

*IDENTIFYING INSTRUCTIONAL TASKS THAT OCCASION  
PROBLEM BEHAVIORS AND ASSESSING THE EFFECTS OF  
STUDENT VERSUS TEACHER CHOICE AMONG  
THESE TASKS*

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Levels of problem behavior were assessed when 4 students with severe disabilities received instruction on preferred versus nonpreferred tasks and when tasks of each type were chosen by the teacher rather than by the student. In Phase 1, interview and direct observation assessments were conducted to identify relative preferences for academic tasks. In Phase 2, the effects of these lower preference and higher preference tasks on the rate of problem behavior were evaluated using a multielement design. The results showed that lower preference tasks were associated with higher rates of problem behaviors and that students, when given a choice, consistently selected the tasks that had been identified through interview and direct observation as higher preference. In Phase 3, we assessed whether allowing the students to choose between pairs of lower preference tasks or between pairs of higher preference tasks reduced problem behavior relative to a condition in which the teacher selected the same tasks. For 2 of 4 students, the rates of problem behavior were lower when students (rather than the teacher) selected the lower preference activity. Higher preference tasks for 3 students were associated with relatively low rates of problem behavior regardless of whether the student or the teacher selected the task.

DESCRIPTORS: problem behavior, choice, functional assessment

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Problem behaviors pose a serious challenge for families, teachers, and school administrators. Behaviors such as aggression, property destruction, self-injury, and non-compliance place students at risk for exclusion from typical school contexts (Dunlap & Kern, 1993; Horner, Diemer, & Brazeau, 1992; Sprague & Rian, 1993). Effective use of functional assessment procedures may be

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an important response to this challenge. Functional assessment procedures are now moving beyond research contexts and are being adapted to fit the needs of families, teachers, and community service providers (Lucyshyn & Albin, 1993).

In making the shift from rigorous research contexts to the practical demands of the school and community, a reexamination of functional assessment methods is occurring. The pioneering work done to build an effective technology of functional analysis has borne both conceptual and clinical benefits (Carr, 1977; Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994; Northup et al., 1991; Repp, Felce, & Barton, 1988). However, school personnel may resist experimental methods because they tend to be complex and time consuming and often occur out of the natural environment (Axelrod, 1987; Durand & Crimmins, 1988; Northup et al., 1991; Sasso et al., 1992). A clear goal is to develop assessment methods that are simple

and efficient for use in typical community contexts. As this goal is pursued, it is important that the need for simplicity is balanced against the need for methods that retain sufficient rigor to avoid irrelevant or inaccurate results. Recent efforts to recommend a hierarchy of assessment procedures (easy/less precise vs. complex/more precise) are a response to this need for balance (Mace, 1994; Mace & Lalli, 1991; O'Neill et al., in press; Vollmer, Marcus, Ringdahl, & Roane, 1995).

A central concern in efforts to make functional assessment more accessible lies in the use of informal methods. Interviews, rating scales, and correlational observations offer the potential for examining a wide range of variables that influence problem behaviors but do not allow documentation of functional relationships (Zarcone, Rodgers, Iwata, Rourke, & Dorsey, 1991). A number of authors have argued against using interviews and rating scales as the sole method of functional assessment because these procedures are prone to inaccurate or incomplete information (Fisher, Piazza, Bowman, & Amari, 1996; Green et al., 1988; Lennox & Miltenberger, 1989; Umbreit, 1996). A combined package of interviews with direct observation or systematic functional analysis may prove to be useful, however, and has been recommended by most authors who promote indirect methods (Durand, 1990; O'Neill et al., in press; Umbreit, 1996).

The present study examined one informal approach for identifying instructional tasks that occasion problem behavior (lower preference) and tasks that do not occasion problem behavior (higher preference). The accuracy of informal identification of task preference was assessed systematically. In addition, the study compared the extent to which teacher selection versus student selection of a task for an instructional session influenced the likelihood of problem behaviors during that session. The analysis of choice

among tasks was prompted in part by a recent demonstration by Dunlap et al. (1994) and Umbreit and Blair (in press) that teacher-selected tasks that occasion problem behaviors were less likely to produce problem behaviors when those same tasks were selected by the student. Dunlap et al. (1994) suggested that choice may affect problem behaviors not only by providing an opportunity to avoid aversive stimuli but also by actually decreasing the momentary aversiveness of tasks.

## METHOD

### PARTICIPANTS AND SETTING

Four school-aged children participated in the study. All students obtained standardized IQ scores within the moderate to severe range of intellectual functioning and were determined to be eligible for special education services by local multidisciplinary teams. The students were recruited from elementary school programs serving students with severe disabilities and severe problem behaviors. Each student was nominated by his or her teachers based on the teachers' perceptions that the student engaged in escape-motivated problem behavior during instruction (cf. O'Neill, Horner, Albin, Storey, & Sprague, 1990, interview and direct observation procedures).

Sarah was an 11-year-old girl with severe mental retardation of unknown etiology. Sarah experienced frequent seizures that were controlled through medication (0.25 mg Klonopin®, 4 cc Depakene®, and 3 cc Selbatol® per day). No seizures were observed during any research sessions. Sarah communicated through gestures and single words with a limited vocabulary. Her problem behaviors included hitting, pinching, scratching, lying on the floor, moving or running away from the activity, putting her head on the table, and loud, short screaming. Most classroom activities occurred in

groups, and problem behaviors ranged in frequency from 2 to 10 times during a 20-min activity.

Dimitri was a 12-year-old boy with Down syndrome and severe mental retardation. Dimitri took 500 mg of Depakote® daily to control seizure activity, and no seizures were observed during the study. Dimitri communicated through gestures and objects. Dimitri's problem behaviors included throwing task-related materials, lying on materials, turning off or unplugging mechanized materials, running away, and sitting on the floor. He also exhibited behaviors directed at people such as hair pulling, pushing, pinching, and poking fingers into the teacher's throat.

Hannah was a 10-year-old girl with autism and moderate to severe mental retardation. She had a limited speech repertoire that was unintelligible to those unfamiliar with her. Hannah communicated through signs, but most frequently used an augmentative communication device (Macaw). Hannah, as reported by her mother, took 1 mg Klonopin® at night to help with sleep difficulties associated with night terrors. Hannah's problem behaviors involved throwing or destroying materials, sliding down or off her chair, sitting on the floor, and moving away from the activity. She also was reported to engage in self-injurious and aggressive behaviors, although these were not seen during the course of the study.

Chloe was a 7-year-old girl with Angelman's syndrome and moderate to severe mental retardation. She communicated by pointing, vocalizing, shaking her head, and using objects. She attended recess with typical peers and received some instruction in the classroom from peer tutors. Chloe's problem behaviors included hitting the teacher, hitting objects, scattering materials off the table, lying on the floor, and body rocking. Chloe appeared to be a healthy child prior to the study, as reported by her

teacher. However, after the study began, she incurred one illness after another. Chloe was not required to participate unless the teacher reported a good morning, but it remains uncertain how these illnesses affected her performance.

The study took place in two public elementary schools. Two participants attended special education classrooms in each of the schools. The teachers in those classrooms had been with the students a minimum of 2 years. The activity areas were chosen according to activity requirements and to avoid participant distraction.

Each activity was part of the student's individual education plan objectives. A physical piece of each task was selected as the communication symbol to identify the task during student and teacher choice selections. Table 1 lists the activities and symbols used with each participant.

#### DEPENDENT MEASURES AND DATA COLLECTION

The target behaviors for the 4 participants were aggression (Sarah, Dimitri, and Chloe), disruption (Dimitri, Hannah, and Chloe), resistance (Sarah, Hannah, and Chloe), and screaming (Sarah). *Aggression* was defined as any forceful contact to any part of another's body such that it was audible or resulted in observable compression of the skin with an open hand, teeth, thumb and forefinger, or fingernails. *Disruption* was defined as any behavior that resulted in misuse of task materials, use of task materials as a trajectory (throwing), or use of unrelated materials within a designated task such as crumpling materials or pushing away materials. *Resistance* was defined as any behavior that demonstrated movement away from the activity or an absence of movement toward task materials such as lying on the floor, running away, lying on the table, or slumping in the chair. *Screaming*, which occurred only with Sarah, consisted of short, loud vocalizations

Table 1  
Higher Preference and Lower Preference Tasks and Symbols

Student	Higher preference tasks	Symbol	Lower preference tasks	Symbol
Sarah	Computer (1)	Disk	File papers (A)	Folder
	Wind up toy (2)	Spinner	Wipe tables (B)	Sponge
	Mail disk (3)	Disk envelope	Stamp notes (C)	Stamp
	Buy toy (4)	Toy	Hand-held computer (D)	Computer
	Dishes (5)	Soap dispenser	Stencil (E)	Oil pastels
Dimitri	Snack (1)	Cracker box	Dominoes (F)	Domino
	Powered car (2)	Remote control	Vacuum (A)	Vacuum
	Plant seeds (3)	Seed packet	Wipe tables (B)	Sponge
	Whirligig (4)	Spinner	Wash windows (C)	Squeegee
Hannah	Whirligig (1)	Spinner	Fold laundry (A)	Sock
	Word identification (2)	Magazine	File papers (B)	Folder
	Buy toy (3)	Toy	Recycle (C)	Paper
Chloe	Word identification (1)	Magazine	Recycle (A)	Paper
	Buy toy (2)	Toy	Fold laundry (B)	Sock
	Hand care (3)	Polish	Stencil (C)	Oil pastel

at volume levels above typical speech range. These target behaviors for all participants were combined to create the dependent variable referred to as problem behavior.

Each session of the study was videotaped using small hand-held videocameras, and each tape was coded on Toshiba® T-1000 laptop computers using observation software developed by Repp, Harman, Felce, Van-Acker, and Karsh (1987). Prior to beginning the study, each data collector reached an 85% interobserver agreement criterion on each observed behavior across three consecutive sessions.

Interobserver agreement was calculated using the *Portable Computer Systems for Observational Use* software (Repp et al., 1987). The software permitted simultaneous coding on separate computers and the calculation of interobserver agreement with the onset and offset of each coded behavior. Two data collectors coded the tapes simultaneously, but used independent computers separated by 3 m and a partition to block visual access to the keyboard. Each session used a tolerance of  $\pm 3$  s in the agreement calculation.

Agreement and disagreement data were used to compute total agreement. Total

agreement scores were calculated by dividing the number of agreements by agreements plus disagreements and multiplying by 100%. Interobserver agreement was assessed during 39% of sessions for Sarah, 48% of sessions for Dimitri and Hannah, and 42% of sessions for Chloe. For aggression, the mean agreement coefficients were 98% (range, 94% to 100%), 97% (range, 93% to 100%), and 93% (range, 80% to 100%) for Sarah, Dimitri, and Chloe, respectively. For disruption, the mean agreement coefficients were 98% (range, 93% to 100%), 100%, and 98% (range, 95% to 100%) for Dimitri, Hannah, and Chloe, respectively. For resistance, the mean agreement coefficients were 99.6% (range, 98% to 100%), 100%, 99% (range, 96% to 100%), and 99% (range, 98% to 100%) for Sarah, Dimitri, Hannah, and Chloe, respectively. For screaming, the mean agreement coefficient for Sarah was 98% (range, 93% to 100%).

#### GENERAL PROCEDURE

In Phase 1, a structured interview and set of direct observations were completed to generate hypotheses about specific instructional tasks that would occasion problem be-

havior (i.e., lower preference tasks) or appropriate on-task behavior (i.e., higher preference tasks). In Phase 2, the effects of these higher preference and lower preference tasks on the rate of problem behavior were evaluated using a multielement design. In addition, to validate the results of the structured interviews and classroom observations conducted in Phase 1, student preferences for these tasks were directly measured (i.e., the student was allowed to choose the task). In Phase 3, we assessed whether allowing the students to choose between two lower preference tasks or between two higher preference tasks reduced problem behavior relative to a condition in which the teacher selected the same tasks.

#### *Phase 1: Functional Assessment and Teacher Nomination of Tasks*

A 60-min in-depth functional analysis interview (O'Neill et al., 1990) was conducted with classroom staff and parents to identify problem behavior, the variables that predicted problem behavior, and the variables that maintained the behavior. Two teachers who had worked with the students for 2 years were interviewed. Each had at least 5 years of special education experience in public schools. Specific sections of the interview provided opportunities for informants to describe activities that were least likely and most likely to produce problem behavior and activities that were perceived to be positive or enjoyable by the student.

The teachers were asked to nominate specific tasks or categories of tasks that were likely to occasion problem behavior (lower preference) and tasks that occasioned adaptive or on-task behaviors (higher preference) for each student. These higher preference and lower preference tasks are listed in Table 1. In addition to the interview, approximately 12 hr of direct observation, using the scatter plot procedures recommended by O'Neill et al. (1990), were made across a

variety of activities and times of day to determine whether problem behaviors correlated with the presence of the academic tasks that had been nominated by the teachers.

#### *Phase 2: Structural Analysis*

The structural (antecedent) analysis (Axelrod, 1987) employed an alternating treatments design (Barlow & Hersen, 1984) and was divided into two parts: (a) a preference assessment that assessed the effects of the higher preference and lower preference tasks identified in Phase 1 on the rates of problem behavior and (b) a validation assessment that assessed whether students, when allowed to choose between tasks, would select tasks identified in Phase 1 as higher preference over those identified as lower preference. Based on the results of Phase 1, three higher preference and three lower preference tasks were identified for each participant.

*Preference assessment.* Each task lasted approximately 5 min, with one to two sessions conducted daily. During a session, the student entered the task area where a single symbol representing the task was displayed on a table. (The symbols associated with each task are presented in Table 1.) Upon approaching the table, the student was instructed to pick up the symbol (the object most closely associated with the task) and go to the work area where the activity took place. Tasks were sequenced using a random numbers table and were offered a minimum of two times during the preference assessment. During the session, the teacher ignored or redirected problem behaviors, and the student was not allowed to physically escape from the task.

*Validation of assessment.* During each session, the student was presented with a choice between one higher preference task and one lower preference task, and then was required to complete the selected task. The order and position of each pair were randomized, and a minimum of two sessions (but no more

than three sessions) were offered per day. At the beginning of each session, two task symbols (one representing a higher preference task and another representing a lower preference task) were placed on a small table (one on the left and one on the right). The symbols were separated by approximately 25 cm. The student was instructed to select one activity. Selecting a task was defined as picking up one symbol and moving toward the activity area. Following the selection process, the student performed the selected activity as in the preference assessment. Data were collected both on the task selected and on the level of problem behavior during task performance.

### *Phase 3: Choice Assessment*

In the validation assessment of Phase 2, the rates of problem behavior were assessed in a condition in which students were allowed to choose between a higher preference and a lower preference task. Given that individuals generally selected the higher preference task in such a condition, it was not possible to separate the effects of choice from the effects of preference in Phase 2. Therefore, in Phase 3, we assessed the rates of problem behavior in conditions in which the students were given choices between (a) two lower preference tasks or (b) two higher preference tasks. Each of these conditions was compared with ones in which a teacher selected the same tasks.

*Choice assessment with lower preference tasks.* The lower preference analysis involved two conditions: teacher choice and student choice. An ABAB reversal design was used to demonstrate the effects of teacher choice versus student choice on problem behavior. The activities used in this phase were the three activities associated with higher levels of problem behavior during the validation assessment. The symbol selection and presentation process during teacher choice was the same as that described in the preference

assessment (a single symbol was present) except that the sessions were lengthened to 10 min. The student choice symbol selection and presentation process was similar to the validation assessment (two symbols were present), except that sessions lasted 10 min and two lower preference tasks were available at the beginning of each session.

*Choice assessment with higher preference tasks.* The higher preference analysis replicated the procedures and phases of the lower preference analysis for 3 of the students, with the exception that the three tasks used in this analysis were those that had been identified in the original assessment as being associated with lower levels of problem behavior.

## RESULTS

### *Preference Assessment*

Figure 1 shows the results of the preference and validation assessments conducted in Phase 2. The preference assessment showed that tasks identified as lower preference through the structured interviews and scatter plot analyses occasioned higher rates of problem behavior than did tasks identified as higher preference. The mean rates of problem behavior during lower preference activities were 2.3 (range, 0.7 to 3.9), 2.3 (range, 1.8 to 3.0), 1.9 (range, 1.0 to 3.3), and 2.7 (range, 1.1 to 5.9) for Sarah, Dimitri, Hannah, and Chloe, respectively. During higher preference activities, the mean rates of problem behavior were 0.24 (range, 0 to 1.0), 0.85 (range, 0 to 4.1), 0.22 (range, 0 to 1.1), and 0.42 (range, 0.2 to 0.7) for Sarah, Dimitri, Hannah, and Chloe, respectively. These results indicate that the structured interview and scatter plot analyses identified instructional tasks that were more and less likely to occasion problem behavior.

### *Validation Assessment*

When students were allowed to choose between tasks that had been identified as

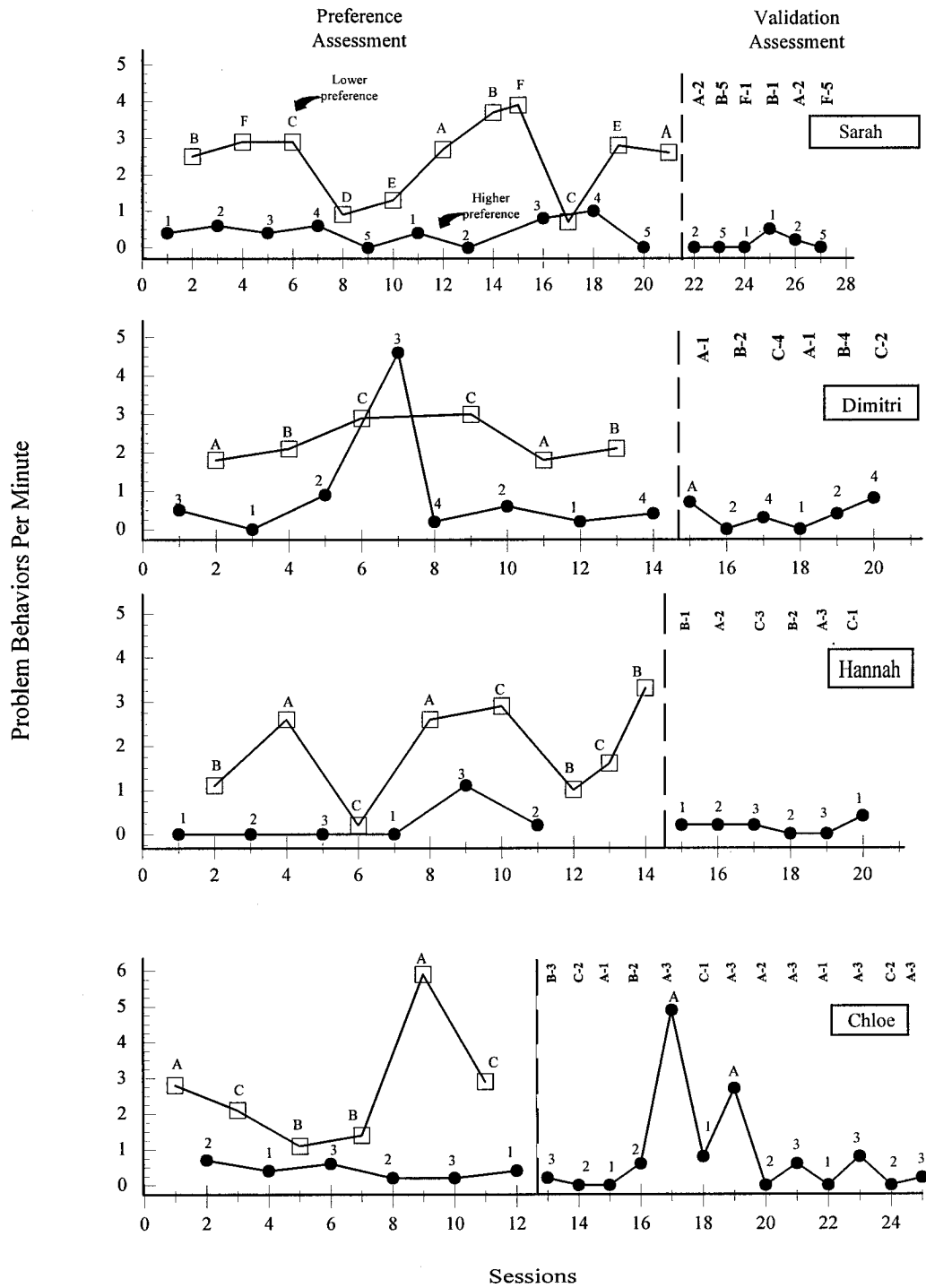


Figure 1. Rate of problem behaviors with higher preference and lower preference tasks. Letters and numbers (see Table 1) indicate the specific tasks presented and selected.

higher preference and lower preference based on the structured interview and scatter plot analyses, they almost always chose the higher preference task (see Figure 1); this further validated the results of the informal functional assessment. Sarah and Hannah always selected tasks identified as higher preference, Dimitri selected the higher preference tasks during five of six (83%) sessions, and Chloe selected higher preference tasks during 11 of 13 (85%) sessions. Thus, the results of the structured interview and scatter plot analyses were highly consistent with the results of the validation assessment.

Consistent with the preference assessment, when students selected tasks identified as higher preference, the rates of problem behavior remained low. On the two occasions when Chloe selected lower preference tasks (Sessions 17 and 19), the rates of problem behavior were considerably higher ( $M = 3.8$ ; range, 2.7 to 4.9) than when she selected higher preference tasks ( $M = 0.29$ ; range, 0 to 0.8). Interestingly, however, this was not the case for Dimitri. When Dimitri chose a task identified as lower preference (Session 15), the rate of problem behavior (0.7) was similar to levels observed when he chose tasks identified as higher preference and was lower than levels observed when the teacher selected this same task during the preference assessment.

#### *Effects of Choice with Lower Preference Tasks*

Figure 2 shows the effects of allowing students to choose between lower preference tasks and having the teacher select the same lower preference tasks for the students. For Sarah and Dimitri, the rates of problem behavior were somewhat lower when the students chose the lower preference task than when the teacher selected the task, but for Hannah and Chloe, the differences between student- and teacher-selected tasks were roughly equivalent. In addition, for Sarah, the trends in both student choice phases

were downward, whereas the trends in the teacher choice phases were not, suggesting that the differences between the two conditions may have been greater had the phases been longer. During student-selected tasks, the mean rates of problem behavior were 1.3 (range, 0.7 to 2.2), 1.4 (range, 0.2 to 3.0), 0.86 (range, 0.1 to 2.2), and 1.8 (range, 0.2 to 4.7) for Sarah, Dimitri, Hannah, and Chloe, respectively. During teacher-selected tasks, the mean rates of problem behavior were 2.2 (range, 0.2 to 3.1), 3.0 (range, 0.8 to 3.7), 1.5 (range, 0.1 to 4.6), and 2.6 (range, 1.1 to 6.1) for Sarah, Dimitri, Hannah, and Chloe, respectively.

#### *Effects of Choice with Higher Preference Tasks*

Figure 3 shows the effects of allowing 3 students to choose between higher preference tasks versus having teachers select the task for the student from the same set of higher preference tasks. The rates of problem behavior were relatively lower when students completed higher preference tasks regardless of whether the student or the teacher selected the task. One exception to this is that the rates of problem behavior were slightly higher when Sarah selected the higher preference task ( $M = 0.59$ ) than when the teacher selected from the same set of tasks ( $M = 0.23$ ). For Dimitri and Hannah, the mean rates of problem behavior in the student choice condition were 0.43 (range, 0 to 1.1) and 0.16 (range, 0 to 0.4), respectively. When the teacher selected from the same set of tasks for Dimitri and Hannah, the mean rates of problem behavior were 0.24 (range, 0 to 1.0) and 0.25 (range, 0 to 0.5), respectively.

Sarah's increased problem behavior during the student choice phase may have been due to the fact that, during Sessions 12, 13, and 17, she was presented with the choice of Tasks 2 and 5 and pointed to Task 1 (a computer across the room) as her preference. In

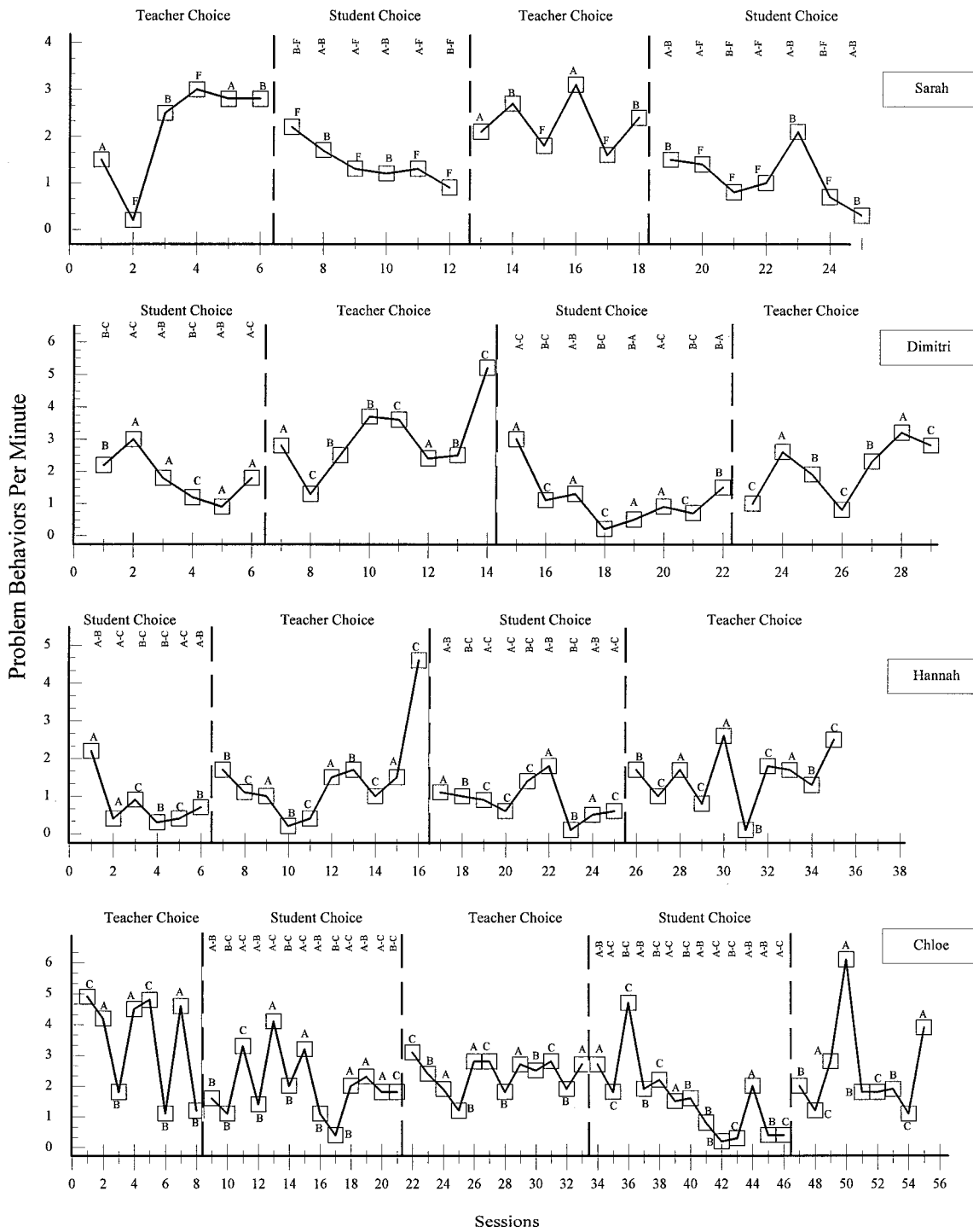


Figure 2. Rate of problem behavior following student choice and teacher choice with lower preference tasks. Letters (see Table 1) indicate the choice options and tasks selected for each session.

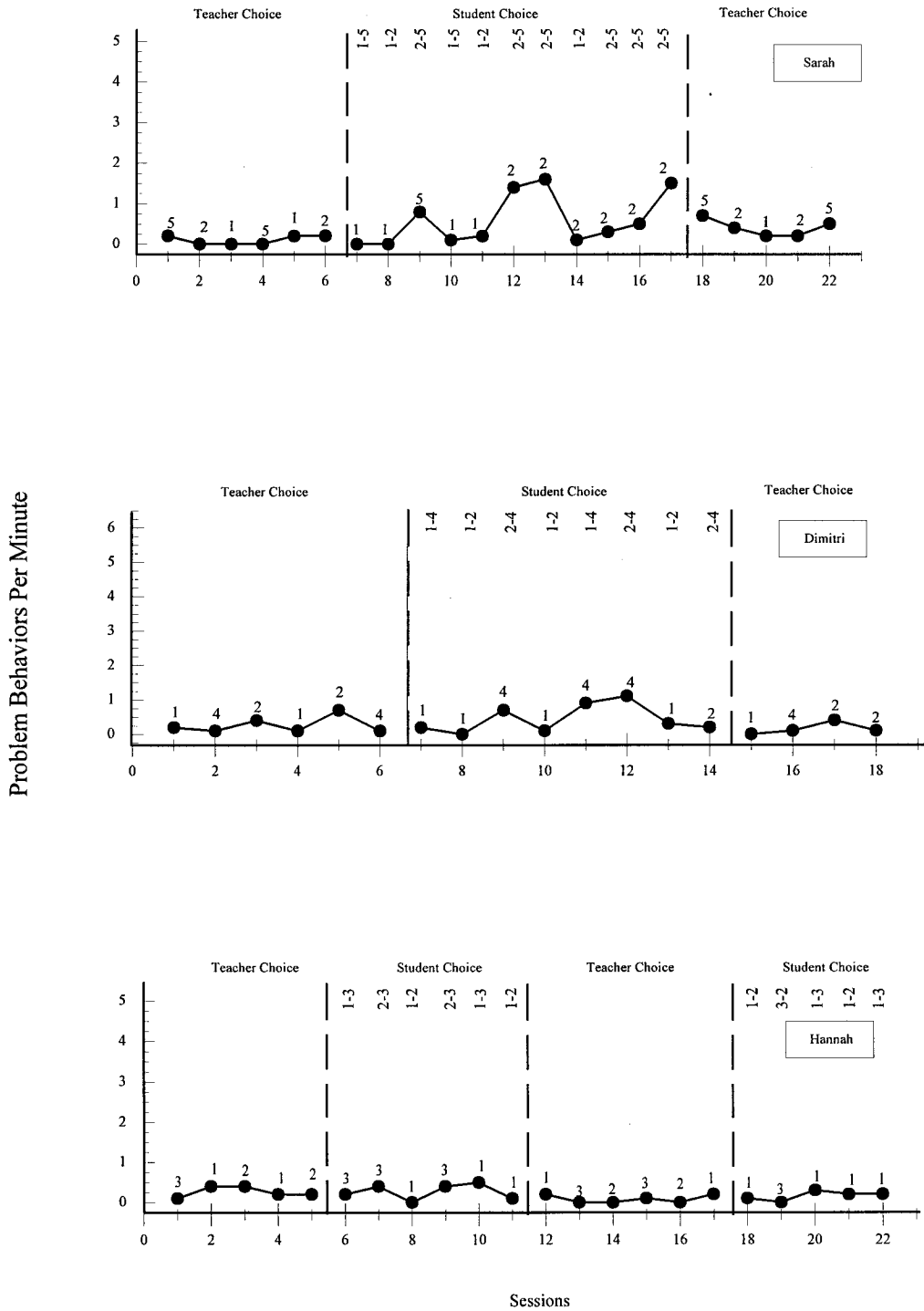


Figure 3. Rate of problem behaviors following student choice and teacher choice with higher preference tasks for Sarah, Dimitri, and Hannah. Numbers (see Table 1) in the phases indicate the specific choice and tasks selected for each session.

each case, she was redirected to the available choices. As such, these sessions may not have been true instances of student choice. The general pattern of lower problem behaviors across all phases for Sarah, Dimitri, and Hannah led to a decision not to replicate the higher preference analysis with Chloe.

## DISCUSSION

The use of structured teacher interviews and observations accurately identified tasks that occasioned problem behavior. Across the 4 students in this study, every task identified by teachers as being lower preference was associated with rates of problem behavior that were higher than every task identified as being higher preference. These results are consistent with recent reports on choice assessment (Newton, Ard, & Horner, 1993; Piazza, Fisher, Hagopian, Bowman, & Toole, 1996), but are inconsistent with earlier reports showing that informal evaluations of preference may be inaccurate (Favell & Cannon, 1976; Green et al., 1988; Parsons & Reid, 1990). Additional research is needed to determine the conditions under which informal assessments of preference are likely to be accurate and usable by teachers, families, and community clinicians.

The results of this study also suggest that care must be taken when defining higher versus lower preferences. To the extent that *preference* is synonymous with *present reinforcer value*, a comparison of options may simply be an indication of their relative reinforcer value. A common method of identifying higher versus lower preference is to give a person multiple opportunities to choose among options. Those frequently selected are considered to be higher preference, and those less frequently selected are considered to be lower preference. The present results suggest that great care is needed when assigning such labels. The higher preference results for Sarah, Dimitri, and Hannah (Fig-

ure 3) document clear preference patterns within the higher preference tasks. Dimitri, for example, consistently selected snack (Task 1) over power car (Task 2) or whirligig (Task 4) in the student choice condition. Snack was the more preferred option, but power car and whirligig were not lower preference options when indexed to rates of problem behavior. In fact, all three options were viewed as higher preference due to the effect of relatively low rates of problem behavior. We suggest that the terms *less preferred* and *more preferred* be used when an assessment compares choice only among an array of options. The labels *higher preference* and *lower preference* might include assessment of the effect of a choice option on a common standard (e.g., effect on problem behavior). Although one might assume that choice items associated with low rates of problem behavior or the absence of problem behavior (higher preference) might serve as potential reinforcers, this assumption was not directly assessed in this study. On the other hand, the reinforcing value of the higher preference items appeared to compete successfully with any other ongoing reinforcement of the problem behavior.

A third and more equivocal finding in the study was that choice may influence problem behavior via multiple mechanisms. An outcome demonstrated in many choice studies is that providing choices reduces the level of escape-motivated problem behavior by providing the student with a simple procedure for avoiding aversive stimuli (e.g., avoid hard tasks by choosing easier ones; Dunlap et al., 1994; Dunlap, Kern-Dunlap, Clarke, & Robbins, 1991). Results from the validation assessment of the present study support that logic. The results from the teacher choice versus student choice comparisons, however, suggest an additional mechanism. The choice comparison results for Sarah and Dimitri with lower preference tasks (Figure 2) indicated a small but discriminable rela-

relationship between student choice and reduced levels of problem behavior. The effect with both participants was small and was not replicated with Hannah or Chloe (Figure 2). The importance of this small effect, however, is that when the task was held constant, there were conditions in which simply choosing the task appeared to reduce both the aversive value of the lower preference task and the likelihood of escape-motivated problem behavior. Clearly, the low magnitude of the effect and the poor replicability do not support the conclusion that choice among lower preference tasks is a powerful intervention tool by itself. They do, however, suggest that multiple mechanisms may be operating when choices are made and that further research is needed to understand the effects of choice on behavior and the role of choice as a component in comprehensive behavioral interventions.

An important limitation of the study is the fact that the contingency hypothesized to maintain problem behavior (escape) was not manipulated systematically. The informal assessments indicated that each of the problem behaviors monitored was escape motivated. The results of the assessment and choice comparison data are consistent with this hypothesis, but at no time did we complete a systematic functional analysis of maintaining consequences. Taken together, the results of this investigation suggest that there are conditions in which informal assessments of preference may be accurate, that preference assessments should carefully separate relative versus absolute designations of preference, and that choice may influence problem behavior via multiple mechanisms.

The practical implications of the results apply to the options that teachers, family members, and community clinicians have for assessing preference and building choice into ongoing daily routines. To the extent feasible, choices are encouraged. They may function to increase motivation and to re-

duce problem behaviors. The results also provide modest encouragement for researchers interested in better understanding the mechanisms by which choice making influences human behavior and the function of choice as a component in comprehensive behavioral interventions.

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*STUDY QUESTIONS*

1. What reasons were offered by the authors to account for teachers' resistance to the use of functional analysis approaches to assessment?
2. Briefly describe the three phases of the study.
3. What were the two general findings observed during the preference and validation conditions in Phase 2?
4. It appeared that not all of the high-preference tasks assigned during the preference assessment were available as choices during the validation assessment. How might this have affected the results of the validation assessment?
5. Describe the results obtained in Phase 3.
6. In the beginning of the Discussion, the authors state that "The use of structured teacher interviews and observations accurately identified tasks that occasioned problem behavior. Across the 4 students in this study, every task identified by the teachers as being lower preference was associated with rates of problem behavior that were higher than every task identified as being of higher preference." What data from Phase 2 (Figure 1) contradict this conclusion?
7. Assuming that the students' behavior problems functioned as escape responses, what dilemma is posed by the results from Phase 3 with respect to relationships among task preference, choice, and problem behavior?
8. The authors indicated that results obtained from the assessment and choice phases were consistent with the hypothesis that the students' behavior problems were maintained by negative reinforcement (escape from aversive tasks). How might the same results be interpreted as being consistent with a hypothesis that behavior problems were maintained by positive reinforcement in the form of preferred activities?

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