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A Social Skills Group for Autistic Children[1]

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The evolution and preliminary evaluation of a social skills training group for 10 autistic children aged between 9 and 16 years was described. These children attended a special unit which aimed to integrate them into normal school provision. The paper consists of a description of the evolution of the group and the training methods employed and an evaluation of the effect of the group. This was accomplished by the use of a standard teacher's questionnaire. The results of the evaluation are described and the implications for further study of this means of helping autistic individuals discussed.

Difficulties in forming relationships with other people constitute a central feature of autism and considerable effort has been devoted to devising methods for improving the social functioning of autistic individuals.

One approach has been to seek to teach the skills involved in successful social interaction. Early studies of social skills training involved adult psychiatric patients or university students. More recently the techniques have been extended to younger age groups and to the mentally handicapped. Social skills training has been shown to be effective in enabling people to form friendships and to overcome social anxiety (Shepherd, 1983), although it was not superior to desensitization for the latter. The more successful training methods used explanation, modeling of appropriate behavior, role playing, and feedback from the trainer.

In parallel with the broadening of client groups there has been a change in the methods of teaching used. Initially, the underlying assumption was that social skills were simple skills, which could be taught as isolated com-

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ponents (Trower, 1984). However it became apparent that knowledge of a number of separate social skills did not enable trainees to become socially effective. Initially trainers responded by attempting to teach more general strategies. Recently they have considered the expectations and thoughts of social skills trainees and have attempted to modify them (Trower, 1984).

Pellegrini and Urbain (1985) have described a similar process in the social skills training of children. Following Asher (1978) they identified three components of early social skills training: contingency management, modeling, and coaching. They pointed out that coaching combined with a fourth element, interpersonal cognitive problem solving, appeared to offer the greatest promise. Training programs offering interpersonal cognitive problem solving have so far been the most consistently effective. Beck and Forehand (1984) have also identified cognitive processes such as children's "knowledge of social exchange norms and their awareness of their impact on others in a social situation" as important components of social skills. A similar less advanced sequence leading towards the cognitive aspects of social skills training is apparent in the literature concerning attempts to make autistic children more sociable.

TRAINING THE SOCIAL SKILLS OF AUTISTIC CHILDREN

It is possible to increase the frequency of individual social skills in autistic children, for example, eye contact (Currie & Brannigan, 1970; McConnell, 1967) or proximity (Hingtgen, Sanders, & DeMyer, 1965; Jensen & Womack 1967). These studies were laboratory investigations and not pursued in a wider context. Both in the home (Wildman & Simon, 1978) and in a nursery playroom (Romanczyk, Diament, Goren, Trunell, & Harris, 1975) rewarding social contacts increased the frequency of contact shown by autistic children. Romanczyk et al.'s study did not, however, report increases in verbal and tactile aspects of social interaction but only in toy sharing.

Strain, Kerr, and Ragland (1979) reported the effects of rewarding a normal peer for interactions with an autistic child. The number of social initiations made by the autistic child increased. Lord (1984) demonstrated that the increased initiations generalized to both untreated autistic classmates and other normal peers. Neither Strain et al. nor Lord attempted to change the wider social skills of autistic children, but concentrated largely on cooperative play.

Studies attempting to provide a comprehensive treatment for the social skill deficits of autistic children are rare. The most comprehensive appears to be that described by Mesibov (1984), based on the TEACCH project in North Carolina. The simple aim of their project was to enable autistic people to have enjoyable and rewarding contacts with other people. The only

evaluation available so far is the 1984 paper, which contains few data. Modeling, coaching, and role playing were all used. The teachers felt that the program benefits included learning some of the skills involved in meeting others, staying on a topic of conversation, asking questions, paying attention to another, and expressing emotions. Mesibov suggested, however, that the autistic people valued most the opportunity to make friends, albeit with other autistic people, rather than the learning of social skills.

SETTING OF STUDY

The children described in this paper attended a Resource Unit sited within a primary school. The aim of the unit is to provide a base for the autistic children from which to integrate them into both primary and secondary schools. This aim is promoted by providing one-to-one teaching in the unit, slowly changing from close supervision by unit staff in the ordinary classroom to leaving the autistic child to work on his own for large parts of the school week. Progress along this route is determined by the child's coping both academically and behaviorally.

As the group evolved, awareness of the importance of social skills training developed, which consequently spilled over into the general curriculum of the Unit. For both this reason and the lack of a control group, what follows is primarily a descriptive account and not a rigorous trial of social skills training. I attempt only a brief evaluation of the effects of the training on the social behavior of these children. The aim of the paper is therefore to provide information on the feasibility of social skills training with autistic children.

Subjects

The description in this paper refers to the first 4 years of the group. During that time a total of 10 children attended the group, of whom 4 are now either in further education or in open employment. The remaining 6 have not yet reached the end of their school career. The characteristics of the children are shown in Table I. They were all diagnosed autistic according to the criteria of Rutter (1978) by local child psychiatrists. All the children in this study are boys.

The group started in the summer term of 1981 (Term 1) with 6 children. The social skills group was open in that autistic children from the unit would join as they attained the criteria that follow. Children were selected when they were over 9 years old and when they were successfully attending most of their lessons in local schools. The actual proportion of lessons spent

Table I. Characteristics of Adolescents in Social Skills Group[a]

	Child Age (years: months)	IQ	
A	9:6	104	(w)
B	13:10	110	(w)
C	15:0	52	(w)
D	10:5	88	(w)
E	9:10	110	(b)
F	11:8	81	(w)
G	14:10	108	(b)
H	12:6	114	(b)
I	12:6	65	(w)
J	10:8	103	(b)

[a]The IQ scores are derived from either the full-scale score on the WISC-R (w) or the short-form of the British Ability Scales (b). The age is the age at which the child joined the group.

in the ordinary schools varied with the child's behavior. They were therefore partially integrated with the normal population and had many opportunities to interact with nonhandicapped children. In practice these criteria resulted in the admission of only 4 more children, all of whom started attending in the first three terms.

Methods

The social skills training sessions were held once a week during school terms. Each session lasted 45 min immediately after school in the afternoon. They took place in and around the Resource Unit.

The social skills group was planned to enable the children to discover more effective means of interacting with other people. Three types of activity were to be used: recreational games, role-play exercises, and modeling. The staff of the unit were able to identify both skill deficits and problematic social situations for the children in order to start the group, but over time other difficulties were raised both by the staff and by the children. Changes in behavior were effected by means of direct instruction (e.g., "look at his face"), discussion of the consequences of behavior both in terms of behavior and feeling, and also trying to think of new ways to accomplish the same goals (e.g., by brainstorming).

History of the Social Skills Group

In initial discussions with the staff of the unit the strategy of the group was planned. It was felt that the most important element of the sessions would be to enable the children to develop their own means of forming friendships, asking for help from adults, and dealing with unpleasant interactions (e.g., teasing). It was decided not to provide rules of social interaction, because the children might follow them slavishly. Instead opportunities were provided for the children to try out their own tactics for social interaction. Encouragement was therefore given for effective social interactions. Videotape and verbal feedback was used to show that some methods of interacting were unsuccessful. The emphasis was similar to that of Shure and Spivack (1979) who aimed to teach "children how to think, not what to think" in social interactions.

The aim of the initial sessions was to help the children enjoy the training and to establish which activities were possible. Thus at first cooperative games were organized. In one game, for instance, a ball was thrown high up against a wall and someone's name was called out. That person then had to catch the ball and throw it up again. An attempt was also made to persuade the children to organize activities for themselves, but we rapidly found that they were unable to ensure that all of them were involved or interested. It was found, however, that it was possible for the children to work together systematically and therefore clear rules were set to ensure that all the children participated.

It seemed important to establish whether the children could assume different roles, since role playing forms a significant component of social skills training programs for other populations. Term 2 started with simple activities such as pretending to be an animal. The children then role-played classroom situations in which they were the teachers. They could not only do this but also managed to act being nice or nasty teachers.

By the middle of Term 2 the children were enjoying the social skills group. The role plays were therefore increased in complexity. Eye contact in social interactions was an initial focus. The children responded well to being reminded gently about looking at the people they were talking to. They particularly enjoyed the videotape replays of their attempts. In order to increase relevance, the set piece situations of meeting someone for the first time, and asking for things such as tickets in a bus or simple groceries were used. In Term 3 this was extended to include asking for help, for instance, in a library.

An element of discussion was introduced in Term 3 so that the children could tell us when they faced particular difficulties. Although only two of the children took part in these discussions at first, subsequent terms showed

that the others would join in if given time and encouragement. Feelings and their expression were also considered in this term. All of the children could identify the emotions from Spence's (1980) test, from both facial expression and body posture. However they were unable to act them out so that the other children could recognize the emotions involved. They role played strong emotions (e.g., anger, sadness) better than more subtle ones (e.g., puzzlement).

In Term 4 the group progressed to the skills involved in holding a conversation, in which we found that some basic skills were lacking. The children found it difficult to give the nonverbal signals that indicated interest in the other person. By the end of term the children had learned them and could demonstrate poor social skills!

Term 5 started with voice exercises to teach the children the use of voice tone. Initially the exercises were to vary voice tone from one word to the next. Later however nonsense words were used to teach the voice tones indicating a question or surprise. In this term the value of a warm-up exercise was discovered. This corresponds closely to Mesibov's (1984) snack-time discussion that occupied the first 15 min of the sessions in his group. The similarity lies in the lessening of structure during this period with structured activities taking place later in the sessions. In this same term, some nonautistic adults acted as strangers for the children to meet and introduce themselves to, thereby practicing a number of conversational skills. The children were found to have difficulties not only in knowing what to say but also in attending to the replies of conversational partners.

In Term 6 we concentrated on leave taking. In particular the children were taught how to say goodbye without getting caught up in a variety of other distracting activities. The final sessions of Term 6 focused on finding out what the other person might be interested in with a view to establishing a basis for a friendship. This theme continued in Term 7, through teaching the children ways in which one can find out about another person without asking strings of questions. Again the importance of appropriate eye contact was emphasized. The children were helped to find their own strategies for conversations rather than being taught rules.

In Term 8 the ways in which the children gave the impression of being rude or uncaring about other people were examined. A difficulty the children seemed to be having at school was pushing past other people who were standing in the way rather than asking to come past. Modeled examples of poor social skills were shown and the children were asked to identify the faults and remedy them in role plays. They were thereby taught that it was inappropriate to ignore people who said hello to them. This was extended into the beginning of a short conversation. In the past few sessions of the term the difference between pestering and asking for something from another child

was examined. This led on to teasing, in which the children were usually the victims. They were taught that it was possible to respond by ignoring it or walking away, but this was seen as inappropriate by the children. Indeed, one of the children was being subjected to bullying from another pupil at the school, and was replying by taunting. This led to an escalation of the trouble, which calmed down only after both of them were told to stop.

At the beginning of Term 9, the social skills group was concerned with those situations where tempers flare, such as having one's toe stepped on or tripping over someone else's bag. Even in role plays the reactions of anger changed suddenly into violent words or actions, as though the children were unable to control themselves. Although the children learned to react reasonably to these minor irritations in the group, it seemed that the skill did not generalize. They remained unable to take the other person's point of view into account. (The latter difficulty was particularly clearly illustrated by one boy who always touched people when he walked past them. He himself could not stand being touched, and resisted physical contact fiercely.) Two exercises were used to overcome this. On the one hand means of saying hello were taught and on the other a blindfold leading exercise was used, so that clear instructions had to be given, which took account of the other's situation.

In Term 10 we also tried to teach the children to be more flexible. They were coached to vary their replies in situations that they found disappointing or frustrating such as being told to go to bed. It was pointed out to them that behavior is not rule-bound. The theme of the other person's point of view was continued in Term 11 with exercises in which the children had to give very precise instructions to one another using speech alone. The instruction giver was helped to be unambiguous and the recipient was helped to check that he was doing the right task. Towards the end of the term they were asked how they were seen by their peers at school. In particular we concentrated on self-reported odd behaviors. This topic naturally led to the question of who the children spoke to at school and what they talked about.

Term 12 opened with a consideration of how the children near the end of their schooling could perform better at interviews. They were poor at listening to comments that other people made, except in the form of direct questions. Two techniques were used to improve listening skills. First, we asked each child to present a topic of interest (such as fungi) to the rest of the group who then answered questions about it. Second, we taught them to play "Twenty Questions."

Towards the end of Term 12 some of the children were having difficulties asserting themselves if, for instance, someone pushed in front of them in a queue. Role playing was used to practice alternative responses. However, without prompting they did not seem able to act more assertively outside the sessions.

In Term 13 the topic of teasing arose again. The topic was of particular concern to one of the children because he was leaving the unit, and would in future be attending a Technical College in a nearby town. Part of the problem lay in the reactions of the autistic children which tended to exacerbate the teasing. It was suggested that they should ignore it. This was attempted by role playing the calling of names. This initially provoked anger in many of the children and it took most of the term to persuade them to react more calmly.

The social skills group lasted 13 terms and covered many of the topics suggested by Spence (1980). Each topic took longer to cover than she suggested, so that where she considered one session sufficient, we often spent a whole term dealing with a topic (e.g., teasing).

Evaluation Methods

So far only the simplest forms of evaluation have been attempted. The most rigorous measure used was the social behavior questionnaire of Spence (1980) which attempts to describe the deficits in social skills shown by children. The questionnaire comprises 24 items, each of which is rated on a 5-point scale. The 24 items are grouped into 3 blocks of 8 which are described as peer relationships, relationships with staff, and general social behavior. The items on peer relationships cover the following topics (the number of the item on the questionnaire is in brackets): friendships (1); talking with peers (2); joining in with peers (3); bullying (4); volunteering (5); avoidance of peer interaction (6); aggression (7); and starting up conversations (8). The items on staff relationships are concerned with the following: initiating conversations (9); approaching staff appropriately (10); talking freely (11); verbal aggression (12); response to criticism (13); response to instructions (14); and arguing (15). Under the rubric of general social behavior the questionnaire covers eye contact (16); facial expression (17); response to questions (18); posture (19); use of tone and pitch (20); clarity of speech (21); fidgeting (22); laughing and smiling (23); and fluency of speech (24).

The questionnaire was administered at the start and after the social skills group had been running for 4 years (at the end of the 13th term). It was completed for each child by the member of the unit staff who knew that child best. A score may be derived for each item by assigning a value between 1 and 5. Subtracting the score on the first occasion from the score on the second occasion yields a change score. An overall change score may be derived by summing the change scores for each item.

RESULTS

Unfortunately it was not possible to obtain completed questionnaires on 3 of the children, because the member of staff who knew them best re-

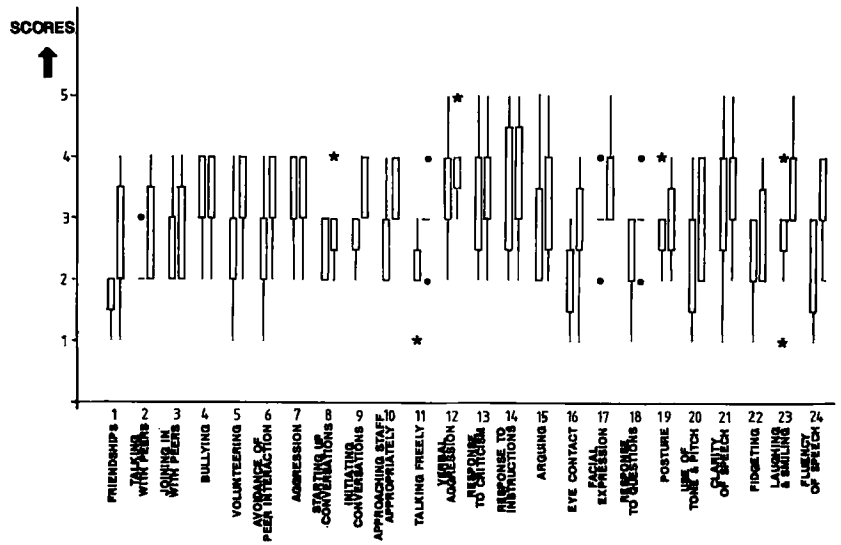

Fig. 1. A display of the scores on the individual items of Spence's (1980) questionnaire both at the beginning and at the end of the study period. The data are presented in the form of boxplots. The hinges represent quartiles. Possible outliers are represented by asterisks (*) and probable outliers by circles (O). There are two box plots for each question: the left-hand one is the box plot for the first occasion, and the right-hand one is for the second occasion.

tired and left the area before the final administration of the questionnaire. Figure 1 shows the scores on the individual items of the questionnaire at the beginning and the end of the study. Figure 2 shows the total change scores for each of the children. If one examines solely the direction of change, it is clear that all 7 of the children on whom complete questionnaires were returned showed improvements. The probability of such a pattern of changes occurring by chance is 0.008 (sign test, Siegel, 1956).

A multivariate analysis of variance (MANOVA) of the scores on the three subscales suggested by Spence (1980) was carried out using the occasions and adolescents as the independent variables following Plewis (1986). Although the overall F ratio is of dubious validity in such a small sample, the univariate analyses may still reveal significant effects (Appelbaum & McCall, 1984). The analysis revealed a significant F ratio for occasions only for Scale 1 (peer relationships). The F ratios are listed in Table II.

The same procedure was used to generate F ratios for all 24 questions; 8 were statistically significant. The analysis also demonstrated a trend to significance for one further item. The significant F ratios together with the coefficients are shown in Table II. Significant mean effects of occasion were found for Items 2 (talking with peers), 9 (initiating conversations with staff), 10 (approaching staff with appropriate questions), 11 (talks freely to staff), 17 (appropriate facial expression), and 24 (fluency of speech). The results for Items 2, 4, 5, 17, and 23 demonstrate significant subjects factors thus

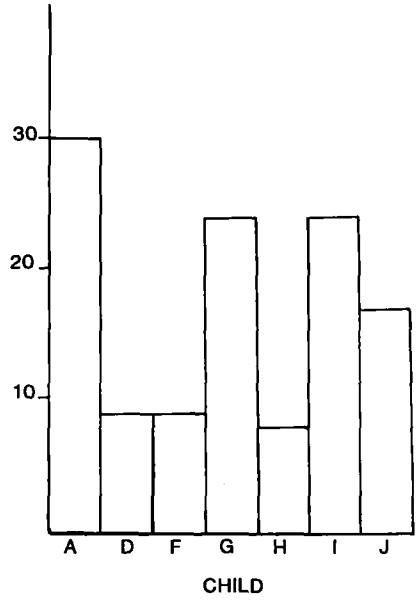

Fig. 2. A display of the changes in total score for those children for whom full questionnaire results were available.

Table II. *F* Ratios and MANOVA Coefficients[a]

Dependent variable	Model	R^2	Occasion	Subject
Scale				
1	5.70[c]	0.59	8.63[c]	2.76
2	1.04	0.16	1.74	0.35
3	3.04	0.46	2.77	3.31
Item				
2	6.11[c]	0.53	5.53[c]	6.69[c]
4	5.39[c]	0.50	0.22	10.57[d]
5	4.37[c]	0.44	3.70[b]	5.04[c]
9	3.33[b]	0.38	6.40[c]	0.26
10	5.96[c]	0.52	8.98[c]	2.93
11	4.76[c]	0.46	7.10	2.42
17	5.39[c]	0.50	5.39[c]	5.39[c]
23	5.02[c]	0.48	4.62[b]	5.42[c]
24	4.65[c]	0.46	5.75[c]	3.55[b]

[a]The values in this table are *F* ratio for the model, subject, and occasion and the coefficient calculated from a MANOVA of the scores from Spence's (1980) questionnaire. The model allowed for the effects of occasion ($df = 1$) and subject ($df = 1$).
[b]Indicates $0.1 > p > 0.05$.
[c]Indicates $0.05 > p > 0.01$.
[d]Indicates $p < 0.01$.

indicating significant variability among subjects. There is also a trend towards a significant occasions effect for Item 5 (volunteers in groups) and Item 23 (laughs and smiles appropriately).

In a less rigorous evaluation the children were asked at the beginning of the social skills group what they would like most. They replied that they would like to know how to make friends. By the end of the study 8 of the 10 children had 1 or more friends, although none would lay claim to more than 6 friends. The remaining 2 children replied that they had not made any friends. Only 1 of them seemed to be concerned about this, although we know from other people that the second boy was often quite lonely.

In summary, there was an overall improvement in peer relationships. In addition the adolescents were more forthcoming than when the group started, that is, they were more likely to volunteer in group situations and to approach staff as well as to talk more freely and fluently with both peers and staff. Finally, they used facial expressions more appropriately than they did at the beginning of the group.

DISCUSSION

It has proved possible to organize and maintain a social skills group over a period of 4 years as part of the curriculum of a specialized unit for autistic children. This group resembles the social skills training program described by Mesibov (1984). A degree of replication has therefore taken place.

Overall the group appeared to be of value. Most of the children enjoyed coming, although two of them expressed some boredom. One of these two called the session "Social Kills" but did seem to enjoy his time there. It is clear that there have been improvements in the social skills of the autistic children during the time that the group has been running. The improvements seen in the members of the group appear to relate to the topics that have been taught in the group. There were also effects that were not entirely expected. For instance, in the early stages the children often demonstrated pronounced echolalia which then disappeared over the first three terms.

The benefits of the sessions are not so great that the children appear completely normal. Nevertheless, three pieces of information have encouraged the staff of the unit so that social skills training is now considered an essential part of the activities of the unit. First, the children make friends amongst themselves, even remaining in contact after they have left the unit. Second, the teaching staff report that they only have to say the words "social skills" to some of the children and they immediately start to look at the person they are talking to, or show an appropriate social skill learned in the sessions.

This suggests too that there is considerable potential for improved generalization of the social skills which is discussed further below. Third, a cursory examination of the videotape record of the sessions suggests that in certain situations (such as those of introducing themselves to strangers), the children have become more proficient both at introducing themselves and at starting a conversation.

This information implies that the social skills group was beneficial. However, no control group exists, so it is not possible to claim that the sessions produced more change than occurs in the normal development of autistic children. Even if a control group were found it would still be unclear how the activities of the group contribute to the effect. It is possible to conceive of an effect produced simply by bringing the children together for 45 min each week. However, it is unlikely that an unstructured group would be as effective. It is therefore important to consider which of the components of the social skills group are the most effective means of teaching social skills to autistic children. Group comparison designs should be attempted as part of the next stage of research. This will remain difficult unless centers working with autistic children cooperate.

In the introduction, the development of social skills training for other groups was discussed. It is apparent that some of the developments that have occurred in that area might be profitably developed for autistic children. In particular the children taught in this group expressed the idea several times about how strange they were, saying, for instance, that they were handicapped or not like other people. As a result of such beliefs, they find it difficult to attempt to interact with others and increase their own isolation. A cognitive modification approach to this belief might aim to disprove their ideas by demonstrating the social skills difficulties of other people. Cognitive modification is however based on verbal reasoning, which is unlikely to be a powerful tool for changing the behavior of autistic children. Therefore the arguments need to be presented in some other way, perhaps visually.

Techniques should be developed to enable the generalization of the skills to situations outside the classroom or specialized center and to groups other than similarly afflicted children. Some attempts in this direction have been made by Hendrickson, Strain, Tremblay, and Shores (1983) who taught a conduct-disordered child to initiate social interactions with an autistic child in the playground of a special school. Lord (1984) demonstrated generalization of the effects of such a training program to social interactions with untrained normal peers. Similar efforts might be made in this country, and informally it is known this already takes place for other groups of disadvantaged children. An alternative technique might be to formalize the prompting of the teachers in naturalistic settings. However, this is unlikely to be as effective as either teaching the autistic children to initiate interactions or teaching their peers to help them make friends.

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