

EVALUATION OF HOME-BASED PROGRAMS FOR TEACHING PERSONAL SAFETY SKILLS TO CHILDREN

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We evaluated the efficacy of a commercially available program, the Red Flag, Green Flag Prevention Book, used by parents to teach their children personal safety skills. Children's knowledge and skills regarding the prevention of sexual abuse and abduction were assessed prior to, during, and after training. In one group, training consisted of parents using the prevention book to train their children. Parents of children in the second group used the prevention book with added instructions. Children who did not achieve criterion performance after training with the prevention book received behavioral skills training provided by the experimenter. All children acquired safety skills following behavioral skills training. Follow-up probes 2 months later showed skill maintenance among the older children. Parents reported satisfaction with the procedures and no signs of behavioral or emotional problems following the follow-up probe.

DESCRIPTORS: children, personal safety, generalization, maintenance, role-playing

Several investigations have evaluated programs to teach self-preservation skills to children, including emergency telephone skills (Jones & Kazdin, 1980; Rosenbaum, Creedon, & Drabman, 1981), fire safety skills (Jones, Kazdin, & Haney, 1981), and home safety skills for latchkey children (Peterson, 1984). Using analogue situations to conduct treatment and assessment procedures, Jones and Kazdin (1980), Jones et al. (1981), and Rosenbaum et al. (1981) demonstrated the effectiveness of behavioral skills training procedures, and Peterson (1984) showed that written training manuals were a cost-effective training method.

Personal safety skills to help children prevent abduction or sexual abuse have recently become

the focus of research efforts (see Hazzard & Angert, 1986, and Conte, 1984, for reviews). Earlier studies used behavioral rehearsal (Poche, Brouwer, & Swearingen, 1981) and a videotape (Yoder, Miltenberger, & Poche, 1982) to teach abduction prevention skills. Assessments following training showed that children learned to refuse inappropriate solicitations from strangers and immediately leave a dangerous situation.

Researchers have found, however, that sexual abuse by a family member or known adult is far more prevalent than molestation or abduction by a stranger (Finkelhor, 1986). Accordingly, several researchers have focused their efforts on teaching sexual abuse prevention (Hazzard & Angert, 1986). However, most studies have relied on assessment of knowledge to evaluate training programs. Wurtele, Saslawsky, Miller, Marrs, and Britcher (1986), for example, used the Personal Safety Questionnaire and the "What If" Situations Test to assess children's acquisition of personal safety knowledge. Wurtele et al. (1986) compared a commercially available program with behavioral skills training, a one-to-one procedure similar to that of Poche et al. (1981), and found both procedures to be effective.

The purpose of this study was to evaluate a commercially available prevention program (Rape and Abuse Crisis Center, 1986) used by individual

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The Red Flag, Green Flag Prevention Book may be obtained by writing the Rape and Abuse Crisis Center, 817 8th Street North, Fargo, North Dakota 58102. The child-problem and parent-satisfaction questionnaire and other assessment protocols may be obtained by writing the first author.

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parents to teach personal safety skills to their 4- to 7-year-old children. We chose parents as change agents because young children may be the targets of abduction or abuse before they are old enough to participate in classroom-based prevention programs. We assessed changes in both knowledge and skills as a function of the program, compared to a one-to-one behavioral skills training procedure. In addition, we conducted a follow-up assessment outside the home. Finally, we assessed the possible development of emotional and behavioral side effects resulting from participation in the study.

METHOD

Subjects

Participants were 24 children in 15 families (12 two-parent and 3 single-parent families) from a midwestern metropolitan area of 100,000 people. Both 6- to 7-year-olds ($n = 11$) and 4- to 5-year-olds ($n = 13$) participated. Staff at a local United Way agency solicited the participation of friends or acquaintances with children in this age range. All participating families were of middle to upper-middle socioeconomic status, no families were screened out of the study, and none dropped out. All parents and children volunteered to participate and signed informed consent forms before the study began. The study was reviewed and approved by the North Dakota State University Institutional Review Board.

Setting and Materials

Assessment and training sessions were conducted in the homes of the families; follow-up probes took place outside the home (e.g., a toy store). Materials used were the Red Flag, Green Flag Prevention Book (Rape and Abuse Crisis Center, 1986) and two anatomically correct dolls, one male and one female. The Red Flag, Green Flag Prevention Book is a 28-page coloring book with captions that explains the difference between good touch and inappropriate types of touch through pictures and simple descriptions. It illustrates 10 different dangerous situations that could lead to sexual abuse or abduction. Three prevention responses (say "no,"

get away, and tell someone what happened) are described in the book and applied to the examples of dangerous situations.

Assessment

Picture discrimination. A set of 11 pictures depicted children in safe situations or receiving "good" touches from an adult or older child. A second set of seven pictures depicted children in dangerous situations or receiving "bad" touches from an adult or older child (see Table 1 for examples). Two good pictures and three bad pictures were chosen at random without replacement for each assessment session. The experimenter (second author) read a description of the picture to the child. The child was then asked to mark one of two boxes by each picture. These were labeled "good" and "bad." Alternatively, the child could respond verbally. No feedback was provided for performance in assessment. After each picture had been used once, the pictures were recycled and randomly selected again for subsequent assessments.

Verbal scenarios. Ten descriptions of dangerous situations or inappropriate touching were used. Two descriptions were chosen at random for each test. In addition, a doll was used as a visual aid in a third situation description in each test session (see Table 1 for examples). In each test situation the experimenter read the description to the child, and the child was given 10 s to state verbally what he or she would do in that situation. When the doll was used, the experimenter pointed to the doll's genital region and asked the child how he or she would respond if a person attempted to touch him or her there, or if an adult solicited such a touch. No further prompts or cues were given. A trained research assistant and the experimenter independently recorded the child's responses verbatim and later scored them according to the response definitions. No feedback or other consequences were provided for the subject's responses.

Role-plays. The third procedure was a set of seven role-plays (see Table 1 for an example), each involving a potentially dangerous situation. Two role-plays were chosen at random for each test sit-

Table 1
Sample Items From the Three Assessment Procedures

Picture Captions

- The girl is riding a horse with her older brother.
- The swim instructor is helping the boy float.
- This older boy is trying to get his hand in the little girl's pants.
- The boy is sitting on the babysitter's lap and she is starting to touch his private parts.

Verbal Scenarios

- You are playing in the park and a man is standing in some trees. He says to you, "Come here, I want to talk to you."
What would you do?
- What would you do if a person other than your doctor wanted or tried to touch you here? (Point to doll's genital area.)

Role-Plays

- Child is in a store by himself. Perpetrator walks up and says, "You look like a nice boy. If you come with me to my car I'll give you a surprise." After the child has time to respond a second lure is presented. "Come on, it'll be okay and the surprise is just outside."
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uation. After each role-play was used once, they were recycled and randomly chosen for use in additional sessions. Before each test the research assistant (a senior psychology major or graduate student) explained the role-play to the child (using objects or places in the room to symbolize objects or places found in the scene being role-played) and checked the child's understanding of the simulated scene by asking the child to describe each important aspect of the role-play. The research assistant then played the part of the potential perpetrator in the role-play. The role-plays were arranged so a parent was in an adjoining room. Both observers independently wrote what the child said and did and later scored the child's responses in the role-play. The child received no performance feedback except praise for participating.

Dependent Variables

The dependent variables included the following:

1. The correct discrimination between pictures of good and bad touch (safe or dangerous situations). A score of 1 (correct) or 0 (incorrect) was assigned to the response to each item.
2. Correct responses to the situation descriptions. This required the child to report that he or she would say "no" to the potential perpetrator, leave the area, and tell someone about the incident.
3. Correct responses to the role-plays. This required the child to say "no" to the "perpetrator," to leave the situation within 10 s, and to tell a

parent about the incident within 10 s of contact. For the situation descriptions and the role-plays subjects received zero points for no response or an irrelevant answer, one point for saying "no," two points for leaving the situation (whether accompanied by a "no" response or not), and three points for leaving and telling a parent.

Experimental Procedures

Baseline. Two baseline observation sessions were completed during which the child's skills were assessed with all three assessment procedures. Subsequently, the subjects were randomly assigned to treatment conditions.

Red Flag, Green Flag Prevention Book. The parents of each child in this group were given the training book and asked to use it to teach their child. The parents were asked to complete the book by the following week and to record the amount of time spent using it. (Parents reported spending 35 min, ranging from 15 min to 2 hr, using the book.) Parents were given no added instructions in the use of the book.

Red Flag, Green Flag Prevention Book with added instructions. Parents of each child in this group were given the book and written instructions that advised them to emphasize important points and orally rehearse the prevention responses with their children. Specifically, the parents were asked to read the instructions, which told them to review each dangerous scene in the book, and ask the child

to state what he or she would do in the situation. The parent was further instructed to praise correct responses or to prompt correct responses if necessary. (Parents reported spending 32 min, ranging from 15 to 70 min, training their child.)

One-to-one training. All children participated in this phase, either following baseline or following training with the prevention book. The experimenter and a research assistant directly trained each child using instructions, rehearsal, modeling, praise, and feedback. Training was done in the home with only the child and trainers present. The child was first instructed to engage in the three prevention responses to various dangerous situations. The trainers then presented a role-play (one of the role-plays previously used in assessments), and the child rehearsed the three responses. If the child did not correctly exhibit the skills, the trainer provided corrective feedback and modeling. The role-play was then repeated, and if the child performed correctly, he or she was praised (descriptive praise was used). This procedure was conducted until the child performed correctly in four consecutive role-plays without correction. The child also orally rehearsed the prevention responses to situation descriptions previously used in assessment. If the child did not respond correctly to all measures (criterion performance), further training was conducted and another assessment session was held 1 day to 1 week later. Subjects continued to receive training until they showed criterion (or near criterion) performance for two consecutive assessment sessions. This training took 20 to 25 min when the child was cooperative. Two children needed over an hour to train because of noncompliant behavior.

Two-month follow-up. Two months after the last assessment session for each child, a probe was conducted in a real-life situation. The parent and experimenter planned a time and place when the child would be alone (in the yard, in a store, etc.), and a research assistant unknown to the child presented a lure. Specifically, the assistant asked the child to leave with him and offered the child an incentive to do so (e.g., candy, money, surprise). The child's verbal and motor responses were then recorded by the research assistant and a second unobtrusive assistant nearby. If the child responded

correctly, he or she was immediately praised and debriefed by the parent and research assistant. If the child responded inappropriately, the assistant and parent role-played with the child until he or she responded correctly.

Child-problem and parent-satisfaction questionnaire. All parents were briefly interviewed by telephone 1 day following the assessment and anonymously completed a mailed questionnaire 2 weeks following the follow-up probe. They were asked to rate, using a 5-point Likert scale, their satisfaction with the study and whether their child appeared more scared of strangers or novel situations, more upset, or more cautious. In addition, they were asked whether their child experienced any nightmares or other effects as a result of the assessment.

Experimental Design

The training procedures were evaluated in a modified multiprobe design across subjects in which fewer observations were conducted in baseline because neither knowledge nor skills were expected to vary. Some individuals received baseline, parent instruction with the Red Flag, Green Flag Prevention Book, and one-to-one instruction. Other subjects received only the one-to-one instruction following baseline, to assess the effect of this procedure without prior training with the prevention book. A 2-month follow-up assessment was conducted for all but 1 subject.

RESULTS

Two observers independently scored 65% of the responses to the situation descriptions, 55% of the role-plays, and 100% of the pictures, resulting in interobserver reliability scores of 96.6%, 100%, and 100%, respectively. Reliability observations occurred in all phases of the study. An agreement was scored when both observers reported that the child said the same thing or engaged in the same behavior.

The results for the 4- and 5-year-old subjects are seen in Figure 1; the results for the 6- and 7-year old subjects are shown in Figure 2. Baseline performances were similar for all subjects regardless of age group. The picture discrimination was almost

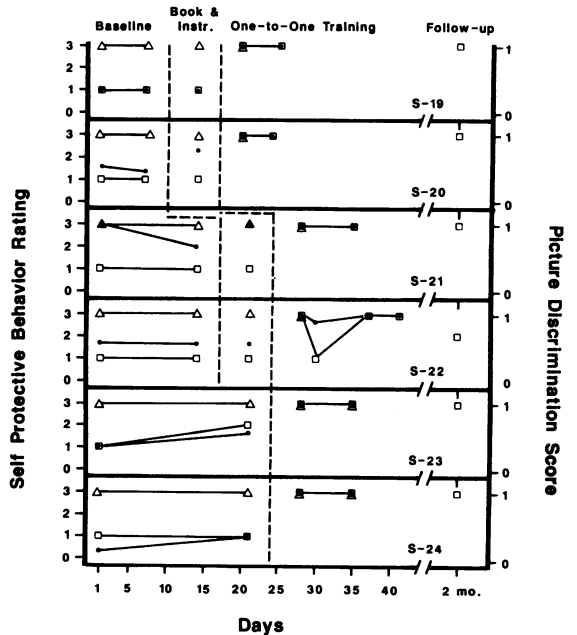
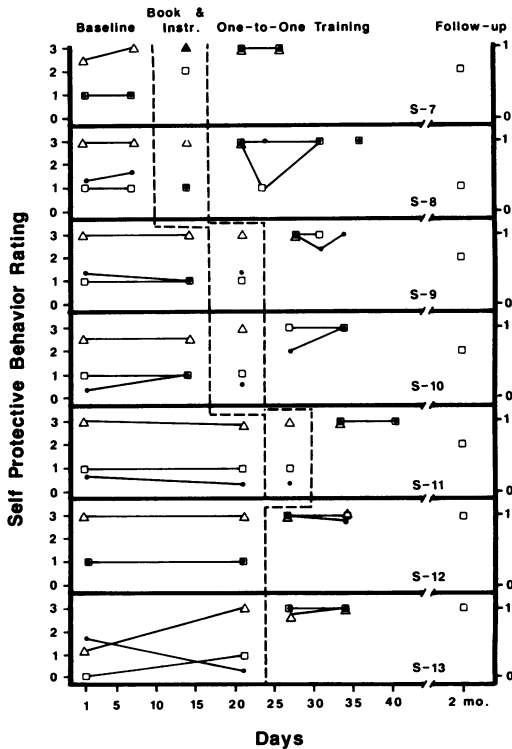
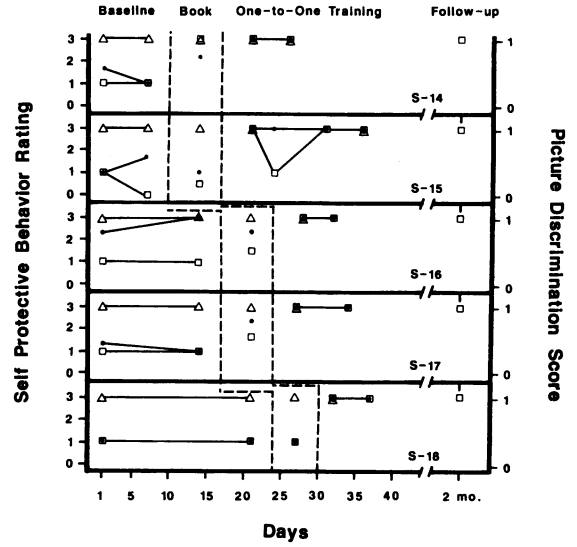
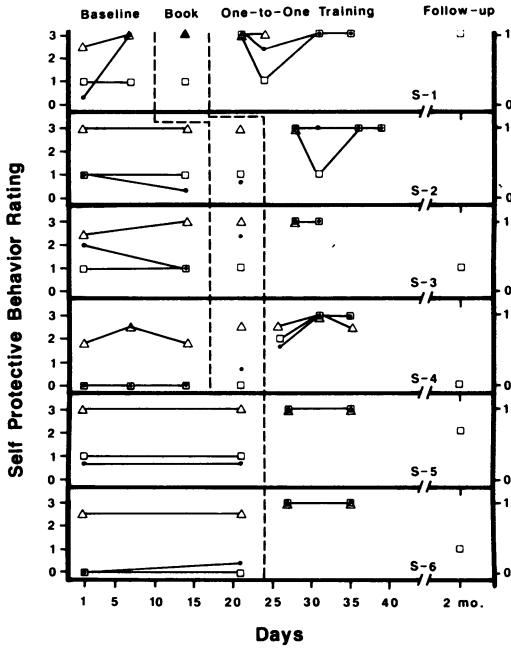


Figure 1. Scores for the 4- and 5-year-old subjects are presented for each assessment session across phases. The triangle represents picture discrimination scores on a scale of 0 to 1. The closed circle represents responses to the situation descriptions, and the open square represents responses to the role-plays on a scale of 0 to 3. Two-month follow-up is a real-life assessment.

Figure 2. Scores for the 6- and 7-year-old subjects are presented for each assessment session across phases. The triangle represents picture discrimination scores on a scale of 0 to 1. The closed circle represents responses to the situation descriptions, and the open square represents responses to the role-plays on a scale of 0 to 3. Two-month follow-up is a real-life assessment.

errorless for most subjects, and with training all subjects reached 100%. Baseline performances for the situation descriptions and the role-plays were mostly between 0 and 2 with most scores near 1, which meant that the children could identify a dangerous situation and say no to the solicitation, although further self-protective behavior was not exhibited.

Training with the prevention book did not produce criterion performance in any subjects in either age group whether or not added instructions were given. The use of behavioral skills training then produced criterion performance in all subjects for all assessment procedures. With one to three instructional sessions each subject achieved a rating of 3 (or near 3) for two consecutive sessions on the knowledge and skills measures.

At the 2-month follow-up observation the skills were maintained for only one group. Most of the 4- and 5-year-olds scored 1 or 2, whereas the 6- and 7-year-old children scored 3 (with one 2).

Parents of 21 of the 24 subjects returned the child-problem and parent-satisfaction questionnaires. The results indicated that all parents were satisfied with the procedures used in the study and with the results. All said they would consent to have their children participate again. No new behavior problems, nightmares, or other lasting emotional reactions were reported. Two children were visibly upset at the time of the follow-up probe, but explanation and comforting by the parent and experimenter relieved this emotional reaction. These children showed no further problems. On the three scales in the questionnaire 6 of 21 children were "a little more scared," whereas 15 showed "no change" as a result of participation in the assessment; 2 were "much more cautious," 14 were "a little more cautious," and 5 showed no change; and 3 were "a little upset," with 17 showing "no change" in this area.

DISCUSSION

Results of this study demonstrated that a commercially available prevention program, when used by parents to teach their 4- to 7-year-old children,

did not produce changes in personal safety knowledge or skills according to our assessment. However, a behavioral skills training program did produce the desired acquisition of knowledge and skills. Maintenance of the gains was seen only in the 6- to 7-year-old group at a 2-month follow-up assessment. The assessment of potential side effects of testing revealed that no lasting emotional or behavioral problems arose.

There are a number of limitations of this study. First, our assessment procedures focused primarily on the threat of abduction by a stranger rather than on sexual abuse situations involving a family member or known person. Therefore, our results show that these children could appropriately refuse solicitations from strangers, but we have no evidence to indicate whether or not they could also respond effectively in those sexually abusive circumstances involving persons known to the children. Such situations are reported to be more probable than molestation by strangers (Finkelhor, 1986). Second, our role-plays and verbal scenarios involved no appropriate circumstances to test the subjects' ability to discriminate between dangerous versus innocuous contact with strangers. Conceivably, these children may respond to any stranger, even an innocent one, with the three prevention responses. However, reports from parents and anecdotal observations of the children indicate this was not the case. Third, the pictures used in our assessment were easily discriminable, as indicated by the high scores at pretesting. We don't know if the children already possessed the ability to make appropriate discriminations or if the pictures were somehow too obvious. Fourth, the addition of a real-life test prior to training would have strengthened our results. Finally, the use of other measures may have been needed to assess undesirable side effects. Specifically, we might have interviewed the children directly or provided a scale to measure fear or anxiety (Peterson, 1984).

The finding that the published program was not effective when used by itself by untrained parents is important, because such programs are widely used with presumed beneficial effects. Although we don't discount the importance of the Red Flag,

Green Flag Prevention Book (because it may have an impact in ways we did not assess), our results suggest that active rehearsal and reinforcement are necessary to acquire the skills we targeted.

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