*TRAINING RESPITE CARE PROVIDERS FOR FAMILIES WITH
HANDICAPPED CHILDREN: EXPERIMENTAL ANALYSIS
AND VALIDATION OF AN INSTRUCTIONAL PACKAGE*

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We conducted four experiments to evaluate a respite care training package. In Experiment 1, we assessed the effectiveness of an instructional manual on the acquisition of respite care skills and compared the relative effects of three different manual presentation formats. Results showed that performance during simulated (role-played) respite care situations improved substantially for all six trainees following presentation of the instructional manual (with no significant differences between presentation formats) although some remedial training was necessary to achieve mastery criterion. In Experiment 2, we evaluated the effects of the manual presented as a whole with a larger group of trainees and compared it to a workshop training approach. Results showed that both the instructional manual and workshop training approaches were effective, but that the former appeared to be more cost-effective. In both experiments, correct responding generalized to a respite care situation with a multiply handicapped child. In addition, several measures of social validity were obtained. In Experiment 3, we evaluated a simplified training and assessment package that could be conducted using the resources typically available to respite care agencies, and in Experiment 4, we demonstrated that respite care agency personnel could successfully implement this program.

DESCRIPTORS: respite care, training manual, curriculum design, social validation, developmentally disabled children

The mental and physical strain on families from providing constant care for a handicapped child has been shown to be a major factor contributing to institutionalization (Townsend & Flanagan, 1976). Availability of respite care, providing short-

term relief for parents from caretaking responsibilities, has been correlated with reduced requests for long-term residential placement of handicapped children (Lawson, Connolly, Leaver, & English, 1979), as well as reduced family stress (Wilker, 1981) and improved family functioning (Cohen, 1982). The range of babysitting and day care options typically available to families with normal children, however, is severely limited for families with handicapped children (Cohen, 1982; Kenowitz, Gallaher, & Edgar, 1977; Upshur, 1978, 1982a, 1982b). Recent surveys have revealed that cost, availability, service accessibility, and especially competence of the service provider are major concerns of parents of handicapped children in obtaining respite care services (Cohen, 1982; Egel, Parrish, Sloan, & Neef, 1984; Salisbury & Griggs, 1983; Upshur, 1982a). Quality respite care services are often not available because caregivers have not been provided with the necessary training (Kenowitz et al., 1977). According to one survey of parents of handicapped children,

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Requests for reprints, detailed task analyses of respite care skills, and corresponding assessment instruments should be sent to Nancy A. Neef, 100 Whitehead Hall, Division of Education, The Johns Hopkins University, Baltimore, Maryland 21218.

inadequate training of the care provider was the most frequently cited reason for dissatisfaction with respite care services (Upshur, 1982a).

Despite the recognized need for the development and evaluation of competency-based respite care training programs (e.g., Powell & Hecimovic, 1981; Salisbury & Griggs, 1983), there are few guidelines available for this purpose. A limited number of training materials have recently been developed (e.g., Calkins, Gibson, Grosko, & Brueker, 1982; Parham, Hart, Terraciano, & Newton, 1983), and most do not include a comprehensive treatment of requisite skills or sufficiently precise behavioral specification to permit reliable observation and evaluation of their effects on the performance of care providers.

Previous studies reporting the training of complex skills have used instructional packages composed of several procedural components. Results of these studies indicate that this approach is effective in teaching a variety of skills to community residents (e.g., Fawcett & Miller, 1975; Whang, Fletcher, & Fawcett, 1982). Furthermore, these instructional packages may be both convenient and inexpensive to administer, and thus attractive to community agencies (Fawcett & Fletcher, 1977).

The present study consisted of four experiments designed to analyze the effectiveness of an instructional package on the acquisition of specified respite care behaviors. The package contained both written instructional (e.g., Fawcett & Fletcher, 1977; Mathews & Fawcett, 1977) and behavior rehearsal (e.g., Gardner, 1972; Jones & Eimers, 1975) components. The study was conducted in collaboration with four respite care agencies. Experiment 1 involved an experimental analysis of the training sections of the instructional package (i.e., information exchanges with parents; management of child behaviors and completion of daily routines; positioning/handling of children with physical handicaps; and responding to medical/property emergencies) and compared three different presentation formats (concepts supplemented with written examples, pictures, and written examples plus pictures). In Experiment 2, the total instructional package was evaluated and compared

with a workshop training approach. In both experiments, we attempted to assess the social validity of the target behaviors and training effects. In Experiment 3, we assessed a simplified training and evaluation package that could be implemented using the resources typically available to respite care agencies. In addition, we compared performance before and after presentation of the package with trainees who had recently completed a workshop training program provided by the respite care agency. In Experiment 4, respite care agency personnel were taught to administer the procedure.

METHOD

EXPERIMENTS 1 AND 2

Specification and Validation of Target Behaviors

Target respite care behaviors were derived from a survey of parents of handicapped children (Egel *et al.*, 1984), a task analysis of a child care situation, and input from an advisory board consisting of a speech therapist, pediatrician, psychiatrist, psychologist, physical therapist, occupational therapist, two special educators, two parents of handicapped children, and two directors of county respite care agencies. Based upon this input, each of the skill areas identified within four major categories: (a) preparation and parent interaction (phone call, arrival, parent exit, parent return); (b) child behaviors (management of behavior problems, maximizing educational opportunities, managing mealtime, bedtime and toileting routines); (c) physical/medical management (positioning and handling, transfers, feeding, medication); and (d) emergencies (seizures, choking, other medical and property emergencies) was further task-analyzed. The resulting behaviors were subsequently submitted to advisory board members, who were asked to rate those in his/her area of expertise (e.g., the pediatrician reviewed target behaviors on medical emergencies) as to whether each was crucial, important, or neither crucial nor important for respite care workers to acquire. Behaviors rated as neither crucial nor important were omitted. In order to meet mastery criterion, trainees were required to

Table 1
Sample Target Responses Within Four Major Skill Areas

I. Preparation/Information/Parent Interaction	
Parent return	
Reports any of the following which occurred:	
_____*	property emergencies
_____*	medical emergencies
_____*	seizures
_____*	length
_____*	behavior preceding onset
_____*	patterns/sequence of movements
_____*	parts of the body involved
_____*	behavior following seizure
_____*	deviations from usual routine
_____*	behavior problems (frequent or severe)
_____*	description
_____*	frequency
_____*	strategy
_____*	positive behavior
_____*	miscellaneous (messages, etc.)
II. Child behaviors	
Mealtime	
Feeding a child with oral-motor problems (score per bite)	
_____*	puts child in proper chair and position
_____*	if head hyperextended, repositions before feeding
_____*	foods of appropriate texture
_____*	food placed in appropriate location of mouth
_____*	small bites
_____*	pulls spoon straight out of mouth without scraping top teeth or lips
_____*	provides jaw control
_____*	feeds slowly (waits until previous bite is swallowed)
III. Physical/Medical Management	
Medication	
_____*	correct medication
_____*	correct dosage
_____*	administered correctly
_____*	on time
IV. Emergencies	
Seizures	
_____*	helps child to floor within 5 s of onset
_____*	rolls child onto side within 5 s
_____*	moves furniture, sharp objects out of reach
_____*	loosens child's clothing
_____*	removes child's glasses, hearing aid, etc.
_____*	does not put anything in child's mouth
_____*	does not restrain child
_____*	stays with child during seizure and observes
_____*	checks time within 10 s of onset

Table 1
Continued

_____*	if continues over 10 min, calls emergency personnel
_____*	does not give child liquids immediately following
_____	if child voids, cleans child up after seizure
_____	allows child to sleep
_____*	if child sleeps, rolls onto side
_____*	if child sleeps, checks at least once every half hour
_____*	if child is confused, explains what happened

* Behaviors rated as crucial.

perform 90% or more of the behaviors rated as important and 100% of those rated as crucial (cf. van den Pol, Reid, & Fuqua, 1983). This analysis yielded a total of 164 target respite care behaviors, examples of which are presented in Table 1.

Training Manual

A self-instruction manual for respite care workers (Sloan, Neef, Parrish, & Egel, in press) was initially developed based on the parent survey (Egel et al., 1984) and task analyses of child care skills. The manual was reviewed by the advisory board, with changes made based on their recommendations.

The manual was written at a seventh-grade reading level, and consisted of the four major content areas previously described. The format for each section consisted of behavioral objectives, introduction, management strategies, examples of and rationale for the strategies, quiz, answer key with referral page numbers, and a remedial quiz and answer key. For each major content area, three alternative formats were developed: concepts were supplemented with written examples, pictures, or written examples plus pictures. Pictures consisted of pictographs, cartoons, and illustrations. Pictographs were symbols of each of the key concepts (e.g., an encircled high-heeled shoe with a diagonal line through it was pictured in the margin where appropriate dress for moving physically handicapped children was described). Cartoons portrayed two characters ("Super Sitter" and "Sorry

Sitter'') illustrating appropriate and inappropriate examples of key concepts, respectively. Illustrations were designed to portray graphically body position and movement involved in procedures such as treatment for choking, providing jaw control, or moving or positioning a physically handicapped child.

Setting and Stimuli

The study was conducted in a 5.5 m × 4.8 m room at the University of Maryland equipped with observation booths (containing one-way mirrors and a sound system) at either end. A Sony VCR and camera were placed in a corner of the room. The room was divided into "living room," "bedroom," "kitchen," and "bathroom" areas furnished to simulate a home environment, and contained various stimuli commonly found in a home setting that were necessary for target responses to occur. For example, the "kitchen" contained a "stove" (burner), a table with assorted edibles and dishes/utensils, chairs, matches, kitchen timer, and cleaning supplies (e.g., bottles of Drano, furniture polish, and disinfectant filled with water) under a plastic sink. The "bathroom" was furnished with a simulated toilet and a "vanity" containing a first aid kit and a variety of liquid and pill medication bottles (filled with colored water and candy tablets, respectively). A table with a toy phone (wired to another phone outside the room), a pad of paper, and a pencil was located next to the door. On the wall above the table was a clock, and underneath was a tape recorder that announced the time for each half hour, at 4-min intervals. For situations involving a physically handicapped child, additional stimuli, including a wheel chair, catheterization materials, ostomy bags, and a 40-inch cloth doll, were also placed in the room.

Probes

Trainees were evaluated on their performance of target skills via simulated respite care probes, during which the experimenters role-played the parts of a parent, a handicapped child, and other miscellaneous persons (e.g., a neighbor, emergency

personnel). Each of these parts was role-played according to 1 of 17 scripts, which varied according to the characteristics of the child (e.g., the age, handicapping conditions, functioning level, communication system, adaptive devices used), behavior problems (types of noncompliance, dangerous/destructive behaviors), routines (e.g., bedtime, mealtime, toileting), and emergency situations (e.g., accidental poisoning, choking, fire, prowler) represented. A sample respite care scenario used in the study is shown in Table 2. Scripts were selected in each condition so that performance of all relevant respite care behaviors could be assessed. Two scripts, one involving a physically handicapped child and one a non-physically handicapped child, were necessary to assess performance of all 164 target behaviors because scripts involving a non-physically handicapped child did not require demonstration of feeding or positioning and handling skills.

Each probe session lasted 25–45 min, depending on how many of the target behaviors the trainee performed, and simulated approximately 4 hr of respite care. A cassette tape announced the time to the half hour, and the hands on the wall clock were moved accordingly. This allowed trainees to follow a child's evening routine (e.g., dinner at 6:00 p.m., bedtime at 8:00 p.m.).

Before initiating probes, the experimenter described the role that the trainee was to assume, as well as general characteristics of the situation (e.g., that the "parent" would call him/her on the phone outside the room to arrange for respite care, that he or she should subsequently arrive at the "home," how time would be signaled, that a doll would be substituted in situations involving wheelchair transfers). The trainee was also instructed to behave as much as possible as he or she would in an actual respite care situation.

Each probe began with the parent "calling" the respite care worker to arrange for child care. The "parent" answered any questions (according to the information contained in the script) that were asked by the respite care worker, but did not offer any information other than that which was requested. When the respite care worker arrived at the

Table 2
Sample Role-Play Script

Description of child
Name: Gladys Kanbea
Age: 7
Handicapping conditions: Severe mental retardation, spina bifida (nonambulatory), epileptic, behavior disorders
Communication System: Bliss symbols
Special equipment/Adaptive devices: Wheelchair, ilios-tomy bag (see instruction sheet)
Preferred toys, activities: T.V., picture-books, doll
Current target skills: Labeling functional objects, language initiations, mobility
Suggested management strategies for behavior problems: Aggression (attempted hitting)—Time-out
Independence: Can assist in transfers by putting arms around neck and leaning against person; must be fed
Routine
Dinner:
Time—5:30 p.m.
Procedure—Must be fed; food placed in center of tongue; use jaw control; soft or ground foods and thickened liquids only
Bedtime:
Time—8:30 p.m.
Procedure—Teeth brushed, read story, plug in night light
Medication:
Time—6:00 p.m.
Type—Phenobarbitol
Where stored—Medicine cabinet
Dosage—2 teaspoons
How administered—Mixed with food
Toileting:
Time—7:30 p.m.
Procedure—Check ostomy bag; if full, empty.
Emergency Numbers
Parents: At Cleaver's House (790-8627)
Doctor: Dr. Kildare (433-1200)
Neighbor or friend: Ed Haskell (454-8112)
Fire, police, ambulance: 911
Child Script
Props: Wear glasses, scarf around neck (for seizure), os-tomy bag taped on
Behavior problems: Noncompliance (2×, any opportunity when instruction is given); Dangerous/destructive (hit respite care worker); Other (tantrum once if denied something, whine after being put to bed; deliberately knock utensils on floor 2× during meal)
Emergencies: Choke on food during meal; 1 min grand mal seizure (give prior warning sign, sleep afterwards); fall and hit head, lose consciousness
Other: Hyperextend during meal

Table 2
Continued

Other Person Script

Neighbor: Call and report seeing someone in bushes looking through their window

Police: If called about above incident, advise checking to make sure all doors and windows are locked, drawing all curtains; say you will send patrol out to investigate

Medical personnel: If called about emergency, advise according to information contained on first aid sheet for emergency described.

"home," he or she was introduced to the "child" and provided with extraneous information, after which the "parent" asked if there were any further questions. Again, the "parent" volunteered little at this time, in order to permit observation of whether the respite care worker would solicit key information not initially provided. Once the respite care worker indicated that he or she had no further questions, the "parent" provided only as much additional information as was required for subsequent target behaviors to occur. For example, if the respite care worker had failed to inquire about the routine, the "parent" might say "Well, I'll be on my way then. Gladys can have her dinner shortly, at 5:00 p.m., and will need to be fed," so that the respite care worker's performance of mealtime and feeding procedures could be scored.

Once the "parent" left the room, the respite care worker was expected to manage scheduled routine activities such as administration of medication, play, mealtime, toileting, and bedtime, and to respond to other scripted events. These included a simulated seizure, choking incident, medical emergency (e.g., accidental poisoning, a fall resulting in loss of consciousness), property emergency (e.g., a prowler, a reported fire in the garage, or fallen power line), and various behavior problems (e.g., noncompliance, tantrums, head banging). If the respite care worker did not respond appropriately to any of the events (e.g., failed to call medical personnel for an emergency such as a prolonged seizure or loss of consciousness), or after he or she had taken the necessary steps, the inci-

dent was ended (the "child" discontinued the "seizure" or "regained consciousness") so that the probe session could continue.

For probes involving a physically handicapped, nonambulatory child, the experimenter role-playing the part of the child positioned a large doll in her place when lifting or carrying was imminent (i.e., when the respite care worker indicated verbally or through his/her actions that he or she was about to transfer the "child" to or from the wheelchair). Once the move had been executed, the experimenter immediately returned to the position in which the doll had been placed. A doll was also used for performance of toileting routines.

Following completion of the scheduled bedtime routine, the "parent" returned "home" at the appointed time. As before, the "parent" made superfluous comments (e.g., "We had a wonderful time at the Cleaver's party"), but did not solicit the reporting of any specific information, except to ask "Did everything go okay?" The probe session was terminated with the respite care worker saying goodbye to the "parent."

Following each probe session, the trainee was thanked for his/her participation and praised for his/her efforts (e.g., "You seemed quite comfortable role-playing this part"), noncontingent on accuracy of performance.

Generalization Probes

Generalization probes were conducted following the completion of training to assess trainee performance in a more natural situation. The probes were conducted in the setting previously described; however, care was actually provided to a handicapped child.

The child was an 11-year-old male, diagnosed as moderately retarded (IQ = 55 on the Stanford Binet), epileptic, and behavior disordered. Behavior problems exhibited included noncompliance, mild self-injury (e.g., face-slapping), self-stimulation (e.g., rocking, thumb-sucking), inappropriate vocalizations (e.g., yelling, cursing, echolalia), and occasional aggression (e.g., kicking, pushing).

Initially, the parent contacted the trainee by

phone to arrange for respite care. During the phone call, the parent recorded on a prepared data sheet all the information solicited by the respite care trainee (responses were independently scored by the parent's spouse, who listened on the extension for reliability purposes). The parent arranged to meet the respite care worker at the university site so that the parent "could attend a meeting on campus." The probe lasted for 45 minutes to an hour, during which time data were collected covertly (by observers stationed in the observation booth) on the respite care worker's responses to several situations. These included (a) arrival and preparation, (b) parent exit, (c) mealtime (the respite care worker was to prepare dinner/snack for the child), (d) behavior problems, (e) administration of medication (Tegretol and Dilantin) and responses to any medical problems (e.g., seizures), (f) toileting, (g) use of reinforcement and naturalistic teaching opportunities, and (h) parent return.

Data Collection and Reliability

During assessments of trainees' performance of the target behaviors, an observer recorded the occurrence or nonoccurrence of each applicable correct response, as identified in the task analysis. For skill areas involving multiple response opportunities, only the first five responses were scored (e.g., the behaviors involved in feeding a child with oral-motor problems were scored for the first five bites only).

Interobserver agreement was assessed for each trainee in each condition. Two persons independently observed and recorded the trainee's performance from videotape. Reliability observers were usually naive to the experimental conditions in effect. Primary and reliability observers' records were compared on a per-response basis, and reliability scores were computed by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100. This formula was used to calculate agreement percentages for occurrences of correct responses, nonoccurrences of correct responses, and overall occurrences plus non-occurrences.

Social Validation

Trainee satisfaction. Measures of trainee satisfaction with the training program were obtained via a questionnaire, adapted from one developed by Larsen, Attkisson, Hargreaves, and Nguyen (1979). Participants were asked to anonymously rate their satisfaction with the training on a Likert-type scale from 1 to 4 along eight dimensions (presented in Table 3). Questionnaires were returned by all participants.

Parent/professional ratings. Parents of handicapped children and the coordinator of a county respite care agency participated in evaluation of the overall quality of trainee performance in each of the target skill areas before and after training was provided. The children of the parents displayed various handicapping conditions covering the range of those portrayed in the role-played situations. Each observer rated a randomly selected pre- and posttraining videotaped probe session for at least one trainee. Thus, the posttraining session observed was not necessarily the final probe, in which criterion was met. The two tapes per trainee were presented in a random order, and observers were not informed as to the experimental conditions represented. After viewing each tape, observers were asked to rate the sessions on a Likert-type scale from 1 to 4 along 10 dimensions, as presented in Table 4.

Consumer satisfaction. In an attempt to assess parent satisfaction with respite care services provided by individuals who had completed the program versus those who had not participated, families who had expressed a need for trained sitters were asked and subsequently agreed to participate in evaluation of their performance. The parents either contacted the individuals directly or arranged for their services through the respite care agency. The parents were provided with several stamped, self-addressed postcards that contained spaces for the following information: (a) name of parent, (b) name of sitter, (c) date and time service was provided, (d) degree of satisfaction with care provided on a 1 (very dissatisfied) to 5 (very satisfied) Likert-type scale, and (e) comments. Parents

Table 3
Mean Ratings on Trainee Satisfaction Questionnaire

	Exp. 1	Exp. 2
1. How would you rate the quality of training you received? 4 (excellent)–1 (poor)	3.8	3.5
2. Did you get the kind of training you wanted? 1 (definitely not)–4 (definitely)	3.8	3.7
3. To what extent has our training met your needs? 4 (almost all of my needs have been met)–1 (none of my needs have been met)	4.0	3.8
4. If a friend was in need of similar help, would you recommend our program to him/her? 1 (no definitely not)–4 (yes definitely)	3.2	3.8
5. How satisfied are you with the amount of training you received? 1 (quite dissatisfied)–4 (very satisfied)	3.0	3.6
6. Have the services you received helped you to deal more effectively with your needs? 4 (yes they helped a great deal)–1 (no they seemed to make things worse)	4.0	3.8
7. In an overall, general sense, how satisfied are you with the training you received? 4 (very satisfied)–1 (very dissatisfied)	4.0	3.6
8. If you were to seek help again, would you come back to our training program? 1 (no definitely not)–4 (yes definitely)	3.2	3.6

were asked to complete and mail one of these cards each time respite care occurred. It was explained to the parents that their responses would aid in evaluating and planning respite care training programs, and that their responses would remain confidential and in no way affect their eligibility for future services. Seven families participated in the evaluation. Nine cards were returned for seven respite care workers who had not participated in the training program and seven cards were returned for five individuals who had completed the training (all from Experiment 2).

EXPERIMENT 1

METHOD

Subjects

Respite care worker candidates were recruited and referred by two county Department of Social Services respite care agencies. Five females and one

Table 4
Mean Consumer Ratings of Respite Care Trainees' Performance on Pre- and Posttraining Probes

	Experiment 1		Experiment 2	
	Pre	Post	Pre	Post
1. How completely did the sitter prepare for the evening by collecting all relevant information from the parent? 1 (very incompletely)–4 (very completely)	2.3	4.0	2.2	3.6
2. How appropriately did the sitter manage the child's behavior problems? 1 (very inappropriately)–4 (very appropriately)	2.5	3.8	2.3	3.7
3. In general, how would you rate the quality of the interaction between the sitter and the child? 1 (poor)–4 (excellent)	2.7	3.5	2.9	3.6
4. How would you rate the sitter's ability to manage the child's routine activities (i.e., mealtime, bedtime, and toileting)? 1 (poor)–4 (excellent)	2.9	3.7	2.3	3.5
5. Overall, how would you rate the sitter's skill at handling the emergency situations that arose? 1 (poor)–4 (excellent)	2.9	3.8	2.2	3.4
6. How adequately did the sitter report all relevant information to the parent upon his/her return? 1 (very inadequately)–4 (very adequately)	2.8	4.0	2.6	3.5
7. How well did the sitter make use of routine situations to attempt to teach the child academic, self-care, and other skills? 1 (very poor)–4 (very well)	2.6	3.7	2.4	3.4
8. If the child was physically handicapped: in general, how would you rate the sitter's skill at lifting, transferring, positioning, and feeding the child? 1 (poor)–4 (excellent)	2.6	3.6	2.1	3.5
9. Overall, how would you rate the quality of care this sitter provided? 1 (poor)–4 (excellent)	2.7	4.0	2.6	3.7
10. Overall, how comfortable would you feel having this person sit for your child? 1 (very uncomfortable)–4 (very comfortable)	2.4	4.0	2.3	3.7

male were selected for participation in this study based on the following criteria: (a) granting of informed consent, (b) age 18 years or older, (c) availability for and interest in providing respite care at least 10 hr per month, (d) expected long-term residency in the state of Maryland, and (e) previous experience with handicapped children, a criterion used by the referring respite care agencies. Trainees ranged in age from 22 to 58 ($M = 32$) years old. All had completed some college-level coursework and had provided respite care to families of developmentally disabled children, although none had received any previous respite care training. Trainees were awarded a certificate and paid \$4.00 per hr (for probe sessions) contingent upon successful completion of the program.

Procedure

Following stable performance on baseline probes, each trainee was given the first section of the self-instruction manual in one of the three different formats. Once the trainee reported completing the section (typically 2 to 4 weeks later), a quiz was

administered to assess comprehension of the material. Quizzes consisted of short-answer questions, similar although not identical to those contained in the manual. Answers were immediately scored as correct or incorrect, and feedback was provided to the trainee. All trainees achieved the mastery criterion of at least 90% correct on the first quiz for each section. Immediately after passing the quiz, a probe was conducted in the same manner as during baseline. When trainees achieved the mastery criterion on that portion of the probe relating to the target skills trained (i.e., the section(s) of the manual completed), the next section of the manual (in a different format) was presented. This process was repeated for each of the remaining sections of the manual.

If, following completion of a section of the manual, the trainee did not achieve the mastery criterion on the respective portion of the subsequent probe, remedial training was provided. The respective portions of the manual were reviewed with the trainee, after which the experimenter modeled the appropriate target behaviors. The trainee then

practiced the skill(s), with one experimenter role-playing the part of the target recipient (i.e., the parent or child, depending on the skill being demonstrated), while another experimenter provided contingent praise and corrective feedback to the trainee on his/her performance. After the trainee correctly demonstrated the target skill(s), another probe was conducted. This process was repeated until the mastery criterion was obtained during probes.

Following completion of the final section of the manual, if trainees demonstrated the mastery criterion on all target behaviors during posttraining probes a generalization probe was conducted. Training was terminated when the performance criterion was met on generalization probes.

Experimental Design

This study utilized a multiple-baseline design across both subjects and skill components (Baer, Wolf, & Risley, 1968). The effects of the three different manual formats were evaluated by counterbalancing the order of their presentation across participants.

Reliability

Reliability checks were conducted on 23%, 46%, and 100% of all pretraining, posttraining, and generalization probes, respectively, for all trainees. Overall reliability averaged 90% (range, 79%–100%) and occurrence reliability averaged 92% (range, 72%–100%). Nonoccurrence reliability was lower (averaging 74%) due to the small number of incorrect responses by participants following training, such that few disagreements produced low reliability scores.

RESULTS AND DISCUSSION

Figure 1 shows the results of probes of all skill areas conducted before training and after presentation of each section of the manual for the six trainees. These data indicate that the instructional package was effective in facilitating acquisition of respite care skills for all six trainees. Mean performance increased from 40% correct during baseline (range, 29%–55%) to 98% correct following com-

pletion of training (range, 91%–100%). Typically, the percentage of correct responses increased incrementally following the successive presentation of each of the manual sections, although some remedial training was necessary in order to achieve the mastery criterion. No clear differences were obtained with the three manual formats; however, all trainees stated a preference for written examples plus pictures. Results of generalization probes indicated that all trainees continued to demonstrate the target skills in a respite care situation with a multiply handicapped child; percent correct responses ranged from 80% (T4) to 97% (T1).

Figure 2 shows the multiple-baseline design across behaviors (corresponding to sections of the manual) with two trainees (T3 and T6) whose performances are representative (best and worst) of the other participants. Data are differentiated for scripts involving physically and non-physically handicapped children; the variability in the data for physical/medical management can be attributed to the few response opportunities in scripts involving non-physically handicapped children.

Outcomes of the two social validity measures are presented in Tables 3 and 4. These data indicate that consumers (trainees as well as parents of handicapped children and a respite care agency coordinator) were generally quite satisfied with the training program. On a scale of 1–4 (with 4 being most favorable), all trainees responded 3 or above to each of the eight questions. The results presented in Table 4 indicate that parents and professionals rated trainees' performance substantially higher on posttraining than on pretraining probes in all skill areas. Mean ratings for each of the 10 dimensions contained in the questionnaire ranged from 2.3 to 2.9 on the pretraining probes and 3.5 to 4.0 on the posttraining probes.

EXPERIMENT 2

The controlled conditions of Experiment 1 provided a detailed analysis of several components of the respite care skills training package with a small number of trainees who each completed a series of simulations. It is possible, however, that the mul-

Figure 1. Percentage of correct responses on probes across baseline (closed data points), training (open data points), and generalization (Xs) conditions, for Trainees 1–6. During training, the four sections of the manual were presented sequentially, as indicated by separated data points; connected data points indicate skill areas in which remedial training occurred. Open circles (pictures only), triangles (written examples only), and squares (pictures plus written examples) represent the format of the manual section presented.

multiple opportunities to practice afforded by the administration of probes after completion of each section of the manual affected the trainees' performance. Experiment 2 was designed to systematically evaluate the effects of the respite care skills training package presented as a whole, and to replicate the effects of the training package with a larger group of trainees. We were also interested in comparing the effectiveness of this package with a training approach centered on a series of work-

shops because workshops are the most commonly used training format (Salisbury, 1984; Warren & Dickman, 1981).

METHOD

Subjects

Adults (1 male, 17 female) with a median age of 22 years (range, 18–40 years) who met the same inclusion criterion used in Experiment 1 participated. Four were referred by respite care coor-

Figure 2. Percentage of correct responses on probes in each of the skill areas for Trainees 3 and 6. Probes involving scripts for physically and non-physically handicapped children are represented by closed and open data points, respectively.

dinators of two local county agencies; the remainder were recruited through poster advertisements distributed across the university campus where the experiment was conducted. All participants were

high school graduates; 89% were full- or part-time students having completed a median 3 years of college. Fifty-six percent had no prior experience as a respite care provider. None had participated

in Experiment 1. There were no systematic differences with respect to demographic variables between groups of subjects assigned to the two experimental conditions (training via self-directed manual vs. workshops). Participants were assigned to training conditions according to their preferences.

This study employed a multiple-baseline-across-subjects design.

Training Procedures

Manual. Participants selecting self-directed training were given the manual employed in Experiment 1 and asked to read it within a 2-week to 2-month period. As in the prior experiment, each participant received, on a random-selection basis, a manual in which the three available presentation formats were varied across the four sections. Upon notification by the participants that the manual had been read, brief short-answer quizzes were administered to assess the participant's comprehension of manual content within each topical area. Once the participant correctly responded to at least 90% of the quiz items, post-training probes were conducted.

Workshops. Participants electing training via workshops were given a choice between attending late afternoon or evening sessions led by a two- or three-member project staff team. Four 1.5-hr workshops were provided weekly. Workshops covered only the information presented in the manual. Project staff gleaned all information pertinent to successful completion of each item of the task analysis to be scored and presented it orally along with demonstrations, visual aids consisting of transparencies outlining key points, and brief videotaped vignettes depicting proscribed as well as prescribed behaviors. Workshop leaders provided an overview of the workshop sequence and a presentation regarding parent exit and return during the first workshop, with material pertaining to behavior problems and management routines, medical/property emergencies, and positioning/handling presented in the second, third, and fourth workshops, respectively. Participants were permitted to take notes; however, no written materials were dis-

tributed during the workshops. Participants unable to attend a workshop were rescheduled for the same session or were required to view a videotape of the session missed. Attendance averaged 97% with a range from 89% to 100%. All participants either attended or viewed a videotape of each workshop.

Remedial training. If a participant did not meet mastery criterion during posttraining probes, remedial training was provided. Workshop participants who did not achieve criterion received the entire manual (pictures plus written examples format) and were asked to read indicated sections prior to returning for the next posttraining probe. Subsequently, remedial training was the same for all participants. If fewer than 70% of the tasks were completed correctly on the preceding probe, the participant was required to reread the appropriate section(s) of the manual prior to completing another posttraining probe. If between 70% and 90% of the steps were performed correctly, the experimenter first reviewed with the trainee those portions of the manual in which performance errors had occurred. Remedial training was then provided, during which project staff demonstrated the skill to be acquired, and the participant and staff practiced the skill together until all steps were completed correctly.

Probes

Probes were conducted before training and after the mastery criterion was met within each training condition, as previously described. The only difference was in cases where a participant who did not meet criterion on a posttraining probe (a) performed at least 80% of the tasks correctly, (b) missed no more than 10 critical items of the task analysis, and (c) requested all of the critical information from parents. In these situations, "shortened" probes were conducted following remedial training. During these probes, the participant completed a simulation according to the same script (or with the same child) as employed when the training criterion was not met. Thus, the participant was required to: (a) solicit only that information needed from the parent when providing

respite care for the second time and (b) perform those routines or handle those situations (e.g., mealtime, medications, behavior problems, toileting) in which critical tasks had been performed incorrectly or omitted. Remedial training and subsequent probes were conducted until the participant completed 90% of the tasks, including all of the critical ones, correctly.

Reliability

Reliability checks were completed during at least 34% of the probes during each condition. These checks yielded mean occurrence agreement scores of 91.6%, mean nonoccurrence agreement scores of 84.4%, and mean occurrence plus nonoccurrence agreement scores of 93.7%.

Cost-effective Analysis

A cost-effective analysis was conducted based upon an absorption formula (Reiss & Bailey, 1982) that factored in the cost of all training materials and project staff time expended during training. (Program development time was not factored into the analysis because it was not a recurring expense, and because it was not possible to differentiate between the costs of developing the manual versus the workshop given that the content of the latter was derived directly from the former.) Costs for the manual group consisted of \$7.45 per manual and trainer time at the rate of \$9.25 per hr. Costs for the workshop included overheads (\$20.00) and a videotape (\$27.00), in addition to trainer/presenter time and the manual (for remedial training).

RESULTS AND DISCUSSION

Figure 3 presents the results of the multiple-baseline analysis for trainees in the manual and workshop groups, respectively. Baseline data show relatively low levels of task completion with a substantial increase in the percentage of target skills completed correctly by each participant following training. The mean percentage increases observed during the first posttraining probes taken with

manual and workshop group participants were 45.4% and 46.9%, respectively. An analysis of variance revealed no significant differences in trainee performance, $F(2, 42) = 0.93$, n.s., as a function of the three different presentation formats.

The results of Experiment 2 replicate the findings of Experiment 1 in that the manual training package was shown again to be an effective method of facilitating acquisition of respite care skills. Most importantly, this training resulted in high levels of task performance in an actual respite care situation with a developmentally disabled child. The results were socially validated by parents of handicapped children who either observed the trainees' performance during probe sessions or who subsequently employed them as respite care workers. The results of parent/professional ratings of trainee performance during pre- and posttraining probes are presented in Table 4. Mean ratings ranged from 2.1 to 2.9 on the pretraining probes and 3.4 to 3.7 on the posttraining probes. Target parents who employed five of the respite care trainees (each from the manual training group) following completion of the program all indicated that they were very satisfied (5 on a scale of 1–5) with the services provided. Ratings of seven respite care providers who had not participated in the training program ranged from 2 to 5, with a mean of 4.

In addition, results of the trainee satisfaction questionnaire (Table 3) indicate that manual and workshop participants responded favorably to the training program. The mean response to each of the questions was 3.5 or greater on a scale of 1–4, with 4 being most favorable.

The data collected in Experiment 2 suggest that the manual training approach compares favorably in some respects with the workshop paradigm we used. First, the logistics of developing and leading workshops were more difficult than those involved in developing and distributing a manual. Once the manual was produced and distributed, trainers simply provided remedial training as needed, instead of arranging a series of workshops at times suitable for the majority of trainees, delivering the workshop material repeatedly, and scheduling make-up workshops. Second, most individuals re-

Figure 3. Percentage of correct responses on probes across experimental conditions for trainees in the manual and workshop groups.

cruited for training stated a preference for reading the manual over participation in the workshops. All participants in the manual group completed the program, whereas four participants in the workshop group (P 11, 12, 14, and 18) did not and another (P 17) refused to complete more than one posttraining assessment prior to the generalization probe. Third, the manual served as an efficient tool for remedial as well as initial training. Somewhat fewer remedial training sessions were required by manual recipients (range, 1–3; $M = 2.1$) than workshop participants (range, 2–4; $M = 2.8$) in order to reach criterion. Finally, based on the cost-absorption formula, the manual training package was found to be more cost-effective than training provided through workshops. The cost of assisting each trainee to reach criterion using the manual training package averaged \$12.91, whereas that of the workshop plus supplemental manual training was \$43.41.

Conclusions drawn from the comparison of manual- versus workshop-based training are somewhat limited because participants were not assigned randomly to training paradigms. Furthermore, it could be argued that the effectiveness of workshops could be enhanced by the inclusion of mastery quizzes and written handouts; yet, the workshop format to which manual-based training was compared was not atypical of the workshops routinely conducted by area respite care agencies.

EXPERIMENT 3

The results of Experiment 2 demonstrated that the training manual package compared favorably with workshops, as measured by trainee performance during respite care simulations. These simulations (probes) provided a basis not only for experimentally demonstrating the effectiveness of training but also for determining skill areas in which each trainee required remedial training. However, the resources necessary for conducting such assessments (e.g., three or more staff to role play and observe, a room equipped to simulate a home setting) are unlikely to be readily available to many respite care agencies. The primary purpose of Experiment 3 was to assess a simplified training and

evaluation package that would be more practical for respite care agencies to implement. A secondary purpose of the study was to provide preliminary data on the effectiveness of workshops routinely conducted by one local respite care agency.

METHOD

Subjects and Setting

Nine adults (eight female) participated in this experiment. All were attending school in preparation for jobs as nursing aides. All participants were recruited by the coordinator of a regional respite care agency, and had recently completed the agency's respite care training program. This program had consisted of a series of workshops at which a home health care professional (nurse) and the parent of a handicapped child presented instruction relating to positioning, handling, and feeding physically handicapped children, managing seizures, interacting with parents, and various other respite care skills.

Candidate trainees were informed that they would receive a \$15.00 rebate of the workshop fee charged by the agency and a certificate for their participation following successful completion of the program. It was also explained that participation was strictly voluntary and in no way affected their eligibility to provide respite care services. Persons granting informed consent were targeted for participation.

The study was conducted in two rooms of a day training center. The stimuli consisted of a wheelchair, eating utensils, a toy telephone, and the large rag doll used in Experiments 1 and 2.

Procedure

Pretest. Participants were first administered a written pretest consisting of multiple-choice and short-answer questions directly relating to target respite care skills as identified in the task analysis (e.g., "The child you are watching has just popped a button into her mouth. She is now coughing very hard, gasping, and looking scared. What should you do? a) reach in her mouth to get the button, b) give her a drink of water, c) pat her strongly on the back, d) do not intervene"). Questions were derived from and distributed across the

Table 5
Percentage of Correct Responses by Participants on Pre- and Posttests and Simulation Assessments

Experiment 3						
	Pretest	Posttest			Simulations	
		(1)	(2)	(3)	(1)	(2)
P1	43%	87%	—	—	87%	100%
P2	63%	90%	—	—	93%	100%
P3	34%	67%	83%	91%	64%	96%
P4	36%	67%	86%	—	84%	100%
P5	30%	80%	91%	—	100%	—
P6	53%	74%	95%	—	77%	100%
P7	36%	80%	96%	—	87%	100%
P8	33%	69%	82%	89%	70%	93%
P9	48%	78%	86%	—	94%	100%
M	42%	77%	88%	90%	84%	99%

Experiment 4					
	Posttest		Simulations		
	(1)	(2)	(1)	(2)	
P1	82%	100%	83%	94%	
P2	92%	97%	80%	96%	
P3	83%	95%	86%	96%	
P4	78%	*	91%	98%	
P5	87%	95%	98%	100%	
P6	74%	*	89%	100%	
P7	86%	94%	81%	97%	
P8	69%	*	94%	97%	
P9	74%	91%	100%	—	
P10	83%	91%	93%	—	
M	81%	95%	90%	97%	

* Although all participants met criterion on written posttests before simulations were conducted, posttest data for three of the participants were subsequently lost; thus, their exact scores are not available.

content areas of the instruction manual, and sampled target respite care behaviors. Pretests were collected upon their completion and participants were not provided with feedback on their performance. The pretest served as a posttraining measure of the respite care skills acquired via the workshops, as well as a baseline measure prior to presentation of the instruction manual.

Training. Immediately following the pretest, participants were given the self-instruction manual. Participants were informed that they would be given 6 weeks in which to study the material, and that, in order to be eligible to take the posttest, they would be required to present evidence that

each of the quizzes contained in the manual had been completed.

Posttest. The posttest was identical to the pretest in terms of the number and types of questions. Questions were similar in content to those presented in the pretest, but differed along irrelevant dimensions (situational variables and characteristics of the child that would not affect use of the procedure) and in order of presentation.

Posttests were scored immediately upon completion. For each incorrect answer, the experimenter recorded on a specially prepared sheet the corresponding section(s) and page number(s) that the participant was to review. Following self-directed remedial training (i.e., after the participant reported that he or she had restudied the indicated sections of the manual), a remedial test was given over the material in the same manner as the posttest. This procedure was continued until participants obtained a score of 85% correct or greater on the posttest.

Simulations. Once the participant met criterion on the written test, he or she was sent to another classroom where he or she was asked to actively demonstrate target respite care behaviors according to the scenarios presented. These behaviors were demonstrated either with the doll (e.g., wheelchair transfers) or the evaluator (e.g., feeding procedures). For each scenario, the evaluator described the task and/or situation, and ongoing events/conditions. For example, for observation of seizure management, the evaluator would point to the doll positioned in the wheelchair and say, "His eyes have rolled back, his body has stiffened, and his arms and legs are starting to shake," followed later by "Three minutes have passed and his lips now have a blue tinge" or "He has stopped shaking and is breathing normally but is totally unresponsive."

No feedback was provided until the scenario had been completed and the behaviors scored. At the completion of the observation, the evaluator provided descriptive praise for correct performance and described any errors that had occurred; he or she then modeled the correct behaviors and asked the participants to practice them while the trainer

provided feedback. The process was repeated until the participant demonstrated all of the behaviors correctly, at which time the next skill area was assessed in the same manner. This procedure was continued until the mastery criterion was attained in each of the skill areas assessed.

Data Collection and Reliability

For pre- and posttests, data were collected on the percentage of correct responses. Tests were scored on separate answer sheets to permit independent scoring by a second observer. Reliability checks were conducted on 66.7% of the pretests and 55.6% of the posttests. Experimenter and observer records were compared and reliabilities calculated by dividing the number of agreements by agreements plus disagreements and multiplying by 100. This formula was used to compute agreement percentages for occurrences, nonoccurrences, and occurrences plus nonoccurrences. Reliability scores for each participant ranged between 66.7% and 96.1%. Agreement scores averaged across the nine participants were 82.3%, 77.5%, and 90.5% for occurrence, nonoccurrence, and occurrence plus nonoccurrence, respectively.

During simulations, target behaviors were defined and scored on specially prepared data sheets in the same manner as previously described in Experiments 1 and 2.

RESULTS AND DISCUSSION

Results of this study support the experimental findings of Experiments 1 and 2 regarding the effectiveness of the training package, and the findings of Experiment 2 in demonstrating the effectiveness of the training manual relative to traditional workshops. Although the participants in this study had recently completed an agency-sponsored workshop and had been certified to serve as respite care providers, they performed very poorly on a pretest designed to assess their knowledge of the respite care skills previously judged as important by parents and professionals. As shown in Table 5, participants' scores on the test following the workshop and prior to receiving the manual were consistently low, ranging from 30% to 63%, with

a mean of 42% and a median of 36%. Following presentation of the training manual, test scores increased substantially for all nine participants. Posttest scores ranged from 67% to 90%, with a mean of 77% and a median of 78%. After meeting criterion on the written posttests, participants demonstrated generalization of these skills during simulation assessments; 64% to 100% of the behaviors were performed correctly on the first set of simulations, and all participants ultimately reached or surpassed the criterion of 85% correct responses.

The results underscore the importance of objective evaluation of trainees' respite care skills. In addition, this experiment demonstrates the utility of an assessment procedure that can serve as the basis for identifying individual skill deficiencies requiring remedial training and as a preliminary step in the certification of respite care providers. Furthermore, the assessment could easily be conducted by one or two trainers, using stimuli that are inexpensive and commonly available.

EXPERIMENT 4

The purposes of Experiment 4 were to assess further the generality of the findings of Experiment 3 through a replication of the training and assessment package with another group of trainees, and to determine the extent to which the procedures could be implemented effectively by the intended program consumers, respite care agency personnel.

METHOD

Subjects and Setting

The participants were 10 females who were recruited as respite care trainers by service coordinators of community resource centers for the handicapped in a four-county area of New York. Participants ranged in age from 22 to 49 (median = 31) years old. All had at least a high school education, and eight had college degrees ($M = 4.3$ years of college). All had previous experience in working with developmentally disabled persons, but none had served as a respite care provider. The setting and stimuli were similar to those in Exper-

iment 3 and were provided by the respite care agency.

Procedure

Following training (completion of the self-instruction manual), participants were administered a written posttest and completed a series of simulations in the same manner as described in Experiment 3. The experimenters administered the simulations for Participants 1 and 2, and subsequently instructed them in procedures for conducting the simulations and recording trainee performance on data sheets (this instruction took approximately 10 min). Participants 1 and 2 then conducted simulations for Participants 3 and 4. After Participants 3 and 4 met criterion, they also received instruction from the experimenters on administering the simulations and recording trainee performance. As each of the next four participants completed this process, she subsequently conducted simulations with another trainee in at least two skill areas. The last two participants (P 9 and 10) did not have an opportunity to administer the procedures.

Data Collection and Reliability

Data collection and reliability procedures were the same as in Experiment 3. Reliability checks conducted on 60% of the written tests yielded only two disagreements. During simulations, the person conducting the procedure and one of the experimenters independently recorded trainee performance on 61% of the occasions. Mean occurrence, nonoccurrence, and occurrence plus nonoccurrence reliability scores were 94.1%, 59.8%, and 94.5%, respectively. (The low nonoccurrence reliability score resulted from disagreements on one or more of the few incorrect responses that occurred.)

RESULTS AND DISCUSSION

Results of this experiment (shown in Table 5) replicate those of Experiment 3 and demonstrate that respite care agency personnel can effectively implement the training procedures. Following presentation of the training manual, scores on the

reading comprehension posttest ranged from 69% to 92% ($M = 81\%$). Following an opportunity to review the manual to ascertain the source of answers to questions answered incorrectly, all participants surpassed the 90% criterion. During simulations directed by fellow participants or by the experimenters, each trainee quickly exhibited mastery of skills in all selected skill areas. Peer trainers were able to assist participants in reaching the 90% criterion within one or two simulations. The findings of Experiments 3 and 4 suggest that the simplified competency-based respite care skills training program described herein can be used effectively by community service agencies and can be directed successfully either by trained professionals or by in-house personnel who receive minimal training and assistance from outside consultants. The portable nature of self-directed training manuals and assessment instruments is likely to facilitate adoption of the curriculum by consumers and to lower dissemination costs. Indeed, the training/evaluation package employed in this experiment was subsequently adopted by the participating respite care agency.

DISCUSSION

This study demonstrates a model that can be used for identifying, validating, teaching, and evaluating respite care skills. As noted by Salisbury (1984), the growth of respite care has preceded experimental validation of curricula for training service providers. Our study addresses this need and extends the respite care literature in several important ways.

First, no other research on respite care training has been reported to date. Taken together, the results of the four experiments reported here indicate that a self-instruction manual, when combined with remedial training consisting of modeling and behavior rehearsal, is effective in teaching respite care skills to a varied population, including high school graduates, college students, and unskilled workers. Furthermore, this package offers a cost-effective alternative to a workshop training ap-

proach. Although our results support previous research findings regarding the high cost and equivocal effectiveness of workshop or "inservice" training in facilitating the acquisition, maintenance, and generalization of skills (see Ziarnik & Bernstein, 1982 for a review), most descriptive reports of respite care training indicate that this approach is still widely used to teach target skills to trainees (Salisbury, 1984; Warren & Dickman, 1981). The training paradigm investigated here represents a competency-based alternative that is not only cost-effective but also circumvents some of the ethical concerns surrounding reliance upon workshops (Stein, 1975).

Second, we demonstrate a method that can be used by respite care agency personnel for evaluating trainee performance. When training effects are documented, performance is usually evaluated through written examination only (Warren & Dickman, 1981). Our results suggest, however, that correct responses on written examinations are not necessarily predictive of actual performance. On the other hand, respite care trainees who performed well in role-playing situations also performed well in a respite care situation with a handicapped child. Experiments 3 and 4 demonstrated a practical assessment procedure that can be used to identify individual areas in which remedial training is required. As Salisbury (1984) points out, remediation of assessed trainee needs, rather than presentation of a stock curricular package, will yield the most cost-effective use of the trainer's and trainee's time.

Third, our study represents one of the first attempts to socially validate the content of respite care training curricula. Although the importance of conducting an analysis of respite care job requirements and establishing the ecological and social validity of training curricula has been emphasized, there have been no previously reported attempts to verify the relevance of the skills targeted (Salisbury, 1984).

Finally, the results of this study indicate that pictures plus written examples do not appear to differentially enhance the effectiveness of training

manuals; however pictures plus written examples were more widely preferred by trainees than either alone, and their inclusion may therefore render such materials more attractive to the intended reader.

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