typically occurring activities which meet the developmental needs and interests of young children. The term "naturalistic intervention strategy" is used to refer to interventions implemented in activities that are common in the home, school, or community environments in which a child normally functions. These strategies differ from more didactic teaching strategies by their use of dispersed learning trials, the use of the child's attentional lead, and their programming within the context of normal routines and activities (Goldstein, Kaczmarek, & Hepting, 1994). Among these naturalistic intervention strategies are those termed incidental teaching (Hart & Risley, 1980), activity based intervention (Bricker & Cripe, 1992; Losardo & Bricker, 1994), and milieu teaching (Yoder, Kaiser, & Alpert, 1991). The focus of the present investigation was to use a systematic strategy to increase compliant and successful responding with developmentally delayed preschool children while embedding this strategy into typical activities. All low-probability requests used throughout the study were related to classroom activities and skills and targeted in the Individualized Education Program (IEP) for each child. As an added measure of responding, a second trainer also conducted training sessions with the children. The maintenance of responding to requests and the effects on disruptive behavior also were investigated. Although numerous studies have demonstrated the effects of the high-probability request sequence, few have done so in the context of ongoing classroom activity. Further, no studies to date have evaluated the effects of the intervention, in a similar context, when a novel therapist is introduced. In this study, the existing literature is extended in two ways: (a) by providing a systematic replication of the high-p request sequence effects in a classroom setting, and (b) by evaluating the effects of the intervention using novel-trainer probes.

METHOD

Subjects

Three boys with developmental delays, who were enrolled in a private, non-profit preschool, were selected to participate in the study. These children were referred to the preschool by the local public and county schools because their behavioral difficulties and educational needs would best be addressed within this setting. The demographic characteristics for each child are displayed in Table 1. John was a 4-year, 10-month-old male, who had no educational programming prior to his admission to the preschool. He was described as noncompliant and slow to respond by his classroom teacher. When presented with verbal requests, John would scream and yell "No, no, no, no, no", throw himself on the floor, and display tantrum behavior. Based upon extensive behavioral observations conducted prior to the study, John's behavior appeared to be reinforced negatively by escape from demands. As measured by the *Brigance Diagnostic Inventory of Early Development* (BDIED) (Brigance, 1978), John was delayed by nearly two years in the area of following directions. His verbal expressive skills consisted of the words "ya" (yes), "no", and "Hi". If prompted, he would label simple items, but he usually would scream first.

The second child, Barry, was a 5-year, 2-month-old male with 3 years of special educational programming. He also was diagnosed with cerebral palsy. According to his teacher, Barry had difficulty following simple requests. Often he would either ignore requests or tantrum when presented with requests. When he did comply with a request, he was slow to respond and often required hand-over-hand intervention or gestural prompting for him to complete a requested response. Based on observations conducted prior to the study, Barry's behavior appeared to be reinforced negatively by escape from demands, or reinforced positively by the attention he would receive from the teacher in an attempt to "calm him down." Barry was delayed over two years in the area of following directions, according to the BDIED.

William was a 5-year, 5-month-old male at the beginning of the study, with 3 years of special education programming. Unlike the other two children, William was in a classroom that included typically developing, same age peers. William also was diagnosed with autism, and received a score of 37 (severe autism) on *The Childhood Autism Rating Scale (CARS)* (Schopler, Reichler, & Renner, 1988). His behavioral history included non-compliance and disruptive behaviors. He was placed on Ritalin early in the school year, and his classroom teacher indicated a noticeable improvement in his behavior. He continued, however, to have significant difficulties in appropriately responding to requests. His noncompliant behavior appeared

Table 1. Child Information

Child	Sex	Dx ^a	Age ^b	F.M. ^c	S.L. ^d	V.D. ^e	S.E.D. ^f	CARS ^g	Prog. ^h	Med ⁱ
John	Male	DD	4-10	3-6	1-6	3-0	3-6	28	1	None
Barry	Male	DD CP	5-2	2-6	2-6	3-0	2-0	20	3	None
William	Male	DD	5-5	3-0	1-3	3-0	2-6	37	3	Ritalin

Note. All age-equivalent scores are based upon the Brigance Diagnostic Inventory of Early Development (Brigance, 1978) administered by each child's teacher. Scores are reported in age equivalents.

^aDiagnosis; DD (developmentally delayed), CP (Cerebral Palsy).

^bChild's age at beginning of study.

^cFine Motor Skills.

^dGeneral Speech and Language Development.

^eFollowing Verbal Directions.

^fSocial and Emotional Development.

^gResults of The Childhood Autism Rating Scale.

^hYears in Special Education Programming.

ⁱPrescribed Medication.

to be reinforced by the attention he received from the teachers and children when he did not comply with requests. William was nearly 2.5 years delayed in the area of following verbal directions, as measured by the BDIED.

Setting and Activities

The study was conducted in a separate classroom for each child during the morning hours. Typically, the classrooms were staffed by the classroom teacher, the teacher's assistant, and a classroom volunteer. Activities scheduled during the morning included work time, table time, small group activities, art activities, sensory activities, and free play. During all experimental conditions, each child was presented with 10 low-p requests for each session. Each session was divided into 2 blocks and each block consisted of delivering 5 low-p requests. All requests were integrated into morning activities involving one-to-one interaction between a participant and the investigator. Each block was separated by at least 5 min. One session was conducted per day. Based upon observations of each child, the individual educational needs of each child, and the ease and utility of implementing the activity in the classroom, seven different activities were chosen for inclusion in the study (i.e., reading books, fine motor activities [stacking blocks, stringing beads], sensory activities [playing in the sandbox], putting puzzles together, imaginative play activities, art activities, and clean-up activities). These activities and the related materials were available in the classroom on a daily basis. Activities were selected randomly for each session.

Trainers

The study was conducted by the first author (referred to as the investigator) who, prior to the study, spent time interacting with each child to reduce any reactivity and unusual responding from the children due to the novelty of the situation. The second trainer used throughout the study was an undergraduate student in special education with previous experience working with young children. Sessions conducted by the second trainer were probed throughout the investigation to assess the extent of each child's responding to another individual.

Behavior Definitions

The independent variable was the high-p request sequence and the dependent variables were responding to low-p requests and disruptive behavior.

Low-Probability Requests (Low-p)

Low-p requests were those for which a child had a history of inappropriate or unsuccessful responding (i.e., less than 40% of opportunities). All low-p requests were either targeted in each child's IEP or related to the activities previously mentioned and targeted in the child's IEP. The low-p requests for each child are listed in the right-hand column of Table 2.

High-Probability Requests (High-p)

High-p requests were instructions or requests delivered to a child that historically resulted in a compliant response. All high-p requests were individualized for each child, based on an assessment of each child's compliant responding to a pool of requests. A request was considered a high-p request if John and Barry complied with at least 80% of the opportunities during the pre-experimental assessment phase. For William, a lower criterion (i.e., 60%) was used to increase the number of high-p requests available. The high-p requests for each child are shown in the left-hand column of Table 2.

Disruptive Behavior

Disruptive behavior was defined as inappropriate child responses that may preclude successful completion of a request, such as stereotypic behavior, self-injurious behavior, physical aggression, running away, yelling, or verbal aggression. The occurrence of such behaviors was measured after the delivery of high-p and low-p requests.

Data Collection

During all baseline, intervention, maintenance, and follow-up sessions conducted by the investigator and the second trainer, data were collected on the delivery of requests, responses to requests, and the occurrence of disruptive behavior. Data were collected on investigator and second trainer behaviors and child behaviors using an event recording procedure.

Compliant and appropriate responding to high-p requests included the child initiating and successfully completing the requested response within 5 s of its delivery. A response to low-p requests was scored as compliant if a child initiated and completed the requested response within 15 s of its delivery. Measurement of disruptive behavior began immediately after the

Table 2. High-Probability and Low-Probability Requests for Each Child

Child	High-Probability Request	Low-Probability Requests
John	Sit down. Hold my hand. Clap your hands. Come here. Give me five. Shake my hand. Put the _____ on the shelf. Stand up. Touch your _____. Give _____ to me. Do this. (imitative response)	Get the _____. Point to the _____. Push in the chair. Stack the blocks. Put the toys in the bucket.
Barry	Sit down Stand up. Touch the _____. Clap your hands. Touch your _____. Give me five. Wave Hello/Good-bye. Shake my hand. Hold my hand. Push in the chair. Dance!	Put the _____ on the shelf. Go to the table. Point to the _____. Come here. Get the _____. Get the _____.
William	Go to the table. Shake my hand. Hold my hand. Sit down. Pick up the toy. Give me five.	Come here. Give me the _____. Put the _____ on the shelf. Put the toys in the bucket. Stand up.

presentation of each request and stopped at the completion of the requested response, or after 5 s (for high-p requests), or after 15 s (for low-p requests).

Experimental Design and Analysis

A multiple baseline design across subjects (Baer, Wolf, & Risley, 1968) was used to evaluate the effects of the high-p request sequence on compliant responding to low-p requests and the occurrence of disruptive behavior. To assess each child's response to the intervention with a second trainer, probes were conducted throughout each experimental condition.

Procedure

Pre-baseline observations were completed to determine whether each child's noncompliant behavior was due to a refusal to respond, or to a lack of skill acquisition. The teachers and their assistants were asked to deliver requests to the participants. If the participants responded to the request, lack of skill acquisition was eliminated as an explanation for the noncompliant behavior. The investigator also used observation to determine hypotheses regarding the possible function of each child's noncompliant behavior. To establish the criteria used for compliance in the study, normative data were collected on children without disabilities to determine the amount of time needed to complete a requested response. The requests presented to the typical children were those used with the participants in the study. The high-p or low-p status of requests was determined by presenting each request 5 times across a 5-day assessment period, to each participant.

Baseline

During baseline, each participant was presented with 10 low-p requests each session. Each session was divided into 2 separate blocks consisting of 5 low-p requests. A different activity was conducted during each block. Requests were presented during typical classroom activities. For example, the investigator engaged in an activity with a child (such as stacking blocks) and, at an instructionally appropriate point during the activity, delivered a low-p request ("Point to the block."). A child had 15 s to initiate and complete the requested response for the observers to score the response as compliant. If a child was compliant with the low-p request, the investigator immediately praised the child and resumed the activity, or began another activity within 5 s after delivering praise. If the child did not comply within 15 s, the investigator waited an additional 15 s and then resumed the activity with the child.

Intervention

The setting and procedures for each child were the same as baseline, except that the high-p request sequence was introduced. A series of high-p requests (3 to 5) was delivered immediately prior to the delivery of a low-p request. For example, the investigator initiated a block game with the child. At an instructionally appropriate time, the investigator began to deliver the high-p sequence, praising each compliant response. If a child did not re-

spond to a high-p request, a different request was delivered 5 s after the delivery of the previous high-p request. After the child complied to at least 3 consecutive high-p requests, a low-p request was delivered ("Point to the block."). All low-p requests were delivered within 5 s after the child received verbal praise for completing the last high-p requested response in the sequence. As in baseline, 10 low-p requests were delivered per session, using blocks of 5 requests in each of 2 activities.

Maintenance

During this condition, delivery of the high-p request sequence was withdrawn and the procedures were identical to baseline.

Follow-Up

Sessions for this condition were conducted at 3-, 4-, 5-, and 6-week intervals following the last session of maintenance. Although the academic year was completed, the children were in a half-day 5-week summer program at the same school. During follow-up, each child was in a different classroom, with a different teacher, and with different classmates from the academic year. The procedures were identical to the baseline condition.

Social Validity

The social validity of the study was examined after completion of the study using a questionnaire. The questionnaire included 13 items; 8 items required the teachers and teaching assistants to circle "yes", "no", or "unsure" as their response to the question. The remaining questions required a brief written response. The items focused on a) opinions of the effectiveness of the high-p request sequence, b) reports of the participants' compliance to other requests not used in the study, and c) strengths and weaknesses of the study. The teachers and teaching assistants were asked to complete the questionnaire and return it to the investigator.

Interobserver Agreement and Procedural Integrity

Two observers independently recorded data for interobserver agreement assessments. Procedural integrity data were collected in 43% of all sessions. All children were assessed in all experimental conditions and data were collected for (a) correct delivery of high-p requests immediately prior

to the delivery of a low-p request, and (b) delivery of a praise statement after each compliant response to a high-p or a low-p request. Across all conditions and all children, procedural integrity measures were 100% for sessions with the investigator and the second trainer.

John

Agreement for the occurrence of compliant responding to high-p requests was 99% (range, 97 to 100%). For low-p requests and disruptive behavior, agreement measures were 100% and 97% (range, 66 to 100%) respectively. For sessions conducted by the second trainer, agreement measures for the occurrence of compliant responding to high-p and low-p requests and disruptive behavior was 100%.

Agreement for the nonoccurrence of compliant responding to high-p requests was 99% (range, 88 to 100%) and 99% (range, 96 to 100%) for disruptive behavior. During sessions conducted with the second trainer, agreement measures for the nonoccurrence of compliant responding to high-p requests was 97% (range, 88 to 100%). Agreement for the nonoccurrence of compliant responding to low-p requests and disruptive behavior was 100%.

Barry

Agreement measures for the occurrence and nonoccurrence of compliant responding to high-p and low-p requests, and disruptive behavior were 100% for all sessions conducted by the investigator and second trainer.

William

Agreement measures for the occurrence and nonoccurrence of compliant responding to high-p and low-p requests and disruptive behavior were 100% for all sessions conducted by the investigator and second trainer.

RESULTS

Compliant Responding to Low-p Requests

The data representing the number of compliant responses to low-p requests for John, Barry, and William are shown in Fig. 1. As previously

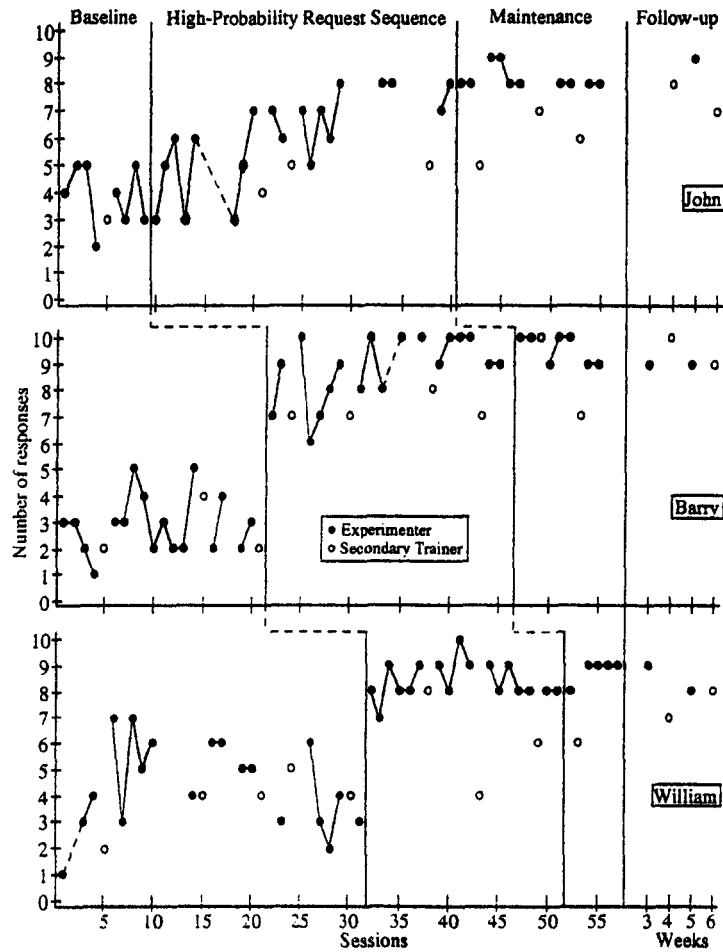


Fig. 1. Number of compliant responses to low-probability requests delivered by the investigator and second trainer across sessions and conditions. Participants were given 10 low-p requests each session. Dashed lines indicate student absences.

indicated, a session consisted of 10 low-p requests. Each session was divided into 2 blocks, with each block consisting of 5 low-p requests.

John

During 8 sessions of baseline, John's compliant responding to low-p requests was fairly stable. For the one session conducted with the second

trainer, John's compliant responding was commensurate with the level of responding that occurred in sessions conducted by the investigator. Over 19 sessions of intervention, John's compliant responding was initially variable, but demonstrated a trend toward more compliance, where he consistently complied with 7 to 8 low-p requests. Interestingly, at this point in time, John refused to comply with the request "Stack the blocks." each time it was presented. Over 3 sessions conducted by the second trainer, John's compliant responding to low-p requests was stable, and did not reach the same level nor show an increasing trend as during sessions conducted by the investigator. No substantial increase over baseline is noted during sessions with the second trainer.

Maintenance data prove to be very stable and consistent over 10 sessions. As during intervention, John continued to refuse to comply with the request "Stack the blocks", except on 2 separate sessions when he complied with this request once. Sessions conducted with the second trainer during maintenance failed to achieve similar results and are consistent with levels achieved for the second trainer during intervention. During one session of follow-up, John's compliant responding is consistent with maintenance levels. Data obtained from sessions with the second trainer are consistent with previous levels as well.

Barry

During Barry's 17 sessions of baseline, his compliant responding showed some variability, then slowly descended. He complied to a mean of 3 requests (range, 1 to 5 requests). During the 3 sessions conducted with the second trainer, Barry's responding was consistent with his responding during sessions with the investigator. When the high-p request sequence was first implemented, Barry's responding sharply increased as compared to baseline. His responding shows some initial variability, then levels as the condition progresses. During 18 sessions of intervention, he complied with all low-p requests during 7 sessions. During his 4 sessions with the second trainer, a noticeable increase in compliant responding is noted as well. Though not at the same level as during sessions with the investigator, Barry's compliant responding with the second trainer is stable.

Maintenance sessions with Barry indicate less variability and consistent, compliant responding. Of the 7 sessions during maintenance, Barry complied with all low-p requests during 4 sessions. Maintenance sessions conducted with the second trainer are also consistently high, with one session exceeding the compliant responding (10 compliant responses) achieved during any previous session with the second trainer. Follow-up data reflect

the same stability in the data. At this point, Barry's compliant responding with the second trainer is consistent with levels of responding obtained with the investigator.

William

During William's 19 baseline sessions, his compliant responding to low-p requests was extremely variable. Baseline sessions with the second trainer reflect the same variability. A sharp and dramatic increase in compliant responding to low-p requests is noted at the beginning of intervention. Over these 17 sessions, William's compliant responding is steady and consistent. Intervention sessions with the second trainer reflect the same variability seen during baseline. William's compliant responding matched the level obtained with the investigator during one session when he complied with 8 low-p requests.

During maintenance, William maintained a steady state of compliant responding to low-p requests throughout the 5 sessions. His one session with the second trainer failed to achieve the same level as obtained with the investigator. Data during follow-up sessions with the investigator continue to reflect high and consistent compliance to low-p requests. William's compliant responding during sessions with the second trainer are slightly higher. Overall, a slow but steady upward trend is noted in William's data from intervention through follow-up.

Disruptive Behavior

Data displaying the occurrence of disruptive behavior after the delivery of low-p and high-p requests are shown in Fig. 2. As disruptive behavior was measured after the delivery of a request, the data represent percentages of requests associated with disruption. During baseline, high frequencies of disruptive behavior occurred during sessions conducted with John (range, 20 to 100% of low-p requests, $M = 58\%$). During intervention, the occurrence of disruptive behavior decreased substantially for John to the point where it no longer occurred (high-p requests: range, 0 to 43% [$M = 7\%$]; low-p requests: range, 0 to 30% [$M = 4\%$]). For Barry and William, disruptive behavior occasionally occurred throughout the investigation. For baseline sessions conducted with Barry, disruptive behavior showed a steady increase, then abruptly decreased and remained low, but steady (range, 0 to 50% of low-p requests [$M = 8\%$]). During intervention, disruptive behavior occurred during two sessions (2% of high-p requests and 10% of low-p requests). Disruptive behavior occurred during one baseline session

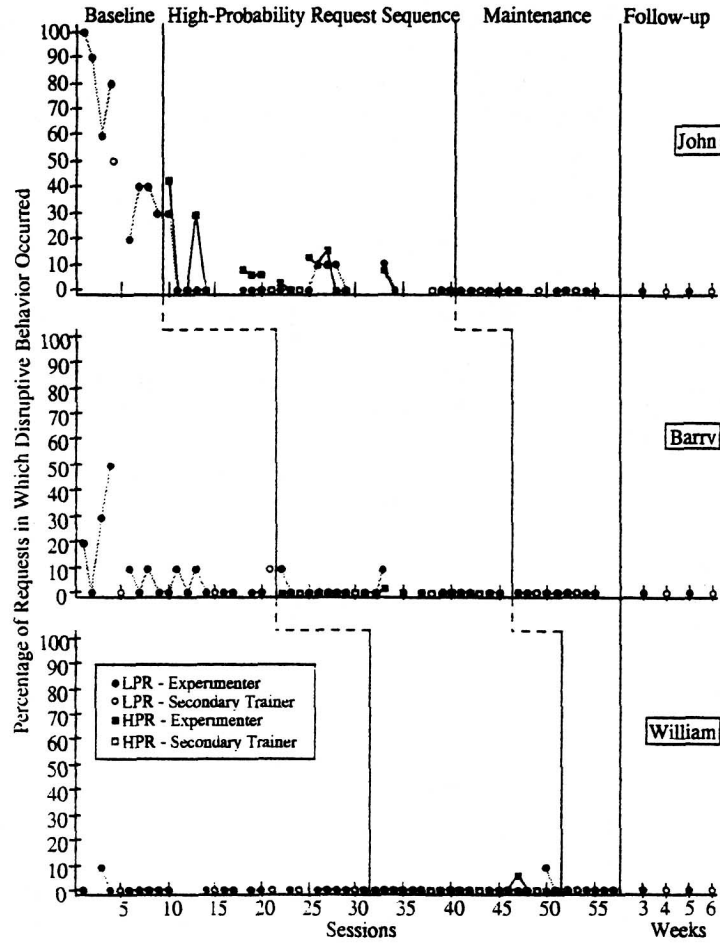


Fig. 2. Percentage of low-p and high-p requests in which disruptive behavior occurred for sessions conducted by the investigator and the second trainer.

with William (10% of low-p requests), and two sessions during intervention (16% of high-p requests and 10% of low-p requests).

Social Validity

Three classroom teachers and their teaching assistants were asked to complete a questionnaire assessing their satisfaction with and opinion of the intervention. Two of the respondents indicated that the high-p request

sequence was effective in increasing compliant responding to requests. One respondent reported that the intervention was effective in decreasing disruptive behavior. One teacher reported that her student responded more positively to each request. Overall, the teachers' and teaching assistants' satisfaction with the intervention and interest in the procedure varied.

DISCUSSION

Research indicates that for children labeled as noncompliant, such behavior occurs approximately 60 to 80% of the time (Forehand & King, 1977). The noncompliant behavior of the children who participated in the study fell well within this range. The purpose of this investigation was to demonstrate the effectiveness of the high-p request sequence when embedded into naturally occurring classroom activities, and to increase the participants' compliance with these activities. The importance of such a pursuit stems from the belief that following instructions and rules is not only expected, but considered to be a critical component of appropriate school performance (Forehand, 1977; Patterson, 1982). Children who are successful in early childhood settings are able to participate actively in activities, work independently, follow directions, and interact appropriately with teachers and peers. Children lacking these skills are at risk for future educational difficulties. Moving toward a more "activity based" approach (Bricker & Cripe, 1992) from a more didactic strategy of instruction may facilitate functional and generative skills in addition to taking advantage of logically occurring antecedents and consequences in the environment.

This investigation a) successfully replicated the results demonstrated in the published literature on the effectiveness of the high-p request sequence to increase compliant responding to requests, b) supports the literature in which responding to low-p requests was maintained after withdrawing the high-p intervention, c) demonstrates the ease in which the high-p request sequence can be integrated into an instructional routine, and d) demonstrates how the intervention can be modified to meet the individual instructional needs of each child.

Various explanations have been proposed to explain the success of the high-p request sequence (Horner *et al.*, 1991; Mace & Belfiore, 1990; Mace *et al.*, 1988; and Singer *et al.*, 1987). Undoubtedly, the high-p request sequence acts as a discriminative stimulus to establish successful responding and subsequent reinforcement. Carr, Newsome, and Binkoff (1976) indicate that a response may act as a discriminative stimulus for the continuation of that response. Low-p requests, however, act as discriminative stimuli to indicate a nonresponse, since they have been associated with low-levels of

reinforcement in the past. High-p requests set the occasion for compliant and successful responding. By presenting high-p requests in the presence of other low-p requests, compliant responding to low-p requests may be affected as low-p requests represent similar stimulus conditions to high-p requests. As future occurrences of responding are influenced by the consequences of similar and previous responses (Thorndike, 1911), it is likely that repeatedly preceding a low-p request with a series of high-p requests would in fact transfer stimulus control to low-p requests. Horner *et al.* (1991) propose that the high-p request sequence follows a stimulus-response format, where presenting requests from the stimulus class of "instructions" is followed by the response class of "following instructions". Successive and appropriate responding to requests would increase responding to the target behavior as compliance to requests provides temporally proximal reinforcement of following instructions. The present study adds to the literature confirming these lines of thought.

Throughout this study, a second trainer also delivered requests in an attempt to measure the extent of each child's responding to a different trainer. Investigations by Horner *et al.* (1991) also indicated that compliant responding persisted under conditions conducted by a novel trainer. For all subjects in the present study, the increase in compliant responding to low-p requests with a second trainer was not as great as compliant responding obtained with the investigator. Sessions with the second trainer, however, were conducted on an infrequent basis. As the trainer presenting requests becomes established as a source of reinforcement, it may be necessary to apply the high-p request sequence more consistently and frequently for low-p requests delivered by additional trainers to acquire stimulus control over the subjects' compliant responding (Houlihan & Brandon, 1996).

The utility of the high-p request sequence may be in question, as several investigations have indicated that compliant responding to low-p requests typically returns to baseline levels when the high-p request sequence is withdrawn (Harchik & Putzier, 1990; Kennedy *et al.*, 1995; Mace *et al.*, 1988; Singer *et al.*, 1987). Few studies thus far have attempted and have been able to maintain the durability of compliant responding to low-p requests by withdrawing the high-p request sequence (Davis *et al.*, 1992; Davis *et al.*, 1994, Ducharme & Worling, 1994). The results of this intervention clearly demonstrate across all children that high levels of compliant responding to low-p requests was maintained after the high-p request sequence was withdrawn. It may be necessary to repeatedly implement the high-p request sequence to transfer stimulus control of compliant responding to low-p requests. Mace *et al.* (1988) suggest that responding to low-p requests preceded by high-p requests represents a weak degree of stimulus

control. Consequently, several reinforced occurrences of the low-p request may be necessary to strengthen and increase compliant responding to low-p requests. One variable which may have had an effect on continued compliant responding involved the requests themselves. Many of the requests presented to the children involved the use of various stimuli. For example, requests such as "Get the ___", "Point to the ___", and "Put the ___ on the shelf" required the children to respond with a variety of stimulus exemplars. By requiring responses and subsequently reinforcing a variety of responses, in effect, teaches each child to respond to multiple requests. To use one specific stimulus (e.g., "Get the *book*") may have resulted in compliant responding to only that exemplar (Stokes & Baer, 1977). As the intervention was conducted by frequent variation of stimuli, it had a greater impact on generalized outcomes (Stokes & Osnes, 1989).

The occurrence of disruptive behavior was measured for each child after the delivery of high-p and low-p requests. Some studies have yielded dramatic decreases in disruptive behaviors accompanying noncompliant behavior (Horner *et al.*, 1991; Mace & Belfiore, 1990; Zarcone *et al.*, 1993, Zarcone *et al.*, 1994). Because each child's teacher predicted that presenting the child with an increased amount of requests would significantly increase disruptive behavior, such behaviors were measured. Due to the low baseline levels of challenging behavior, this study did not yield dramatic decreases. However it is important to note that, contrary to the teachers' predictions, the data indicate that the use of the high-p request sequence (e.g., delivering an increased amount of requests) did not result in any increase in disruptive behavior for each child when presented with requests. This finding is important in practical applications of the intervention, in assuring interventionists and practitioners that the strategy (e.g., increasing the delivery of requests) would not likely increase the occurrence of disruptive behaviors.

Each child's teacher and teaching assistant completed a satisfaction form at the end of the study and noted the importance of following requests in general education settings. The teachers and teaching assistants reported satisfaction with the procedure, but interest in implementing the procedure varied. Most of the teachers did note a change in the children's overall compliance to other requests that were not used in the investigation. In addition, while two of the three teachers noted the high-p sequence increased compliant responding, only one teacher reported a reduction in disruptive behavior. This observation may have been due to the low frequency of disruptive behavior exhibited by the children throughout the study. Informal reports from the teachers indicated that they believed the children should have been given choices of responses.

Future research efforts might explore embedding a choice within a high-p request sequence to ascertain the effectiveness of the procedure and the resulting impact on the acceptability of the use of the procedure by teachers of young children with disabilities. As research continues to focus on being responsive to the educational needs of learners, future research with high-p requests should focus further on embedding the strategy during academic instruction to not only facilitate compliance but maximize learning.

Though the study demonstrated the utility of the high-p request sequence, factors limit the results of the investigation. The intervention was not conducted by each child's classroom teacher. The effects of the intervention during one-to-one activities with a more familiar individual are unknown. This factor may also be an issue for the results obtained with the second trainer. Only one additional trainer was used and this trainer's interactions with each participant were probed throughout the investigation. The effects of multiple trainers and more frequent interactions are also unknown. The investigator and second trainer engaged in several different activities with each child. To what extent the activities were more preferred or less preferred and the effect of this factor on compliant responding is also unknown.

The present study demonstrated that the use of a high-p request sequence can be a viable option for teachers when embedded into classroom activities. The ease of implementing the strategy has been demonstrated in several investigations where teachers, paraprofessionals, direct care staff, and parents have successfully applied the technique in a variety of settings and situations. There is a interest in the field of early childhood special education in the design and implementation of effective intervention strategies that can be easily embedded into children's ongoing routines and activities, while addressing their skill development and level of functioning. The use of high-p requests fits logically into the framework of naturalistic instruction. The procedure requires little training to implement, suggesting that it can be incorporated easily into basic training curricula, including parent training programs and group home training programs. The utility and potency of high-p requests can undoubtedly produce a variety of outcomes beyond compliance. By expanding the range of outcomes for young children with disabilities, interventionists can recommend beneficial and functional programming options to increase the validity of a child's education (Evans & Meyer, 1990).

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