SIMPLE BEHAVIOUR MODIFICATION TECHNIQUES AS AIDS IN TEACHING PARENTS OF AUTISTIC CHILDREN CHILD-REARING PRINCIPLES

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Summary

A mother was trained to give approval and speech models to her severely disturbed autistic daughter. The training method involved E giving praise, as well as feedback from the records of training sessions contingent on the mother's performance. Approval was contingent on the child's cooperative behaviour and speech following the mother's model. All target behaviour increased, and this increase was maintained eighteen months later. The double behaviour modification program appears to be an effective technique to change a dysfunctional relationship, and works quickly and simply as a training device for teaching child-rearing principles.

There is a growing number of studies demonstrating the successful use of systematic behaviour modification in the relatively uncontrolled home environment with parents taking part in the treatment (Bijou *et al., 1969;* Brown, *1972).* This paper arose out of the pcssibilities these studies offer to parents of severely disturbed autistic children who present multiple long-term problems requiring constant intensive treatment over years. Autistic children are often very difficult to handle and have proved particularly unresponsive to a wide array of treatments. Recent evidence suggests that structuring the environment and learning tasks for autistic children leads to general improvement, whereas freedom and lack of structure results in the disorganized, disruptive and bizarre behaviour usually associated with autism (Bartak, *1972;* Bartak and Rutter, *1971;* Schopler, Brehm, *et al., 1971)* . The behaviour modification approach is one of a number of ways in which structure can be introduced. It defines for the child the aspects of the environment to be attended to by applying differential reinforcement, and clearly specifies the learning task.

A number of behaviour modification programs have in fact demonstrated considerable success with autistic children. They have assisted in developing speech (Browning, *1967;* Hewett, *1965;* Lovaas *et al., 1966;* Weiland *et al., 1961),* the acquisition of word recognition (Hewett, *1964),* reducing self-destructive behaviour (Lovaas *et al., 1965),* reducing tantrums and aggression (Johnston *et al., 1967),* toilet training (Johnston *et al., 1967;* Marshall, *1966),* and in other areas (Leff, *1968;* Evans, *1971).* In some treatment programmes parents were able to continue at home the treatment begun in the clinic (De Myer and Ferster, *1962;* Jensen and Womack, *1967;* Lovaas *et al., 1966, 1967;* Wolf *et al., 1964, 1967).* However, the emphasis has usually been on the professional treatment, with the parents' role seen as assisting generalization into the home. Some recent studies have attempted to use parents as the main therapists for their autistic children with the clinic offering training, support and supervision (Goldstein and Lanyon, *1971;* Risley *et al., 1966;* Schopler and Reichler, *1971;* Wetzel et al., 1966). In all these studies some measure of improvement, sometimes quite dramatic, has been

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documented.

Nevertheless, these successes must be accepted with caution as there are few documented attempts to assess objectively the parent's performance or effectiveness. Goldstein and Lanyon (1971) offer one of the few specific accounts of the training received by the parents, details of the behaviour modification programs, and objective results which are clearly tied to the efforts of the parents. In their case, however, the child was apparently cooperative and there is every indication that the parents were very willing and capable.

This paper reports part of the ongoing treatment for a severely disturbed autistic girl whose parents were losing all motivation to help her. The example presented here was a preliminary attempt to assess both the use of a systematic behaviour modification program to change the mother and her effectiveness after training.

The subject (S) was a seven year old girl diagnosed by a psychiatrist at three and a half years as functioning at a severe level of intellectual disability, with autistic symptoms and evidence of marked emotional disturbance. At six years of age she was accepted into the educational program provided in South Australia by the Autistic Children's Association Inc. (S.A.). The program provides a trained teacher in a one-to-one relationship for five mornings a week. The teacher works in a normal school or kindergarten and provides both intensive individual teaching and guidance in group situations. The program is directed and supervised by a psychologist who emphasizes sensory-motor and perceptual training and the use of intrusion and reinforcement techniques.

At the beginning of the program S had some speech, mostly echolalic. She had severe temper tantrums and was very destructive, especially at home where she threw chairs, banged doors and pulled objects down. She was frequently aggressive to her teacher, parents and young brother, and was almost continually on the move. There was little eye contact or focusing of attention, and she kept out of reach of people, especially when she was required to perform. Sitting at any activity occurred only under coercion or with continual food rewards. She was not toilet trained, was very difficult to get to sleep and rarely slept through the night. She ate and drank with a great deal of spilling and mess. She had a number of mannerisms including walking on her toes and an uneven rocking gait, rhythmic hand stroking, flicking and manipulating of cloth. Self-mutilation was mild, pulling her own hair out and flicking her mouth with her fingers.

Her parents were extremely anxious. They found it very difficult to carry through any consistent treatment of S and withdrew in fear whenever she showed any signs of resistance or disturbance. The mother especially found it very difficult to trust any professional person. There was a younger brother who was then two years old and developing normally, although there had been considerable tension within the family.

It was thought that S might not benefit from the educational programme for two reasons, her emotional disturbance and the parents' high anxiety and inappropriate handling. For this reason the home program was undertaken with the aim of alleviating the parents' anxiety and training them in effective handling techniques in the hope that this would lead to improvement.

Methods

There were two aspects to the home program: supportive counselling which placed the emphasis on the parents' needs in their relationship with their autistic child; and systematic behaviour modification programs designed with the mother as treatment for her daughter's behaviour problems.

In the counselling role the therapist's relationship with the parents was very clearly defined as one of acceptance and equality in which the therapist was seen as a resource person and information provider rather than as a person offering treatment for the family or S. The counselling occurred during home visits of one hour made once a week or once a fortnight at the parents' request during the first four months. Thereafter home visits were made whenever the parents requested them. There were short periods during the following two years in which weekly or fortnightly sessions occurred, otherwise phone contact was maintained to check the current behaviour modification programs. All discussions were approached from a learning theory framework which emphasized objective problem definition and continual monitoring of actual behaviour rather than intuitive assessments.

The behaviour modification programs were used whenever the mother expressed a desire for some change. Material describing similar programs was provided and, if it was decided to proceed (and this did not always happen), the mother and therapist defined the behaviour to be treated, designed the treatment and arranged the observation records so that disruption to family life was kept to a minimum. The necessity for keeping objective records and taking preliminary observations was not always accepted, so that some programs cannot be described in detail. The program described here is used as an example of the multiple aims which such programs can fulfil.

Specific program

During the first few home and school visits it became apparent that the mother very rarely showed any approval or affection towards S either verbally or physically. This became especially noticeable when a program of toilet training was started. When positive social reinforcement was required the mother gave only token approval with little enthusiasm, and she complained that she was not very good at "playing a part". She accepted and carried out the programme in desperation, but with very mixed feelings.

S rarely approached her parents and usually pulled away if they tried to hold her. A very indirect and elaborate procedure was required to get near enough to catch her. Similarly there was little evidence of co-operation or compliance. Her main approaches were single word demands or some form of aggression.

Without effective approval and signs of pleasure from the mother it was thought unlikely that she would be able to play any part in her child's treatment. In addition, S's cooperation was necessary to help reduce the parents' anxiety, frustration and negative feelings. The situation was a vicious circle and a program was designed which attempted to break the circle, at the same time as providing a demonstration to the mother of reinforcement principles in action. An actual demonstration by the therapist (E) was considered unwise as the mother became very agitated at any suggestion that anyone else should handle her child.

Preliminary assessment

This was made in the form of written narrative observational records taken by *E* in the home for half an hour once a week while the family carried on normally. Three records were taken and these were analysed in discussion with the mother to provide the following specification of behaviour to be modified.

1. Mother's behaviour
   (a) Positive reinforcement, defined as verbal praise (e.g. "good girl", "that was very good") and physical contact (e.g. hand on head or shoulder or a hug) to be given for all behaviour as specified.
   (b) Offering speech models, defined as say what S was required to say whenever she attempted to ask for something.

2. Child's behaviour
   (a) Co-operative behaviour, defined as doing what is asked or approaching mother spontaneously to at least touching distance.
   (b) Speech, defined as any verbalizationthat is a recognizable attempt at speech.

Baseline

There were four half hour sessions spread over four weeks of narrative observations recorded in the same setting as the preliminary assessment. At the end of each observation session the occurrence of each of the target behaviours was noted. These four records were enough to convince the mother that some sort of training was needed, at least for her own behaviour. She was distressed to see how few positive contacts she made with the child, and surprised that there were some cooperative responses made by the child.

Treatment I. Five half-hour treatment sessions were spread over five weeks. During these sessions the therapist prompted the mother by finger clicking to give approval to S every time she performed co-operatively. After the second session this was replaced by the therapist saying "reinforce" because the mother could not always hear the finger clicks. The therapist also prompted the mother to give a speech model by saying the words required. Recording was continued with the addition of a symbol to indicate when the positive reinforcement given by the mother was prompted and when spontaneous. The mother and *E* looked through the records immediately after each session.

Positive reinforcement for the mother was provided by praise from *E,* evidence during the sessions and in the records of increasing co-operation and speech from S, and feedback from the records about her own improvement sessions were given over three weeks during which only positive reinforcement and co-operative behaviour were recorded and

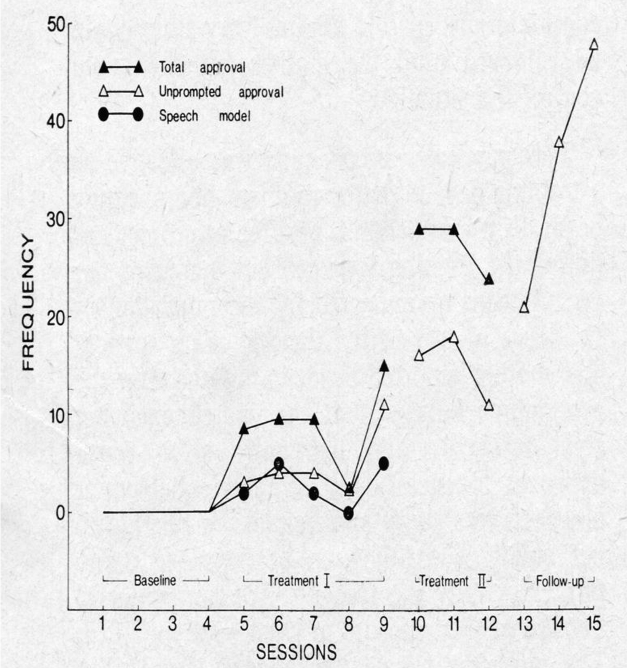

Figure 1. Mother's behaviour during training as a reinforcing agent.

<u>*Treatment II.*</u> Four months later three half-hour approval was prompted and reinforced. This follow-up was at the mother's request because she felt that she was losing her ability to be approving and affectionate towards S. The speech modelling was discontinued to enable the mother to concentrate on giving approval.

Follow-up

Eighteen months after Treatment II observations of the mother's approval and S's cooperative behaviour were recorded during three half-hour sessions over four weeks. A second observer (O), having no knowledge of the treatment or results, recorded observations at the same time as a reliability check.

Results

The mother's behaviour was modified during the program (see Figure 1). No approval or speech modelling occurred during the baseline sessions. During Treatment I the mother gave spontaneous approval on an average of 5 times and, during Treatment II, on an average of 15 times. During the follow-up sessions spontaneous approval occurred on an average of 36 times. The overall increase in approval (both prompted and spontaneous) reflects increasing co-operative responses from the subject. The incidence of speech models given by the mother increased to an average of 5 during Treatment I, but this was not recorded during follow-up because the mother's speech modelling had been influenced by the intervening language training program at school.

There was a concomitant rise in the incidence of S's co-operation and speech (see Figure 2). Average co-operative responses increased from 3 during baseline sessions to 6 during Treatment I, 30 during Treatment II and 56 during follow-up sessions. Speech increased from an average of 5 during baseline sessions to 9 during Treatment I.

The percentage agreement between observers during the follow-up sessions was 98.8 for observations of the subject's co-operative responses and 96.6 for observations of the mother's approval.

Subjective report

The mother reported spontaneously after several weeks of the program that she had not been willing to give praise to S as she did not feel much liking for her. However, to her surprise, after several sessions she was actually feeling pleased with S and was putting genuine feeling into her praise instead of acting the part. She reported that the program had been much more meaningful than reading and discussions, and she could now accept that social reinforcement could control her child's behaviour and that this was a technique that she could use effectively to help S and make life easier for herself.

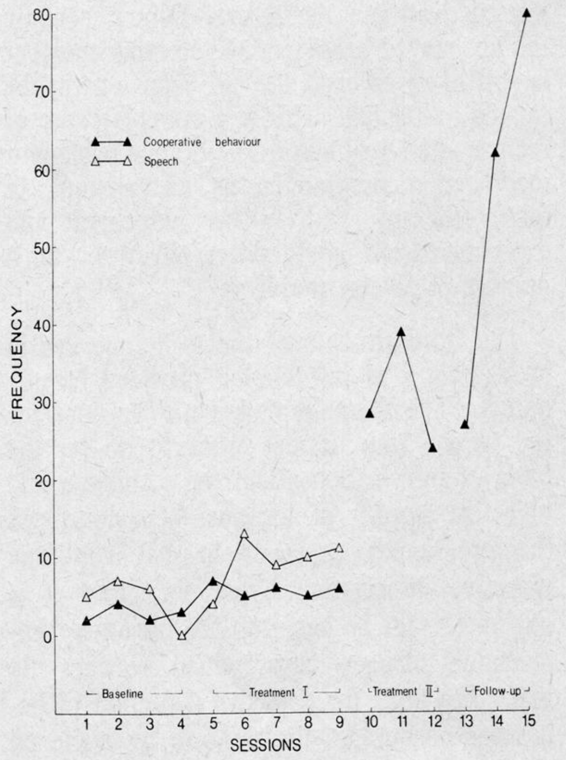

Figure 2. Child's behaviour during mother's training as a reinforcing agent.

During the period between Treatment II and follow-up the mother's anxiety had lessened and her confidence and skill in handling and training her child had increased. Following the program reported here and three subsequent programs supervised by E, the mother has successfully designed and carried out training in dressing, bathing, teeth cleaning and self-feeding. She has reduced the aggression, destruction and running away. The educational program has contributed to other improvements. S is using simple sentences, is almost fully toilet-trained, has good eye-contact and shows pleasure and recognition in the presence of significant people.

Discussion

This study can be regarded as an exploratory exercise to investigate the therapeutic and training possibilities of a double behaviour modification program. It demonstrates three strengths of such an approach. First, it can be used effectively in a home setting even when the facilities provided by clinics and laboratories are not available.

Secondly, it is a very effective way of modifying the reciprocal and interdependent relationship between mother and child even when the child is severely disturbed. Programs which are aimed at changing the behaviour of only one member of a closely related dyad run the risk of failure, because the unchanged behaviour of the other member is still likely to elicit the old behaviour in the treated individual. This is a possible cause of relapse after treatment. The double behaviour modification program as a technique in family therapy, with further refinement and experimentation, could prove effective with a number of diverse problems.

The third strength of the technique lies in its emphasis on information provided for the parent. The therapist makes no decisions for the parent who decides what to do on the basis of information about the technique and objective records of her own behaviour. As the program proceeds she has continual objective information about the effect it is having so that she can stop the procedure
immediately changes occur which she does not like. The need for objective definition of behaviour encourages decisions to be made on the basis of effectiveness rather than on the basis of guesswork. These were important considerations in this case as very little could be achieved until the mother felt she could control the situation.

This particular program was effective as a training device for the mother. She not only began to use systematic positive reinforcement during the training sessions, but increased her use of them as indicated by the much higher incidence of use during the follow-up session. Eighteen months after the program had finished, the mother reported that she has changed her style markedly and habitually gives warm approval for nearly all acceptable behaviour and feels less guilty and helpless in relation to her child. The follow-up observations verify this. Not only the frequency of her approval but the quality appears to have been modified. The mother reported this change herself, but it was also noted in the records that her approval looked and sounded more emphatic and was often accompanied by smiles. Learning by successfully doing is as effective in this situation as in many others.

The mother's request for more training sessions can be interpreted as a change in her perception and expectations for herself. Before the program she was convinced that she was as pleasant as one could be to such a difficult child, but that it really had little effect. The large improvement in the subject's increasing co-operation also required a continual adjustment in the frequency of approval if the mother was to continue to match her performance.

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