An Investigation of Three Strategies to Enhance Generalization of Conversational Skills

Janice Ann Cain
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AN INVESTIGATION OF THREE STRATEGIES TO ENHANCE GENERALIZATION OF CONVERSATIONAL SKILLS

by

Janice Ann Cain

A Thesis
Submitted to the Faculty of The Graduate College in partial fulfillment of the requirements for the Degree of Master of Arts Department of Psychology

Western Michigan University
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AN INVESTIGATION OF THREE STRATEGIES TO ENHANCE GENERALIZATION OF CONVERSATIONAL SKILLS

Janice Ann Cain, M.A.

Western Michigan University, 1990

The purpose of the present study was to investigate the effects of three strategies to enhance generalization of taught conversational skills: (1) multiple and varied scenarios, (2) multiple conversational partners, and (3) homework assignments. A multiple baseline across behaviors design tested whether the initial training package produced generalization to the probe sessions and whether the addition of homework would produce greater generalization to the probe sessions compared to that observed during the initial training. Four adults, one male and three female, ranging in age from 20-64 years served as subjects. Skills were taught using a combination of coaching, modeling, behavioral rehearsal, feedback, and social praise. The hypothesis that the use of multiple conversational partners and multiple/varied scenarios during roleplaying would enhance generalization was not consistently supported. The addition of homework assignments plus maintenance training did not consistently increase generalization either.
ACKNOWLEDGEMENTS

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Janice Ann Cain
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An investigation of three strategies to enhance generalization of conversational skills

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Western Michigan University, 1990

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CHAPTER I

INTRODUCTION

Social skills are key behaviors for effective functioning in today’s society. Kelly (1982) and Trower, Bryant, and Argyle (1978) state that social skills are an important element in adaptive functioning, and their absence or distortion can be a salient factor in many emotional and behavioral disorders. Thus, social skills training may be successful in treating relationship problems, unassertiveness, job-interviewing deficits, and various psychiatric problems (Craighead, Kazdin, & Mahoney, 1981; Eisler & Frederiksen, 1980; Kelly, 1982).

Much social skills training research has focused on two issues: (1) identifying the critical skills to be taught (Dow, Glaser, & Biglan, 1981; Fischetti, Curran, & Wessberg, 1977; Hargie, Saunders, & Dickson, 1981; Kupke, Hobbs, Lavin, & Cheney, 1984); and (2) identifying the most effective training techniques for improving social skills (Edelstein & Eisler, 1976; Hersen & Bellack, 1976; McFall & Twentyman, 1973; Twentyman & Zimering, 1979; Urey, Laughlin, & Kelly, 1979).

Identifying the critical skills to be taught has been the focus of intensive study. Investigators have...
identified dimensions such as eye contact, voice volume, speech disturbances, turn-taking (Trower et al., 1978), question asking, information disclosed about oneself, compliments (Urey et al., 1979), gestures, speech duration, and posture (Trower, 1980). Other studies have examined the extent to which changes in such skills affect the subject's social competence. Social competence, as defined by McFall (1982), is an overall global evaluation of the person's social performance. Urey et al. (1979), Trower (1980), and Dow et al. (1981) reported that changes in the target behaviors in their respective studies engendered higher ratings of social competence as defined by an observer.

Holmes, Hansen, and St. Lawrence (1984) noted that researchers have traditionally chosen the specific social skills to be taught based on face validity alone and then arbitrarily judged improvement without reference to any criterion levels. An effective method of identifying critical social skills and their appropriate performance criterion levels is via social validation (Dow, 1985; Holmes et al., 1984; Kupke et al., 1984). In the social comparison method of social validation (Fuqua & Schwade, 1986) a normative group who display the appropriate behaviors are compared to a subject group who lack these skills. The critical social skills and their concomitant performance criterion levels can then be determined.
For example, Holmes et al. (1984) used social validation to identify the critical skills to be taught and the performance criterion levels by examining a normative sample of individuals without a psychiatric history. Social skills training was then provided to a collection of former psychiatric patients enrolled in a partial day hospitalization program. The results showed that the training successfully improved the subjects’ social skills to the criterion levels derived from the normative sample on selected conversation skills.

Several investigators have identified specific behavioral techniques as being effective in teaching social skills (Edelstein & Eisler, 1976; Hersen & Bellack, 1976; McFall & Twentyman, 1973; Urey et al., 1979). McFall and Twentyman (1973) demonstrated that behavioral rehearsal and coaching both made significant contributions in teaching social skills. In addition, they noted that treatment effects generalized from trained to untrained situations. Edelstein and Eisler (1976) investigated the effects of modeling and modeling combined with coaching and feedback on social skills. Their results indicated that modeling alone increased one behavior (affect) but not the other two behaviors (gestures and eye contact duration). However, modeling combined with coaching and feedback increased all three behaviors. In Twentyman and Zimering’s (1979) review on behavioral training of social skills, they noted that
investigators have shown behavioral rehearsal, modeling, and feedback to be effective in improving social skills when they are combined with each other and with other treatment components such as social praise. Taken together, these studies suggest that the salient social skills training techniques are: (a) coaching, (b) modeling, (c) behavioral rehearsal, (d) feedback, and (e) social praise.

A successful social skills training program must show improvement both in the training sessions and in the natural environment. Therefore, the concept of generalization is an important issue in the field of social skills training. Skills exhibited in the training sessions that do not generalize to the natural environment are of little practical utility. Unfortunately, despite the abundance of research on social skills training, strategies to enhance generalization of such skills have not been thoroughly studied (Eisler & Frederiksen, 1980; Hollin & Trower, 1986; Scott, Himadi, & Keane, 1983; Shepherd, 1978; Twentyman & Zimering, 1979).

One of the few articles addressing the issue of promoting generalization is the Stokes and Baer (1977) article. They state that the most common method of examining generalization is the "train and hope" method: the therapist teaches a new set of skills in the clinic or laboratory and hopes that these skills will automatically transfer to the natural environment. They suggest that
generalization is a response in and of itself, and, thus, it should be taught as well.

Some studies have successfully examined generalization of social skills training using novel scenarios and/or simulated situations of the natural environment (Foxx, McMorrow, Bittle, & Fenlon, 1985; Foxx, McMorrow, & Mennemeier, 1984; Liberman et al., 1984; McFall & Twentyman, 1973). Foxx et al. (1985) assessed generalization of social skills via a pre-posttest method in two settings with adults diagnosed as schizophrenic. Generalization was assessed in an on-unit office and in a lounge area of another institutional building. The on-unit office generalization assessment consisted of presenting the subject with 24 of the training situations. No feedback or rewards were given. The lounge area assessment attempted to simulate social situations that might occur in the subject's natural environment. The research confederates involved in these simulated assessments used scripts that were similar to the scenarios used in training. Despite the sensitivity of these assays in determining generalization, two drawbacks were evident. First, the generalization assessments were not conducted on a continuous basis; and second, the skills training wasn't individualized to each subject's deficits.

Other researchers have proposed methods as part of the treatment package for producing generalized social skills.
(Becker, Heimberg, & Bellack, 1987; Cartledge & Milburn, 1980; Scott et al., 1983; Trower et al., 1978). Five common suggestions included: (1) providing booster sessions after training has been completed, (2) using a variety of scenarios during roleplaying, (3) using a variety of people as conversation partners during role-playing, (4) training significant others in the subject's environment to support and deliver reinforcement for these newly acquired skills, and (5) using homework assignments which instruct the subjects to practice the skills in their natural environment. It has been proposed that using a variety of scenarios and conversation partners during role-playing prevents any single scene or person from acquiring exclusive, discriminative control over responding. Admittedly, such strategies have not as yet been tested.

Similarly, in their book on social skills training for the treatment of depression, Becker et al. (1987) proposed three strategies to enhance generalization of social skills: (1) using multiple/varied scenarios during roleplaying, (2) assigning an initial homework task in order to identify possible problems with the availability of places to converse, people to converse with, and topics to be discussed, and (3) assigning further homework that instructs the subjects to practice the newly developed skills in their natural environment. The use of multiple/varied scenarios during roleplaying and the initial
homework task are essential during the training phase. Once the subjects achieve a minimally proficient skill level during training, they are assigned homework instructing them to practice the newly developed skill in their natural environment.

The present study built upon previous research by examining the effects of three of the aforementioned techniques in producing generalization of taught conversational skills: (1) multiple and varied scenarios, (2) multiple conversation partners, and (3) homework assignments. Additionally, this study improved upon previous research by assessing generalization on a continuous basis, before, during, and after the training and by individualizing the training to the subject's particular skill deficits. Conversational skills were targeted individually per subject, and the appropriate performance criterion level for each skill was derived from a social validation group similar to that employed by Holmes et al. (1984). Skills were initially taught using a combination of coaching, modeling, behavioral rehearsal, feedback, and social praise. Initial training included multiple and varied scenarios and multiple conversation partners. Generalization of training effects were assayed in two kinds of probe sessions: (1) novel scenario roleplays, and (2) simulated situations designed to be similar to the "natural environment." In a second training phase, homework assignments
were employed along with maintenance training. This sequence of conditions tested whether the initial training package produced generalization to the probe sessions and whether the addition of homework would produce greater generalization to the probe sessions compared to that observed during the initial training.
CHAPTER II

METHOD

Subjects

One male and three females, ages 20, 23, 55, and 64 years, served as subjects. Subjects were recruited through a newspaper advertisement. Of the 30 individuals who initially responded to the advertisement, 18 followed through with the initial interview. This interview involved (a) receiving a detailed description of the study, (b) reading and signing an informed consent form (see Appendix A), (c) completing three self-report questionnaires—Social Anxiety Inventory ([SAI] Curran, Corriveau, Monti, & Hagerman, 1980), Social Avoidance and Distress Scale ([SADS] Watson & Friend, 1969), and Symptom Checklist-90-Revised ([SCL-90-R] Derogatis, 1983), and (d) participating in a 5-minute videotaped conversation with a confederate.

To qualify for selection as subjects, respondents needed to receive a score of 12 or above on the SADS (Watson & Friend, 1969), 3 or higher on the SAI (Curran et al., 1980), and 62 or below on the Global Severity Index of the SCL-90-R or on any two or more primary dimension scores.
of the SCL-90-R. Moreover, respondents needed to receive a low score on the global rating of social skills derived from the videotaped conversation and a deficiency on at least 3 of the 10 conversational skills assessed from the videotape. A skill deficit was defined as the skill rating being either too low or too high when compared to the social validation group's score. Of the 18 people who completed the interview, eight met the criteria listed above. The six with the highest scores on the SAI, SADS, and SCL-90-R and the deficient conversational skills, derived from the videotaped 5-minute interaction, were selected as participants. Of these six people, four completed the entire study. One dropped out due to schedule conflicts, and the other because the study did not satisfy her expectations.

Setting

Conversational skills training was conducted in a laboratory at Western Michigan University, Kalamazoo. The laboratory was divided into two rooms—a smaller room (2.97 m X 1.9 m) within a larger, outer room (7.2 m X 5.7 m). The smaller room had two chairs facing each other arranged about 80 cm apart. Video equipment was located in one corner of the room, and a chair for the experimenter was located in the other corner of the room. The larger, outer room was arranged with two chairs angled toward each other.
about 80 cm apart. Situated between these two chairs was a small end table which held a wicker box with a plant on top. A second set of video equipment was located against one wall approximately 3 m from the arranged chairs. A black plastic typewriter cover was placed over the VCR, and the power light on the video camera was covered with a black cloth. The microphones for this set of video equipment were hidden beneath the wicker box on the end table.

Apparatus/Materials

Two sets of video equipment were used to record the conversations of subjects while they talked with research confederates. Observers used a digital stop watch to score selected behaviors. Tape recorders, provided by the subjects, were used to record homework assignments.

The SAI is a self-report questionnaire that yields a score on social anxiety and social skills deficits. This scale has 105 items and assesses both the subject's anxiety and performance in certain social situations. The subjects rate themselves on a Likert scale from 1 - 5 on each of the 105 statements. Curran et al. (1980) examined the feasibility of using the SAI on a psychiatric population. They reported high alpha coefficients on internal consistency for both the social anxiety and skill components. In addition, they reported that the coefficients for the total
scores were quite high (.983 and .987). The test-retest reliability coefficients were also satisfactory with scores of $r = 0.80$ for anxiety and $r = 0.71$ for skill.

The SADS questionnaire is a self-report index useful as a general measure of the degree of social anxiety and avoidance. The SADS has 28 items focusing on social avoidance and feelings of distress during social interactions. The subject circles either true or false for each of the 28 statements. Watson and Friend (1969) developed the SADS questionnaire and reported on its validation and reliability. The results from three validity tests demonstrated that people who were rated high on the SADS did avoid social situations and were anxious in social interactions. They reported that the SADS did correlate with other relevant measures such as the social and evaluative parts of the Endler-Hunt (1966) S-R Inventory of Anxiousness. The product-moment test-retest correlation of the SADS was 0.68.

The SCL-90-R is a self-report inventory with 90 psychological symptoms which the person rates on a Likert scale from "not at all" to "extremely." This scale reflects the psychological symptom patterns of psychiatric and medical patients. Derogatis (1983) reported the internal consistency of the nine dimensions ranged from .77 to .90. The test-retest reliability was also an appropriate level (between .80 and .90). Derogatis (1983) states
that the validity of the SCL-90-R is good. He mentions the Derogatis, Rickels, and Rock (1976) study in which the SCL-90-R was compared to the Minnesota Multiphasic Personality Inventory, and it was demonstrated to have "a high degree of convergent validity" for the SCL-90-R (p. 17).

Social Validation

Procedure

Fifteen people from the community volunteered to participate in the social validation process. They ranged in age from 25-57 years and held a variety of occupations such as college student, teacher, hospital administrator, engineer, and secretary. They were instructed to converse for five minutes with a conversational partner with whom they were to become acquainted. In addition, they were instructed to increase the possibility that the partner would want to talk with them at a later time. The videotaped conversation took place in the large, outer room of the laboratory.

Rating the Social Validation Group

Two people from the community volunteered to score the videotaped conversations of the social validation group. Both observers worked as secretaries, and their ages were 31 and 35 years. One observer rated all 15 conversations, and the other rated five (or 33%). Interobserver agreement
was 80% using the frequency ratio method which is the smaller frequency divided by the larger frequency times 100.

The two observers used three criteria in order to determine the social competence rating of the social validation group (see Appendix B for the observers' written instructions). First, the observers determined whether they would want to converse with that person in the future. Second, they rated the person on whether he or she became acquainted with the partner. And third, observers rated them on a Likert scale (1-3) for an overall evaluation of social competence. Social competence was based on 10 molecular social skills (e.g., voice volume and question asking).

Identifying Critical Skills and Performance Criteria

The two observers rated 11 of the 15 people in the social validation group as having "average" conversational skills (Group 1). The remaining four people were rated as having "very good" conversational skills (Group 2). T tests were computed comparing the individual skills data of Groups 1 and 2. No significant difference was found between the scores of these two groups. Table 1 shows the mean score, standard deviation, and t value for all 10 skills measured for Groups 1 and 2.
### Table 1

**Individual Skill Scores for the Social Validation Group**

<table>
<thead>
<tr>
<th>Skill</th>
<th>Mean</th>
<th>SD</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group 1</td>
<td>Group 2</td>
<td>Group 1</td>
</tr>
<tr>
<td>Voice Volume (rating 1-5)</td>
<td>4.64</td>
<td>5.00</td>
<td>0.67</td>
</tr>
<tr>
<td>Subject Speech Duration (min)</td>
<td>2.99</td>
<td>2.86</td>
<td>41.9</td>
</tr>
<tr>
<td>Speech Disturbances</td>
<td>17.3</td>
<td>7.50</td>
<td>10.3</td>
</tr>
<tr>
<td>Gaze (minutes)</td>
<td>4.17</td>
<td>4.03</td>
<td>34.7</td>
</tr>
<tr>
<td>Gestures (seconds)</td>
<td>44.2</td>
<td>47.0</td>
<td>28.0</td>
</tr>
<tr>
<td>Turn Taking and Timing (rating 1-5)</td>
<td>4.36</td>
<td>4.50</td>
<td>0.67</td>
</tr>
<tr>
<td>Asking Questions</td>
<td>10.1</td>
<td>14.8</td>
<td>3.96</td>
</tr>
<tr>
<td>Positive Feedback Statements</td>
<td>14.6</td>
<td>19.8</td>
<td>7.67</td>
</tr>
<tr>
<td>Disclosing Statements</td>
<td>7.73</td>
<td>12.5</td>
<td>4.56</td>
</tr>
</tbody>
</table>

*Note.* Scores for a 5-minute conversation.

Group 1 = group rated as average conversation skills.  
Group 2 = group rated as very good conversation skills.

* t(13) = 2.16, p < .05.
Although the difference between groups wasn't signifi-
cant, there was a slight overall trend that existed such
that Group 2 had superior scores, when compared to Group 1,
on the 10 individual molecular skills. Because these
scores were superior, the experimenter decided to use Group
2 data as training criteria for the dependent variables.
Data were averaged from the four people in Group 2 on each
of the 10 skills to create the following performance
criteria: (1) Voice volume—a score of 5 (Likert scale
1-5), (2) Speech duration—172 seconds per 5 minutes, (3)
Speech disturbances—2.8 per minute of subject speech, (4)
Gaze—242 seconds per 5-minute conversation, (5) Gestures—
16 seconds per minute of subject speech, (6) Turn taking
and timing—a score of 5 (Likert scale 1-5), (7) Question
asking—5.2 questions per minute of subject speech, (8)
Positive feedback statements—9.4 per minute of partner
speech, (9) Disclosing statements—4.5 per minute of
subject speech, (10) Latencies—0 per 5 minute conversa-
tion.

Dependent Variables

Response Definitions

Each subject's conversational skills were assessed on
the above 10 dimensions (see Appendix C for definitions of
each). The three most deficient skills from the pool of 10
were selected for each subject based on his/her individual baseline screening data.

Performance Criteria

Each skill was taught in the direction of the performance criteria based on the data from the social validation group. It had originally been intended that the subject would meet the criteria for one skill before moving on to the next skill. However, a limit of nine sessions per skill was imposed in order to keep the length of the study consistent with what had been originally described (i.e., 6-8 weeks). The subjects' involvement lasted 11-12 weeks.

Selection and Training of Observers

Two new observers were trained to score the subjects' skills from videotaped conversations. Training involved the use of written instructions, examples and nonexamples of each dependent variable, and practice scoring each skill from a training tape. The tape included several conversations demonstrating all 10 skills. Moreover, the observers reviewed the tapes together and discussed any discrepancies to ensure better consistency between them. They practiced scoring until interobserver agreement was 85% or higher. Interobserver agreement was calculated using the frequency ratio method previously mentioned.
Observation/Scoring Procedures

After each session, observers scored the targeted conversational skills from the videotapes. Ratings were recorded on data sheets (Appendix D). Observers were blind to the order of the taught skills and phases of the study.

Experimental Design

Experimental control was demonstrated by a multiple baseline across behaviors design. After the baseline phase, each subject received training in three conversational skills. These skills were taught sequentially. Once training was completed, the homework phase of the study was conducted in a multiple baseline across behaviors design. Generalization was assayed throughout the study in two types of probe situations.

Procedure

Generalization Probes

Two kinds of generalization probes assessed the three skills per subject identified in training. Novel scenario probes were implemented in the training room and occurred every other session immediately after the training role-plays. The subject was presented with a novel scenario and instructed to participate in another 5-minute role play. A high degree of similarity between the training sessions
and the novel scenario probes existed; the setting and the conversational partner were the same, and in both the subjects knew they were being videotaped. However, a major difference between the novel scenario generalization probes and the training roleplays was that the subjects did not receive any subsequent feedback or social praise after the novel scenarios.

The second kind of generalization probe was implemented in the large outer room of the laboratory and was designed to be a simulated situation similar to the subjects' natural environment. These generalization probes were called the outer room probes. Each session started with the subject sitting in the large outer room with the conversational partner. It was explained to the subjects that they needed to remain seated for a few minutes to relax and forget about the stresses of the day while the researcher prepared for the session in the inner room. The subjects were encouraged to talk with the conversational partner while they waited. Unbeknownst to the subjects, the conversation was videotaped as they interacted with the conversational partner. Although the outer room always contained the video equipment, generalization probes occurred every other session. The experimenter explained the presence of the outer room video equipment as other equipment within the laboratory but not necessarily associated with this study. The experimenter turned the
video equipment on and off outside of the subjects' view. The subjects waited approximately six minutes in the outer room while they waited with the conversational partner.

**Baseline**

After the subject sat in the outer room during the generalization probe, the researcher instructed the subject to come into the training room to participate in one semi-structured role play. During the first baseline session, the researcher explained to each subject how the role play scenarios would proceed (see Appendix E). For each role-play, the researcher read a background narrative to the subject and conversational partner. The subjects were instructed to behave as if they were actually in that situation. An example of a narrative was, "You have some new neighbors move in across the street. You're out getting the mail and see the man getting his mail. Converse with him for a few minutes." The conversational partner did not have any required comments and adhered to the following rules: (a) do not dominate the conversation, (b) have the subject maintain the conversation initiative by asking a question only if one has been asked of him or her, (c) speak for no longer than 45 seconds at one time, and (d) let silence last approximately 45 seconds before asking a question.

During the first four baseline sessions only one roleplay per session was completed. No coaching, modeling,
behavioral rehearsal, feedback, or social praise were given to the subject. The first four sessions lasted approximately 30 minutes. Starting with the fifth session training was initiated with the first skill while the other two skills remained in baseline.

Training

The first skill to be performed at a steady rate in baseline was the first skill taught. All subjects had at least one skill stabilize after the fourth baseline session. In order to determine which skill would be taught next, the researcher chose the second skill that was the most stable and so on.

As in baseline, each training session started with the subject sitting in the outer room with the conversational partner for approximately six minutes. They were then instructed to come into the training room. Each training session consisted of having the subject participate in two semi-structured role play scenarios. Before the first role play, the researcher and conversational partner coached the subject on the target skill, and then modeled that skill. Next, the researcher read the role play narrative and had the subject participate in a 3-minute behavioral rehearsal. Afterwards, the researcher and the conversational partner gave the subject feedback and social praise regarding his/her performance on the role play. The second
semi-structured role play, utilizing the same narrative, lasted five minutes and was videotaped. While the role play was in progress the experimenter watched through the video monitor in order to prevent any inadvertent or nonverbal feedback. Feedback and social praise were again given after the second role play. Each training session utilized all five training techniques: coaching, modeling, behavioral rehearsal, feedback, and social praise (see Appendix F). Each training session lasted 45 minutes to one hour.

To make the training role plays as relevant and as personal as possible, each subject gave information to be used within the narrations. The roleplay scenarios always incorporated situations that the subjects encountered in their everyday lives. During baseline subjects were given an initial homework assignment in which they reported 10 difficult social situations that were common in their everyday lives. This information included the typical places they had opportunities for conversations, the different people with whom they talked, and the topics of these interactions. Names of specific people that the subjects knew were used in the role plays to make them seem more realistic.

Two strategies to enhance generalization were incorporated into the training package: (1) multiple/varied scenarios and (2) multiple conversational partners. A
different scenario was used for each training session. There was a pool of nine conversational partners, five men and four women, with whom subjects conversed; however, only one partner was used per session. The age range of the partners was 24-33 years.

Homework With Maintenance Training

After training was completed on the targeted skill, further homework assignments were given. These consisted of two parts. First, similar to the coaching technique used in training, these assignments included written prompts concerning the critical components of the skill. Second, there was a brief written instruction for the subjects to practice the skill(s) in their natural environment. These assignments focused on a variety of situations that occurred in the subject's everyday life. The subjects used a written homework log (see Appendix G) to record their impressions of the homework assignment, and during the following session the researcher discussed the assignment with the subject. The researcher discussed with the subject how well the homework assignment went, whether they made improvement using the skill(s), and any other feedback concerning the homework task. In addition to the homework log, the subjects tape-recorded the assignment. This served two purposes: (1) to monitor whether the subjects actually completed the assignment, and (2) to assess the
subjects' performance during the task.

In addition to homework assignments, maintenance training on the previously taught skill(s) was provided. Prior to participating in the first roleplay of the session, the subject would be briefly reminded of these skills. After each role play, subjects would receive feedback on their performance of these previously taught skills along with the feedback and social praise for the newer skill being taught.

At the end of the study, each subject received $30 for his or her participation.

Follow-up Sessions

Three follow-up sessions were held at one month, two months, and four months after training. These were identical to the first four baseline sessions. The subject was instructed to wait in the outer room for approximately six minutes for the generalization probe. Afterwards, the subject participated in a 5-minute novel role play in the training room. At the end of the third follow-up session, the researcher gave each subject feedback on his or her performance in the study and a brief description of the project.

Interobserver Agreement

Thirty-six percent of the training sessions and outer
room generalization probes, and 33% of the novel scenario generalization probes were scored by two independent observers. Target skills from videotapes were scored independently. Agreement was computed using the frequency ratio method which is the smaller frequency divided by the larger frequency times 100.
CHAPTER III

RESULTS

Reliability Data

Overall interobserver agreement was 82%. For individual skills, the interobserver agreement was as follows: subject talk time—90%, partner talk time—88%, seconds gestured—77%, number of questions asked—83%, number of feedback statements—80%, and number of speech disturbances—71%.

Subject Data

Figures 1–4 show the effects of the conversational skills training and the homework with maintenance training for each subject. During each phase of the study, many of the targeted skills displayed substantial variability. For example, in baseline, Subject #1’s feedback statements ranged from 0.69 per minute (session #4) to 6.67 per minute (session #13). Because of this variability, it is easier to see the effects of the training by averaging the individual session data into the specific phases. Table 2 is a summary of each subject’s data averaged by phase.

There was no interactive effect between the skills.

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Figure 1. Data on Subject #1 for Baseline, Treatment, and Follow-up Sessions and for Novel Scenario and Outer Room Generalization Probes.
Figure 2. Data on Subject #2 for Baseline, Treatment, and Follow-up Sessions and for Novel Scenario and Outer Room Generalization Probes.
Figure 3. Data on Subject #3 for Baseline, Treatment, and Follow-up Sessions and for Novel Scenario and Outer Room Generalization Probes.
Figure 4. Data on Subject #4 for Baseline, Treatment, and Follow-up Sessions and for Novel Scenario and Outer Room Generalization Probes.
Table 2
Subjects' Scores on Individual Skills Averaged By Phase

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<th>Subject</th>
<th>Skill Type of Scenario</th>
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Each skill did not improve until conversational skills training was implemented. Subject #1's feedback statements increased the last two days during baseline; however, this did not correlate with an increase in either of the two previously taught skills.

**Baseline and Training Data**

During baseline, each subject demonstrated a deficit or an excess in the three skills that were chosen for training. For Subject #1 and #2, conversational skills training was effective in improving all three targeted behaviors in the training roleplays. Subject #1's gesturing increased 92%, question asking increased 72%, and feedback statements increased 26%. Subject #2's speech disturbances decreased 34%, feedback statements decreased 28%, and question asking increased 26%.

However, with Subject #3 and #4, conversational skills training was effective in improving only the first two skills taught. The third targeted skill improved either minimally (Subject #3) or worsened (Subject #4). Subject #3's feedback statements increased 54%, speech disturbances decreased 57%, and question asking only increased 10%. Subject #4's gesturing increased 77%, question asking increased 50%, and speech disturbances increased 5%.

Conversational skills training did improve 10 of the 12
skills, but only 5 of the 12 skills reached the criterion levels set by the social validation group. All five skills that reached the criterion levels improved in either the novel or outer room generalization probes. Two of these five skills improved in both types of generalization probes.

Of the 10 skills that improved during the conversational skills training phase, eight skills improved in the novel scenario probes. In both instances the skill that did not improve in the novel scenarios during the skills training was question asking. Subject #4's speech disturbances during the skills training phase did not improve in the training scenarios; however, the skill did improve in the novel scenarios.

Homework With Maintenance Training

The homework plus maintenance training phase did not consistently result in improvement of the skills in the novel and outer room generalization probes. None of Subject #1's skills improved in the novel scenario probes, but her feedback statements increased 39% in the outer room probes. Subject #2's performance worsened in the novel scenario probes with question asking and feedback statements, but he decreased his speech disturbances by 35% and increased question asking by 24% in the outer room probes.
Subject #3’s performance on all three skills remained the same or worsened in the outer room probes, but she showed an increase in feedback statements of 44% in the novel scenario probes. Subject #4’s gesturing increased 23%, question asking increased 58%, and speech disturbances decreased 21% in the novel scenarios. However, only speech disturbances improved in the outer room probes, while question asking actually worsened.

When homework with maintenance training was implemented, conversational skills did improve more often in the novel scenario generalization probes than in the outer room generalization probes. Eight of the 12 skills improved in the novel scenario probes, whereas only five of them improved in the outer room probes.

**Follow-up Phase**

There was no consistency in how well each of the skills maintained during the follow-up sessions. Subject #1 maintained each skill during the follow-up session in at least one type of generalization probe and both types of probes for the skill of gesturing. However, Subject #3 only maintained two skills in at least one type of generalization probe and no skill in both types of generalization probes. There was no difference in skill maintenance between the types of generalization probes. Eight of the
12 skills were maintained at the four-month follow-up session in the outer room generalization probes. Seven of the 12 skills were maintained in the novel scenario probes during the four-month follow-up session.
CHAPTER IV

DISCUSSION

The hypothesis that the use of multiple conversational partners and multiple/varied scenarios during role playing would enhance generalization was not consistently supported. Nor did the addition of homework assignments plus maintenance training consistently increase generalization. In part, this finding may be due to the fact that the training package, e.g., modeling and feedback, did not consistently or significantly improve conversational skills to the predetermined performance criterion levels. Ten of the 12 skills taught showed improvement toward the performance criteria but not a marked difference. As noted above, only 5 of the 12 skills attained the criterion levels. If the skills did not improve markedly during either the conversational skills training or the homework plus maintenance training phase, then it is easy to see why no generalization of these skills was noted. The five skills that did meet the predetermined criterion levels showed better generalization effects than the seven skills that did not reach the criterion levels.

It is difficult to determine why the conversational skills training did not significantly or consistently
improve the targeted skills. The training techniques employed in this study have previously been demonstrated to be very effective in improving conversational skills. One explanation may be related to the fact that the data were so variable. Perhaps lengthening the phases would have resulted in a stabilization of the data which would have permitted more conclusive findings. Also, more extensive training may have resulted in more pronounced effects. A second factor influencing whether the skills training was effective was the lack of positive consequences for improvement. The researcher and conversational partners gave each subject verbal praise for improvement with the skills. However, perhaps the verbal praise did not function as reinforcement for improved performance.

Part of the variability of the data could be due to the number of different conversational partners with whom each subject talked. Conversational partners had standardized guidelines; however, each person did have his or her own style of conversing. The guidelines were intended to set a framework for the conversations but allow enough flexibility to have the conversations seem more natural. This flexibility may have influenced the variability seen in the data.

The addition of homework with maintenance training did not significantly enhance generalization of conversational
skills in either the novel scenario probes or the outer room probes. It is possible that the subjects did not receive enough feedback on the homework they completed. The homework task was talked about briefly at the beginning of each training session in order to give the subject feedback about his or her performance. Parts of the homework tapes were often inaudible, which made it difficult to give the subjects feedback.

Homework plus maintenance training may have been ineffective because the subjects were too familiar with the people they conversed with during the homework assignment. The subjects typically practiced with a family member or someone with whom they felt close. The subjects reported that they already felt comfortable talking with family members. Thus, they did not practice using the skills in situations which were difficult (e.g., talking with acquaintances and strangers).

Another drawback with the use of the homework assignments, which was not considered until it had been employed several times, was the effect the conversational partner (e.g., family member) had on whether use of the targeted skills would be rewarded. This was noted as a deficit in the study when one of the subjects mentioned that she tried practicing giving positive feedback to her husband, but her husband told her that he did not like it. In fact, he
thought she was being rude to him. However, later that same subject said that giving positive feedback was an important skill she'd learned because she was using it in her everyday conversations, though not with her husband, and she said she could see the difference in her conversations.

Overall, the data in the novel scenario probes improved more often than the data in the outer room probes. This may be because the novel scenario probes were much more similar to the training scenarios than were the outer room probes. One major similarity between the two scenarios was that the subjects knew their conversations were being videotaped.

When the subjects were debriefed about the study, they all stated that they felt more confident in their skills and used their improved skills in their natural environment. However, the concept of self-confidence was not measured in this study. The data from the outer room generalization probes do not support the contention that the subjects used these newly improved skills in their everyday lives. It may be that changes occurred in other behaviors that were not measured that accounted for the increased self-confidence. It could also be that their self-report about using the newly learned skills was inaccurate. Eliciting feedback from significant others
concerning whether they noticed any improvement could have clarified this issue more.

This issue brings to light a potential concern for generalization with any skill. The skill must be reinforced within the natural environment just as it is in the clinic or laboratory situation in order for it to be maintained. It is plausible that many socially "unskilled" people function "well" in their immediate environment in that they associate with people who are comfortable with their interpersonal style; thus, that style is maintained. The problem, however, arises when these individuals wish to develop new relationships. Perhaps, having significant others participate in the skills training with the subject would minimize this concern.

One needs to question whether this study focused on the critical skills necessary for social competence. The lack of a significant statistical difference in the molecular skills between social validation Group 1 and 2 raises this suspicion. The two observers who rated the 15 people in the social validation group were able to reliably note a distinction between those who were average and above average in social competence. This distinction may have been very subtle and obviously was not reflected in the 10 molecular skills examined. It may have been another group of behaviors which weren't assessed. An improvement in
some of those behaviors could have lead to what the subjects called improved "self-confidence."

Leading to the selection of the current conversational skills taught in this investigation, a pilot study was completed. It compared global ratings of conversational skills to the above 10 molecular skills and to two of the questionnaires used—Social Anxiety Inventory ([SAI] Curran et al., 1980) and Social Avoidance and Distress Scale ([SADS] Watson & Friend, 1969). It was determined that there was no correlation between any of the compared items. For example, if someone had been rated on a global level as above average in social competence, one could not predict that this person would also score well on the two questionnaires or what his or her molecular conversational skills were like. This demonstrates the difficulty in determining exactly what behaviors are necessary for social competence and the complexity of this concept.

Conversational skills include numerous behaviors. To improve them and enhance their generalization to the real world is a difficult task. In addition to using multiple relevant scenes, multiple conversational partners, and homework assignments, other strategies, such as participation of significant others in training, might enhance the effects of the existing training package. The data from this study do not confirm what others have recommended to
enhance generalization. This is one of the initial studies investigating the promotion of generalization of conversational skills, and it is recommended that additional research be completed incorporating the suggested changes.
Appendix A

Informed Consent for Participation in an Investigation
Informed Consent for Participation in an Investigation

I am conducting a research study that investigates training of conversation skills. Two different training methods will be examined to see which is the most effective strategy. To participate in the study you will first need to fill out two questionnaires that deal with how you currently handle social situations and how much anxiety you feel in those situations. Additionally, you'll be asked to have a conversation with a research assistant, and this conversation will be videotaped enabling the researcher to make an accurate assessment of your conversation skills.

All the information collected will be kept in a locked file cabinet with only the researcher and assistants having access to it. Even if you decide not to participate further in the study after this initial segment or the researcher decides that your needs won't be best met by participating in this study, this initial intake information will be kept. All data collected during the intake and research segments of the study including the videotapes will be kept for at least five years after the study is completed.

If you decide to participate, it will take about one hour twice a week for approximately 8 - 10 weeks. There will also be three follow up sessions, at one, two, and four months after the study. You will be assigned individual training sessions in which you will practice these new skills.

Participating in this study may involve minimal risk to you - no physical risks are anticipated. If you become extremely uncomfortable or stressed while participating in a session, the session will be immediately stopped and relaxation exercises implemented.

There are three benefits to your participating in this study. The foremost benefit is that your conversation skills will improve, and any related problems such as anxiety while being in a social situation may also improve. You will also receive $30 at the completion of the study.

During the training sessions your performance will be videotaped. These tapes will be kept in a locked file cabinet, and only trained research assistants and the researcher will have access to them. These tapes will be kept for five years after the study is published, and then the tapes will be erased.

Your privacy as a subject will be facilitated through several methods. One method will be that all information regarding the subjects will be kept in a locked file cabinet. Also, all subjects' names will be substituted with a number to protect your identity.
Participation in this research project is voluntary. There will be no loss of benefits or any penalties for refusing or discontinuing participation at any time. However, the $30 will be given only if one completes the study.

Questions or complaints may be directed to Janice Cain at 372-1589 or Dr. Michele Burnette at 387-4472.

Your signature indicates that you have understood the above information and have decided to participate. You will receive a copy of this signed informed consent form.

_________________________  ______________
Signature of Subject  Date

_________________________  ______________  ______________
Investigator  Date  Witness
Appendix B

Peer Rating of Videotape
Peer Rating of Videotape

I videotaped 15 people having a conversation with a partner (Ellen). Ellen is the conversation partner for all the subjects. Each subject talked with Ellen for 5 minutes. The objectives of that conversation were for them to get to know Ellen better and make it likely that she'd want to talk with them again in the future. I would like you to rate these subjects on their social competence and whether they met these two objectives. Being socially competent can mean different things to many people. But here I'm talking about how well the person was able to initiate and maintain the conversation. You need to take into consideration several aspects of the person's conversational skills such as:

1. eye contact - eye contact shows the partner that one is interested in what they are talking about. It usually helps in being assertive, etc. But of course, it isn't good to stare at someone either.
2. speech duration - it's been demonstrated that this is important in holding a conversation. One doesn't want to dominate the conversation by talking all the time, but it is necessary to speak at least part of the time.
3. voice volume - it is necessary for the subject to speak in an appropriate volume that isn't too loud or too soft. Either way makes it unpleasant for the listener.
4. speech disturbances - Examples: Um, Er, Well, Ah, Stutters. When someone uses a lot of these fillers their ability to converse is somewhat impaired.
5. turn taking and timing - the ability to hand over and take up the conversation with a partner is important. This includes the number of silences or interruptions.
6. asking questions - when getting to know someone or when having a conversation it's important to ask them some questions that leads them to talk. This shows interest in them.
7. conversation feedback - comments that directly compliment the partner or shows the person that you understood, heard, approved, or was concerned with what the partner said. Examples: "Humm", "Good", "Oh really", "Very true", "Ah-ha". Socially competent persons use these to show the partner that they are interested in what they are saying.
8. disclosing information about oneself - this doesn't necessarily mean deep personal information, but
talking about one's interests, hobbies, background, preferences and opinions is important in being socially competent.

The rating scale is:

1-3

1 = someone who is socially incompetent. He/she would make the partner feel uncomfortable and the partner probably wouldn't want to talk with him/her again. They would be someone who would be deficient in several of the above mentioned skills. An example would be someone you met at a party and he/she talked on and on about him/herself, had poor eye contact, and used several speech disturbances such as "Um". On the other hand it could be someone who was too quiet, shy, etc.

2 = someone who has average social skills. The partner feels relatively comfortable talking with them. They may be deficient in a couple skills, but otherwise they possess most of them. The partner would engage in conversation with this person and wouldn't mind talking with them again.

3 = someone who has very good conversation skills. This person is someone the partner would gladly converse with. They have a good grasp on almost all the above mentioned skills such as eye contact and turn taking and timing. One would always feel comfortable talking with him/her. An example would be someone who converses very easily with everyone. It could be someone you're impressed with and would enjoy talking with again sometime.

Now watch the video and rate the 15 people on a scale of 1-3 using the above information. Also please answer these two questions.

#1. Would you want to converse with this person?

#2. Do you feel that they got to know Ellen better?

Attached is a data sheet to write your ratings and answers on.
<table>
<thead>
<tr>
<th>Subject’s name</th>
<th>Question #1 (Y or N)</th>
<th>Question #2 (Y or N)</th>
<th>Score (1-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senez</td>
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<td>Linda</td>
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<td>Creg</td>
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<td>Dave</td>
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</tbody>
</table>
Appendix C
Definitions of Dependent Variables
Definitions of Dependent Variables

1. **Voice Volume** - the level of loudness of speech ranging from shouting to too soft and inaudible. It was rated on a Likert type scale ranging from 1 - 5.

2. **Speech Duration** - length of time (in seconds) that the subject speaks to the conversational partner.

3. **Speech Disturbances** - instances in which the subject's speech was not fluent. Examples are um, er, oh, ah, repetitions, stutters, tongue slips, etc. These were recorded as a frequency count divided by the subject speech duration.

4. **Latency** - the total time elapsed starting the instant the role-play partner finished speaking and stopping as soon as the subject utters his or her first word. Only latency periods longer than 4 seconds were counted as an occurrence. This was measured as a frequency count.

5. **Gaze** - the total time measured in seconds in which the focal point of the subject's eyes was in the direction of the conversational partner's face. This was recorded as the total seconds of gaze divided by the total time of the conversation (5 minutes).

6. **Gestures** - total time measured in seconds in which a response was made with the hands, arms, head, and/or face which was used for communicative purposes and coincidental with speech such as hands outstretched, shoulder shrugging, clenched fist, thumbs down, and waving. It did not include head nods.

7. **Turn Taking and Timing** - the number of interruptions made while the partner is still speaking, the number of lengthy silences between the partner cuing the subject that he is handing over the speaking role and the subject taking up that role, and whether the subject resists the taking up of the speaking role was measured. This ranged from avoiding spontaneously taking the floor with many long silences to continually taking up the floor with many interruptions.

8. **Question Asking** - any comment by the subject which resulted in the partner disclosing information such as "What kinds of hobbies do you do?" It didn't need to
be in the form of a question; it also included statement that elicited information from the partner such as "Tell me about your classes." This was measured as a frequency count.

9. Positive Conversational Feedback - comments that directly complimented the partner or were a statement that approved of what the partner just said. Examples of the first type were "That trip sounds quite interesting" and "You always give such good advice." Examples of the second type were "Hmmm", "Good", "Ah-ha", and "Oh, really." This was measured as a frequency count.

10. Self-disclosing statements - any verbalizations that convey information about oneself but are not necessarily revelations of highly personal information. An example may be "I really enjoy this nice fall weather with all the pretty colors." This was measured as a frequency count.
Appendix D

Data Sheet
Data Sheet

Subject’s name: ____________________ Observer’s Initials: _____
Session date: _______ Outer room, inner room, novel scenario

(1) If an outer room tape - What time frame? ______________
    (e.g. :43 - 5:43)

(2) Speech duration of subject in percentage of total time of conversation:
    total time: _________ percentage: _________

(3) Speech duration of the confederate speaker in percentage of total time of conversation:
    total time: _________ percentage: _________

(4) Number of speech disturbances (i.e. um, er, stutters)

(5) Gaze: (number of seconds of gaze divided by total minutes of conversation)
    total time: _________ percentage: _________

(6) Gestures: percentage of time gesturing
    total time: _________ percentage: _________

(7) Number of questions asked:

(8) Number of positive conversational feedback comments:

Comments:

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Appendix E

Role Playing Instructions
Role playing Instructions

This information will be discussed with each subject. They will not read this information as it is written. This is a general outline of how this information will be presented to the subject.

We try and get an idea of how you react and behave in social situations. We’re interested in seeing the manner in which you converse with other people. We can’t walk into your house and follow you around, so the next best thing we can do is create an artificial situation which we call role playing. Some of these role plays we use with every client, and some we develop on an individual basis. Then we role play to see how you respond to those situations.

Role playing is a way of pretending you’re in one of those difficult situations. It’s like you are in a play where you say and act just like you are really in that situation. It’s "as if" you are really there talking with that person. The first homework assignment will be for you to write down on the homework sheet those situations which are difficult for you. Write down what the situation is, who was there, what you did, and what you thought and felt. This will tell us what you typically do, who the people in your life are, and how much of what you’re doing is happening. We will use this homework assignment to develop your role plays.

(then give an example - the researcher will model being in a role play situation - the "as if" nature of role playing. Then the subject will be asked to try the exact same situation. Feedback will be given on his performance, and have them try it again. The feedback will emphasize the "as if" nature of role-playing not the subject’s conversation skills per se. This part of the session will focus on how well the subject is able to get into the role play i.e. not play it as a third person ("and then I would say that I’m going to study tonight" vs. "I’m studying tonight"). This first practice role play will be a situation that is low on the client-created hierarchy to make it easier for them.)
Appendix F

Definitions of Training Strategies
Definitions of the Training Strategies

1. **Coaching** - the researcher defined the conversational skill to be practiced and its rationale. The subject was asked to identify a few reasons why this skill would be useful to exhibit in conversations, (i.e. breaks the ice, conveys that one is interested in the conversation).

2. **Modeling** - the researcher demonstrated the conversational skills selected for that session by giving several examples. In addition to verbal examples, the researcher and the conversational partner demonstrated a 2-min conversation emphasizing the new skill.

3. **Behavioral Rehearsal** - the researcher asked the subject to practice stating original examples of the skill being taught. Then the researcher had the subject participate in a role-play conversation with the partner utilizing those target skills.

4. **Feedback** - immediately following the roleplay the researcher and confederate provided positive and negative feedback concerning the subject's performance; first the positive aspects of the conversation were emphasized, and then any corrective information or instruction was given.

5. **Social Praise** - this included positive social praise from the researcher and confederate immediately during the session about the skills the subject performed well.
Appendix G

Example of the Written Homework Log
Subject #2  Homework Assignment #10

During this assignment remember to practice all three skills that we’ve been working on (1) minimizing speech disturbances, (2) giving a variety of reflective feedback, & (3) asking questions. Points to remember:

(1) use a pace you’re comfortable with

(2) take a pause before you speak to collect your thoughts

(3) questions give the conversation direction

(4) start out with general questions, then become more specific, don’t forget those feeling questions also

(5) try and use open ended questions

(6) ask questions that pertain to that person, family life, etc.

(7) don’t pound with questions - talk about yourself too.

(8) use a variety of feedback statements (small, medium, & longer)

(9) try and hold back on the small ones and squeeze a larger one in there.

(10) remember you don’t have to give a feedback statement after everything the person says. You are giving them other feedback such as head nods and eye contact.

Assignment  - Converse with someone you feel comfortable with concerning any plans for the upcoming fall.

Comments: How did the conversation go? Were you able to concentrate on all 3 skills? Did you ask several questions? What about the reflective feedback - were there several longer ones in there? Any other comments?
Appendix H

Approval Letter From the Human Subjects Institutional Review Board
TO: Janice A. Cain
FROM: Ellen Page-Robin, Chair
RE: Research Protocol
DATE: June 17, 1988

This letter will serve as confirmation that your research protocol, "Generalization Techniques for Social Skills Training" is now complete and has been signed off by the HSIRB.

If you have any further questions, please contact me at 387-2647.


