Supervising Support Staff in Naturalistic Behavioural Intervention: process and outcome

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The effectiveness of "second generation" behavioural intervention was evaluated in a naturalistic therapy programme for adults with intellectual disabilities and behaviour problems. Naturalistic interventions involve lifestyle changes, altering the social ecology of community settings, and understanding clients' needs, rather than simple contingency management of individual behaviours. This approach was compared to traditional behaviour analysis stressing positive reinforcement. All interventions were designed and conducted by support staff in community-based facilities, and implemented within a supervision model, using psychology consultants to provide direction but not to design specific programmes. Serious behaviour problems were successfully ameliorated by both types of intervention, but the naturalistic treatments proved more likely to result in significant changes in clients' quality of life, were more likely to be continued, and resulted in improved staff relationships with clients.

In New Zealand, paralleling trends in the UK and the USA (Meyer, Peck, & Brown, 1991), dramatic gains have recently been made in moving people with intellectual disabilities out of institutions and providing them with the supports necessary to lead normalised lives in the community. Some of these individuals, however, still exhibit a range of challenging behaviours and emotional disorders that interfere with full participation in community life, work, and relaxation (Collins & Halman, 1996). Challenging behaviours place considerable strain on caregiving staff, who are, nowadays, often held responsible for managing such behaviour (Hastings & Remington, 1994). Yet there is a dearth of information on how support staff can themselves be trained and monitored in carrying out such functions. This report describes an empirical study of direct care staff involved in behavioural programming. Although carried out in the United States, the types of facilities and staff investigated are very comparable to services in New Zealand, and thus the findings have relevance for the training and supervision of support staff in this country.

Principles of behaviour analysis, such as reinforcement, shaping, extinction, stimulus control, and modelling, have proved effective in reducing behaviour problems and helping people with disabilities acquire new, more appropriate behaviours (e.g., Remington, 1991). There has been increasing importance placed on understanding the function of challenging behaviours and the need to teach more adaptive, alternative skills (e.g., Durand, 1990; LaVigna & Donnellan, 1986; Meyer & Evans, 1986).

Historically, such treatments have been designed by supervisory level clinicians and then implemented by direct care staff. They occurred in segregated institutions where programmes could be carefully monitored. Now, however, with the majority of clients living in neighbourhood settings, additional strategies are needed to meet the added demands that community living places on intervention design. With normalization, treatment goals are shifting from simply reducing behaviour problems to insuring that the clients' lives are similar to those of nondisabled individuals. Staff are being encouraged to help clients gain independence rather than trying to control their behaviour, and intervention is being directed towards improving quality of life (Meyer & Evans, 1989; 1993;

Scotti, Evans, Meyer, & Walker, 1991).

As a result of these trends, community support staff face complexities that those employed in institutions did not. Staff rarely have immediate access to supervisory level clinicians. They frequently accompany their clients to new environments such as recreational centres, shops, or work sites. Here they may have to respond to behaviour problems that were not predicted nor part of a formal behavioural plan, thus requiring rapid decision making. Our training experiences in these circumstances has interested us in staff implementation systems that will improve treatment effectiveness (Evans, 1990). If direct care staff have a more therapeutic role they probably require regular supervision, discussion of principles, and feedback on interventions designed by themselves.

The approach to be described had several purposes. First, we wanted to evaluate giving direct care workers the opportunity to design their own interventions. They spend the most time with the clients, may share cultural values, and are likely to have a good idea of what might work. A second goal was to compare more traditional reinforcement programmes that staff routinely implement, with the effects of procedures that are more naturalistic and which do not stigmatize clients. For example, it is rarely appropriate for an adult to be earning a material reinforcer other than wages. Similarly, it is neither practical nor appropriate to attempt a traditional time-out procedure in a community setting. Third, we wanted to incorporate general therapeutic practices developed with psychiatric clients (Garfield, 1992; Kottler, 1992). To what extent can direct care staff profit from exposure to widely accepted therapeutic practices (e.g., developing a relationship with the client, validating feelings) when conducting behavioral interventions?

Setting and Design

The investigation was conducted in a variety of residential facilities run by two agencies, one public and one not-for-profit (the latter being organised very much like the IHC in New Zealand). Both agencies provided a broad array of services for people with intellectual disabilities. Between them they were responsible for group homes and supported apartments across seven counties in upstate New York (a population base of over a million people). The agency managers were very co-operative in providing meeting space, transportation, and release time for staff. Many of the clients originally came from large downstate institutions that had been closed. Some of the people had competitive jobs, but most were employed in sheltered workshops; a few attended only day activity programmes.

Participants

Support staff. In preparation for the procedure, 83 non-professional level employees of the two agencies were recruited for a preliminary study of different types of staff training on the attitudes of care providers. They attended one of two workshops conducted by national experts: one group received training in standard contingency management procedures, while the other received training in what is termed non-aversive behaviour management (Meyer & Evans, 1989). This latter workshop focused on teaching alternative responses, particularly communication skills (Durand, 1990) and support staff who received this training showed increased sophistication in understanding the range of possible causes of behaviour and in generating skill-based treatment suggestions (Berryman, Evans, & Kalbag, 1994).

Thirty-six of the workshop participants then continued in the treatment and follow-up phases of the present programme for approximately 9 months. Seventy-nine percent of them were women; 76% had no qualification beyond high school, 15% had a degree equivalent to a NZ polytechnic diploma, and 9% had a Bachelor's degree. Participants had worked in the field for an average of 7 years (range, 1 to 15 years). Their ages varied from 21 to 57 years with a mean of 35. At the start of their employment all staff had received two weeks of training in behavioural methods, and two additional days of behaviour modification training yearly throughout their tenure at their agencies. They all implemented behavioural programmes on a daily basis as part of their jobs, but none had prior experience of designing formal interventions on their own.

Clients. The clients were invited to participate in the project if they met the following criteria: they were adults; they exhibited significant behaviour problems; consent to participate could be obtained from family guardians, or themselves, as appropriate; and they lived in one of the houses/residences where participating staff were employed. The clients ranged from 18 to 69 years of age (mean of 34). Eighteen clients were in the final sample, equally divided in terms of gender; one client resided in a supported flat, four lived in intermediate care facilities, and the remainder lived in group homes. All the clients had been formally diagnosed as intellectually disabled, from severe to moderate levels of mental retardation. Many would also have met the criteria for various psychiatric diagnoses, however clients in this sample had not received psychiatric evaluations.

Procedural Design

The agencies were asked to distribute clients evenly across the two treatment conditions, matched on cognitive abilities and seriousness of behavioural problems, and then to randomly identify direct care staff to work with these clients for the duration of this evaluation. Each agency selected 20 employees, half of whom had attended one workshop and the remaining half the other workshop. As staff worked in pairs with one client on this project, there had to be at least two participants from the same group home who had attended the same workshop, and there needed to be a client available to them who had permission to participate in the project. Both agencies were able to fulfil these complicated requirements, at least initially.

Despite being selected by agency managers, we assured staff that their involvement was strictly voluntary and they could terminate at any time. This agreement resulted in four staff members deciding not to participate further. They were all employed by the state agency and felt that the project would be too time consuming. Because of the logistics, these four could not be replaced, resulting in the following distribution of participants: state agency, naturalistic group, n = 10; state agency, traditional group, n = 6; private agency, naturalistic group, n = 10; private agency, traditional group, n = 10. All staff were promised an opportunity to learn the alternative programme after the study was completed. Staff from the private agency were each paid the equivalent of NZ$110 for participating in the research. Staff from the state agency could not be given financial compensation because of union policies.

Conducting the Programmes

Bi-weekly Supervision

All staff participants received direct bi-weekly supervision from the second author, an experienced graduate student in clinical psychology, in collaboration with the first author. Supervision sessions ranged from 30 minutes to 2 hours, based on the complexity of the problems being addressed and the needs of the staff at each visit. The same supervision format was used with both groups. (a) We began each session by listening to staff complaints and allowing them to vent any frustration with the client or the agency. (b) Encouragement was given when necessary (e.g., reassuring them that change can be slow; suggesting ways of coping with unexpected behaviour problems). (c)We provided additional education relevant to their current concerns. For example, if a staff member in the traditional group said that she gave the client the same reward each day and now he no longer wanted to earn it, we stressed the importance of varying reinforcers and recommended she provide several choices and allow the client to select one. (d) Their data were examined and they were urged to continue to record data. (e) We asked about the current status of the programme and suggested that they change it if it was not working. (f) Staff were prompted to discuss their clients as individuals and it was stressed that behaviour problems typically serve a function for the client. (g) We modelled talking about the clients in a respectful manner. (h) We tried to identify and meet staff needs in relation to the project. For example, if staff complained that the project was becoming too demanding, we suggested alternative procedures or took them to lunch as a reward for working so hard.

Development and Implementation of Treatment Programmes

During supervision, the staff were encouraged to design and implement treatment programmes of their choice. Their interventions were added to existing Individualised Programme Plans that were in place prior to the start of this project. We did not have control over medication. Some clients continued to receive no medications, some remained on the same prescriptions throughout the study, and some experienced physician-directed changes during the course of the project.

All treatment plans contained the following steps: (a) Participants were told to identify the undesirable target behaviour and at least one positive collateral behaviour to monitor as an alternative. (b) They were encouraged to conduct a functional analysis prior to any intervention (O'Neill, Horner, Albin, Storey, & Sprague, 1990). (c) Staff were also required to record frequency data on the target and collateral behaviours and to log anecdotal information as well. (d) It was recommended that they change their programmes and target behaviours if necessary, explaining that behaviour therapy involves continuously combining assessment with treatment. Staff were told how good therapists make changes during the course of treatment as they gain a greater understanding of their clients.

Six months after the beginning of the project staff were given the option of terminating their programmes. At this juncture they completed all the questionnaires again. Three months later we conducted a follow-up evaluation by means of telephone interviews and arranged for additional training if requested.

Difference Between Traditional and Naturalistic Interventions

The two groups differed as to the type of intervention plan encouraged during our supervision of the staff.

The traditional group developed state-of-the-art positive reinforcement programs (based on contingency management principles), while the naturalistic group developed interventions to enhance adaptive lifestyles. Staff in the traditional group might introduce a reinforcement component, based on what they had learned in the workshop. In contrast, staff in the naturalistic group were guided in using age-appropriate, social contingencies throughout the day rather than applying material reinforcement. They had to make their intervention look more like everyday life than formal treatment, and to focus on changing the ecology, activities, and opportunities afforded by the homes rather than decreasing or increasing individual target behaviours (see Berkman & Meyer, 1988, for a detailed example).

For the naturalistic group the emphasis was on conceptualising cases within a positive behavioural framework—employing a treatment paradigm rather than modifying only a discrete behaviour, teaching proactive skills rather than using strategies to decelerate behaviour, and making environmental changes whenever possible (Horner et al., 1989). These principles are all consistent with the model developed by Meyer and Evans (1989) and represent what those authors referred to as "second generation" behaviour modification.

We invited participants in the naturalistic group to improve their relationship with their clients as part of their treatment plans. For example, staff were consistently asked to compare how they treated their clients with how they themselves expected to be treated. We urged them to consider whether they were being controlling, providing rigid rules, being non-empathic, or treating clients as children rather than adults. If they identified any of these problems we explored why and suggested ways of approaching the clients in a more respectful manner. They were also taught skills that are used in psychotherapy with non-disabled individuals, for example, the importance of allowing clients to express emotions and talk about negative feelings. We discussed how distal "setting events" such as rejection by others, or loss of contact with family, can produce behaviour problems.

Evaluation Measures

All staff participants were required to record observational data throughout the project, and, in addition, we kept detailed notes of the supervision sessions. Three months after the treatment phase of the study was completed we conducted detailed structured interviews by telephone with all participants, obtaining reports on the current status of their projects and the clients' progress. Staff also rated, using a 5-point Likert-type scale, a number of dimensions related to treatment and outcome. Finally, all client programmes and outcome descriptions were rated on a 7-point scale by an independent behaviourally-trained clinical psychologist who was not aware of the participants' group membership.

Evaluation: Process Issues

Initial Barriers

One staff pair in the naturalistic group at first declined to work with their designated client. They were certain that any treatment would fail, believing that the client's severe problems should be dealt with in a restrictive residential facility, and wanted her sent there as soon as possible. However, their manager insisted that the client remain in the group home and they reluctantly agreed to work with her.

Target behaviour selection was supposed to be completed during the first supervision session, but this proved unrealistic. Time was needed to develop rapport with the staff and to answer their questions about the study. They had concerns such as: whether they would be required to use their supervisors' ideas or could really develop their own; what would happen if their programmes were ineffective; and whether they could change their programmes during the course of treatment? Staff were being provided a new role and needed to explore the parameters of that role. In addition, staff in the naturalistic group had many questions and concerns. Some were not sure if this approach would work with their particular clients. The staff required ongoing supervision for an extended period of time before they felt comfortable using these procedures.

Target Behaviour Selection

After clarification of the parameters of the project, participants identified one or more behaviour problems to target for change. Table 1 contains brief descriptions of the clients; the behaviours listed are those eventually targeted for change, not necessarily the ones first selected. Those in the traditional group were more likely than those in the naturalistic group to select behaviours that could be monitored easily. They tended to pick observable and countable behaviours so that tangible reinforcement could be administered without much effort. For instance, one pair selected "eating too fast" and another selected "eating too slow." Staff in the naturalistic group, however, as prompted, selected behaviours that might improve the quality of life for the client. They attempted to do so by designating targets such as: "an inability to have

Table 1. Descriptions of clients and target behaviours identified by staff

Name	Sex	Age	Level of Intellectual Disability	Residence	Target Behaviours
Traditional Group					
Mark	M	20	borderline	group home	Eating too slow
Rob	M	32	moderate	group home	Eating too fast
Rick	M	44	moderate	group home	Teasing peers during meals
Joy	F	33	moderate	group home	Refusing to get up in the morning
Steve	M	31	mild	supported apartment	Refusing to get up in the morning and not interested in activities
Tim	M	37	severe	ICF	No interactions or participation. Twirling handkerchief most of day.
Gina	F	45	moderate	group home	Bossing peers, being intrusive
Don	M	69	moderate	group home	Exhibiting tantrums when teased
Naturalistic Group					
Rob	M	27	moderate	group home	Tattling on peers, inability to have conversations with others
Mary	F	36	mild	group home	Staying in her room while other clients participated in activities downstairs, talking to self
Jill	F	29	mild	group home	Hitting peers, being non-compliant, lying, stealing food
Jean	F	39	mild	group home	Stealing money
Dave	M	40	moderate	ICF	Depression, sleeping during activity time, not interacting
Pam	F	30	moderate	group home	Physically aggressive towards staff after vacations and days off
Jim	M	31	moderate	group home	Verbal and physical aggression, swearing
Kate	F	18	severe	ICF	Aggressive towards peers, inability to communicate
Kim	F	51	moderate	group home	Dropping to ground in public, pretending to be helpless, not interested in activities
Mike	M	26	mild	group home	Agitated and aggressive when rushed in the morning or after bad day at work

conversations with others," and "staying alone in her room talking to imaginary people." Everyone took the project very seriously and identified target behaviours that were, in fact, a significant source of disruption to staff and administrators. Many of the pairs, regardless of treatment condition, eventually targeted behaviours that interfered with the clients' ability to socialise with others, such as aggression and manipulativeness.

Functional analyses

We encouraged all staff participants to functionally analyse behaviour prior to developing a treatment plan; this had also been heavily stressed in both training workshops. Despite this emphasis, less than a quarter of the pairs conducted a functional analysis. In the traditional group, one pair of participants conducted a functional analysis by presenting various stimuli to

their client and recording his responses. Their goal was to identify possible reinforcers for him. In the naturalistic condition, three pairs of participants functionally analyzed behaviour. All three performed Antecedent-Behaviour-Consequence analyses and one of them also completed the *Motivational Assessment Scale* (Durand & Crimmins, 1988). We did not investigate why the others failed to conduct a functional analysis before treatment because we did not want to give the impression that we felt they were designing their programmes incorrectly. Many of the staff were hesitant to make decisions independently and seemed to need continual reassurance from us that they were doing a good job.

Traditional Data Collection

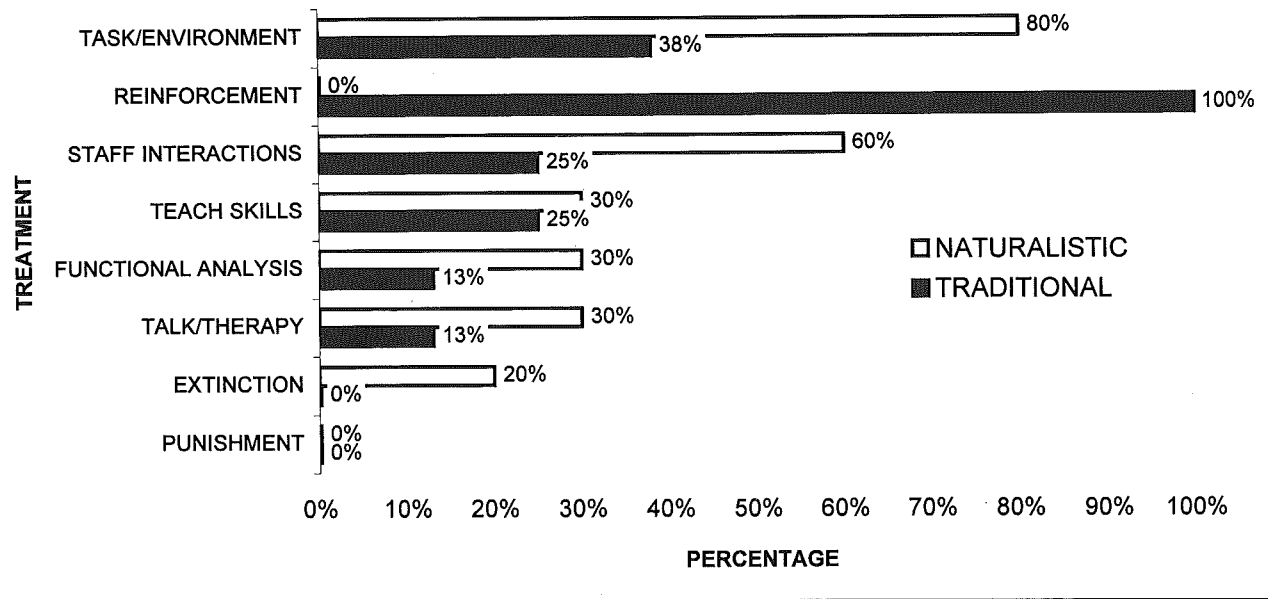
Before enrolment in this project, staff from the private agency routinely recorded narrative data (e.g., incident reports), and staff from the state-run agency gathered frequency data on a regular basis. Initially, all participants were supposed to record either frequency or rate data on the problem behaviour and on one positive collateral behaviour for each client. We soon discovered that adequate consideration had not been given to the fact that the usual approaches to data collection might not be appropriate for naturalistic strategies. Operant data systems were developed in controlled settings, and thus the derivative evaluation methods may lack ecological validity and be inadequate for use by practitioners (Meyer & Evans, 1993). The staff showed how anecdotal reports captured client change better than did frequency data. They provided examples of information, such as client comments, that would have been lost if had they recorded only frequency; session notes enabled staff to log information about behaviours that were not present at the start of the project.

Eventually many staff confided that they and the other employees often just wrote random numbers on the data sheets when required to record formal baselines. They said they could not remember how many times a client had exhibited a behaviour during the day, or were simply too tired or rushed during their shifts to code data sheets accurately. Thus, we stopped insisting the staff gather reliability data, and did not use their behavioural data as a measure of treatment effectiveness. In the middle of the project, however, we gave staff the option of using alternative methods for recording change. None of the pairs followed these suggestions; they either continued to record obviously invalid frequency data, or recorded only the data mandated by their employer. When questioned, many asserted that data collection was not useful and merely added work to their already busy schedules.

Types of Treatment Plans Developed

Figure 1 illustrates the differences in the types of treatments that the two groups developed. The category "staff/client interaction" is not generally classified as a specific treatment strategy in the literature, but was an intervention which many participants employed to change behaviour. They realized that they could contribute to behaviour problems and chose to alter their own reactions in an effort to decrease client behaviour problems. Staff incorporated this intervention only after receiving intensive supervision and support.

Figure 1. Percentage of staff who used each type of treatment



The treatments selected were a combined function of our supervision and the participants' own decisions. For example, we advised staff in the traditional group to include positive reinforcement in their plans and 100% of them did so. We counselled staff in the naturalistic group to use genuine verbal praise but not a traditional positive reinforcement technique (such as earning an outing for "good" behaviour), and they too followed these suggestions. Many, however, found it difficult to shift their thinking away from artificial operant contingencies and, instead, to conceptualise treatment as occurring in a spontaneous fashion throughout the day. Some pairs were concerned that their programmes might not look like treatment if it was not contrived as an add-on operant strategy.

Both groups were advised that they should not use punishment, response-cost, or aversive procedures in treatment. For example, staff were not permitted to set up rules such as "If you're aggressive we will take away your reward." Although we could not monitor the staff's interactions with their clients when we were not present, all reported that they were not using these aversive procedures. Staff in the naturalistic group used a wider range of treatments and more spontaneous interventions. It was encouraging, however, to observe that some staff in the traditional group also generated naturalistic interventions on their own accord. Table 2 contains brief descriptions of some of the interventions used and the outcomes that they produced.

Programme Effectiveness: Outcome Evaluation

Generalization

The first outcome measure examined was generalization of staff behaviour, or, how the implementation of the programme affected the group home in general. Participants were not specifically

Table 2. Brief descriptions of four treatment programmes and the outcomes (two positive, two negative) they produced.

Traditional Programmes	***Naturalistic Programmes***
Don, age 69 *Target behaviour*: Don had tantrums (e.g., yell, stamp his feet, pound the wall, and become self abusive) when peers teased him. *Treatment*: Staff modelled appropriate ways to handle these situations (e.g., taught him to ignore the teasing). He earned outings for handling difficult situations correctly. *Outcome and status of programme at time of follow-up*: The staff terminated the programme because they felt that Don no longer needed external reinforcement to maintain his behaviour. They reported that he was proud of his ability to handle difficult situations and often made comments such as "I can handle this" and then proceeded to ignore another client's teasing.	Dave, age 40 *Target behaviour*: Dave was depressed, slept during activity time each day, and rarely interacted with others. *Treatment:* The staff made many positive changes in his life. They got him a cat, gave him a bulletin board and assisted him in posting interesting articles and art work on it, took him on field trips, encouraged him to talk about and visit his family, gave him more opportunities to make choices, and spent time talking with him and encouraging him to develop hobbies. *Outcome and status of programme at time of follow-up phone call*: Staff reported that they talk to him more now that they see that he can communicate better than they had thought. They also reported that they began enjoying his sense of humour. The programme is ongoing. Staff said that they continually try to find new activities that he might enjoy. They reported that he is much happier, is more active, and participates in more activities than he did at the start of the programme. Staff said that they hoped to get him placed in a group home for higher functioning individuals.
Rick, age 44 *Target behaviour*: Rick teased his peers during meal time. *Treatment:* Rick earned the option to "be pampered" (e.g., get a hair cut, buy cologne) or treat his peers (e.g., buy them doughnuts) for not teasing during meal time. *Outcome and status of programme at time of follow-up phone call*: Rick treated his peers to doughnuts once. His behaviour became more disruptive. Staff attributed the problems to his seizure medication and terminated the programme. We thought that the programme failed because the criteria for earning the reinforcer were too difficult and Rick found teasing more reinforcing than earning the reward.	Jill, age 29 *Target behaviour*: Staff identified problems such as "bad attitude", "manipulation", verbal and physical aggression, noncompliance, and lying. *Treatment:* Staff role-played appropriate ways to handle stressful situations, offered her more choices, and provided verbal praise for handling difficult situations in an appropriate manner. They used difficult situations as a time to cue her to behave appropriately and modelled the appropriate response. *Outcome and status of programme at time of follow-up phone call*: The staff became more aware of her feelings as a result of implementing the treatment. They terminated the programme because she continued to exhibit severe behaviour problems. We thought the programme failed because Jill's psychiatric problems (e.g., psychotic symptoms) were too difficult for direct care staff to treat, and that she should receive treatment from a clinical psychologist.

required to consider generalization issues: for instance they did not have to design procedures for other clients in the group home, or to include other staff and clients in their plans. We found, however, that five programmes yielded some form of generalization in staff behaviour. Three pairs in the naturalistic group fostered generalization. One asked if another staff person could attend a supervision session so that she could learn more about naturalistic interventions; another discussed plans to teach assertiveness/ communication skills to all of the clients in their group home; and a third pair said that they were reforming their interactions with everyone in the home, not just the individual in their project. Two of the traditional programmes included a generalization component. One pair teamed up with their client's job coach, and the other had all of the staff in the home working with their client to find stimulating activities for him.

Programme Status

Another measure of treatment effectiveness was the status of the programmes 3 months after staff were given the option to terminate interventions. For the traditional group, five intervention plans had been terminated because the staff felt that they were not very effective, two were ongoing, and one was discontinued because the staff felt it had been successful and was no longer necessary. This latter programme was for the client we have called Don, and the programme designed was actually more similar to those in the naturalistic condition. Although they did include an operant reinforcement component, they primarily utilized naturalistic strategies such as modelling appropriate ways to handle teasing, prompting him to use his newly acquired skills, and praising him when he did so. They provided an external reinforcer (outings with staff for ignoring teasing rather than becoming aggressive), but intrinsic reinforcement may have been more powerful: Don would say proudly, "I can handle this" when his peers teased him.

Staff discontinuing interventions complained that the clients rarely earned their reinforcers. Those who designed these programmes made remarks such as: "There is no point in continuing; he never earns the reinforcer," or "The programme isn't working and it's just extra work for us." Most participants in the traditional group said that they would have preferred to have been in the naturalistic group.

For the naturalistic group, three interventions were terminated because the staff considered them ineffective, and seven were thought to be worth continuing and were ongoing; they represented novel experiences for staff and clients and fitted more easily into the routine of the group homes. Paradoxically, none of the naturalistic programmes were terminated on the basis that the staff felt that they had achieved their objective. This was because, over the course of the project, the staff in the naturalistic group shifted their focus from decelerating problem behaviours to enhancing quality of life. Numerous comments from staff indicated they had made improvements in their clients' lifestyles, but had only just begun to address the complex issues in this area. For example, the staff supporting Mary reported that she was no longer staying in her room or being non-compliant on trips. However, they had no plans to terminate her "programme" because they thought it was important for them to continue to treat her like an adult and make efforts to include her in conversations and activities around the house. The staff working with Jean were successful in getting her to stop stealing money. They chose not to suspend her "programme" because they saw no reason why they should stop giving her a daily allowance for her own personal expenses, and that they now recognized she had many more needs that were not being met.

All participants in the naturalistic group expressed disappointment over no longer receiving supervision, which they believed reduced frustration with clients' difficult behaviours. Some had identified more problems with their own clients and other clients in the group home and were concerned that they would no longer have our assistance. For example, one group home wanted to begin teaching assertiveness and anger management skills to all their clients, but did not know how to proceed. Another person expressed concern that she would no longer have the opportunity to contribute to the design of client programs and would once again be implementing programs imposed by agency managers.

Of the three plans that were discontinued, one was being reinstated at the time of the follow-up because the staff were optimistic that it would work with the help of change in medication. In the second terminated plan, the staff thought that they had not successfully improved their client's ability to interact socially and they continued to dislike spending time with him. In the other case, the staff claimed that naturalistic interventions were simply not appropriate for their client. This was the only pair of staff members from the naturalistic group who said that they would have preferred to be in the traditional condition. They said that traditional programmes are "stricter" and that their client "can't handle choices."

Ratings

Staff ratings of effectiveness are presented in Table 3. Each item was examined by means of a 2 (type of

Table 3. Mean scores on a 5- point scale for staff ratings of effectiveness (5 = very, 1 = not at all)

Question	Naturalistic		Traditional	
	State agency	Private agency	State agency	Private agency
How helpful were your meetings with the supervisor? **a, b**	3.7	4.4	2.8	3.8
How much has your awareness of your client's emotional needs changed as a result of being in this project? **a**	2.6	3.6	2.2	3.2
How much of the information was new to you? **a, b**	3.0	3.6	2.2	3.1
How helpful was the supervisor's advice about client programmes? **a, b**	3.6	4.4	3.2	3.6
How much did you enjoy working on this project? **a**	2.4	4.3	2.4	3.6
How effective do you think your treatment was? **a**	2.3	3.7	2.4	2.9
To what extent was the project worthwhile for your client? **a**	3.0	4.1	2.6	3.0
To what extent did this project help you to better understand your client? **a**	2.6	3.7	2.4	3.3
To what extent did this project reduce your client's behaviour problems? **a**	2.1	3.1	1.8	2.7
To what extent did this project improve the quality of life for your client? **a, b**	2.9	3.6	2.2	3.0
To what extent did this project help you to see the client you worked with as being similar to yourself? **a**	2.2	3.2	2.2	3.3
a = state vs. private agency differences significant (p<.05) **b = naturalistic vs. traditional group differences significant (p<.05)**				

treatment) by 2 (type of agency) univariate analysis of variance, after a MANOVA showed significant overall effects. Although ratings favoured the naturalistic group, no significant differences were found between treatment conditions on the following items: "To what extent was the project worthwhile for the client?" " Did it help you to better understand him/her?" "Did it reduce his/her behaviour problems?" For all three of those questions, however, the staff from the *private* agency gave responses that were significantly more favourable than those from the state agency, all p values less than .01. In response to the critical item "To what extent did this project improve the quality of life for your client?" significant treatment group differences were found; staff in the naturalistic group gave more positive responses than those in the traditional group, $F(1, 29) = 4.59, p = .04$. Staff in the naturalistic group rated their meetings with the supervisor as being significantly more helpful than did those in the traditional group, $F(1, 29) = 5.29, p = .029$, and thought that more of the material presented in supervision was new to them, $F(1, 29) = 6.33, p = .018$. Other significant ratings confirmed that the staff from the private agency thought that they gained more from participating in the project, and they enjoyed it more. No significant group by agency interactions were found.

We conducted t-tests on the independent clinician's ratings of treatment effectiveness, see Table 4. On all three items she rated the naturalistic programmes more favourably than the traditional. However, only her ratings of whether the programmes improved the clients' quality of life were statistically significant, $t(16) = 2.71, p = .015$, in favour of the naturalistic group.

Discussion

For clients with intellectual disabilities the successful implementation of behavioural strategies depends on the competence of direct care staff. This realisation has typically been translated as caregivers needing extensive training in behavioral techniques, or needing to be consequated for compliance with behavioral technologies (see Reid, Parsons, & Green, 1989). The approach used in this study was very different. We evaluated a consultation model in which support staff were supervised by professionals in much the same way as trainee clinical psychologists might learn therapy skills.

Within that model, conventional behaviour analysis strategies were compared with a more naturalistic approach that incorporated additional values regarding client care. These naturalistic behavioural strategies were superior to more traditional contingency management approaches when favourable outcome is defined by concepts like improving the clients' quality of life and ensuring that more positive interactions between staff and client are maintained. At the same time, staff in the private agency benefited more from the consultation they received than did staff from the public agency, suggesting that the success of an approach relying heavily on certain values regarding clients will depend on the attitudes, enthusiasm, and ideals of the staff.

Challenges in Evaluation Design

Group treatment studies of adults with intellectual disability and associated psychiatric disorders are still quite rare, despite their importance, probably because they are difficult to conduct in real-world settings. One of the problems encountered was that we could not, nor did we desire to, prevent staff in one treatment group designing interventions that had the characteristics of the other. Putting it another way, treatment integrity could not be guaranteed. For instance, one of the most successful programmes was implemented within the traditional group although the intervention they designed contained many elements of naturalistic programming: coping strategies were taught the client to help him keep others from teasing him, which in turn gave him intrinsic reinforcement (pride) for his ability to handle difficult situations.

Another feature of staff-directed treatment which limits evaluation research is that not every standard of effective clinical practice can be assured. There were two striking examples in the present study. One was that despite training in the importance of functional analysis, few staff participants conducted such an analysis prior to treatment design. A second example of exemplary standards of practice being violated was the difficulty in obtaining baseline frequency data from non-professional level caregivers. Worse still, as we got to be trusted by these staff, they acknowledged essentially fabricating what data they did gather to satisfy the requirements of supervisors and agency managers. Other investigators have not always found such obstacles. Bays and King (1988) surveyed 191 staff from schools and an institution and reported that the majority of them had positive attitudes towards data collection. This finding may be due to the difference in types of facility (segregated settings versus our community residences), or a difference between what staff say and what they actually do.

Table 4. Independent clinician's ratings of treatment effectiveness (5 = very, 1 = not at all)

Question	Mean	SD	*t* value	Significance
How effective was this programme in reducing behaviour problems?				
Naturalistic	4.4	2.17	1.98	.065
Traditional	2.4	2.13		
How effective was this programme in improving the quality of life for the client?				
Naturalistic	4.5	2.27	2.71	.015
Traditional	2.0	1.41		
How effective was this programme in improving staff attitudes toward the client?				
Naturalistic	4.2	2.04	2.01	.062
Traditional	2.3	2.05		

Our experience supports Meyer and Evans' (1993) contention that many aspects of currently accepted operant methodology lack utility in applied settings. Practitioners will appreciate such alternative measures as anecdotal accounts, incident reports, programme quality indicators, and markers of improvement in lifestyle.

Conclusions

Our data provide evidence for the effectiveness of positive, non-aversive, naturalistic interventions. However it is difficult to imagine them working in the absence of proper supervision of the staff by clinical consultants. One could argue that many of the naturalistic programmes involved procedures that should already have been in place in community facilities. For example, why should staff need a *treatment* strategy to be implemented in order to show a client respect, listen to him talk about his day at work, or provide her with a safe place to keep her favourite possessions? But in fact these were not standard *modus operandi* of what, materially speaking, were excellent facilities, and staff required much additional training and support to make such transformations. Among the kinds of attitude change we saw were: a staff member who went from calling a client a "bitch" to saying that she really liked her; staff admitting that speaking to clients in a contemptuous manner might actually cause behaviour problems; and that providing choices rather than barking orders produces much greater client co-operation. In New Zealand, agencies such as the IHC and the Waikato Community Living Trust do provide training for new staff in fundamental values. However little is known about how well these attitudinal skills translate into practice when support staff and clients interact.

An on-going consultation approach is valuable in community settings. By giving "ownership" of treatment programmes to non-professional employees, they were motivated to provide quality treatment, develop new interventions, and even change their own behaviour in an effort to improve their clients' lifestyles. Ownership may be a particularly important concept in bi-cultural New Zealand, where Treaty of Waitangi obligations encourage groups to formulate their own interventions in accordance with cultural practices. Some staff, however, continued to have difficulty designing interventions, particularly when held to such criteria as having to be age-appropriate, unobtrusive, and practical in normalized settings. These difficulties emerged, we would argue, because staff require prior, insightful understanding of client difficulties and needs. Further evolution of behaviour analysis approaches to clients with intellectual disabilities will necessitate additional research on the complex relationship between staff characteristics, sophisticated principles of behaviour, and meaningful changes in clients' lifestyles.

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