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DEFINING CHILD NONCOMPLIANCE: AN EXAMINATION OF TEMPORAL PARAMETERS

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This study examined compliance parameters for 53 clinic-referred and nonreferred children, ages 2 to 10 years. Although there were significant differences between the referred and nonreferred samples for percentage compliance, there were no significant differences between the referred and nonreferred samples in terms of initiation or completion latencies. The average initiation latency was 5.92 s, whereas 98% of the sample initiated compliance within 14 s. Younger children did take longer to complete tasks. Results suggest that the use of short latencies in defining noncompliance may represent overly conservative criteria.

DESCRIPTORS: parent training, initiation latency, compliance, noncompliance

Clinicians and researchers who conduct parent training often use latency to task initiation as a critical parameter in defining compliance. A recent review of recommendations by applied behavior analysts for defining the critical latency to task initiation, however, found suggestions ranging anywhere from 5 to 30 s (Houlihan, Sloane, Jones, & Patten, 1992). Given the emphasis of applied behavior analysis on empirically derived technology, there has been surprisingly little attention devoted to determining empirically when a child is noncompliant. Stiffman (1983) determined the average initiation latency for 38 boys, ages 7 to 11, to be 19.6 s, whereas Wruble, Sheeber, Sorensen, Boggs, and Eyberg (1991) found the average initiation latency to be 1.57 s for 15 children, ages 3 to 5 years. Unfortunately, small and divergent samples, along with the failure to standardize the commands used by parents within each study, limit both the comparability and generalizability of these results. The present investigation examined the temporal parameters of compliance for a larger sample of clinic-referred children and nonreferred volunteers comprising a broader age range than has been examined to date.

METHOD

The sample included a total of 53 children (33 male, 20 female). Eighteen of the children (13 male, 5 female) had been referred to a psychology department clinic for behavior problems that primarily consisted of noncompliance. These children ranged in age from 2 to 10 years and were referred by their physicians, schools, or parents. The other 35 children (20 male, 15 female) ranged in age from 2 to 8 years and had not been referred to the clinic, but voluntarily participated in the study with their parents. These children and parents were recruited from the staff of a university medical center, from a university day-care center, and from the community. The majority of the parent–child dyads consisted of mothers (n = 41).

Parents were given an 11-item question-

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Requests for reprints or copies of the questionnaire and the coding system may be obtained from the first author at the Psychology Department, Meyer Rehabilitation Institute, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, Nebraska 68198-5450.

naire that assessed child behavior and parent discipline. In addition to brief demographics, the 11 questions addressed topics such as the number of behavior problems a child exhibited, the number and type of situations in which the child was most likely and least likely to misbehave, the child's behavior compared to same-age peers, and the child's behavior during this compliance protocol compared with the child's typical behavior at home. Included in the questionnaire were 10 one-step commands. The commands were similar to common requests a parent might make at home (e.g., "come here," "put the toy away"). These 11 questions and 10 commands were interspersed to reduce the likelihood that another command would be delivered before compliance (or noncompliance) could be determined. To evaluate the influence of command type on compliance parameters, the commands themselves alternated between direct commands and indirect commands in the form of a question. Two alternate forms of the questionnaire that reversed command type were used randomly across subjects.

Each parent–child dyad was accompanied to a clinic room that contained a variety of toys with which the child could play. The parent completed the questionnaire and occasionally interrupted the child's independent play with a command to perform a simple task. Parents were asked to provide the command verbatim as written on the questionnaire to increase the level of standardization (e.g., each child was presented with the same task and same type of command). Parents were also instructed, however, to respond as they typically would to the child's compliance or noncompliance. All parent–child interactions were videotaped for later scoring.

Three measures of child behavior were computed: initiation latency, completion latency, and percentage compliance. *Initiation latency* was defined as the time from the end of the initial command to an initial change in the child's behavior directed toward task completion. *Completion latency* was defined as the time from initiation to the completion of the task. *Compliance* was defined as the child initiating and completing the task, and *percentage compliance* was defined as the number of commands the child complied with divided by the total number of commands the parent provided. Six measures of parent behavior that were thought to affect child compliance (i.e., type of command, repetitions, command rate, prompts, contingent praise, number of nonprotocol commands) were also coded.

Reliability was established by having a second rater independently code randomly selected participants (12 children, 11 parents). Initiation and completion times were coded as reliable if independently coded events were within 1 s. Reliability was coded for each child and parent behavior as number of agreements divided by number of agreements plus number of disagreements. The mean reliability and range for all child behaviors was 93.8 (77.8 to 100.0). The mean reliability and range for all parent behaviors was 88.7 (40.0 to 100.0). Of 22 timed intervals (from time at first command to time at last command) compared for reliability for command rate, the coders were accurate (i.e., within 10 s) 90.9% of the time.

RESULTS AND DISCUSSION

Table 1 presents data on compliance parameters for the clinic-referred children, nonreferred children, and the total sample. Independent *t* tests indicated no significant differences between the referred and nonreferred samples in terms of initiation or completion latencies. The average initiation latency was about 6 s across the total sample; 85% of all participants initiated compliance within 10 s, and approximately 98% of the

Table 1
Child Compliance Behavior, Means and Standard Deviations

	Sample				
	Clinic-referred	Nonreferred	Ages 2 to 4	Ages 5 to 10	Total sample
Initiation latency	5.43	6.71	6.50	5.04	5.92
	(3.51)	(3.71)	(3.42)	(3.83)	(3.62)
Completion latency	14.07	11.49	14.94**	8.45**	12.37
	(11.69)	(6.03)	(9.54)	(3.78)	(8.37)
Compliance rate	74.09*	87.80*	79.39	88.86	
	(27.22)	(14.61)	(24.06)	(12.28)	

Note. * indicates $p < .05$ and ** indicates $p < .01$, when the clinic-referred sample is compared with the nonreferred sample and Ages 2 to 4 are compared with Ages 5 to 10 using independent t tests. Latency numbers represent seconds.

sample initiated compliance within 14 s. In addition, participants completed 90% of commands initiated regardless of the latency to task initiation.

The two groups were combined to investigate potential developmental differences in compliance parameters. The total sample was divided into preschool and school-aged groups: 2 to 4 years ($n = 32$) and 5 to 10 years ($n = 21$). Younger children did not take any longer to initiate compliance, but younger children took significantly longer to complete each task, even though easy one-step tasks were chosen to ensure that all children could comply with each command. In addition, the initiation latency and the completion latency across all children did not vary as a function of the type of command given by parents. Parents were significantly more likely to give commands in the form of a question ($t = -6.02$, $p < .01$); however, consistent with previous research, all children exhibited a significantly higher percentage of compliance for direct commands than for indirect commands ($t = 3.63$, $p < .01$).

Table 2
Parent Command Behavior, Means and Standard Deviations

	Sample	
	Clinic-referred	Nonreferred
Type of command given (percentage of indirect or question commands)	70.51 (19.72)	67.84 (21.04)
Number of repetitions per command	0.79 (0.84)	1.01 (0.91)
Command rate (number of commands per minute)[a]	2.73 (1.60)	2.84 (1.41)
Number of prompts and clarifications	8.76 (4.92)	9.91 (8.69)
Number of additional commands provided by parents that were not part of the protocol	8.18 (11.15)	10.34 (11.46)
Percentage of verbal praise	19.41 (15.26)	28.20 (16.08)

[a] Command rate was computed based on the total number of commands a parent provided (number of commands on protocol plus number of commands not on protocol). Also, minimal physical guidance by parents to facilitate compliance was observed and so was not coded.

Results in Table 1 also show that there were significant differences between the clinic-referred and nonreferred children with respect to their percentage compliance. Although the clinic-referred children were compliant significantly less often than the nonreferred children, their overall rate of compliance was still relatively high. The parents of the referred children may have delivered contingent praise at a rate that was sufficient to maintain compliance rates near 75%. Their use of contingent praise compared with that of parents of nonreferred children is presented in Table 2. Independent t tests of parent behaviors, however, revealed no statistically significant differences,

although parents in the nonreferred group were higher on five of the six categories.

In sum, these data suggest that the use of short latencies (e.g., 5 s) may represent overly conservative criteria in deciding whether a child is noncompliant, resulting in a high false-positive rate. Although limitations of the current investigation (e.g., small sample size, unmatched groups) do not permit recommendation of an optimal latency, these data suggest that the use of a one- or two-standard-deviation cutoff (e.g., 10- to 14-s latency criterion) for noncompliance may be appropriate. This study highlights the importance of continuing to develop empirically derived definitions of compliance.

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