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Reality Orientation and Staff Attention: A Controlled Study

By R. T. WOODS

SUMMARY A trial was carried out of Reality Orientation (R.O.) in a residential home for the elderly mentally infirm with a 'social therapy' control group, receiving the same amount of staff attention as the R.O. group, in addition to an untreated control group. R.O. residents improved more on tests of information and orientation and various aspects of memory than controls. These results support the hypothesis that the nature of staff attention is crucial and that it should encourage and reward appropriate behaviour. No differential effects of treatment were found on rating scale assessments of the residents' functioning in the home.

Reality Orientation (R.O.) aims to re-introduce the disorientated elderly patient to his current reality (Folsom, 1967, 1968). Basic information is taught in every contact with the patient and/or in daily structured R.O. classes. In a controlled trial of R.O. (Brook *et al*, 1975) nine demented patients showed marked improvements on ratings of intellectual and social functioning after 16 weeks of R.O. classes. Control patients who had daily sessions in the special R.O. room, but received no encouragement or instruction from the therapists, tended to deteriorate. The nurse raters were unaware of group allocation.

Degun (1976) concludes that 'improvement was due to the increased attention from the staff backed by a well-defined and reinforcing repetitive therapy'. However, the effects of the treatment programme itself have not yet been separated from the effects of increased attention. Approaches based on behaviour modification (Woods and Britton, 1977) emphasize that the way in which attention is given is crucial. Attention is thought to be effective in producing changes in functioning only when it is given specifically following appropriate behaviour. Before attention can be used as a reward in this way, the desired behaviour or progressively closer approximations to it must be elicited. The R.O. method is then seen as enabling the patient to make correct responses and using attention to reward these.

The present study aims to replicate Brook *et al*'s finding that R.O. patients improve markedly, but also includes a control group where attention is given irrespective of whether behaviour is appropriate or not. If the way in which attention is given is crucial, then the R.O. group will be superior to this group and to a control group receiving no special treatment.

Method

Design

Three groups were planned, each of six subjects; these were—R.O., non-contingent attention ('social therapy') and an untreated control group. Subjects were to be assessed before treatment began and re-assessed three, nine and 20 weeks after the commencement of treatment.

Subjects

Subjects were residents at homes for the elderly mentally infirm who were over 60 years old, had a memory quotient of 70 or less on the Wechsler Memory Scale (extrapolated norms), were reported as disorientated, and could co-operate sufficiently to complete the psychological tests used. All had some vision, but very deaf or restless residents were excluded.

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The R.O. group and the Social Therapy group were conducted at one home, whilst the no-treatment control group was composed of residents from another home, similar in staffing level, methods and facilities. Both homes encourage games and other activities, but not in any systematic fashion. Admissions to both homes are from the same population and depend largely on availability of beds, rather than on level of functioning. Allocation of residents to the two homes is effectively random with respect to the variables under examination in this study. Whether subjects received R.O. or Social Therapy was randomly determined.

Fourteen of the 18 original subjects remained five months later. Three subjects died and one man in the control group refused re-assessment on several occasions. Attrition being independent of the experimental interventions, results are given for the 14 survivors only. Twelve were female and their ages range from 61 to 90 (average age 76.6, standard deviation 8.5). There were no significant differences in age between the groups ($F = 0.06$; df 2, 11; p N.S.).

Treatment procedure

Groups of three or four residents participated, five days a week, in a half-hour session led by care staff in a room equipped with blackboard, calendar, clock, scrap books, etc. Discussion, demonstration, handouts and supervision of a few treatment groups each week were the staff training techniques used. Staff were unaware of the experimental hypothesis, and were given the expectation that both treatments would be effective. Detailed records of sessions kept by the staff and observation showed that the treatments did differ as planned. The methods used in R.O. resemble closely those described by Degun (1976). A daily personal diary entry of basic information was followed by various group activities—spelling games, dominoes, simplified bingo, etc. Residents were encouraged to name objects, read out information on the blackboard and copy it in their diaries. Clues and prompts were given so that residents could answer questions correctly and be rewarded for so doing without undue stress.

The Social Therapy group was run as a discussion group with staff encouraging each resident to participate. Rambling, inappropriate or unrealistic contributions were permitted and accepted. R.O. materials were not used, but sessions occasionally closed with a game of dominoes.

Cognitive assessment

This was carried out by several psychologists, each with prior experience of assessing the elderly. Tests were chosen primarily to assess information and orientation, on which R.O. places so much emphasis. Other areas of memory, concentration and psychomotor performance were also covered by the tests used, which had to be simple enough for residents functioning at a very low level to be able to achieve some success with them.

Tests chosen were:

(1) Wechsler Memory Scale, covering several aspects of memory in addition to information and orientation. Forms I and II were used at alternate assessment sessions.
(2) Memory and Information Test shown by Blessed *et al* (1968) to be correlated with indices of senile plaque formation.
(3) Clifton Assessment Schedule (Pattie and Gilleard, 1975), a brief assessment procedure covering information, orientation, mental abilities and including a psychomotor performance test—the Gibson Spiral Maze (Gibson, 1961).

The information and orientation items from all tests were grouped together and a total score derived from them, each item being scored once only. Similarly, a total concentration test score was devised. These longer tests should be more reliable and more sensitive to change than the individual shorter tests from which they are compiled.

Rating scale assessment

Two staff members, not participating in the treatment groups and unaware of group membership, independently rated residents on thirteen 5-point items, developed from the Crichton Rating Scale (Robinson, 1977) and including those areas assessed in Brook *et al's* study. Inter-rater reliability for total scores for a sample of 25 assessments was 0.79. Raters worked at different times of the day, so that

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perfect agreement could not be expected. A pooled rating is used in analysing the data.

Results

Wechsler memory scale (see Table I)

The groups do not differ significantly initially. One-way, repeated measures analysis of variance on change scores yielded an interaction term of marginal significance, suggesting differential response to treatment ($F = 2.34$; df 4, 22; $p < 0.10$). This was explored further by individual comparisons, using t tests. All t-test comparisons of R.O. with untreated or social therapy control groups are 1 tailed, as the direction of the difference can be predicted from previous studies. Comparisons between the control groups are 2 tailed, as no predictions can be made. R.O. residents at 20 weeks had improved significantly more than controls and tended to do better than social therapy residents also. The control and social therapy groups do not differ at any stage. When their scores are combined, they are significantly worse than the R.O. group after nine weeks of treatment, as well as at 20 weeks. No differences emerge after three weeks of treatment.

Concentration test (see Table II)

Again, there are no significant baseline differences between groups. The analysis of variance (see Table III) shows a significant main effect of treatment groups, indicating that the groups are differentiated by their change scores on this test. After only three weeks' treatment, the social therapy group had deteriorated significantly, compared with both the R.O. group and the control group, which maintain their superiority at the second

TABLE I

Wechsler Memory Scale mean total raw scores and standard deviations

		Baseline		Reassessment I		Reassessment II		Reassessment III	
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Reality orientation (R.O.)	n = 5	16.1	5.86	17.8	7.53	18.5	8.22	20.8	10.50
Social therapy (S.T.)	n = 5	15.5	5.83	15.6	2.03	14.0	3.44	14.9	5.25
Control (C.)	n = 4	18.5	5.42	18.0	4.54	17.4	5.75	14.6	3.68

Initital differences not significant ($F = 0.26$; df 2, 11; p N.S.).
T-test comparisons on change scores:

R.O. III v C. III	$t = 2.34$; df 7; $p < 0.05$
R.O. III v S.T. III	$t = 1.50$; df 8; $p < 0.10$
R.O. II v S.T. II + C. II	$t = 1.90$; df 12; $p < 0.05$
R.O. III v S.T. III + C. III	$t = 2.43$; df 12; $p < 0.025$

TABLE II

Concentration test mean total scores and standard deviations

		Baseline		Reassessment I		Reassessment II		Reassessment III	
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Reality orientation (R.O.)	n = 5	4.0	1.67	5.6	2.24	5.4	1.36	5.2	2.04
Social therapy (S.T.)	n = 5	4.4	2.06	3.8	1.60	2.8	0.75	2.6	1.02
Control (C.)	n = 4	4.8	1.49	6.3	1.09	6.0	1.22	4.5	1.12

T-test comparisons on change scores:

R.O. I v S.T. I	$t = 2.43$; df 8; $p < 0.025$
S.T. I v C. I	$t = 2.37$; df 7; $p < 0.05$
R.O. III v S.T. III	$t = 2.84$; df 8; $p < 0.025$
S.T. III v C. III	$t = 1.44$; df 7; $p < 0.20$
R.O. III v C. III	$t = 1.85$; df 7; $p < 0.10$

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TABLE III

Summary of analysis of variance carried out on total concentration test change scores

Source	SS	df	MS	F ratio
Treatment groups	57.60	2	28.80	6.62*
Within groups	47.90	11	4.35	
Times	8.68	2	4.34	3.81*
Treatment groups × times	3.81	4	0.95	0.84
Times × within groups	25.00	22	1.14	

(* $p < 0.05$)

TABLE IV

Information and orientation test mean total scores and standard deviations

		Baseline		Reassessment I		Reassessment II		Reassessment III	
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Reality orientation (R.O.)	n = 5	11.6	3.50	14.6	4.45	15.2	5.19	15.6	5.01
Social therapy (S.T.)	n = 5	13.4	2.42	12.8	3.31	12.4	3.93	13.5	4.96
Control (C.)	n = 4	15.0	4.53	15.0	3.00	15.0	4.58	15.3	3.34

T-test comparisons on change scores:

R.O. I v S.T. I $t = 2.45$; df 8; $p < 0.025$

R.O. I v C. I $t = 1.87$; df 7; $p < 0.10$

R.O. I v S.T. I + C. I $t = 2.81$; df 12; $p < 0.01$

re-assessment. After five months of treatment, however, although the R.O. residents retain their superiority over those in Social Therapy, the trend is for the control group to be losing its advantage over the Social Therapy group and perhaps to be losing its previously clear equality with the R.O. group. It is notable from the analysis of variance that there is a significant overall decline in change scores over the five-month period.

Information and orientation test (see Table IV)

Pre-treatment scores do not differ significantly. The main effect of the analysis of variance tends to significance, indicating that the treatment groups' change scores are at different levels ($F = 3.62$; df 2, 11; $p < 0.10$). R.O. is superior to social therapy after three weeks and this is maintained throughout, although there is no evidence to suggest that it is a continuing improvement. R.O. tends to show more improvement than the control group at the first re-assessment and again this is maintained subsequently. Social Therapy and control change scores do not differ significantly throughout and R.O. residents show consistently more improvement than the other two groups combined.

Gibson spiral maze

No differential changes were apparent between groups on this test.

Rating scale assessment

Analysis of total scores on the rating scale, whether including all thirteen scales or only those eight used by Brook *et al* (1975), indicates a significant increase in scores over time (and thus a deterioration in behaviour) over all three groups ($F = 8.18$; df 2, 22; $p < 0.01$ for 13 scales). No differential effects of treatment are demonstrable, but it is clear that there is considerable variability in scores, which appears to increase over time so that some residents may be improving whilst others deteriorate. Inspection of ratings in each of the thirteen areas covered does not suggest any clear trends, apart from this variability and general deterioration.

Discussion

These results support those of Brook *et al* (1975) in that R.O. residents changed sig-

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nificantly more than controls on tests of information, orientation and various aspects of memory and learning. However, no inter-group differences were found on the rating scales, even though they were very similar to those used by Brook *et al.* This apparent lack of improvement in behaviour in the home setting could be related to several possible factors:

(i) The use of smaller groups, introducing larger variability and obscuring changes possibly taking place.

(ii) The fact that several of the areas assessed were not in any way connected with the content of treatment, e.g. dressing, feeding, continence, etc. and no specific steps were taken to encourage generalization of areas such as orientation and social behaviour that were more directly the targets of experimental intervention. Perhaps the home environment was less encouraging to generalization than Brook *et al*'s ward environment.

(iii) These scales are a relatively crude way of assessing behaviour, particularly when scores from different areas are added to give a total score. A finer assessment of behaviour, e.g. by direct observation, might give a better indication of any behavioural changes occurring.

(iv) The residential home population used here may be functioning at an initially higher level than Brook *et al's* psychiatric hospital patients and perhaps have less potential for improvement.

This study extends the results of Brook *et al* in that, firstly, changes in some aspects of cognitive functioning have been found in favour of the R.O. group; from examination of its content, these would seem to be a primary aim of R.O. Secondly, the nature of the staff attention given to residents has been shown here to be of some importance, as the R.O. group did consistently better than a group receiving the same amount of staff attention, but of a different form. Indeed, there is even the suggestion from the concentration test results that the wrong form of attention is worse than no special treatment at all.

It might be argued that the inter-group differences reported are attributable to factors other than the form of staff attention received. For example, expectations of the therapists can be important in influencing results obtained and here, despite the expectations given, staff might have identified R.O. as the experimental intervention. In fact, when staff gave their views on the groups anonymously at the end of the experimental period it was found that they felt social therapy was more effective and all found those groups much easier to lead. Thus, staff were more enthusiastic about Social Therapy than R.O., which makes the present results all the more remarkable. Therapists were care staff with no formal training, and it is clear they found R.O. more demanding of their own resources of imagination and persistence.

This study joins many others reviewed by Woods and Britton (1977) in arguing that elderly memory disordered people can change and are capable of re-learning. For future therapeutic programmes to be as effective as possible, the processes and mechanisms of change need to be studied. Of particular importance is the relationship between cognitive and behavioural variables. The supporters of R.O. make the implicit assumption that re-orientation (which is presumably a cognitive process) will bring about changes in actual functioning, self-care skills, etc. and Degun (1976), for example, reports improvements in incontinence and table manners. How does R.O. bring about these changes? One possibility is that improved concentration and cognitive capacity is enough to produce such change; another is that R.O. helps patients to be more aware of those social forces that normally constrain behaviour within acceptable limits. An important practical issue involved here is whether it is enough to provide cognitive re-training, or whether training in the actual behaviour of feeding, dressing, toiletting or whatever is required. These and related questions justify further study. More refined measures of cognitive processes will be needed to monitor any changes that do occur. These should be simpler, both in terms of task difficulty and conceptually, so that it is possible to draw more direct conclusions about the effects of treatment on underlying cognitive processes. Improved behavioural measures are also required, to

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allow finer and more detailed assessment of patients' functioning in the home or ward setting.

The mechanisms by which programmes like R.O. produce changes are as yet little understood. A concept that may be helpful in addition to the re-learning model is that of learned helplessness (Seligman, 1975). It may be that some demented elderly people, after the repeated trauma of failing at previously very simple tasks, adopt the helpless non-responding position and that R.O. may ease the person from this position by helping him to make successful answers and actions once more. As the large variability in this study indicates, response to treatment is likely to differ for different elderly people; intervention must therefore aim to match therapeutic programmes with the needs and functioning of the individual.

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R. T. Woods, M.A., M.Sc., *Senior Clinical Psychologist, Brighton Clinic, Newcastle General Hospital, Newcastle upon Tyne NE4 6BE*

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