THE EFFECTS OF BEHAVIORAL SKILLS TRAINING ON CAREGIVER IMPLEMENTATION OF GUIDED COMPLIANCE

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The effectiveness of a behavioral skills training package that consisted of modeling, rehearsal, and feedback was evaluated to increase correct implementation of guided compliance by caregivers of 3 children who exhibited noncompliance. Results showed that the training package improved performance of guided compliance. Generalization probes indicated that the skills learned were exhibited in different settings 3 to 6 weeks after training ended.

DESCRIPTORS: behavioral skills training, caregiver training, guided compliance, noncompliance, three-step prompting

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Behavioral skills training (BST) typically includes a combination of instructions, modeling, rehearsal, praise, and corrective feedback. BST has been used to teach a variety of skills, including abduction-prevention skills (Johnson et al., 2005), gun-play prevention skills (Gross, Miltenberger, Knudson, Bosch, & Breitwieser, 2007; Miltenberger et al., 2004), and sexual abuse prevention skills (Lumley, Miltenberger, Long, Rapp, & Roberts, 1998). In addition, a number of studies have evaluated BST to teach individuals to implement behavior-analytic techniques. For example, Iwata et al. (2000), Moore et al. (2002), and Wallace, Doney, Mintz-Resudek, and Tarbox (2004) used various instructional packages to train a variety of individuals (e.g., undergraduates, teachers) to implement functional analyses.

Recently, Sarokoff and Sturmey (2004) used a BST package to teach special education teachers to conduct discrete-trial teaching. During baseline, participants received definitions of 10 components deemed to be critical to discrete-trial teaching. In the training phase of the experiment, participants received the same definitions as well as postsession feedback based on their performance. The participants were

then observed rehearsing the procedure with a student, after which the experimenter modeled proper performance and placed specific emphasis on the components that were performed incorrectly. During posttraining observations, all teachers implemented discrete-trial teaching with near 100% accuracy.

One problem that has not received much attention in the BST literature is noncompliance. Noncompliance is among the most common behavior problems exhibited by young children (Crowther, Bond, & Rolf, 1981). Guided compliance (Horner & Keilitz, 1975), which consists of a series of gradually intrusive prompts contingent on noncompliance, has been shown to be an effective intervention for noncompliance (Wilder & Atwell, 2006). Although there are examples in the literature in which professionals have been trained to implement guided compliance, the focus of these studies has been on the change in compliance rather than successful implementation of the procedure by professionals (see Wilder & Atwell, 2006). Thus, the purpose of this study was to apply a BST program to promote correct implementation of guided compliance by caregivers of noncompliant children.

METHOD

Participants and Setting

Three caregivers participated. Arlene was a kindergarten teacher at a private elementary

school. Laura was a nanny for a family with six children and spent approximately 40 hr per week caring for and interacting with the children. Maggie was the mother of two children.

Data collection took place in three separate settings with three separate children, all of whom had been reported to be noncompliant with at least 50% of instructions. Arlene was observed in the classroom, and her implementation of guided compliance was conducted with a 6-year-old boy with autism. Data for Laura were collected in the home and involved observation of her interactions with a 6-year-old girl who had an unspecified learning disability. Sessions for Maggie were conducted in the home with her typically developing 4-year-old son. Sessions were conducted 2 to 4 days per week.

Data Collection and Experimental Design

Each session consisted of five trials. Each trial consisted of the presentation of the target demand (described below). Guided compliance consisted of three levels of prompting that were delivered based on the child's behavior. The therapist initially presented the demand vocally and delivered descriptive praise contingent on compliance (described below). Contingent upon noncompliance, the demand was repeated while the therapist simultaneously modeled the appropriate response and said "you do it." Contingent on noncompliance, the demand was repeated while the therapist used hand-over-hand physical guidance to assist the child to complete the task.

The dependent measure was the percentage of correct implementation of the 10 components of the procedure. Each trial was scored based on whether or not the participant correctly performed each of these 10 components. The percentage of correct responses was calculated by dividing the total number of correct responses in a trial by the total number of correct and incorrect responses in that trial, and this ratio was converted to a percentage.

The mean percentage correct score across the five trials was calculated and represented the overall session score. The 10 components of caregiver behavior included (a) making eye contact with the child before presenting the demand; (b) calling the child by name; (c) making only one demand; (d) articulating the demand clearly (i.e., with an even tone of voice); (e) phrasing the vocal response as a demand (rather than a question); (f) not repeating or rephrasing the demand; (g) waiting 10 s for the child to initiate responding; (h) delivering praise if the child complied with the demand or repeating the demand with a modeled prompt (getting eye contact, performing the task, then saying, "you do it") if the child did not comply, and, if the child was still noncompliant after the model, physically guiding the child to perform the task; (i) recording data; and (j) waiting at least 5 s to present another demand or interact in some other way with the child. A correct response was scored when the caregiver implemented a component as described above; an incorrect response was scored when the caregiver implemented a component in any way other than described above. A data sheet was used to record responses, and the sessions were videotaped so that they could be examined and scored at a later time. In addition, data on child compliance with instructions were also collected. Compliance was recorded if the child completed or initiated the task specified in the instruction within 10 s of the first instruction. Compliance was not recorded if the child complied on the second or third prompt of the procedure (Wilder & Atwell, 2006). A multiple baseline design across participants was used to evaluate the effects of the training package.

Procedure

Baseline. During each baseline session, the participant was instructed to deliver a demand to the child. These demands were selected for each individual based on reports of infrequent

compliance associated with the instruction. Arlene delivered the demand "[Child's name], put the toys away [where they belong] please." Individual toys belonged in different places, so the actual demand may have differed according to the location of the proper storage place for a particular toy, though all were in the same room and located in close proximity to each other. The target demand for Laura was "[Child's name], write [desired set of writing tasks] please." The actual text being written varied, but always consisted of three to four characters (e.g., the words "this," "that"). For Maggie, the target demand was "[Child's name], take the puppy back to the doghouse please." To equate the effort required to complete this task, this demand was delivered in one of three locations in the home, each approximately the same distance from the location of the doghouse. The family's three dogs, as well as visiting dogs, were used to increase the opportunities for responding. The mean duration of baseline sessions across participants was 7 min (range, 5 min to 10 min).

Training. During training, the experimenter first provided a written description of the procedure that included each of the 10 individual components of the procedure. Following the component review, participants were given graphic feedback that displayed their baseline performance. The experimenter then provided vocal feedback on the baseline performance. Next, the participant was asked to rehearse the guided compliance procedure, performing three uninterrupted consecutive trials with the child. Immediately after the rehearsal, the experimenter delivered vocal feedback based on the participant's adherence to the components. The experimenter then modeled the correct behavior with the child and performed three more trials himself, placing emphasis on the specific components that the participant had incorrectly implemented. This rehearsal and modeling were repeated until the participant achieved 100% correct implemen-

tation for three consecutive trials. At the end of the training session, the therapist asked each participant to perform guided compliance with her child to the best of her ability; at that point, posttraining sessions began. The mean duration of training sessions across participants was 59 min (range, 40 min to 75 min).

Posttraining. At the beginning of each session during the posttraining phase, participants received brief feedback on their performance of the 10 components during the previous session only. No other additional training (e.g., modeling, rehearsal) was conducted. The criterion for completion of posttraining sessions was to achieve 100% correct responding for three consecutive five-trial sessions. The mean duration of these sessions across participants was 11 min (range, 7 min to 13 min).

Generalization probe. An additional setting generalization probe was also conducted in a novel setting for each participant. For Arlene, the generalization probe was conducted in an outdoor park 3 weeks after posttraining sessions ended. For Laura, the generalization probe was conducted at a school playground 4 weeks after posttraining sessions ended. For Maggie, the generalization probe was conducted at an outdoor park 6 weeks after posttraining sessions ended. Each generalization probe consisted of one session (five uninterrupted trials).

Interobserver agreement. Data on interobserver agreement were collected via recorded video for at least 34% of trials for each participant. An agreement was defined as two observers recording that the participant did or did not complete a given component. Interobserver agreement was calculated by dividing the number of agreements on correct and incorrect responses by the number of agreements plus disagreements and converting this ratio to a percentage. Agreement values for Arlene, Laura, and Maggie across baseline, posttraining, and generalization sessions were 90% (range, 82% to 100%), 94% (range, 86% to 100%), and 84% (range, 74% to 96%), respectively.
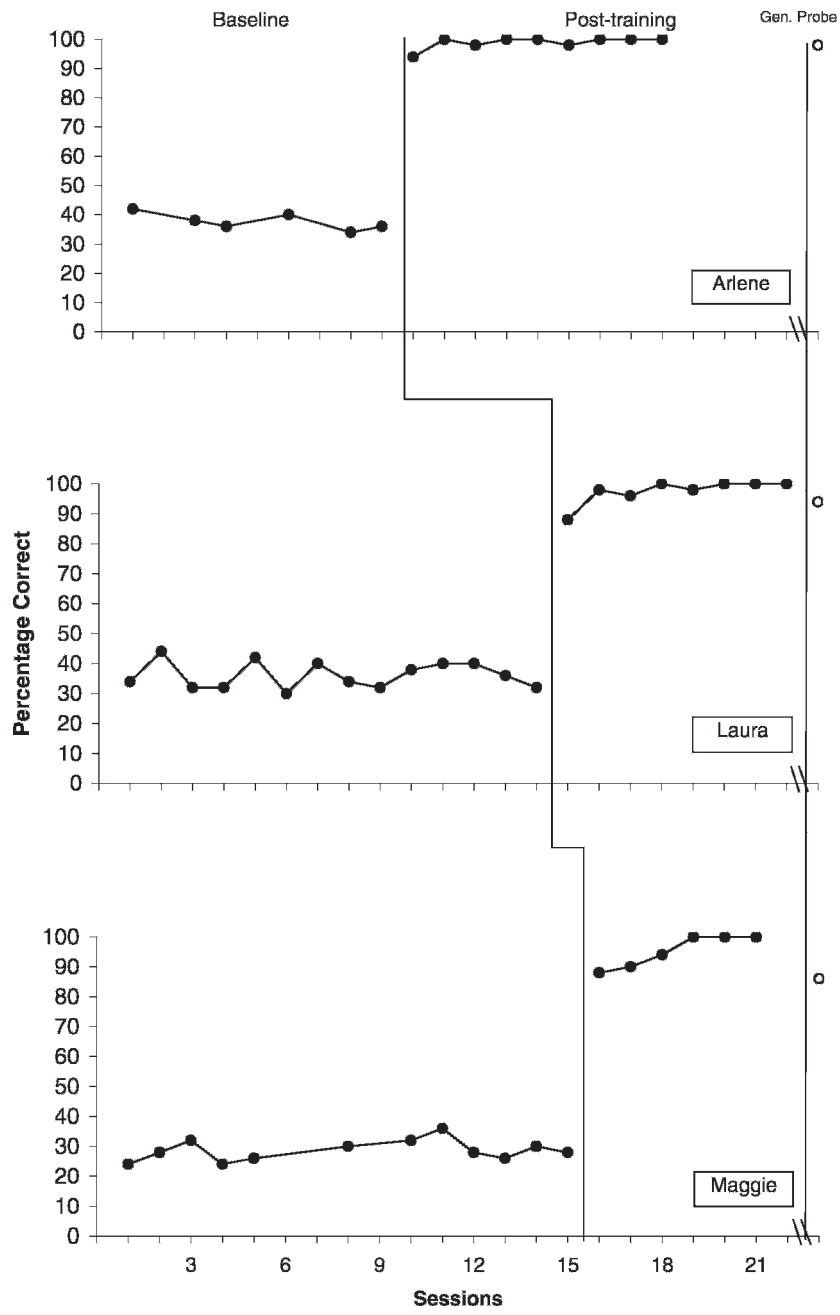
Figure 1.   The percentage of correct implementation of guided compliance across baseline, posttraining, and a generalization probe for Arlene (top), Laura (middle), and Maggie (bottom).

Procedural integrity. To assess procedural integrity of the experimenter's implementation of training, the following categories of experimenter behavior were recorded: (a) presentation of vocal and graphic feedback on prior performance, (b) inclusion of each of the 10 components listed above, (c) delivery of modeling, (d) participation in rehearsal, (e)

delivery of feedback based on the rehearsal, and (f) meeting the criterion for success as described above. Procedural integrity was scored as a percentage of the above categories satisfied (number of components present divided by number of components present plus components not present), and was 100% across the intervention for all 3 participants.

RESULTS AND DISCUSSION

Figure 1 displays the percentage of the component tasks performed correctly during baseline, posttraining, and generalization probe sessions. During baseline, mean levels of correct responses for Arlene, Laura, and Maggie were 38%, 36%, and 29%, respectively. After training, all 3 participants met the posttraining completion criterion. Arlene's correct responses increased to a mean of 99% during the posttraining phase, and she met the posttraining completion criterion within nine sessions. During the generalization probe session, Arlene's performance remained comparable to posttraining phase levels at 98% correct responses. Laura's correct responses increased to a mean of 97% during the posttraining phase, and she met the completion criterion within eight sessions. Laura scored 94% correct responses during her generalization probe session. Maggie's posttraining phase mean was 95% correct responses, and she met the posttraining completion criterion within six sessions. She scored 86% correct responses on her generalization probe session. Child compliance improved for 2 of the 3 children who participated in the study (data not shown). Mean baseline and posttraining levels of compliance were 37% and 35% for Arlene's child, 39% and 50% for Laura's child, and 45% and 63% for Maggie's child.

The results of the current study suggest that caregivers with little to no experience in behavior analysis can be trained to implement guided compliance with a modest amount of training. These results support the findings of Sarokoff and Sturmey (2004) by demonstrating that a BST package can be used to teach caregivers an intervention to address noncompliance in young children. It is interesting to note that the caregivers who participated in this study tended to make very specific errors when initially implementing the procedure. For example, they often presented the instruction as a question rather than a demand, and they often praised children for compliance after the physical prompt. Of course, even though these are among the components of effective presentation of instructions described in this study, it is not clear whether these features are necessary to increase compliance; future research should examine this question.

One limitation of the study is that because the BST included multiple components, the specific components and mechanisms responsible for behavior change are unknown. Future research should focus on the identification of the mechanisms that were responsible for behavior change during BST. Another limitation is that only one task was used to teach guided compliance. Although this allowed a straightforward evaluation of the BST procedure, the extent to which BST could be used to teach guided compliance to caregivers who deliver different instructions is unknown. A final limitation is that feedback was provided to participants during the posttraining phase, making it impossible to separate the effects of training from the effects of posttraining feedback.

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