

AN ABSTRACT OF THE THESIS OF

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The study was designed to assess the efficacy of Lou and Charlson's (1991) social cognition training program for deaf adults. Sixteen deaf adult subjects who were vocational rehabilitation clients, and who had been identified as experiencing difficulties in social functioning, were assigned to receive a eight-week training program designed to raise the level of social cognition. Sixteen subjects were assigned to a control condition. Assignment to conditions was undertaken according to matching criteria designed to maximize the similarities between the treatment and control groups. The goal of the program was to assist participants in raising levels of social problem-solving and reasoning, and to improve their social functioning. The program combined an

educational approach with group therapy techniques. All subjects received a pre-treatment assessment interview utilizing Lou and Charlson's Social Cognition Interview (1991) to identify levels of perspective-taking ability (PT) and person conceptualization ability (PC). The Social Cognition Interview instrument consists of an ordinal scale with four categories for PT and five categories for PC. Subjects in the treatment and control conditions were assessed a second time with the Social Cognition Interview, after the treatment group completed the training. The videotaped interviews were transcribed and scored according to standardized guidelines developed by Lou & Charlson (1991). Two-sample t-tests and Wilcoxon rank sum tests were used to compare pre-and post-treatment within-group and between-group mean scores on perspective-taking ability and person conceptualization ($p < .05$). The analysis of the pre-treatment PT and PC scores of the treatment group, the scores of the control group, and the repeated measures of the treatment and control groups indicated significant differences in the predicted direction. The results indicated that the treatment program had a significant effect in raising levels of social cognition among the subjects receiving the training. In light of these results, further exploration of the efficacy of the social cognition training program seems warranted.

A Field Study of a Social Cognition Training Program
for Deaf Adults in Vocational Rehabilitation

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A FIELD STUDY OF A SOCIAL COGNITION TRAINING PROGRAM FOR DEAF ADULTS IN VOCATIONAL REHABILITATION

CHAPTER 1

INTRODUCTION TO THE PROBLEM

The physiological condition of deafness has profound cognitive, linguistic, and social consequences. The deaf have been described as an "at risk" population in terms of social and emotional development (Lytle, 1986).

Psychosocial difficulties, sometimes quite severe, are common among the deaf; these difficulties can inhibit success at school and in the work environment.

Lack of empathy and self-awareness, conduct and adjustment disorders, egocentrism, overt aggression, impulsive behavior, and difficulty in understanding the perspectives of others are among the traits which have been associated with the deaf; social isolation and experiential deprivation may be generative factors in the development of these disturbances. These factors create difficulties for the deaf in finding and maintaining employment (Bachara, Raphael, & Phelan, 1980; Craig, 1965; Evans, 1987; Harris, 1978; Hirshoren & Schnittjer, 1978; Kusche & Greenberg, 1982; Levine, 1981).

Many of the difficulties in psychosocial adjustment experienced by deaf adults are not addressed until the deaf person enters vocational rehabilitation or a similar program designed to address some of these deficits. Deaf adults who are unsuccessful in gaining and maintaining employment may lack knowledge and experience with social relationships, and may not be aware of what

constitutes appropriate behavior in the work setting. Research indicates that there are no significant differences between the deaf and hearing in terms of intellectual and manual capabilities and potentials (Vernon, 1970). This suggests that deaf persons might benefit from training designed to improve social skills.

Traditionally, the deaf have gained social knowledge within an authority-subordinate training model. In this method of education, the instructor delivers information didactically, and the student passively absorbs the information (Lou & Charlson, 1991). It has been suggested that this authority-subordinate distinction may have a greater adverse effect upon learning for the deaf than it does for hearing subjects. The social isolation and experiential deprivation that a deaf child experiences during psychosocial development are not ameliorated through didactic instruction; also, authority-subordinate structures may adversely influence the deaf student's perspective and cognition in a fashion that perpetuates a failure to generalize thinking (Lou & Charlson, 1991). Often rewards presented to deaf students are not the type which reward the student intrinsically. Rather, actions taken by the deaf student are often arbitrarily tied to the rewards of external authorities. The deaf child may become reliant upon an external authority to generate ideas and behaviors. In other words, the deaf child has difficulty in learning to be self-reliant. Lou and Charlson (1991) pointed out that schools put too much importance upon the attainment of certain isolated components of behavior,

rather than focusing on the process of how one thinks and finds answers.

Training programs that employ authoritarian models to teach social skills may simply exacerbate existing dependent tendencies, impeding the development of independent thinking and understanding; this acts to further retard the development of social knowledge, expressed in appropriate social functioning.

Social cognition encompasses the exchange of ideas, emotions, knowledge, and meaning, subjects which may be poorly addressed within an authority-subordinate teaching modality. Because the deaf student is often culturally and environmentally segregated from his/her hearing peers, he or she is especially affected by, and limited by, the nature of the information presented by educators. It is thus of critical importance to investigate models of training designed to ameliorate deficits attributable to early training.

Lou and Charlson (1991), at the University of California, San Francisco, have developed a social cognition training program which is intended to raise the level of social understanding, reasoning, and functioning of deaf adults who have psychosocial problems. The purpose of the present study is to examine the effects of this program, through the use of a psychological assessment instrument designed to measure the person-conceptualization and perspective-taking ability of deaf adults. A pre-post test design will be employed, using the Social Cognition Interview instrument, to test for significant changes in these factors attributable to participation in the program.

Lou and Charlson's (1991) social skills training program for the deaf takes an approach quite the opposite of the traditional authority-subordinate model of training. The approach is experiential and avoids didactic instruction.

Traditionally, deaf educators have employed a component model of instruction, which is focused on the acquisition of specific components of behavior, such as eye contact or shaking hands. In contrast, Lou & Charlson's (1987) process model does not focus on teaching specific components of behavior; rather, the activities of the program are designed to elicit certain types of social cognition.

The program attempts to show that learning can occur without explicit instruction; most of the activities are games which are intended to improve communication, raise levels of person-conceptualization, improve causal reasoning, and increase perspective-taking.

In this study, the literature on social skills training and development will be reviewed, with particular attention given to the above mentioned issues. Also addressed will be the teacher role, training methods and procedures, and the influence of training models on the development of social cognition and self-concept.

Delimitations of the Study

The scope of the study has been delimited by the writer in a number of ways. First, the study is restricted geographically to the Sacramento county

area of California. Therefore, care should be exercised in extrapolating results of the study to other geographic areas. Second, the study has been delimited to deaf adults who are native signers, and are clients in vocational rehabilitation. The results of the present study may not be descriptive of other segments of the hearing impaired population. Also, the clients receiving training in the social cognition program are the clients of one vocational rehabilitation agency. Therefore, the results may not be descriptive of clients of other counseling agencies.

Limitations of the Study

The study is limited by certain conditions that are beyond the writer's control. The voluntary nature of the sample will limit the results of the study. It is possible that the social cognition levels of persons not choosing to participate in the study may differ significantly from the social cognition levels of persons willing to participate.

There are also serious limitations related to the size of the sample. It is well known that training programs of this type necessitate the use of small groups; the level of interaction that is necessary in social skills training is precluded by the use of larger groups. However, the use of small samples introduces serious problems as to the generalizability of the data generated by the sample. Matching of treatment and control groups was used to attempt to control for

problems introduced by the small sample. However, other problems are introduced when matching is employed; for example, although subjects were matched on variables which were thought to be of possible major influence, it cannot be established that the two groups were equivalent in terms of any number of other variables which were not considered. These problems warrant caution in making interpretations and generalizations based on the results of this study.

Definitions of Terms

1. Social Cognition- A covert mental process which encompasses the exchange of ideas, emotions, knowledge, and meaning (Lou & Charlson, 1991).
2. Person Conceptualization- The degree of sophistication (depth and complexity) of a person's understanding of self and others.
3. Perspective Taking- The ability to take and simultaneously coordinate a variety of perspectives on a particular situation.
4. Process Programs- A model of training that is focused on the covert thinking processes involved in social interaction. For example, role-taking activities might be used that elicit the various levels of logic and forms of thought used during role-taking activity.

5. Component Programs- A model of training which is focused on overt elements of social behavior. For example, such programs employ activities that train subjects to improve observable behaviors such as eye-contact or shaking hands.
6. Native Signer- A deaf individual whose primary communication mode is sign language as opposed to speech.

CHAPTER 2

REVIEW OF THE LITERATURE

Treatment and Training Considerations

Evans (1987) discussed the characteristics of deaf clients, and addressed several issues that may arise during treatment. To Evans, negative characteristics commonly associated with the deaf, such as egocentricity and immaturity, are attributable to the lack of optimal early parent-child relationships. This lack of reciprocal bonding interferes with the individuation phase of development. Without satisfying reciprocal language or communication, the deaf child often develops a poor self-concept. Evans also stated that although the family environment contributes the most to the development of self-image, school and community environmental inadequacies also can be substantial factors in the development of poor social skills and negative attributes.

Harris (1978) examined the relationships between hearing parent status, manual communication, and the academic and impulse control behavior of deaf children. Using a matching familiar figures test and a draw-a-man time test, Harris showed that deaf children of deaf adults scored higher on 3 of 4 measures of impulse control than deaf children of hearing parents. Further, the younger that the deaf children were exposed to manual communication, the

longer their response times, the fewer errors, and the longer the time was spent to draw a whole man. A third set of results indicated that reflective, rather than impulsive, deaf children tended to obtain higher achievement scores.

Barrett (1985) pointed out that the life experience of a deaf child is typically one of social and experiential isolation. Barrett posited that this isolation becomes traumatizing for the deaf child at about the age of six months, as the child notices signals in the mother's behavior that there is something amiss in the child's behavior. "She may become anxious and lack the ability to interact with a child who is different, or, the mother may ignore and deny any signs of abnormal behavior." Barrett added, "Whatever occurs, these feelings are transmitted to the child. These parental feelings, in combination with the lack of total communication ability with the child, often result in a child who reacts instead of interacts with those in the social environment."

In an attempt to decrease social isolation and increase positive feelings of self-image among deaf adolescents, Barrett employed a psychodramatically based social living concept. Barrett's Social Living Class is an action-oriented role-play approach to resolving issues and conflicts. On the Meadow/Kendall Social Emotional Assessment Inventory, Barrett's experimental group showed significant increases on the Self-Image and Social Adjustment Scales post-treatment ($p < .05$). The control group showed no change. This attested to the possible benefits of social training using non-didactic models.

Barrett (1986) interpreted the results of her study as indicating that the social living class "...appears to give the deaf adolescent a structured, action-oriented environment to look at new learnings and roles that were developing, re-enact them, and change, modify, or add to the role as desired." Barrett (1986) also noted that through the use of psychodramatic techniques such as role reversal, doubling, and mirroring, students were able to view their behaviors and interactions from a variety of perspectives. It appeared that the class structure and techniques were effective in providing the students with an environment where they could feel powerful in creating roles. Also, through group participation in role plays, the deaf students developed a sense of the commonality of past and present life experiences and concerns among members. According to Barrett (1986), these learnings aided the deaf students in preparing for successful and satisfying interactions with the world, through the opportunity to practice creating roles and imagining the thoughts and feelings of other people.

Lemanek and Greshorn (1983) suggested that social skills training is a viable behavioral intervention with deaf students. In their study, a combination of live modeling, behavior rehearsal, response feedback, and social reinforcement was significantly related to measurable gains in specific aspects of social interaction behaviors (i.e., speech duration, response latency, and appropriate content). However, Lemanek and Gresham (1983) noted that on follow-up assessments, there were decreases in target behaviors. This failure to maintain

gains may have been due to the setting of the follow-up interview, which stressed communication skills different from those emphasized in the training. Overall, Lemanek and Gresham (1983) concluded that deaf children will most likely not be integrated into the hearing world without training in the requisite social and adaptive behavior skills.

In another study, Farrugia and Austin (1980) used the Meadow/Kendall Social Emotional Inventory for Deaf Students to compare teachers' ratings of four groups of children: (a) hard-of-hearing public school students; (b) deaf public school students; (c) hearing public school students; and (d) deaf residential school students. Deaf students in public school programs were ranked lower on scales of maturity, self-esteem, and social and emotional adjustment than any other group. The authors speculated that these lower scores were related to social isolation and rejection, which deaf students apparently experience in the presence of hearing peers.

In summary, studies have suggested that the social isolation and rejection commonly experienced by the deaf may lead to severe limitations in the development of social knowledge and social skills. There is some evidence that social cognition training programs, particularly those employing non-didactic and experiential methods, can promote psychosocial adjustment (Lou & Charlson, 1991), bring about a lessening of isolation, and in general can have an ameliorating effect on the cognitive and social deficits commonly experienced by the deaf.

Developmental Assessments of the Social Cognitive Functioning of Hearing Individuals

Various researchers have attempted to assess the cognitive aspects of social understanding and functioning from a developmental perspective. In their study, Feffer and Gourevitch (1960) analyzed role-taking tasks and Piagetian tasks (impersonal cognitive tasks developed by Piaget) in the attempt to link two aspects of cognitive functioning: the structuring of the physical world, and the ability to engage in balanced decentering, or the ability to assume different perspectives. Arguing from a Piagetian perspective, the researchers hypothesized that the structuring of the physical world and the ability to assume different social perspectives are cognitive activities which are closely related, reflecting certain developmental trends. To these researchers, various levels of cognitive processing develop as stages in a lawful sequence of development. In this sense, "cognitive processes are viewed as reflecting greater maturity to the degree that internalized abstract schemata (conceptual thought) gain ascendancy over immediate sense impressions and percepts in the structuring of organism-environment relationships" (Feffer & Gourevitch, 1960). The researchers added that the development of the ability to conceptualize was associated with the ability to shift one's focus from one aspect of a situation to another. Thus, according to these researchers, taking the role of the other

constitutes the very fabric of formal logical thought. Results of their study supported the connection between the two aspects of cognitive functioning.

Selman and Bryne (1974) posited two sociomoral dilemmas to forty students. Each child's discussion of the perspectives of different characters was analyzed. As a result of the analysis, the researchers hypothesized a direct correlation between levels of cognitive functioning and increasing age. The results provided support for the theory of a lawlike sequence of cognitive development. Selman and Bryne (1974) discussed this developmental sequence in terms of a progression from a narrow egocentrism through the preoperational stage, ending with the emergence of formal operations, i.e., the ability to take perspectives other than one's own.

Selman and Bryne (1974) posited a four-stage progression in the development of role taking ability. In this study, role taking tasks were assigned to children to determine whether the sophistication of the role taking behavior was significantly related to the age of the child. This study provided support for the concept that conceptual role taking is related to age. It further suggested the existence of an ontogenetic sequence of role taking stages.

Peevers and Secord (1973) investigated the concepts used by persons to describe peers, with the goal of identifying the systematic development of these concepts over a wide age range. Subjects were asked to describe three friends whom they liked, and one person whom they disliked. The analysis suggested that there are four person-concept dimensions: descriptiveness, personal

involvement, evaluative consistency, and depth. The researchers found consistent age differences on the four dimensions, as well as differences between descriptions of liked and disliked peers.

In summary, there is evidence that various aspects of cognitive development occur in a systematic fashion. This sequencing points to the importance of designing program curriculum from a developmental perspective. Although the aspects of deaf social cognitive development are less well understood, the aforementioned evidence suggests that it might follow a similar developmental sequence, albeit with some aspects unique to the deaf.

Developmental Assessments of the Social Cognitive Functioning of Deaf Individuals

Craig (1965) sought to determine whether the self-concept of the deaf child differs from the self-concept of the non-deaf child. Perceptions of the self (in terms of how others might rate the self) and others in familiar situations were measured with a perceptual sociometric instrument. The instrument was selected because it provided a meaningful task which could be adapted to prevent language loading. Significant differences were found between deaf and hearing subjects in terms of self-accuracy. The results were interpreted as indicating that the accuracy of self-evaluation of the self-concept of the deaf child is hampered by language deficits, regardless of the student's residence in

a institution or at home. Craig (1965) suggested that schools provide activities for deaf children which would foster accurate self-evaluation, whether they are in residential or day school. Additionally, regardless of the rewards and punishments of external authorities, Craig believed that more emphasis should be placed on self-evaluation, rather than limiting evaluations to those of external authorities.

Kusche and Greenberg (1983) attempted to evaluate the growth of social cognitive knowledge among deaf children in the early and middle school years. The researchers assessed the relative importance of language in two domains of social cognition: (a) evaluating concepts of good and bad, and (b) taking another person's perspective. Kusche and Greenberg (1983) used a "Good and bad evaluation test" with 12 sets of multiple choice pictures. The results suggested that the deaf experience developmental delays in understanding the concepts of good and bad. With regard to role-taking ability, there was evidence of a developmental delay with younger children, which was no longer apparent by age 6. The authors suggested that deaf children are not so much unable to take another's perspective; rather, they may often be delayed in evaluative understanding.

Bachara et al. (1980) investigated the empathic development of the deaf. The researchers used the Borke test of empathy, which is comprised of 16 visual and signed presentations. In this test, the subject is required to choose an emotion that would correspond to a particular stimulus situation. Three

groups of deaf youths were matched for age and mental ability. There was a congenitally deaf group, a prelingually deaf group, and a postlingually deaf group. The results demonstrated that the deaf preadolescents had more difficulty with empathy development than hearing children; the study suggested that the degree of difficulty experienced with this ability is related to the onset of deafness.

Nass (1964) studied aspects of conscience development in deaf and hearing children. Unlike the majority of the research comparing the developmental aspects of cognition and functioning of the hearing and the deaf, Nass found the deaf to be advanced in some aspects. Using an interview (Piaget's clinical method), the children were told four stories. Two of the stories were concerned with evaluation of an act as to its intent or result; the other two stories were concerned with peer reciprocity versus dependence on adult authority. The results suggested that: (a) deaf children mature earlier than hearing children; (b) in situations involving recognition of the distinction between motivation and the results of an action, hearing children scored significantly higher; and (c) by the age of 12 years, no measurable differences could be found in conscience development.

In summary, a considerable number of studies attest to significant differences between deaf and hearing children in terms of the development of certain aspects of social cognition. Role taking ability, the understanding of the concepts of good and bad, and the development of empathy seem to be

subject to developmental delays which are probably tied to language deficits. By adolescence, however, deaf adolescents and adults show no differences compared to the hearing in cognitive capacity. Thus, it is generally agreed that the differences in social cognition that exist, rather than being attributable to deafness per se, are probably related to the social consequences of the deaf person's lack of mastery of spoken language, and use of a visual/manual communication mode.

Component Versus Process Training Programs

Two major approaches are generally used in the design of social skills training programs: component or process models. The component approach focuses on the development of specific interpersonal social skills, or components of behavior which improve peer relationships. The process model is used to improve thinking skills, with the aim of engendering a global improvement of learned skills to be applied in a variety of settings. In a component model, the focus is on the acquisition of specific behaviors, such as shaking hands or asking for a raise. This type of approach has been moderately successful, but appears to have failed to produce a generalization of learned skills across settings. The process model has had greater success in producing behavior that is generalized across situations (Trower, 1984). The process approach is aimed toward the improvement of adaptive thinking skills

rather than concentrating on training in specific overt behaviors. The process models use a combination of instruction, role-play, modeling, behavioral rehearsal and feedback, and group games (Lou & Charlson, 1991).

In regards to social skills programs in general, Gambrill and Richey (1986) warned that many fail to consider differences in individual goals and values; this may result in the imposition of artificial goals on the consumers of assertion and social cognition skills training programs. The neglect of individual goals will lessen the efficacy of the training. Component approaches, which are focused on specific goals and outcomes, can have an advantage over process models in this regard; however, this depends on the particular components of behavior which are being instructed, and their relevance to the individual. An effective process model must build in safeguards which work against lack of specificity. Proponents of the process model find that when this issue is appropriately attended to, the training tends to "individualize" better than component approaches, due perhaps to the wider range of behaviors addressed.

The process model has been used to improve social functioning with a variety of populations. Oden and Asher (1977) used the process model to improve the social relationships of unpopular children. In this study, third and fourth grade children who were socially isolated were coached in social skills. The coaching condition included: (1) instructions from an adult in social skills relevant to friendship making, (2) playing games with peers to practice social skills, and (3) a postplay review session with the coach. In a second condition,

isolated children played the same games with the same peers, but did not receive verbal instruction or review. In a third condition, isolated children were taken out of the classroom with the same peers, but played solitary games and did not interact or receive verbal instruction or review. Pretest-posttest assessment of the four week training indicated that the coaching group improved its scores on a play sociometric rating scale significantly more than the peer-pairing and control groups.

McClure et al. (1978) studied the effects of a social problem-solving process model of training, conducting a study with 185 children in the third and fourth grades. These children were assessed by a measure of problem-solving thinking, a structured adult-child interaction measure, a structured group interaction measure, and a measure of self control. The experimental design used four training groups: one using video modeling tapes (television), one with video modeling tapes plus discussion exercises, video modeling tapes plus role-play exercises, and a no-treatment control group. The results revealed significant overall treatment effects related to problem-solving thinking, the group interaction, and locus of control. The findings were interpreted as indicating that the role-play treatment was more likely to transfer to everyday social interactions and enhance social competence. Because previous research suggests that the ability to engage in problem-solving thinking improves the ability to cope with everyday social problems, McClure et al. (1978) concluded that this type of training could increase the deaf person's ability to cope with the

barriers of deafness. Analyses of the problem-solving measure did not, however, provide unequivocal evidence supporting the relative efficacy of any one training technique, although the role-play and discussion treatments (used in process models) tended to be superior to the television and control treatments.

Chandler (1973) studied the use of the process model with emotionally disturbed children, exploring the possible role of persistent social egocentrism in the development and maintenance of patterns of chronic antisocial behavior. Chandler defined social egocentrism as the inability to accurately assess the informational needs of others; this is exhibited by routine failure at tasks which require genuine empathy or cooperation. He pointed out that under normal developmental circumstances, this initial egocentric orientation gives way gradually to a style of thought which makes possible new levels of social cooperation and competence. But in contrast to their better socialized counterparts, a substantial proportion of the chronically delinquent subjects who participated in Chandler's study demonstrated a marked developmental lag in the ability to successfully adopt the roles or perspectives of others. When intervention efforts were focused on specific training in role-taking skills, behavioral assessment indicated that social egocentrism was significantly reduced for these subjects.

Weisberg et al. (1981) used a process training model in their work with black inner-city school children. In their study, a 52 lesson, class- taught,

social-problem-solving training program was assessed. The researchers hypothesized that the program would improve interpersonal problem-solving abilities, and enhance behavioral adjustment; they also predicted that gains in one area would be related to gains in the other. A total of 243 suburban and inner-city children served as subjects and controls, and were evaluated using a variety of problem-solving and behavioral-adjustment measures. The results showed that children who had participated in the program improved significantly more than controls on measures of several cognitive skills, including problem identification, alternative-solution thinking, and consequential thinking, as well as behavioral problem-solving performance. Ratings of adjustment improved for suburban, but not urban youngsters. Relationships between problem-solving skill improvements and adjustment gains were not found. The researchers concluded that variables such as program curriculum, age, and the socio-demographic status of subjects must be considered in the evaluation of social problem solving training.

The process model was also used by Kendall and Wilcox (1980) in a study of the cognitive-behavioral treatment of impulsive children. In this study, two variants of a cognitive-behavioral treatment and an attention-placebo control were compared, using groups of eight 12-year-old children. A concrete approach, pertaining only to the task at hand, was compared with a conceptual approach, relevant to any problem-solving situation. The treatment effects were stronger for the conceptual training group than for the concrete training group.

The findings of the study provided some support for the effectiveness of an integrated cognitive-behavioral approach toward developing self-control in children. In addition, the study provided evidence for the relative superiority of the conceptual approach to cognitive-behavioral treatment. The findings also implied that programs incorporating self-instruction promote the development of self-control, and that metacognitive training may provide additional potency for generalization.

The process model has been used to improve the problem solving abilities of disadvantaged children. Feldhusen et al. (1972) used the Purdue Elementary Problem-Solving Inventory to assess the general problem-solving abilities of disadvantaged elementary school children from various ethnic backgrounds and grade levels, using real-life tasks. The inventory was designed to measure the following abilities: sensing that a problem exists, defining the problem, asking questions, guessing causes, clarifying the goal for the problem situation, judging if more information is needed, analyzing details, redefining familiar objects for unusual uses, seeing implications, solving single and multiple-solution problems, and verifying solutions. The results were promising, and the researchers speculated that the instrument could be used for future research in human problem solving.

In summary, the findings of these studies indicate that the process model of training is a promising approach to enhancing social competence in a variety of populations, including both adults and children who suffer from experiential

deprivation losses and developmental delays. It should be noted that much of the research was completed some years ago, and that current research is needed in this area of study.

Process Models Used With Institutionalized Hearing Children

Chandler, Greenspan, and Barenboim (1974) hypothesized that young children have a general inability to "decenter" the focus of their conceptual concerns. Because of their immaturity, they have not yet developed the ability to suspend their own highly personalized views, and tend to perform poorly on tasks requiring communication and social role-taking skills. If developmental stage theory is extended to the study of psychopathology, prolonged developmental delays in the acquisition of role-taking and referential communication skills could seriously interfere with the development of social competence.

Chandler et al. (1974) evaluated 125 institutionalized emotionally disturbed children in terms of their role-taking and referential communication skills. Compared to their better adjusted peers, the institutionalized children tended to display marked developmental delays in the acquisition of role-taking and referential communication skills. The results also indicated that such deficits can be remediated through training programs specifically designed to facilitate the acquisition of social decentering skills. Finally, they found that improvements in role-taking and referential communication skills were associated with meaningful improvements in social competence.

Sarason and Ganzer (1973) compared the relative effectiveness of two group training methods in communicating information relevant to the social, vocational, and educational adjustment of institutionalized male juvenile delinquents. One method relied on modeling procedures, and required subjects to imitate roles which they had observed models perform. The other method employed structured discussions of the same material, but without modeling or imitation. A third group served as controls, and received no treatment. Treatment effectiveness was evaluated by the use of a number of attitude, self-concept, and behavior ratings, obtained on a repeated-measures basis. Follow-up interviews and indices of recidivism were also considered. Participants in both treatment conditions exhibited more positive attitudes, behavior change, and less recidivism than participants in the control condition.

In summary, institutionalized children appear to benefit from procedures which incorporate role modeling and other process techniques, as measured by behavior, self-concept, and attitude ratings. The results of the studies indicated that participants respond favorably when they are involved in the exercises. Didactic training methods, which did not employ modeling or imitation procedures, were generally less effective.

Process Models of Training Used With Deaf People

Social skills training programs using the cognitive approach have only recently been developed for the deaf. Straub (1983) used role-play (a process program approach) to teach social skills to multi-handicapped deaf adults. Lytle

(1986) developed a cognitive program for low-status deaf high school students to improve problem-solving skills and social competency. In this study, a training package of brief videotapes of social situations, group discussion, rehearsal, and feedback were used. However, Lytle's post-test results showed no differences between experimental and control groups in cognitive social problem solving, self-efficacy or perceived self-competence, or on ratings of social-emotional adjustment.

Greenberg (1982) developed a program of social-cognition training for deaf children called PATHS (Providing Alternative Thinking Strategies). This program was designed to improve academic and school behavior through training in social understanding and problem solving. This program used direct instruction, modeling, role-play and psychodrama. Evaluation of the PATHS program has not yet been published.

The results of Lou and Charlson's (1991) study suggested that deaf participants often had difficulty in "thought coordination," that is, in the ability to recognize that other people have differing perspectives, feelings and thoughts. Therefore, the researchers asserted, "it seems likely that without the ability to coordinate differing perspectives, the point of the stories and role-taking for social skills development would be lost."

The dimensions and types of cognitive processing used by the deaf have only recently become a subject of research. It is imperative that we gain a better understanding of the cognitive functioning of the deaf, as well as the

process of acquisition of perspective taking abilities, in order to design effective intervention strategies. The effectiveness of methods used to raise levels of social understanding, perspective taking, person conceptualization and adjustment is only beginning to be evaluated.

Social Skills Training with Adults

Researchers have traditionally viewed social competence as being composed of a multiplicity of factors, including a complex range of cognitive and behavioral skills (Argle, 1969; McFall, 1982). Those who have been concerned with enhancing social competence have focused attention on the development of the overt, behavioral components of those skills. Less attention has been paid to the role of cognitive processes, such as the reception, perception and interpretation of incoming data, decision-making, problem-solving processes, and self-monitoring of performance. Clinical and research efforts of the past 5 to 10 years have been focused primarily on hearing children and adolescent populations. The social skills research in the area of deafness is also focused on children and adolescents. Social skills training with handicapped adults chiefly involves two subgroups: the emotionally disturbed and/or the mentally retarded. The number of studies in this area have increased considerably in recent years; this is partially attributable to research indicating that the number of profoundly handicapped individuals is increasing (Anderson, 1969; Dibedenetto, 1976).

There have been few studies with deaf adult subjects, and there are also few educational and rehabilitation programs available for this population (Hamre-Nietupski et al., 1984; Simpson, 1981). This situation is to some extent a function of: (a) the lack of personnel specifically trained to serve the needs of deaf adults (Moersch, 1977); (b) complications involved in diagnostic and placement decisions, due to considerable heterogeneity in levels of cognitive functioning, as well as degrees of sensory impairment (Orlansky, 1981; Sontag, Smith, & Sailor, 1977); and (c) the inadequate psychometric properties of standard psychological and educational testing procedures for use with the deaf (Bennett, Hughes, & Hughes, 1979).

There is a critical lack of research in this area; an extended search of the literature involving deaf adults in social skills training revealed that only one subgroup of deaf adults have been studied in this context (the deaf-blind). Not surprisingly, many researchers (e.g., Bourgeault, Harley, Dubose, & Langely, 1977; Brown, Branston, Hamre-Nietupski, Pumpian, Certo, & Gruenewald, 1979) have called for the development and investigation of social skills interventions designed specifically for the deaf adult population.

Behavioral (component) social skills training approaches have been used with a variety of adults. Van Hasselt et al. (1989) used prompting and positive reinforcement to increase the on-task behavior and social interactions of two deaf-blind severely handicapped young adults (both 21 years old). Treatment was conducted in a leisure setting, in which the subjects participated in games

requiring social interchange. On-task behavior was initially targeted and treatment efficacy evaluated with a withdrawal design. After demonstration of experimental control, treatment was implemented, with the evaluation model using a multiple baseline design. Results showed improvements in on-task social interactions for both subjects. The results were discussed in terms of the utility of behavioral strategies with deaf-blind persons and the importance of improved social performance for these individuals. The authors attested to the efficacy of using games to develop targeted behaviors and to increase on-task social interaction. Although this study was behavioral in orientation, and the researchers focused primarily on the use of prompting and positive reinforcement for increasing on-task behaviors, it did suggest that role-play treatments (a process or cognitive approach) are more likely to transfer to everyday social interactions and enhance social competence.

Kagan (1984) tested the hypothesis that individuals who experienced generalized social difficulty would be less accurate in the assessment of the goals of complex and simple situations. Kagan also predicted that subjects low in social skills would be able to generate fewer alternative behaviors in pursuing these goals than would individuals who were socially adept. This initial hypothesis was confirmed; following social skills training, Kagan's subjects (mean age 27.2), were able to make more accurate perceptions of simple and complex social goals, and they also improved in their ability to generate alternative behaviors. Kagan (1984) employed a combination of cognitive and

behavioral components in designing the training program. For example, specific instructions were used during some of the social skills training activities, and at other times, the activities were experientially oriented and self-monitored.

Bramston et al. (1985) evaluated both behavioral (component) and cognitive (process) social-skills training programs. In comparing the two approaches, the researchers studied 48 moderately mentally retarded, institutionalized adults, aged 18-46 years. They used a behavioral social skills training program and a cognitive social problem-solving program. Assessments were made over a three-week period prior to training, using a staff questionnaire on social behavior, a social skills assessment chart, and the Preschool Interpersonal Problem Solving Test. Measures were repeated three months following the end of training; results showed significant improvements in basic social skill performance (overt behaviors) for the group receiving the behavioral social skills training, but not for the other group. Significant increases in the generation of alternative solutions (cognitive processes) were found for the group receiving cognitive training. Neither training approach produced lasting benefits, nor were skill improvements associated with changes in global ratings of social competence made by staff. The lack of lasting effects may have been due in part to the mental retardation of the subjects. Analyses of the two measures did not provide unequivocal evidence supporting the overall efficacy of either training approach. However, the extrapolation of the results of this study to deaf adults in the normal IQ range is necessarily limited. The moderately

mentally retarded individuals who were the subjects of this study certainly possessed unique attributes which are not shared by deaf adults in vocational rehabilitation.

Foss et al. (1989) made a comparative evaluation of modeling, problem-solving, and behavior rehearsal for teaching employment-related interpersonal skills to secondary students with mental retardation. The researchers examined the comparative impact and classroom utility of four curricular formats (teacher or videotape modeling, behavior rehearsal, and problem-solving) for teaching employment-related interpersonal skills to 122 mildly retarded students (aged 18-21 years, IQ range 54-74) and 24 demographically matched controls. Results indicated that: (1) all the methods increased the subjects' knowledge of the content, but the problem-solving approach was most effective; (2) the combination of teacher modeling and behavior rehearsal was least successful; and (3) the most effective instructional methods required the least class time.

Generally, process (cognitive) approaches employ a combination of instruction, role-play, modeling, behavioral rehearsal and feedback, and group games. In the Foss et al. (1989) study, each format was examined in detail; problem-solving techniques were found to be most successful for teaching employment-related interpersonal skills. However, as Gambril and Richey (1986) warned, many training programs do not employ a process view of improving social behavior and functioning across a variety of settings. The Foss

et al. (1989) study was conducted in a classroom setting, and the research was not extended to job settings or other environments.

To improve the efficacy of social skills training programs, variables such as program curriculum and the mental abilities of subjects must be better understood. The research employing mentally retarded subjects is of limited applicability to deaf subjects, but the overall trends in social skills training with adults does suggest directions for the development and modification of social skills training programs for deaf adults in vocational rehabilitation.

Overview

The research evidence supports the proposition that deaf persons are an at-risk population in terms of social development. Social skills deficits can develop as a result of experiential deprivation, missed opportunities for reciprocal communication, and limited access to important social learning experiences. It is also clear that little is being done through direct interventions to address these issues. Few studies have been carried out in the area of social skills training with deaf adults, and there is almost no validated curricula available for educators or mental health professionals to use to address these needs. Additional evaluations of cognitive programs for deaf people are urgently needed.

Research with both deaf and hearing populations indicates that the quality of peer relationships and social cognition are critical to social adjustment.

Research using integrative approaches to social skills training, which include aspects of both process and component models, suggest that such programs may maximize the ability to generalize new knowledge and skills. Such programs may be the most effective approach with deaf adults as well.

Finally, the design and conceptualization of social cognition training programs needs to be grounded in a theoretical framework which incorporates empirical knowledge about the special problems and opportunities of deaf people. Clearly, programs designed for other populations cannot be applied to the deaf without a thorough reconceptualization. But this reconceptualization cannot proceed without an underpinning of empirical data on the responses of deaf subjects to the components of social skills training.

CHAPTER 3

METHODS

This chapter is a discussion of the methods employed in the study. It includes a statement of the null-hypotheses, a description of the subjects, a discussion of the methods used to select the study participants, and a table of the matching variables used in the effort to ensure treatment and control group equivalence. The setting in which the study took place and the research design are described. The instrumentation used for the pre- and post-treatment assessments is also described, as are the procedures employed in the study.

Null-Hypotheses

The following null-hypotheses were posed for testing in this study.

NH.1 There will be no significant difference in the levels of perspective-taking ability between the control and treatment groups (pre- and post training), as measured by the Social Cognition Interview.

NH.2 There will be no significant difference in the levels of person conceptualization ability between the control and treatment groups (pre- and post training), as measured by the Social Cognition Interview.

Description of Subjects

Thirty-two deaf adults, aged 18 to 50 years, who were participants in the Department of Vocational Rehabilitation programs in Sacramento, California, were the subjects of the study. Each subject was a volunteer who was informed as to the procedures and purposes of the study; each signed a written agreement to participate. To assure anonymity, the identities of the subjects were known only to the agency and researcher. All interview material was coded and kept confidential. The director of the agency was fully informed of the purpose of the study and procedures, and gave permission for the study.

Subject Selection and Inclusion Criteria

Each deaf participant volunteering for the study was included on the basis of the following specific admission criteria: (1) his/her counselor's assessment that the subject was experiencing difficulties in some area(s) of social functioning; (2) the participant was a native signer, (3) the participant was between 18 and 50 years of age, (4) the participant had a 70db hearing loss or

greater in the better ear, and (5) the participant was a vocational rehabilitation client.

Each applicant to the vocational rehabilitation program undergoes a one-day "intake." Volunteers for the study were solicited during these intake sessions, and the admission criteria screening took place at that time.

Sixteen volunteers for the social cognition training program, and sixteen control subjects were solicited, for a total of 32 subjects. For this pool of volunteers, an analysis of demographic and background variables was undertaken, to ensure that mean age, gender, socioeconomic status, onset of hearing loss, and other variables did not significantly differ from the demographic and background data pertaining to the general population of vocational rehabilitation clients attending this training center. No significant differences were found. To further control for the effects of gender, age, and other extraneous variables, subjects were be assigned to groups according to matching criteria designed to maximize the similarities between each group. An attempt was made to match the groups according to gender distribution, age, race, ethnic affiliation, and economic status. The abovementioned variables have been shown to be significant factors which may impact the results of the study, and thus must be held constant. As can be seen from the data in Table 1, the two groups of subjects were very similar in composition.

Applicants in this sample came from two primary school backgrounds: (1) schools for the deaf, and (2) public school programs for the deaf with a total

communication approach. Deaf applicants for vocational rehabilitation enter the programs with varying skills in the component manual oral/aural communication skills that constitute "total communication." Subjects selected for the study were limited to those demonstrating a degree of proficiency necessary for comprehension and communication within the social skills training program.

Table 1

Summary of the Variables Used to Match the Treatment and Control Groups

Variable	Treatment	Control
Age	mean: 28	mean: 26.6
Gender:	13 males 3 females	14 males 2 females
Educational Level	mean: 12 yrs.	mean: 12 yrs.
Ethnic Group:		
Black	1	1
White	12	10
Hispanic	3	4
Other	-	1 (Asian)
Onset of hearing loss	14 preverbal 2 postverbal*	14 preverbal 2 postverbal

* All subjects became deaf before reaching the age of three years.

Setting

The program intervention took place at the Department of Vocational Rehabilitation office in Citrus Heights, California. Permission to conduct the study was secured from the director of the center.

Design of the Study

The study was designed as a pre-post test, static group comparison, with a treatment group receiving Lou and Charlson's social cognition training program and a control group receiving no treatment. Lou and Charlson's Social Cognition Interview (1991) was administered to subjects from the treatment group prior to and after the training by the researcher, and to the control group within the same time frame. The videotaped interviews were transcribed and scored according to standardized guidelines developed by Lou & Charlson (1991).

The treatment group consisted of a morning and an evening group of eight participants each. The groups were facilitated by two guides; the writer, and the local rehabilitation counselor. Both are fluent in sign language. A two-sample t-test and a Wilcoxon rank sum test were used to test for any pre-test differences between the two groups of eight, to determine whether they could be regarded as one treatment group in subsequent analyses. No significant

differences were found; thus the two groups of eight which received the treatment were treated as one group of 16 in the subsequent analyses. Two-sample t-tests and Wilcoxon rank sum tests were used to compare pre-and post-treatment mean scores on in perspective-taking ability and person conceptualization on the Social Cognition Interview instrument. This was done to test for significant differences attributable to the social cognition training program ($p < .05$). Within-group pre- and post-test scores were compared, as well as between-group scores.

Description of the Instrumentation

Social Cognition Interview: The Social Cognition Interview (SCI) was developed and field-tested by the research staff at the University of California Center on Deafness for use with deaf and hearing adolescents and adults (Lou & Charlson, 1991). The SCI contains two main sections: stories and descriptions. Three stories are told, using sign language in the case of deaf testees; visual aids are employed to illustrate the stories. The subject is asked a series of questions regarding the perspectives of various characters in the story. The subject is then asked to describe three individuals: someone liked, someone disliked, and him/herself. Initially, the subject gives a free description; following this, the interviewer asks specific questions to elicit additional information. The SCI is administered individually in approximately 45 to 90 minutes.

Lou and Charlson (1991) investigated the validity of the SCI with a group of 100 subjects, consisting of deaf adolescents in a residential school, deaf adults receiving vocational rehabilitation services, and normally hearing high school students. For all groups, significant group differences were obtained in perspective-taking ability scores after training ($p < .01$); person conceptualization scores remained relatively constant. The test-retest reliability of the SCI was also investigated by Lou and Charlson (1991). Interrater reliability was $> .80$ within one-half point on perspective-taking scores, and $> .80$ on person conceptualization.

Scoring Procedures for the SCI

a) Perspective-taking Levels:

Level 0. Egocentric: psychological perspectives undifferentiated. No distinction between personal interpretation and "correct" perspective.

Level 1. Subjective: psychological perspectives of Subject and Others separated and recognized as potentially different, but readable by situation. Can't coordinate perspectives.

Level 2. Self-reflective, Reciprocal: can reflect on subject's behavior and motivation from Other's perspective. Individual roletaking. Sequential roletaking.

Level 3. Mutual, Third-person: can abstractly step outside interaction and simultaneously and mutually coordinate perspectives of subject and other(s). Generalized other perspective.

b) Person Conceptualization is assessed in the second part of the interview. Individuals are asked to describe separately three different people: someone they like a great deal (e.g., their best friend), someone they dislike, and themselves. Analysis of levels of person conceptualization are based on the descriptive work of Peevers and Secord (1973) and of Livesly and Bromley (1973). Sophistication and depth of person conceptualization are scored for one of five levels.

Level 1. Objective information: geographical, appearance, health, family friends, occupation, behavior, incident, routine. Egocentric: behavior focused on subject. Global judgement.

Level 2. Evaluative of any of the above. More personally informative but not descriptive of personality: roles, activities, interests, preferences. Feelings and reactions (transient).

Level 3. Personality traits, implied dispositions. Abilities, skills, achievements. Beliefs and values.

Level 4. Traits or dispositions that are modified, qualified, specified, or elaborated.

Level 5. Traits or dispositions that are explained psychologically.

Procedures

Program

The sixteen subjects selected for the training program were in training for eight weeks, meeting one time each week, for ninety minutes each session. Each session began with a fifteen-minute informal socializing period, with coffee and refreshments. The food and drinks were removed for the program activities. Generally two types of activities occurred in each session; each activity, or versions of it, continued over several sessions. The interactions (feelings, actions, and reactions) which occurred during each task or game were the basis for group discussion, revision and learning (examples can be found in the description of activities section, in the appendix). Role-playing sequences to illustrate different parts in an interaction were used before a training sequence began, and after it ended. These activities are fully described in the Appendix.

Interview

The treatment and control group subjects were given the following instructions. "This instrument is being used in conjunction with a study of the social adjustment of deaf adults in vocational rehabilitation. We ask for your participation in this program. If you find that you do not wish to participate in this program, feel free to leave at any time."

Each subject was individually interviewed in a 45 to 90 minute session before and after the training. Control subjects were also interviewed twice, but received no social skills training during that time period. The interviews were videotaped so that responses could be transcribed and scored at a later time. Participants had access to the study's instructions, consent forms, and interview questions in printed and oral English, as well as signed English and American Sign Language; this was to insure that the nature of the study and the content of the questions were fully understood.

CHAPTER 4

RESULTS

This chapter addresses the results of the study. The chapter has been divided into sections which correspond to the stages of the analysis.

Null-Hypotheses

The following is a restatement of the null-hypotheses which were posed for testing in this study.

NH.1 There will be no significant difference in the levels of perspective-taking ability between the control and treatment groups (pre- and post training), as measured by the Social Cognition Interview.

NH.2 There will be no significant difference in the levels of person conceptualization ability between the control and treatment groups (pre- and post training), as measured by the Social Cognition Interview.

Review of the Procedures

One group of sixteen subjects received social skills training, and another group of sixteen subjects served as controls. The subjects were rated on perspective-taking ability (PT) and person-conceptualization (PC), using the

Social Cognition Interview Instrument. Initial ratings were made before the training began, and after the training was completed. The instrument consists of an ordinal scale with four categories for PT and five categories for PC.

An initial analysis was undertaken to determine whether the morning and the afternoon training groups (each group consisting of eight participants) differed significantly from one another. The two-sample t-test and its nonparametric version, the Wilcoxon rank sum test, were used to compare these two training groups. The results of this analysis are presented in Table 2. As can be seen from the data in Table 2, no significant differences were found between these two training groups. Thus the morning and the evening treatment groups were treated as one treatment group for the remainder of the analyses.

Table 2

Comparison of Morning and Evening Treatment Groups: T-test and Wilcoxon
(Rank Sums) Procedures

Variable: Perspective-Taking (PT)

Groups	N	Mean	SD	Std Error	df	p
A.M. (N=8)		.563	.417	.148	9.4	1.00
P.M. (N=8)		.563	.177	.063	14.0	

For H_0 : Variances are equal, $F' = 5.57$ $df = 7,7$ $Prob > F' = 0.0374$

Variable: Person Conceptualization (PC)

Groups	N	Mean	SD	Std Error	df	p
A.M. (N=8)		.25	.267	.0945	14	1.00
P.M. (N=8)		.25	.267	.0945	14	

For H_0 : Variances are equal, $F' = 1.00$ $df = 7,7$ $Prob > F' = 1.0000$

(Table continued next page)

Table 2 (cont.)Wilcoxon (Rank Sums) ProcedureVariable: Perspective-Taking (PT)

Groups	Sum of Scores	Expected Under H_0	Std Dev Under H_0	Mean Score
A.M.	69.0	68.0	8.1976	8.625
P.M.	67.0	68.0	8.1975	8.375

$S = 69$ $Z = 0.060994$ $\text{Prob} > [Z] = 0.9514$

T-test approximate significance = 0.9522

Kruskal-Wallis Test (Chi-Square Approximation) = 0.01488 df = 1
 $\text{Prob} > = 0.9029$

Variable: Person Conceptualization (PC)

Groups	Sum of Scores	Expected Under H_0	Std Dev Under H_0	Mean Score
A.M.	68.0	68.0	8.2624	8.50
P.M.	68.0	68.0	8.2624	8.50

$S = 68$ $Z = 0.060515$ $\text{Prob} > [Z] = 0.9517$

T-test approximate significance = 0.9525

Kruskal-Wallis Test (Chi-Square Approximation) = 0 df = 1
 $\text{Prob} > = 0.9999$

In the next stage of the analysis, differences between mean pre-test scores of the control and treatment groups were compared. T-tests were used for these comparisons, and Wilcoxon rank sum tests were used to substantiate the results of the t-tests, in that the data analyzed did not meet all parametric assumptions. The results of these analyses are presented in Table 3. As can be seen from the data in Table 3, no significant differences were found between the groups in either analysis, with respect to pre-test person-conceptualization or perspective taking scores.

In the following stage of the analysis, differences between mean pre- and post-training scores for each subject were analyzed, as were mean differences among control subjects in the first and the second administration of the Social Cognition Interview. T-tests for correlated samples and Wilcoxon rank sum tests were used to make these comparisons. A one-tailed t-test was chosen for this analysis, since the direction of the results were predicted; the Wilcoxon rank sum test was used to further substantiate the results of the t-test, in that the data analyzed did not meet all parametric assumptions.

The t-test data are presented in Table 4. The analysis revealed that both the PT and the PC differences were statistically significant ($p > .05$) for both the t-tests and the Wilcoxon rank sums tests. The group receiving the treatment scored significantly higher than the control group for both analyses.

Table 3

Comparison of Pre-Test Scores for Treatment and Control Groups: T-test and Wilcoxon (Rank Sums) Procedures

Variable: Perspective-Taking (PT)

Groups	N	Mean	SD	Std Error	df	t	p
Treatmt (N=16)		1.78	0.99	.250	20.7	-1.029	0.3153
Control (N=16)		2.06	0.44	.11	30.0	-1.029	0.3116

For H_0 : Variances are equal, $F' = 5.10$ $df = 15,15$ $Prob > F' = 0.0031$

Variable: Person Conceptualization (PC)

Groups	N	Mean	SD	Std Error	df	t	p
Treatmt (N=16)		2.62	0.94	.235	24.3	0.1146	0.9097
Control (N=16)		2.59	.554	.139	30.0	0.1146	0,9096

For H_0 : Variances are equal, $F' = 2.87$ $df = 15,15$ $Prob > F' = 0.0491$

(Table continued next page)

Table 3 (cont.)Wilcoxon (Rank Sums) ProcedureVariable: Perspective-Taking (PT)

Groups	Sum of Scores	Expected Under H_0	Std Dev Under H_0	Mean Score
Treatmt	258.5	264.0	25.214	16.156
Control	269.5	264.0	25.214	16.844

$S = 258.500$ $Z = .198303$ $p = \text{Prob} > [Z] = 0.8428$

T-test approximate significance = 0.8441

Kruskal-Wallis Test (Chi-Square Approximation) = 0.04758 $df = 1$
 $p = \text{Prob} > = 0.8273$

Variable: Person Conceptualization (PC)

Groups	Sum of Scores	Expected Under H_0	Std Dev Under H_0	Mean Score
Treatmt	272.0	264.0	25.653	17.0
Control	256.0	264.0	25.653	16.0

$S = 272$ $Z = 0.292366$ $p = \text{Prob} > [Z] = 0.7700$

T-test approximate significance = 0.7720

Kruskal-Wallis Test (Chi-Square Approximation) = 0.09725 $df = 1$
 $p = \text{Prob} > = 0.7551$

Table 4

Comparison of Treatment and Control Groups: T-test and Wilcoxon (Rank Sums) Procedures

Variable: Perspective-Taking (PT)

Groups	N	Mean	SD	Std Error	df	t	p
Treatmt (N=16)		.563	.310	.0774	30	3.1154	0.0040
Control (N=16)		.219	.315	.0786	30		

For H_0 : Variances are equal, $F' = 1.03$ $df = 15,15$ $Prob > F' = 0.9513$

Variable: Person Conceptualization (PC)

Groups	N	Mean	SD	Std Error	df	t	p
Treatmt (N=16)		.25	.258	.0645	26	2.4227	0.0227
Control (N=16)		.062	.171	.0427	30		

For H_0 : Variances are equal, $F' = 2.29$ $df = 15,15$ $Prob > F' = 0.1204$

(Table continued next page)

Table 4 (cont.)Wilcoxon (Rank Sums) ProcedureVariable: Perspective-Taking (PT)

Groups	Sum of Scores	Expected Under H_0	Std Dev Under H_0	Mean Score
Treatmt	333.0	264.0	24.336	20.813
Control	194.0	264.0	24.336	12.188

$S = 333.000$ $Z = 2.81472$ $p = \text{Prob} > [Z] = 0.0049$

T-test approximate significance = 0.0084

Kruskal-Wallis Test (Chi-Square Approximation) = 8.0387 df = 1
 $p = \text{Prob} > = 0.0046$

Variable: Person Conceptualization (PC)

Groups	Sum of Scores	Expected Under H_0	Std Dev Under H_0	Mean Score
Treatmt	312.0	264.0	21.312	19.5
Control	216.0	264.0	21.312	13.5

$S = 312$ $Z = 2.22881$ $p = \text{Prob} > [Z] = 0.0258$

T-test approximate significance = 0.0332

Kruskal-Wallis Test (Chi-Square Approximation) = 5.0727 df = 1
 $p = \text{Prob} > = 0.0243$

Descriptive Data

The treatment and control groups were deliberately matched as closely as possible on major demographic and background variables. The groups were highly similar in composition, with minor differences in mean age (28 for the treatment group, and 26.6 for the control group) and gender/ethnic composition being the only differences (see Table 1). There was no discernible pattern of variance between the groups which would have been likely to confound the results; it seems unlikely that the treatment group's higher scores on the variables of interest could be attributed to these minor differences in group composition.

Attrition

During the third week of treatment, one subject in the treatment group withdrew due to employment. Because this subject probably received little benefit from the abbreviated treatment, data derived from the subject were removed from the analyses. The subject was not replaced, because it was believed that adding a new member to the group after three weeks of group process activities would jeopardize the slow process of establishing a sense of group cohesion and goal orientation.

Among the control group, one subject moved during the second week of the time between pre- and post-interview periods. This subject was not replaced, and the loss of this subject rendered the treatment and control groups equal in size (16 treatment and 16 control). The loss of these two

subjects should be considered in the evaluation of the results, but overall the attrition did not seem to be a significant problem which would seriously jeopardize the study.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

This chapter is a discussion of the results of the study and its implications, along with conclusions and recommendations. The first section contains a review of the purpose and objectives of the study. The second section is a review of the results obtained from each measure, and the third section contains an analysis of the implications of these results. The fourth section is a discussion of possible interpretations and literature support, and the final section contains recommendations for further research and training.

Review of the Purpose and Objectives

The purpose of this study was to examine the effectiveness of a social cognition training program that is designed to raise the level of social cognition of deaf adults who are vocational rehabilitation clients. This involved the goals of increasing their understanding of self and others, of social behavior and interactions, and of the causes and consequences of social events. The ultimate goal was to improve their levels of social problem-solving and reasoning, and to improve social functioning. The program combined an educational approach with group therapy techniques, and was limited to a small group ($N < 16$) of participants per training program. For evaluation purposes,

pre- and post-program assessments of the participants were made, to identify changes in levels of social cognition and functioning. The specific objective of the study was as follows:

1. To demonstrate that subjects in the treatment group who receive social cognition training would have higher standardized test scores on person-conceptualization and perspective-taking abilities than would control group subjects who did not receive social cognition training in the same time span.

Review of the Hypotheses

The following is a statement of the hypotheses which were posed for testing in this study, in a directional form.

NH.1 There will be a significant difference in the levels of perspective-taking ability between the control and treatment groups (pre- and post training), as measured by the Social Cognition Interview.

NH.2 There will be a significant difference in the levels of person conceptualization ability between the control and treatment groups (pre- and post training), as measured by the Social Cognition Interview.

Review of the Results

The first hypothesis addressed the differences between mean levels of person-conceptualization ability between the treatment and control groups. The analysis of the post-treatment person-conceptualization scores of the treatment group and the second of the repeated measures of the control group indicated significant differences in the predicted direction. The mean scores for person-conceptualization were 2.87 for the treatment and 2.65 for the control groups, respectively. This difference was significant at the .05 level of confidence. Therefore, based on the analysis of the data, Null-Hypothesis 1 was rejected. The subjects who received the social cognition training program evidenced significantly higher scores on person-conceptualization, as measured by the Social Cognition Interview, than the control subjects.

The second hypothesis addressed the differences between mean levels of perspective-taking ability between the treatment and control groups. The analysis of the post-treatment perspective-taking scores of the treatment group and the second of the repeated measures of the control group indicated significant differences in the predicted direction. The mean scores for perspective-taking were 2.34 for the treatment and 2.28 for the control groups, respectively. This difference was significant at the .05 level of confidence. Therefore, based on the analysis of the data, Null-Hypothesis 2 was rejected. The subjects who received the social cognition training program evidenced

significantly higher scores on perspective-taking, as measured by the Social Cognition Interview, than the control subjects.

Literature Review

The research literature supports the proposition that deaf adults are an at-risk population in terms of social development. Social skills deficits can develop as a result of experiential deprivation, missed opportunities for reciprocal communication, and limited access to important learning experiences. It is also clear that little is being done through direct interventions to address these issues. Few studies have addressed the subject of social skills training with deaf adults, and there is almost no validated curricula available for educators or mental health professionals to use to address these needs. Additional evaluations of cognitive programs for deaf people are urgently needed.

Research with both deaf and hearing populations indicates that the quality of peer relationships and social cognition are critical to social adjustment. Research using integrative approaches to social skills training, which includes many aspects of process and component models, suggests that such programs may maximize the ability to generalize new knowledge and skills; these types of programs may thus be an effective approach with deaf adults.

Researchers concerned with social competence have generally focused more attention on the development of overt, behavioral components of social

skills in their respective programs. However, it is widely recognized that social competence includes a complex range of both behavioral and cognitive skills (Argle, 1969; McFall, 1982). Less attention has been paid to the role of cognitive processes in the development of social competence. Person-conceptualization, perspective-taking ability, decision making, and self-monitoring of performance are cognitive factors which could be of great importance in one's overall social competence, and training which addresses these factors could have a significant impact on the acquisition of social skills. To improve the efficacy of social skills training programs, variables such as program curriculum (which include activities that elicit covert processes from the participants) and the mental abilities of subjects must be better understood.

The design and conceptualization of social cognition training programs for deaf adults should be grounded in a theoretical framework which incorporates empirical knowledge about the special problems and opportunities involved in work with deaf people in vocational rehabilitation. Clearly, programs designed for other populations cannot be applied to the deaf without thorough reconceptualization. Yet this reconceptualization cannot proceed without an underpinning of empirical data on the responses of deaf subjects to the components of social skills training. The present study represents a contribution to the effort to gather such data.

Review of the Social Skills Training Program and the Procedures of the Study

The program is a guided educational project, consisting of group tasks, projects, and games which are used to elicit certain types of interactions among the group. It is an experiential, non-confrontational program. The group interactions--the feelings, actions, and reactions--which occur during each task or game are the basis for group discussion and learning. Role-playing of the different parts of a given interaction are used as a teaching method.

In the present study, the training group (N = 16) was sub-divided into two groups of eight subjects each; each group met once per week, for 1 1/2 hours per session. The program continued for eight weeks (10/22/92 through 12/17/92), with a one-week suspension during the Thanksgiving holiday. The groups were facilitated by two guides; the writer, and the local rehabilitation counselor. Both are fluent in sign language. The subjects for the study were deaf adults who were recommended for the program by their community rehabilitation counselor. Each deaf participant was selected on the basis of his or her counselor's assessment that the subject was experiencing some difficulties in one or more areas of social functioning. Each subject was over 18 years old, had a 70 db. hearing loss or greater in the better ear, was fluent in sign language, and was a vocational rehabilitation client. A total of 34 volunteer subjects were initially selected to take part in the project; one subject in the

treatment and one in the control group dropped out for reasons unrelated to the training. There were thus 16 subjects in the treatment group, and 16 in the control group. The control group did not participate in the social cognition training program.

The Social Cognition Interview was used to assess role-taking ability, and the understanding of persons, before the training program began, and after it was completed. The interviewees were told different stories involving a number of protagonists. They were questioned about the feelings and thoughts of each protagonist. The interviews were videotaped and later transcribed (a total of 64 interviews). The subjects' answers for each story were scored separately for one of the different levels of perspective-taking; this scoring protocol was based on the work of Selman (1971), Selman and Byrne (1974), Feffer (1959), and Feffer and Gourevitch (1960).

Person-conceptualization was assessed by asking participants to describe the attributes of three separate persons; someone they like a great deal (e.g., their best friend), someone they dislike, and themselves. Analyses of levels of person conceptualization were based on the descriptive work of Peevers and Secord (1973), and of Livesly and Bromley (1973). Sophistication and depth of person-conceptualization are scored on a scale from one to five. All 32 subjects were interviewed by the researcher.

Post-treatment interviews were conducted for the control and treatment groups between the dates of December 17, 1992 and January 5, 1993 at the

Norcal Center on Deafness located in Sacramento, California, and at the Department of Rehabilitation in Citrus Heights, California. The interviews were videotaped, and later transcribed. The transcriptions for each client were coded in an effort to eliminate bias in the scoring. Scoring was conducted by the writer according to the standardized guidelines developed by Lou and Charlson (1990).

Person-Conceptualization

Person-conceptualization has to do with the degree of sophistication (depth and complexity) of a person's understanding of self and others. The Social Cognition Interview was used to assess the levels of person-conceptualization before and after the eight week training program. Similar to the perspective-taking ability activities, the person-conceptualization interactions were used for discussion and learning within the group. The group members were viewed as active participants, not as passive followers. Frequently, some activities addressed more than one aspect of social cognition at a time, and this often seemed to make the learning more meaningful for the participants. The participants supplied the desired information during the activities and were successful in the recognition of "person-conceptualization cognitions." Usually, the outcome of an activity was clarified during the discussion section of the session. The purpose of each activity was usually clarified by the expression of the "differences" between group members' responses to the activity, as these were discussed during the discussion period of the exercise. This group

dynamic appeared to assist group members to form explicit ideas about personality, in that group members were able to compare and contrast each others' responses in terms of aspects of their personalities, such as likes and dislikes, interests, and ways of being.

Perspective-Taking Ability

Role-taking ability is considered by many theorists (Lou, 1991; Ianotti, 1978, Kusche, & Greenburg, 1983) to be fundamental to social cognition; it has been viewed as the basis for our understanding of others as well as of ourselves, and as a prime determinant of the nature and progress of our separate social interactions. Lou (1991) sees the growth of self-awareness as integrally tied to the understanding of others. Rather than viewing one as developing prior to the other, however, she suggests that the understanding of self and of other develop simultaneously; each derives from and the further advances in the development of the other. If one accepts this view, then the program developed by Lou appears to be successful in terms of providing a structure within which this process can occur. Frequently, the clients tended to focus more on what was relevant in terms of perspective-taking ability than on "what happened" (i.e., the script of a given activity) in the story. This may have taken place because the stories were not necessarily interesting to the participants until they became personally involved in the scripts, or perhaps this approach may have been more cognitively and affectively comfortable for them.

The subjects reported that they enjoyed the perspective-taking ability activities because the activities allowed them to create situations that they found interesting and often humorous. It was noted by clients and guides alike that because the participants enjoyed the activities, they were more likely to become deeply involved in the learning process. Several of the clients commented that they enjoyed the perspective-taking ability activities because they were surprised at how creative their peers were in creating their "skits." For example, in some of these activities, the "actors" were asked to re-enact a recent experience (acted out with a partner in a skit) while withholding their own emotional responses. Other participants who were acting as the "audience" were then asked to imagine the feelings and thoughts of the "actors." Generally, the imagined responses given by the "audience" varied from person to person. This phenomenon was then discussed (as well as discussing the "actor's" own feelings and thoughts). Many of the subjects commented to the effect that the analysis of the process helped them understand the issues of accuracy and the levels of perspective-taking ability of other persons more clearly. The clients also commented that the program allowed them to appreciate the creativity of other participants.

Summary of Findings, Interpretation, and Literature Support

The analysis of the data collected relative to the principal objectives of the study indicated significant differences between person-conceptualization and perspective-taking ability scores of participants who completed an eight week social cognition training program, compared to those who received no training. These data suggest that the significant differences found between the treatment and control groups on person-conceptualization and perspective-taking ability were attributable to the social cognition training program.

In my opinion, the kinds of activities used in Lou's social cognition training program lead to increases in social cognition scores because the information that is used in the activities is supplied by the subjects' own experience and functioning; it is not language based, and it is not didactic. The design of Lou's program may lend itself to a more personal involvement (thus encouraging an experience of self-efficacy) for the subjects. Many of the subjects commented that because the program employs the subjects' own feelings, thoughts, and reactions (which are used in the activities), that the training provided meaningful, realistic, and pertinent opportunities for long term learning. The role of the guides was to provide a "therapeutic/educational window," which gave the participants the opportunity to raise their social cognitions. Thus, the program provided the participants with an opportunity to teach themselves.

At the core of the program are principles that provide the participants with the freedom to pursue their own interests in the context of the program, while simultaneously being engaged in raising their levels of reasoning and understanding. I found that this program's structure embodied the flexibility in teaching methods and procedures that is necessary for participants to move from a level of functioning that operates out of familiarity into one that challenges them to develop higher levels of mental functioning (in a non-confrontational and non-threatening manner). The basis for using this approach is grounded in a thorough understanding of the various social cognition training programs, human development, and aspects of social adjustment. It appears that the program incorporates what is needed to best produce the desired effect of improving the perceptions and widening the perspectives of its participants.

Lou's program emphasizes more attention on the covert process of social competence and very little on overt behavioral skills. Again, the design of Lou's program encourages participants to think about how and why others act and behave differently than they do. This kind of interaction is pertinent to their lives and is thus ultimately more likely to be retained as new learning. Both types of activities (perspective-taking ability and person conceptualization) were used with success. The clients appeared to enjoy the activities because the activities encouraged them to think about the aspects of others' personalities, while making aspects of their own self-concepts explicit. This increased the

likelihood of the participant making a connection between the training, learning new levels of cognition, and using the new knowledge in social interactions, as was noted by both the guides and the subjects. The fact that the clients enjoyed themselves while learning new ways of understanding also appeared to play a role on the success of the program. The progress and direction of each activity was something that could be directed by the participants themselves.

It was also noted by the subjects that the conditions of the program promoted a "democratic" environment, which the guides believed promoted self-efficacy and avoided the development of an authority-subordinate relationship between guide and client. The guide was viewed more as a participant, rather than one who had the ultimate answers. The participants were reminded of this frequently throughout the training, because the guide was involved in the activities as a dynamic participant. It was important for the participants to view the guides as having the same feelings and thoughts that they themselves expressed. The barriers that often the result from authority-subordinate relationships between "teacher" and "student" appeared to be minimized because of this group dynamic. The role of the guide was to insure that the opportunities for learning and raising social cognition levels were presented. Both guides commented on how the participants' personal adjustment(s) were excellent topics of further discussion during group activities. The authority-subordinate issues were analyzed, and this dynamic was used in the activities, thus providing additional topics of discussion.

The majority of the clients were perceived by the guides as being initially passive during the beginning of the training. The guides observed that the clients were reluctant to engage in the activities and usually several "prompts" were needed to initiate interaction between each participant. These observations support earlier studies, which suggest that social skill training, as traditionally taught in the authority-subordinate approach, incorporates a dynamic that begins with the "instructor" serving as a catalyst and ends with the "student" receiving the information in a didactic fashion (Van Haselt et al, 1989). However, since the objective of this study was to initiate convert social cognitions, the guides focused on creating a comfortable environment (which required a short time to achieve). In a short period of time (during the second session), it was observed that the participants relaxed and began to trust one another; thus their involvement and participation (expression of social cognitions) increased. Also, as they began to understand that the guides were essentially "equal," it enhanced the conditions for learning from one another.

The program is not language based, thus allowing the program to progress without any language barriers. The guides believed that this was significant in lowering boundaries that may have created barriers between the hearing guides and the hearing-impaired participants. It may have also contributed to the achievement of the least restrictive environment possible for raising social cognitions. Any barrier, be it procedure, method, or approach, that restricts or blocks the progress of raising the level of social reasoning within the training

program should be avoided. The guiding principles of Lou's program appeared to have enhanced the probability of the development of this important and necessary dynamic.

The guides also observed that the participants frequently engaged in positive dialogue with each other, even discussing at the end of a session what had been discussed in the session. This observation suggests the possibility of improved social functioning. Similar observations have been described with other groups (Lytle, 1986). The guides commented that it appeared that the clients' positive experiences were "credited" and attributed to the circumstances which had occurred within the group meeting. This is inconsistent with the literature in attribution theory (Goetz & Dweck, 1980) and learned helplessness (Diener & Dweck, 1978).

The social cognition interview could be viewed as part of the training program, because of the influence that an interviewer can have on an interviewee, an effect which is well documented in the literature (Peevers & Secord, 1973). The appearance and behavior of the interviewer, and the manner in which he or she elicits information from the interviewee, is important not only for the purposes of eliciting pertinent data, but because the interview itself may be of therapeutic value. In a quiet setting, with an appropriate degree of professional decorum, clients should initially be allowed to talk about their views in an unstructured way, without interruption. Long, rambling discussions may be controlled by subtly interjecting questions relevant to the topic, although

the client's digressions sometimes provide important clues to his or her mental status.

During the course of the interviews, the interviewer had to keep in mind that although each client had structured questions to answer (a certain set of questions were asked of all 32 clients) it was important to recognize that each client had individual differences in personality, mental ability, and communication abilities. Consequently, the interviewer had to be flexible, in order to elicit the maximum from each client. For example, many of the clients were initially suspicious of the questions in the interview, and some clients may have withheld information due to unfounded fears or anxiety. Additionally, with the presence of a video camera, some of the clients stated that they "felt funny" about being taped for the interview. The clients were reminded that their confidentiality would be strictly upheld and that only with their permission would the tapes be viewed by other researchers or instructors. It was important for the interviewer to recognize that anxiety related to the setting in which the interviews took place may have limited the participants' responses. In the writer's opinion, however, the non-threatening and non-confrontational manner in which the interviewers approached the participants probably minimized this anxiety, although it may have affected the outcomes of the interviews to a certain degree.

For both treatment and control groups, the clients may have been more comfortable with the post-treatment interviews than they had been in the initial

interviews, due to familiarity. In fact, many of the clients in both groups reported that they felt more at ease in front of the camera during the second interview. However, the differences in person-conceptualization and perspective-taking scores which were found between the treatment and control groups do appear to be in larger part attributable to the influence of actual training program which was experienced by the treatment group.

Discussion of the Problems and Limitations

There were a number of problems and limitations that were encountered in the process of implementing this study, which should be considered when interpreting these data. The program was an attempt to compensate for years of social experience and knowledge which was severely limited in many cases. It would thus seem more appropriate to develop a program closer to a year in duration, meeting at least twice a week. However, motivating group members to make such a commitment would indeed be a challenge to any counselor, teacher, or clinician. The eight week training program should only be considered a preliminary investigation of the effectiveness of this type of training.

The potential participants' motivation to complete the program was considered in advance of the actual training. It was hypothesized that many of the vocation rehabilitation clients in this program may have had difficulty in

motivating themselves for intrinsic rewards; it was thought that many might drop out before completing the program. Therefore, it was thought necessary to offer the clients some extrinsic reward, in the form of compensation, for their time and effort. It was suggested that a drawing take place at the end of the training, and that the winner would win \$100.00. The clients reacted favorably to this, and consequently attrition was not a significant factor. However, this extrinsic reward could have had an effect on the nature of the participants' responses to the interview questions, and this should be taken into consideration in the analysis of the results. It does seem unlikely that such effects could have been significant to any appreciable degree.

One of the problems encountered in this study was that there was not always a way to control the length of time that each group member spent participating in a given activity. This lack of control may have had a significant effect on the results, in that some participants may have been more assertive than others, thus taking up more time than was reasonable, and preventing other clients from fully participating due to time constraints. In replications of this study it is recommended that all participants be reminded beforehand that each of them needs an equal opportunity and time to participate in each activity, and that the group is responsible for self-governing. Because the program does not explicitly depend on an authority-subordinate model of governance, these types of problems can be introduced, and during such times it becomes apparent that authority-subordinate types of interactions, in which

the guide attempts to compensate for differences in participants' assertiveness in these activities, cannot be completely removed from the session. In addition, personality conflicts arising between guides and group members need to be acknowledged and handled in a professional manner. In this particular study, two guides were used to prevent unforeseen personality conflicts.

It was apparent that clients had to be encouraged to focus for a period of time on what occurred as the result of a given activity; to hurry the clients towards generalizing from the activity or personalizing the issues originating from the activity was apt to be too threatening and might discourage them from participating further. Conversely, the facilitator must recognize the importance of not getting "stuck" on the concrete occurrences taking place within each session.

Another problem encountered in this study was that there was no way to measure all of the cognitive or affective changes among the group members; a number of such changes were noted by the guides that would not necessarily be observable through the use of the Social Cognition Interview. Such changes may have had some bearing on the final results of this study. More work needs to be done to develop better instruments for evaluating other aspects of social cognition, affective changes, and/or behavioral functioning brought about by this or similar training programs.

In addition, more activities need to be developed which would focus on matching general incidents and/or situations to individual and personal

emotions, by generalizing to others from one's own experiences. In this particular study, there were less than a dozen activities to choose from.

Variations of each activity were improvised in an effort to keep the program from becoming redundant. Because the training program was only eight weeks long, it was possible to avoid redundancy, for the most part. However, a longer program would require the introduction of a great many more activities.

Another problem encountered during this study occurred as the result of factors related to the scheduling of the social cognition interviews. Coordinating times and dates for the two interviews per participant (a total of 65 interviews) was extremely time consuming. There was a small number of cancellations and missed appointments. This lack of control may have had an effect on the results, since some of the clients may have purposely missed scheduled interviews in an effort to resist participation. The vast majority of the interviews were, however, performed on schedule and in proper sequence, in accordance with the training program time frame. Fortunately, the local Department of Rehabilitation was extremely helpful in this endeavor. The staff was very supportive and provided office space for the interviews without conflict or unnecessary delay.

Discussion of the Practical Implications

There were a number of findings derived from the study which may have practical implications for others involved in research or applied practice in the area, particularly teachers, clinicians, and parents involved in the treatment or teaching of deaf individuals. For teachers, the results of the study indicate that this kind of training could be extremely beneficial in providing deaf students with the opportunity to develop skills related to social cognition. The clinician could similarly incorporate this type of training in weekly sessions, to aid clients who exhibit difficulties in the areas of social interaction and self awareness. Parents of deaf children, with a minimum amount of training, could also use the principles and practical applications used in this type of training to aid in their childrens' development. It would be especially important for the hearing parent to participate in this kind of activity with a deaf child, as a means of providing opportunities that would otherwise be experientially difficult to duplicate.

Social cognition training programs are easily administered and require minimal amounts of training and experience to operate. Other professionals from allied fields could easily direct this kind of training with only a minimum of preparation and time commitment. This is an extremely practical aspect of these types of programs which recommend them for a wide variety of applications.

Suggestions for Further Research

Maintenance and generalization of the kinds of social cognitions focused on and assessed in this research are of particular interest and are suggested as topics of further research. It is uncertain whether the increased levels of social cognition that were revealed by the results of the study will last, nor do we know what direction the cognitions will take. That is, it would be interesting and informative to assess the types of events and experiences which facilitate or interfere with the participant's efforts to engage in new cognitions or behaviors. It is suggested that researchers study those who have received social cognition training to determine what activities or environments are correlated with increased generalization and skill maintenance.

This may present a difficult pursuit for an already over-burdened rehabilitation community (Lytle, 1986). However, such research could be undertaken with subjects whose deficits are so severe as to place them within a "restricted" environment; such subjects would be available for followup monitoring. Subjects in individual or group therapy/counseling might also be available for follow-up intervention.

Research that incorporates longer training periods, with greater frequency of sessions, and more thorough mental status screening and testing methods is also suggested.

Bibliography

- Anderson, R.M. (1969). Provisions for the education of the mentally retarded deaf child in residential schools for the deaf. U.S. Dept. of Health, Education, and Welfare, Office of Education, Cooperative Research Program. Pittsburgh, PA: University of Pittsburgh.
- Argyle, M. (1969). Social interaction. London: Methuen.
- Bachara, G., Raphael, J., & Phelan, W. (1980). Empathy development in deaf pre-adolescents. American Annals of the Deaf, 125, 38-41.
- Barrett, M. (1986). Self-image and social adjustment change in deaf adolescents participating in a social living class. Journal of Group Psychotherapy, Psychodrama, and Sociometry, 39, 3-11.
- Bennett, G., Hughes, A., & Hughes, H. (1979). Assessment techniques for deaf-blind children. Exceptional Children, 45, 287-288.
- Bourgeault, S.E., Harley, R.D. Dubose, R.F., & Langley, M.B. (1977). Assessment and programming for blind children with severely handicapping conditions. Journal of Visual Impairment and Blindness, 71, 49-53.
- Bramston, P., Brown, L., Branston, M.B., Hamre-Nietupski, S., Pumpian, I., Certo, N., & Gruenewald, L. (1973). A strategy for developing chronological age-appropriate and functional curricular content for

- severely handicapped adolescents and young adults. Journal of Special Education, 13, 81-90.
- Chandler, M. (1973). Egocentrism and antisocial behavior: The assessment and training of social perspective-skills. Developmental Psychology, 9, 326-332.
- Chandler, M., et al. (1974). Assessment and training of role-taking and referential communication skills in institutionalized and emotionally disturbed children. Developmental Psychology, 10, 546-553.
- Craig, H. (1965). A sociometric investigation of the self-concept of the deaf child. American Annals of the Deaf, 110, 456-467.
- Deiner, C. and Dweck, C.S. (1980). An analysis of learned helplessness (II): The process of success. Journal of Personality and Social Psychology, 36, 940-952.
- Dibedenetto, T.A. (1976). Problems of the deaf retarded: A review of the literature. Education and Training the Mentally Retarded, 11, 164-170.
- Evans, J.W. (1987). The treatment of emotional problems associated with hearing impairment in childhood and adolescence. In B. Heller, L. Flohr, & Zegans (Eds.) Expanding horizons: Psychosocial interventions with sensorally-disabled persons. New York: Grune & Stratton.
- Feffer, N.H. (1959). The cognitive implications of role-taking behavior. Journal of Personality, 27, 152-168.

- Feffer, M.H. & Gourevitch, V. (1960). Cognitive aspects of role-taking in children. Journal of Personality, 28, 383-396.
- Feldhusen, J., et al. (1972). The Purdue Elementary Problem-Solving Inventory. Psychological Reports, 31, 891-901.
- Foss, G., Auty, W., Irvin, L. (1989). A comparative evaluation of modeling, problem-solving, and behavior rehearsal for teaching employment-related interpersonal skills to secondary students with mental retardation. Educating and Training in Mental Retardation, 24, 17-27.
- Gambrill, E. & Richey, C. (1986). Criteria used to define and evaluate socially competent behavior among women. Psychology of Women Quarterly, 10, 183-196.
- Goetz, T. & Dweck, C. (1989). Learned helplessness in social situations. Journal of Personality and Social Psychology, 39 (2), 246-255.
- Greenberg, M., et al. (1982). A social-cognitive model of psychosocial difficulties and their prevention in deaf children. In B. Culhane & Williams (Eds.), Social aspects of deaf persons (Research Monograph Series on the Sociology of Deafness, Monograph 2). Washington, DC: Galludet College Press.
- Hamre-Nietupski, Nietukpski, J., Sandvig, R., Sandvig, M.B., & Ayres, B. (1984). Leisure skills instruction in a community residential setting with young adults who are deaf/blind severely handicapped. Journal of the Association for the Severely Handicapped, 9, 38-54.

- Harris, R. (1978). The relationship of impulse control to parent hearing status, manual communication, and academic achievement in deaf children. American Annals of the Deaf, 123, 52-67.
- Hirschoren, A., & Schnittjer, C. (1979). Dimensions of problem behavior in deaf children. Journal of Abnormal Child Psychology, 7, 221-228.
- Ianotti, R. (1978). Effect of role-taking experiences on role-taking, empathy, altruism, and aggression. Developmental Psychology, 14, 119-124.
- Kagan, C. (1984). Social problem solving and social skills training. British Journal of Clinical Psychology, 23, 161-163.
- Kendall, P. & Wilcox, L. (1980). A cognitive-behavioral treatment for impulsivity: Concrete versus conceptual training in non-self controlled problem children. Journal of Consulting and Clinical Psychology, 48, 80-91.
- Kusche, C. & Greenburg, M. (1983). The development of evaluative understanding and role-taking in deaf and hearing children. Child Development, 54, 141-147.
- Lemanek, K. & Greshorn, F. (1983). Social skills training with a deaf adolescent: Implications for placement and programming. School Psychology Review, 13, 385-390.
- Levine, E. (1981). The ecology of deafness. New York: Columbia University Press.

- Livesly, W.J., & Bromley, D.B. (1973). Person perception in childhood and adolescence. London: Wiley.
- Lou, M., & Charlson, E.S. (1991). A program to enhance the social cognition of deaf adolescents. In D.S. Martin (Ed.) Advances in cognition, education, and deafness (pp. 329-334). Washington, DC: Gallaudet University Press.
- Lytle, R. (1986). The effects of a cognitive social skills training procedure with deaf male adolescents. Unpublished doctoral dissertation, University of Maryland.
- Matheson, D. et al. (1978). Experimental psychology: Research design and analysis. New York: Holt, Rinehart and Winston.
- McClure, L. et al. (1978). Enhancing social problem solving performance in an elementary school setting. Journal of Educational Psychology, 70, 504-513.
- McFall, R.M. (1982). A review and reformulation of the concept of social skills. Behavioral Assessment, 4, 1-33.
- Meadow, K. (1984). Social adjustment of preschool children: Deaf and hearing, with or without other handicaps. Topics in Early Childhood Special Education, 3, 27-40.
- Meichenbaum, D. & Goodman, J. (1971). Training impulsive children to talk to themselves: A means of developing self-control. Journal of Abnormal Psychology, 77, 115-126.

- Moersch, M.S. (1977). Training the deaf-blind child. American Journal of Occupational Therapy, 31, 425-431.
- Nass, M. (1964). Development of conscience: A comparison of the moral judgments of deaf and hearing children. Child Development, 35, 1073-1080.
- Oden, S. & Asher, S. (1977). Coaching children in social skills for friendship-making. Child Development, 48, 495-506.
- Orlansky, M.D. (1981). The deaf-blind and severely profoundly handicapped: An emerging relationship. In S. Walsh & R. Holzberg (Eds.), Understanding and educating the deaf-blind severely and profoundly handicapped. Springfield, IL: Charles C. Thomas.
- Peevers, B. H. & Secord, P.F. (1973). Developmental changes in attribution of descriptive concepts of person. Journal of Personality and Social Psychology, 27, 120-128.
- Piaget, J. (1950). The psychology of intelligence. New York: Harcourt, Brace.
- Sarason, I., & Ganzer, V. (1973). Modeling and group discussion in the rehabilitation of juvenile delinquents. Journal of Counseling Psychology, 201, 442-449.
- Selman, R. L. (1971). Taking another's perspective: Role-taking development in early childhood. Child Development, 42, 1721-1734.
- Selman, R.L. & Bryne, D.F. (1974). A structural-developmental analysis of role-taking in middle childhood. Child Development, 45, 803-806.

- Simpson, F. (1981). Prevocational/vocational programming. In S. Walsh & R. Holzberg (Eds.), Understanding and educating the deaf-blind severely and profoundly handicapped. Springfield, IL: Charles C Thomas.
- Sontag, E., Smith, J., & Sailor, W. (1977). The severely profoundly handicapped: Who are they? Where are we? Journal of Special Education, 11, 5-11.
- Spence, S.H. (1984). Behavioral versus cognitive social-skills training with intellectually-handicapped adults. Behavior Research and Therapy, 3, 239-246.
- Straub, E. (1983). Independent living skills training for multi-handicapped deaf adults: A residential approach. Readings in Deafness, Monograph 6, 150-161.
- Trower, P. (1984). A radical critique and reformulation: From organism to agent. In P. Trower (Ed.), Radical approaches to social skills training. New York: Croom Helm Ltd.
- Van Hasselt, V.B., Ammerman, R.T. & Sisson, L.A. (1988). In J.L. Matson (Ed.), Treating childhood and adolescent psychopathology. New York: Plenum.
- Vernon, M. (1970). Potential, achievement, and rehabilitation in the deaf population. Rehabilitation Literature, 31, 258-267.

Weisberg, et al. (1981). Evaluation of a social problem-solving training program for suburban and inner-city third grade children. Journal of Consulting and Clinical Psychology, 49, 251-261.

APPENDICES

Appendices

- I. Application for Approval to Use Human Subjects
- II. Consent Forms
- III. Descriptions of Activities
- IV. Social Cognition Interview Questions
- V. Social Cognition Training Activities
 - a) Title of Activity
 - b) Purpose of Activity
 - c) Description
 - d) Discussion Questions/Topics
 - e) Materials
 - f) Variations

Appendix I

Application for Approval of the Human Subjects Board

Appendix I

OREGON STATE UNIVERSITY
APPLICATION FOR APPROVAL
OF THE HUMAN SUBJECTS BOARD

Graduate Student Dissertation Project
Student's Name: Jon Blankenship
Department: Counseling-School of Education
Principal Investigator: Dr. Joe Sendelbaugh
Date: 07-21-92

1. A brief description (one paragraph) of the significance of this project in lay terms.

DESCRIPTION: This program is designed to raise the level of social cognition of deaf adults who are vocational rehabilitation clients; i.e., to increase their understanding of self and others, of social behavior and interactions, and of the causes and consequences of social events. The ultimate goal is to improve their level of social problem-solving and reasoning, and to improve their social functioning. The program will combine an educational approach with group therapy techniques, and will be limited to a small group ($n < 16$) of participants at a time. The program will be offered in the Summer of 1992, with activities and tasks to be revised as the program progresses. For evaluation purposes, pre-and post-program assessment of subjects will be made to identify changes in levels of social cognition and functioning.

2. A brief description of the methods and procedures to be used during this research project.

DESCRIPTION: The program is a guided educational project, consisting of group tasks, projects, or games which will be used to elicit certain types of interactions among the group. It is an experiential, non-confrontational experiential program. The group interactions - the feelings, actions, and reactions - which occur during each task or game will be the basis for group discussion and learning. Role-playing of the different parts in an interaction will also be used. The training group will meet one time a week, for 1 and 1/2 hours per session, and the program will continue for eight weeks. The pre-and post-program assessment will employ interview procedures which

will be included in this application. The interview is used to assess levels of role-taking ability, and an understanding of persons. The interviewees are to be told different stories involving a number of protagonists, later they are to be questioned about their feelings and thoughts of each protagonist. Their answers for each story are then scored separately for one of the different levels of perspective-taking, which were based on the work of Selman (1971), Selman and Bryne (1974), Feffer (1959) and Feffer and Gourevitch (1960).

Person conceptualization is assessed in the second part of the interview when individuals are asked to describe separately three different people: someone they like a great deal (e.g., their best friend), someone they dislike, and themselves. Analyses of levels of person conceptualization will be based on the descriptive work of Peevers and Secord (1973) and of Livesly and Bromley (1973). Sophistication and depth of person conceptualization are scored for one of five levels.

3. A list of the risks and/or benefits (if any) to the subjects involved in this research.

RISKS: POTENTIAL RISKS/DISCOMFORTS TO SUBJECTS AND METHODS OF MINIMIZING THESE RISKS

There are minimal risks involved in participation in this program. Discomfort will be limited to only that which might be experienced in any non-threatening social encounter. The identities of the subjects who participate in the program will only be known to their own V-R counselors, as well as to the research/program team. Unless the subject gives specific permission to show videotapes of the program sessions the videotapes will not be shown. In such a case, the group participants will be seen on the videotapes, but the participants will not be identified by name. For purposes of evaluating the effectiveness of the program subjects will be assigned a code number, the key to which will be known only to the researchers. Any reports on the program will not identify any of the group participants by name.

BENEFITS: POTENTIAL DIRECT BENEFITS TO SUBJECTS AND GENERAL BENEFITS TO SUBJECT GROUP, MEDICAL SCIENCE AND /OR SOCIETY

The social cognition program should improve each participant's understanding of self and others and of social behavior and events, and thereby, should improve his or her level of social functioning. For most, if not all, of the group participants, social difficulties have prevented them from obtaining a job. Thus, participation in the program may also improve each participant's vocational opportunities.

4. A description of the subject population, including number of subjects, subject characteristics, and method of selection. Justification is required if the subject population is restricted to one gender or ethnic group.

DESCRIPTION: The subjects will be deaf adults who are recommended for this program by their community vocational-rehabilitation counselors, and Employment Development Department specialists. The V-R counselors and Employment Development Specialists will be informed regarding the purpose of the program and, while the group may represent a range of social functioning, each deaf participant will be selected on the basis of his/her specialist/counselor's assessment that the subject experiences difficulties in at least some area of social functioning, is over 18 years old, has a 70db hearing loss or greater in the better ear, is a vocational rehabilitation client, and is a native signer. A total of 32 volunteer subjects will be selected to participate in the project, with $n=16$ for the treatment group and $n=16$ for the control group. The U.C. Center on Deafness in San Francisco, Employment Development Department in Sacramento, NORCAL Center on Deafness in Sacramento, and local V-R counselors in Sacramento will be contacted for cooperation in this project.

5. A copy of the informed consent document and a description of the methods by which informed consent will be obtained. The informed consent document must include the pertinent items from the "Basic Elements of Informed Consent" which is reproduced on the back of this form.

CONSENT PROCESS AND DOCUMENTATION

Once a V-R counselor/Employment Development specialist identifies a potential participant, she or he will give the client information about the program, including the name and phone number of the principal investigator. If or when a client contacts the Center on Deafness, an appointment will be scheduled to explain the project in greater detail and to obtain written consent to participate in the program. A copy of the consent form is attached. In addition, each participant will be asked to give permission to show the videotapes to other professionals in the field for training purposes. A copy of this consent form is also attached.

6. A description of the method by which anonymity of the subjects will be maintained.

DESCRIPTION: Participants will be known to the research team vocational rehabilitation counselor and aide. Pre-and post-test data will be given a code number which will only be known by the research team. Videotapes of the program will be shown only with written consent of the participants. If the

videotapes are shown to professionals, no names will be used to identify the participants. Data will be destroyed three years after the completion of the project.

7. A copy of any questionnaire, survey, testing equipment, etc. (if any) to be used in this project.

8. If this is part of a proposal to an outside funding agency, attach a copy of the proposal. None.

Appendix II
Consent Forms

Appendix II

Consent Forms

CONSENT TO PARTICIPATE IN PSYCHOLOGICAL RESEARCH

As part of a graduate studies research project, the Center on Deafness is offering a group program to increase the social understanding of deaf persons. This group will meet one time a week, for 1 1/2 hours each session, and the program will continue for about eight weeks. The program will consist of group activities, games, and projects that will help the group members to get to know each other better, to communicate better, and to better understand how we interact with other people. The members will also role-play and discuss what is happening in the group. They will talk about their feelings, reactions, and behaviors, and about different ways to handle different social situations. The group sessions will be videotaped and some of these sessions may be shown to the group for discussion. The other videotapes may be seen by any member individually if he or she wishes. The videotapes will be used to help the research team revise and develop a more effective program.

Prior to, and after the program, you will meet with a researcher for an individual one hour session. You will be asked to describe some people and you will be told a few stories and asked some questions about each story. The interview session does not involve any unusual risk or discomfort. Your answers will be interpreted and videotaped. The tapes will be given a code number. This code will not be made public. You have the right to refuse to participate in this study, or to withdraw from this study at a later time. If you do refuse, this will not affect the services to you by your vocational rehabilitation counselor or by the Center on Deafness in any way. If you agree to participate in this study, any reports of the data collected will not identify the individual group members by name. Additionally, if you consent, the videotapes may be shown to other professionals for training purposes. If you do not agree, the sections of videotapes showing your participation in the study will be destroyed.

I agree to participate in this research project under the conditions described above. The information on this form has been explained to me by Jon Blankenship. If I have any questions or comments about participation in this study at any time, I can talk with the investigator, or with Joe Sendlebaugh, at the Rehabilitation Counseling Program at Western Oregon State College in

Monmouth, Oregon. Joe Sendlebaugh can be reached at (503) 838-8730 (TDD). I have been offered a copy of this consent form.

Signature date

(Consent form for treatment group)

CONSENT TO PARTICIPATE IN PSYCHOLOGICAL RESEARCH

As part of a graduate studies research project, the Center on Deafness is conducting testing interviews of deaf persons, designed to increase social understanding. If you agree to participate, you will meet with a researcher for an individual one hour session. You will be asked to describe some people and you will be told a few stories and asked some questions about each story. The interview session does not involve any unusual risk or discomfort. Your answers will be interpreted and videotaped. The tapes will be given a code number. This code will not be made public. Approximately eight weeks after the first interview, you will be asked to meet with the researcher again for another interview.

You have the right to refuse to participate in this study, or to withdraw from this study at a later time. If you do refuse, this will not affect the services to you by your vocational rehabilitation counselor or by the Center on Deafness in any way. If you agree to participate in this study, any reports of the data collected will not identify you by name. Your interviews will be videotaped, and if you consent, the videotapes may be shown to other professionals for training purposes. You may see the videotapes of your interviews if you wish, and if you do not agree to allow the use of these videotapes, the sections of videotapes showing your participation in the study will be destroyed.

I agree to participate in this research project under the conditions described above. The information on this form has been explained to me by Jon Blankenship. If I have any questions or comments about participation in this study at any time, I can talk with the investigator or Joe Sendlebaugh at the Rehabilitation Counseling Program at Western Oregon State College in Monmouth, Oregon. Joe Sendlebaugh can be reached at (503) 838-8730 (TDD). I have been offered a copy of this consent form.

signature date

(Consent form for control group)

CONSENT FOR SHOWING OF VIDEOTAPES

The Center on Deafness at the University of California, San Francisco is a center for research on deafness, for mental health work with deaf persons and their families, and for training educational, health, and rehabilitation professionals for work with deaf clients. Videotaping is a very important part of research, but it can also be extremely valuable in training. Professionals working with deaf clients have often benefitted from seeing videotapes of some of the people who have helped us in our research. It would be very helpful to us if you would give permission now for possible use of your tapes in materials to be shown later to groups, such as students or professionals, who might benefit from them. If you are willing to give us this permission, please sign the statement below.

I give permission for showing of the audiovisual records made in this research project for the benefit of professionals or others concerned with deafness.

Signature

Signature of Witness

Date

Appendix III
Description of Activities

Appendix III

Description of Activities

I. Communication Activities

The purpose of these activities is to improve ability to share meaning with another, rather than to improve either English or Sign Language skills. Communication includes both the ability to convey one's feelings and thoughts to another, as well as the converse, the ability to understand the thoughts and feelings of others.

Rumors Game

A signed variation of the game "Telephone" in which a word, phrase, or mini-story was passed around a circle of people. Unintended distortions or changes usually occur as a consequence of miscommunication from person to person. Variations include beginning with a communication that would not be altered in its passage around the group, as well as its opposite, beginning with a communication that would probably become a very different message by the conclusion of circulation. The purpose of this activity is for the group members to focus on communication, including separating the meaning of messages from the exact series of signs used to carry the message, as well as becoming aware of how messages become distorted, and to think of ways to ensure that clear communication occurs.

II. Person Conceptualization Activities

These activities focus on learning to understand oneself and others better, through the practice of mutual self-disclosure.

Identifying favorites

There are several varieties of this game, in which group members identify their "favorites" in different categories (e.g., foods, colors, animals, sports, activities), followed by remembering the "favorites" and who they belong to. The purpose of this activity is twofold: to make some aspects of self-concept explicit, and to encourage thinking about aspects of others' personalities.

III. Perspective-Taking Activities

The purpose of these activities is to encourage group members to identify how another person felt or what he/she thought about a particular situation

by having the subject try to "step into their shoes," or take his/her perspective on a particular situation or event.

Fill in the Feeling

Each person describes the details of a recent experience, without identifying her or his feelings or reactions to the event. Each recounting is to end with, "And I felt---," and the other group members are to try to fill in the blank, identifying the feelings the subject must have had that experience. The focus of this activity is to match common experiences to individual and personal emotions by generalizing to others from one's own experience. Telling the story requires the same kind of considerations that are important for the communication activities.

IV. Group Problem-Solving Activities

These activities, including active review and discussion of videotapes of group planning sessions, covers all of the aspects of social cognition: person conceptualization, perspective taking, social causal reasoning, social problem solving, and communication. Activities, such as planning a trip for the group as a whole is an example of such an activity. The group would meet for three joint planning sessions. For these sessions, group leaders would observe meetings from the sidelines, but would not participate. The subjects are to conduct the meetings on their own, making decisions about where the group will go, what they will do, how long they will be away, how they will travel, and making individual task assignments to prepare for the trip. The session is videotaped, and viewed and discussed later, in subsequent sessions when the subjects met in their regular separate groups. The learning for this activity occurs primarily with the viewing of the videotapes and the discussions about the group process. The subjects focus on difficult exchanges and miscommunications that occur, identifying the feelings and thoughts of protagonists, and discussing why certain interchanges had happened.

Appendix IV
Social Cognition Interview Questions

Birthday

Sally's birthday was March 29. She looked at the calendar and counted the number of days until her birthday. Sally hoped her parents knew that she really wanted some leather boots and a leather jacket. Sally decided to give her parents some hints so they would know what birthday presents to give her.

Sally went to the library and got some magazines with pictures of clothes to show her parents what she liked. That night, at dinner, Sally talked with her parents and showed them the magazines with pictures of neat leather boots and jackets.

Another day, Sally and her mother were downtown, and Sally showed her mother some boots and jackets that she liked in a store.

Sally was sure her parents had figured out what she wanted.

Finally it was her birthday.

"Happy Birthday, Sally. Your present is up in your bedroom." her parents said. Sally ran upstairs to her room and looked for a jacket and boots. Instead what she saw was a new puppy on her bed.

Before she could go over and pick up the puppy, Sally's younger brother Freddy came running in shouting with excitement, "Oh, we got the puppy, we got the puppy."

What is Sally feeling (about her present)?

(What did Sally want for her birthday?)

What are Sally's mother & father feeling here?

What did Sally's mother & father think she wanted for her birthday?

(Why did they give her a puppy?)

Sally's parents didn't give her leather boots & jacket; should she be angry about that? Why (not)?

(Remember when Sally showed her parents the magazines & store window with leather boots & jacket: Why didn't she just tell her parents what she wanted?)

Are Sally's parents nice (mean) people? Why do you think that?

After Freddy

What is Sally feeling now?

What is Freddy feeling?

What does Freddy think is happening?

Do you think (Does she think) maybe her parents bought the puppy for Freddy? Maybe (not)?

(If so, should she feel angry?)

Should she share the puppy with Freddy?

Description: Like

Think of someone you like a lot, for example a best friend. Describe that person. Tell us about him/her.

(Probes: Tell us more? You said she/he was _____; anything else?)

(Why do you like him/her?)

Is there anything you dislike about him/her?

Describe how she/he looks; his/her appearance.

What are his/her interests, hobbies? What does she/he like to do?

Describe his/her personality.

Description: Dislike

Think of someone you don't like. Describe that person.

Tell us about him or her.

(Probes: Tell us more? You said she/he was _____; is there anything else you can say about him/her?)

(Why don't you like him/her?)

Is there anything you dislike about him/her?

Describe how she/he looks; his/her appearance.

What are his/her interests, hobbies? What does she/he like to do?

Describe his/her personality:

Comparing him/her with (the person you like, your best friend), are there any ways that they are similar? How are they similar to each other?

Description: Self

Now describe yourself: Tell us about you (What kind of person are you?):

What do you like most about yourself?

Is there anything you don't like about yourself? What would you like to change about yourself?

Describe your appearance.

What are your interests, hobbies? What do you like to do?

Describe your personality.

Comparing yourself with (your best friend), how are you different from each other?

Comparing yourself with (person you dislike), how are you similar...?

Appendix V
Social Cognition Training Activities

JEALOUSY

PURPOSE OF ACTIVITY:

Perspective taking. Encourage students to think about jealous feelings; their own jealousy and other people's jealousy of them.

DESCRIPTION:

(See worksheet titled: "Jealous")

Ask students what does "jealous" mean, and to give examples of "jealousy." Leader can also use example of a "jealous" situation that happened during group.

Ask each student to complete worksheet page. (10 minutes). They can either write and/or draw their answers. Ask students to volunteer to share one of their statements.

DISCUSSION:

- 1). How do you deal when you are jealous?
- 2). What do you do when you are jealous? (eg. avoid the person, get mad, try to get the same thing for yourself....)
- 3). What is another word for jealous? (eg. "envy," "green with envy," "I wish I had...")

MATERIALS NEEDED:

Worksheet page for each student OR ask students to copy example of work sheet page from the blackboard.

ROADMAP TO PEERS

PURPOSE OF ACTIVITY: Communications

DIRECTIONS:

- 1). Situated students around a large sheet of butcher block paper. Have each member make a home in front of him/herself. Then they can draw roads between homes and work together to create a village.
- 2). What do they want to add to the village? (eg. trees, decorations, animals, post office, etc...)

DISCUSSION:

- 1). What is the most important thing in your village? (e.g. my home)? What road is the most important to you? (e.g. "because I can get to my friend Dave's house fast.")
- 2). How did you decide what to add to you village?

MATERIALS NEEDED:

A large sheet of butcher block paper
Crayons and/or felt markers.

WALKING GAME

PURPOSE OF ACTIVITY: Communications focus on non-verbal body language.

DIRECTIONS:

- 1). Ask students to walk the way you would feel if....
 - a). There's someone in the house and you don't want them to hear you. (scared)
 - b). You can't wait to get somewhere wonderful. (excited)
 - c). You've worked all day and you don't want to get there. (reluctant...)
 - d). You got an A on a test. (happy?)
 - e). Someone is following you. (nervous)
 - f). You are walking barefooted on very hot sidewalk. (hot)

(Students can call out suggestions).

DISCUSSION:

- 1). How does your body show how you feel? (eg. when scared, excited, reluctant...your body becomes fast-paced, slow-paced, your eyes are watchful or turned to the grind...)

THE CLOSET

PURPOSE OF ACTIVITY: Establish the concept that people feel things inside. How they appear to the world may not be how they feel inside.

DIRECTIONS:

- 1). Pass out a 8 x 10" blank piece of paper to each student. Ask students to fold paper in 3 parts and fold sides into the center.
- 2). On the front, have the student draw how s/he appears to the world: "How the world sees you."
- 3). Open flap, like doors, and on the inside have the student draw his/her true feelings; "the ones on the inside that people don't always see or know about," or "what do you feel on the inside?"

DISCUSSION:

- 1). Why do we hide our "inside feelings?"
- 2). Who can you talk with about your "inside feelings; when they bother you?"

MY QUILT

PURPOSE OF ACTIVITY: Communication. Integrate the various activities into a "quilt" which represents "who am I?"

DIRECTION: 1). After various activities, students can paste their worksheet pages on to a large poster or develop a notebook with all worksheet pages.

(Students may not want to display very personal worksheet pages)

**MATERIALS
NEEDED:**

- 1). Large poster to make individual poster "quilts."
- 2). Notebook to make a "Notebook quilt."

COMMUNICATION: "ABOUT ME"

PURPOSE OF ACTIVITY: Communications

DESCRIPTION: Give each student a blank 8 x 10 piece of paper and colored markers. Tell them that teach each one will be moving. draw a picture of where they would move to. (20 minutes approximately).

DISCUSSION: Discuss each picture. Describe your picture. Where did you move? Why you want to live there? What do you like about your new place, that your old place does not have?

**MATERIALS
NEEDED:** 8 x 10 paper for each student feel-tip colored markers

ANTIDOTE: This activity occurred at a time when the student's school had move to another site, one student had moved and one planned to move out of state.

One student drew a home with safety locks -- her home had been burglarized and she wanted to be somewhere more safe.

THE PICNIC

PURPOSE OF ACTIVITY: Communications: Focus on how decisions are made in the group and with partners.

DESCRIPTION: Students are asked to plan their own picnic/potluck. The group leader explains how much money they will have to spend (if it is from a classroom fund) or ask students how much they want to spend from their own monies. Students are asked to come up with pairs and each pair will decide one thing they will bring. They are encouraged to go shopping together, make the food together, and to save the receipts for all purchases. The class needs to decide how they will divide up the money, and how they will know who will bring what they will need for the picnic (eg. drinks, main dish, salad, chips, fruit, etc.) The most important rule in this activity is that the student can not use any school or classroom supplies (eg. knives, microwave, cups, napkins). They can only use what they bring, as if they were going camping. The group leader's responsibility is to only explain the activity and clarify any questions. The students are encouraged to talk to each other and plan the picnic themselves without the adults help. Depending on the age of the group, it is possible to take the class to the store so they can price how much certain things cost in order to estimate what they can buy and how much it will cost altogether. Then the second time, each pair is responsible for their own food.

DISCUSSION QUESTIONS/TOPICS: (After the picnic or during the picnic:)

1. How did the picnic turn out? Did they remember to bring all the utensils they needed for each food that was brought? Was there a variety of foods or did they have too many drinks and not enough of the main dish?
2. How did you decide who would bring what? How did you plan the menu? What made it successful? How would you plan it better next time?
3. How was the budget? Was there enough money? Not enough money? Did you remember your receipts? Why???

Antidote: At one high school group, the students decided to develop a menu and decided who was responsible for which part of the menu. Each pair divided on what to bring. Then the group decided to have one person responsible for the napkins, plates, and utensils. That person was also supposed to bring a main dish with his partner, and since he did not have enough money, he could not buy the other napkins, plates and utensils. Therefore, the class had to eat with their fingers, and could not have anything to drink. During their discussion, they agreed that next time they would either have each person bring their own plate, napkins, utensils or be sure to plan the budget better. Later, in the types of utensils that would be needed as a learning consequence of the Picnic Activity.

THE INTERVIEW

PURPOSE OF ACTIVITY: Communications. Assess how well students are able to ask, answer, and recall interview questions with each other.

DESCRIPTION: Explain that students will be paired up and they will interview each other. Write and review with the class the following questions on the board for the students to ask:

- 1) How many brothers and sisters do you have?
- 2) When and where did you learn sign language?
- 3) Where were you born?

Each pair will have about ten to fifteen minutes to ask each other the above questions, then return to the group. As each pair to share what they learned about their partner during the interview.

DISCUSSION:

1. What is the purpose of the interview?
2. What other questions would you have liked to ask your partner?
3. Did you like the activity? Why or why not?
4. Did you have trouble understanding your partner? or remembering the information? Why or why not?

PASS THE NAME

PURPOSE OF ACTIVITY: Communications. This is a good game for the leader to get to know the group members (and their attention span, language skills, and short-term memory skills) and for the group to "warm up" into the Social Cognition Program. This activity is also an opportunity to learn more about each other's favorite things.

DESCRIPTION: The group will sit in a circle. The first person (the leader) will say his/her name. The second person will say his/her name and the first person's name. The third person will say his/her name and the second and the first person's name, and so on.

For the second round, ask students to name their favorite color, animal, sport, TV Program. Students can vote on what kind of "favorite" or "least favorite" they want to do.

For the fourth round, can ask students to remember, for example, both the favorite animal and the favorite sport.

DISCUSSION:

1. Which one was the easiest? (eg. "Our names because we already know each other's names.") Which one was the hardest? Why??

2. What did you learn about another person? (eg. "I did not know that John's favorite sport is rollerskating. I thought it was basketball.")

THE LUNCH DATE

PURPOSE OF ACTIVITY: Perspective-taking. This activity encourages students to think about another classmate's perspective and how s/he makes certain choices or decisions.

DESCRIPTION: Cut out pictures of about ten different types of persons (eg. studious person, athletic person, young profession in a business suit, a very "faddishly" dressed teenager, a mid-aged professional in uniform, a grandparent figure, a female model, a younger child, a quiet, shy teenager, a rock star...be sure to include various age groups, and ethnic backgrounds.)

1). Explain to students that we are all going to pretend that each of us will go out on a lunch date tomorrow. Each of us can choose who we will go out with for our lunch date.). Ask student to look at each picture and write down the number of the card of the person whom the want to go out to lunch with. 3). Next, write down the number of the card they think each of their classmates will choose to go out to lunch with.

Depending on the size of the class and the number of group leaders, you may want to split into two small groups with a leader for each small group. Ask students who they chose for "Student A" and why...then ask "Student A" who s/he choose to go out to lunch with and why. Discuss the answers...their similarities and differences as you go around the group.

Depending on time limits and class size, you may want to ask for each group's response, instead of every student's.

DISCUSSION: 1. Valuable discussion occurs when discussing each student's lunch date.

a. Why did you choose that person?

b. How is your answer different (or the same) from others?

c. Was it hard to guess or easy to guess?

2. After the activity:

a. What did you learn about each other during the activity?

b. Did you like the activity? Why or why not?

c. Discuss "perspective." We all look at the same thing in different ways. For example, Jan is a quiet person and prefers to be with a quiet group of friends. Most of her classmates chose a quiet shy teenager as someone she'd like to go out with. But Jane decided she wanted to try something different and go out to lunch with a musician.

GUESS THE FEELING: SKITS

PURPOSE OF ACTIVITY: Role-taking. Expand vocabulary and understand concepts of specific "feeling" words. Create skits in order to demonstrate a particular "feeling" so that other classmates can identify the feeling. Recognize the importance of verbal and non-verbal cues.

DESCRIPTION:

1. Choose about ten "feeling" words. (see list). Ask students to give the sign and meaning of each feeling word. Can use examples such as "sad"---feel sad when someone dies, or your when you feel "left out."
2. Ask students to pair up and choose one feeling word. Write the word on a card. (OR ask students to pick a feeling card). Create a skit using that feeling without signing the feeling word in the skit.
3. Perform the skits.
4. After each skit, ask students what they think the feeling word is. Can ask each student to write down and share their answers, or ask students to guess until someone guesses the correct response. Discuss: How did body language help you guess?

DISCUSSION QUESTIONS/TOPICS:

1. Why was one skit easier to guess than another? (e.g. good non-verbal clues, skit was clear to understand, similar experience).
2. How do you learn how other people are feeling? For example, how do you learn how people in your family feel about certain situations? (i.e. talking to the person, non-verbal language).

MATERIALS:

1. Feelings Cards: Make your own cards using the picture of that feeling and/or the feeling word.

Can use xerox back page to make your own cards.

2. Other materials that are available:

"How Are You Feeling Today ?" Poster

"Sign Language Feeling" Book. An Educational Coloring Book for Elementary and Pre-school children. Dawn Sign Press, Berkeley, CA 1985.

LIST OF "FEELINGS" WORDS

HAPPY	EXCITED	CONFIDENT
ANNOYED	PROUD	ENTHUSIASTIC
SAD	EMBARRASSED	HURT
LONELY	NERVOUS/ANXIOUS	SHOCKED
SCARED/FRIGHTENED	SURPRISED	SHY
MAD/ANGRY	BORED	JEALOUS
CURIOUS	FRUSTRATED	STUBBORN
CONFUSED/PUZZLED	TIRED/EXHAUSTED	RELAXED/PEACEFUL

RUMOR GAME

PURPOSE OF ACTIVITY: Communications: Focus on how misunderstandings (i.e. gossip, rumors) can occur.

DESCRIPTION: This activity is similar to the popular "Telephone Game." Instead of sitting in a circle, ask the students to line up facing one direction. The student at the end of the line is asked to start the "gossip" by tapping the person in front of him/her and "passing" the sentence or word. That person will then tap the next person in front of him/her, and "pass" the word or sentence and so on. Can set limits as to how many times the word or sentence can be repeated. The last person will announce the word to sentence to the group to see if it is the same as the original one.

Start with one word given by the teacher as a practice example. Then ask students to come up with their own short sentences, long sentences, and even short stories.

Very helpful and informative to videotape this game so that students can review the videotape to see and discuss how the word or sentence was changed as it was "passed on."

SPECIAL CONSIDERATIONS:

Do not ask the students to "memorize" the words---ask them the "pass" on what they receptively received. Especially for short stories the key is not to succeed word-for-word, but to duplicate the information.

DISCUSSION QUESTIONS/TOPICS:

1. Is the result the same or different from the original?
2. Was it easy or hard? If easy, what made it easy? (eg. short sentence, one word, very familiar topic, language style similar to their own English or ASS). If hard, what made it hard? (eg. long sentence, unfamiliar sign/words, sentence/story does not make sense, can only repeat word/sentence once or twice instead of numerous times.)
3. How did it change? (Note: avoid students "blaming" one another). How and why did the signs change? (eg. fingerspelled words changed spelling, specific signs changed to another similar sign, fingerspelled words became signed or vice versa).
4. What can you do to prevent these changes? (eg. adapt communication style for another person such as more ASS or more SEE signs, ask for meanings of unfamiliar words...).
5. What is gossip? How do you think stories about people at school change? How do think people in your family "misunderstand" each other? Has it happened to you?

MATERIALS NEEDED: *(optional) Videotape equipment.

VARIATIONS:

For students with low language skills, can ask them to "pass" certain hand movements (eg. cover your eyes and touch your nose). This would be similar to "follow the leader" games but requires more memory and sequencing skills to be able to "pass" on to the next person.

WHAT'S IN THE BAG???

PURPOSE OF ACTIVITY: Communicate your own ideas to a group and participate in group decisions.
Recommended as a two-day activity: First day is led by an adult then on a following day is led by two students.

DIRECTIONS:

1. Place 6 items individually into stapled brown bags. These items can be from one category, eg. all bathroom items such as nail file, soap dish, cotton balls, nail clippers, and mascara. Number each bag from #1-6.
2. Divide into two teams. Explain to students that their job is to "feel" the bag and guess what is inside the bag. Discuss with their group their ideas and write down one answer on paper (which is numbered #1-6). If items are selected from one category tell the students "these are things you can find in the _____."
3. Team A will get bags #1-3, Team B will get bags #4-6. When the team is done with their bags they can exchange bags. Both teams will guess for bags #1-6.
4. When all guesses are completed and written down. Compare answers with Team A and B. Ask students to take turns opening the bag to verify their answers.

SPECIAL CONSIDERATIONS:

Group leaders, if they choose to participate in the teams, need to be cautious about affecting the group decision. Try to watch the students develop their own method of making group decisions.

DISCUSSION QUESTIONS/TOPICS:

1. How did you decide what was in the bag? Was it hard to guess or easy to guess? What did you do when you did not know the name of the thing or how to spell the answer?

2. Who made the decision in your group? Who decided who would write down the answers? Was there a leader in your group?

3. What did you do when your team members had different answers? How did you decide which one to use? How did the person know which answer to write down?

4. If this activity is being videotaped, ask students to watch the videotape and comment on group dynamics and decision making in the teams (this can be done on another day).

MATERIALS:

* 6 items individually stapled in brown paper bags. Each bag is numbered #1-6.

* paper and pencil to write down answers.

* (optional) videotape equipment.

FOLLOW UP ACTIVITY:

Ask two students to plan what to put in the bags for the next activity. They can decide: how many bags they will use, if they will use categories or randomly-selected items, what kinds of items they will use, and who will bring the items. Can videotape the students while they plan their activity. As the two leaders to have the "bag game" ready for the next day at school (so they can collect items at home to put in the bag.) Students will lead the activity as described for first day.

One leader will watch one Team and observe who makes decisions in that group and how they interacted with one another.

Ask leaders to describe their experiences...how did they make the above decisions. Ask students to compare their experiences between the first and second, bag game"...was it easier or harder, why? Were the leaders clear with their directions? If they chose non-categorized items, was this easier or harder to guess?

THE GIFT

PURPOSE OF ACTIVITY: Perspective taking. To understand and learn another person's perspective for wanting a particular gift and to guess gifts with the person who wants that gift.

To guess who wanted which gifts, students need to draw on information they have about another student and be able to put themselves in that person's shoes to understand his/her perspective for wanting that gift.

DIRECTIONS: Give each student Worksheet titled "The Gift." Tell each student to think of one gift they really want for their birthday. Draw or cut out a picture of this gift onto this Worksheet. Do not write your name on the Worksheet. Students can take this Worksheet home for homework to prepare for activity on the following day.

MATERIALS: Make copies of Worksheet titled "The Gift."

DISCUSSION: Leader collects all the worksheets. Option: Can post each worksheet on the board with a number on it and ask each student to write down who wanted the gift. OR take turns going through the group one by one focusing on one; picture at a time. Ask each student to decide who wanted this gift and why. After all students gave their answers, find out who really wanted this gift and why. After all students gave their answers, find out who really wanted this gift and why. Discuss: 1). Why was it easy or hard to guess who? 2). Ask the person why they chose that particular item for a gift?