# THE ACQUISITION OF COMPETENCE IN SOCIAL AND COMMUNITY LIVING SKILLS:  STUDIES ON THE RELATIONSHIP BETWEEN ACQUISITION OF COMPETENCE AND SOCIAL AND EMOTIONAL ADJUSTMENT; THE ISSUE OF MAINTENANCE; AND METHODS OF TRAINING

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I certify that this thesis is the true and accurate version of
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# ABSTRACT

Previous work in the area of community living skills has shown that people with a mental handicap can learn individual community living skills. However, it is clear that subjects require a range of skills to function successfully in the community and no study has attempted to train a comprehensive series of skills for community living. This study investigates training such a comprehensive series of social and community living skills to people with a mental handicap. These were: conversation skills; social interaction skills; assertion skills; dealing with authority figures; pedestrian skills; public transport skills; leisure skills; and shopping skills. The training programme lasted two years. Two methods of training were compared, 29 subjects comprised the Experimental Group who received in vivo role play, modelling, coaching and behaviour rehearsal. This was compared against a group of 13 subjects receiving classroom based teaching involving video tape presentations, slides and discussion. A No-Treatment Control Group of 15 subjects was also employed.

Two main categories of assessment were employed. Firstly, general functioning was assessed using the ABS Adaptive Behaviour Scale, the Goldberg General Health Questionnaire and the Zung Anxiety and Depression Scales. Secondly, subject performance in all skills was assessed at baseline, post-training, three months, one year and two years follow-up. Subjects were assessed by independent raters on scales relevant to each skill area. The results on the assessment of general functioning suggested some increases in independent functioning for the Experimental Group. There were also some increases in generalised anxiety for this Group. The results on skill acquisition suggest substantial, significant improvements in the Group trained using in vivo methods. There were only a few modest improvements in the Teaching Group and no change in the No-Treatment Control Group. Results are discussed in terms of, generalisibility to other populations, predictors of success, generalisation, maintenance of skills, social validation, and integration and planning of community living skills. It was also noted that eventual placement to other settings in the community was more successful for the Experimental Group.

## ACKNOWLEDGEMENTS

# SOCIAL COMPETENCE AND MENTAL HANDICAP

## 1. INTRODUCTION

This thesis deals with mental handicap and social competence. Social competence has also been termed adaptive behaviour, social maturity and social ability. It includes all the functional adaptive skills necessary to help people live their lives. This opening Chapter will consider the concept of social competence or adaptive behaviour and the development of its importance in the understanding of mental handicap. To this end, the first part of the Chapter will discuss how the definition of mental handicap has evolved over the years and ascertain the extent to which social competence has been considered to be a central concept in the definition and understanding of mental handicap.

## 2. TERMINOLOGY

Labels for a given concept are strongly influenced by Society. In the UK, the terms used earlier this century, e.g. "mental deficiency", "feeble-mindedness", "imbecility" and "idiocy", were replaced by "subnormality" and "severe subnormality". The term "mental handicap" followed and at present the term "learning disabilities" appears to be in vogue. Likewise, in the United States, the words "mental retardation" are seen to be less depreciative than "mental deficiency". The clients in the present research will be described as "persons with a mental handicap" as this was the term used when the research began.

## 3. DEFINITIONS OF MENTAL HANDICAP

### (i) The importance of social competence

In the Mental Deficiency Act of 1913 (amended in 1927), the central feature of the definition was "arrested or incomplete development of mind"; intelligence was not explicitly mentioned. The concept of mind was judged to be more comprehensive than intelligence and included social aspects of behaviour. Therefore, someone who was perceived as promiscuous could be labelled "socially incompetent". According to Tredgold (1952): "the Act

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did not refer to the permanency of the condition but envisaged that the social incompetence caused by the mental arrest would be permanent and incurable".   He also pointed out that when the Act referred to "arrested development of mind" there was no legal justification for regarding intellectual ability as the most important aspect of "mind".   He suggested that an "arrested development of any  process or department of mind, provided it resulted in social incapacity, constitutes mental deficiency".

This interpretation of the Act has been advocated by several authorities. The British Medical Association and Magistrates' Association's Memorandum of 1947 ("Interpretation of Definitions in the Mental Deficiency Act, 1927") states that "the purpose of this memorandum is to point out that the concept of mind is wider than that of intellect, and that mental defect (i.e. deficiency of mind) is not the same thing as intellectual deficiency, though it includes it".

A similar opinion was expressed by the Board of  Control (1954) and the Royal Medico-Psychological Association (1954).   The Board of Control stated: "We regard the present definitions as enabling medical practitioners to certify mentally defective patients on the ground that they have characteristics from early youth which make them anti-social, although their intelligence might be quite normal".   The RMPA, in their memorandum to the Royal Commission on the Law relating to Mental Illness and Mental Deficiency, stated: "This condition of arrested or incomplete development of mind may, however, be manifested in very varied ways.  A usual manifestation is failure to develop what is commonly known as intelligence functions which can be measured by psychometric methods and assessed under such terms as 'mental age' or 'intelligence quotient' but this is by no means invariable, and in other cases the undeveloped mind may be manifested chiefly by failure to attain normal control of the emotions or to achieve the qualities needed for normal social behaviour".

These viewpoints illustrate how individuals perceived as socially incompetent or inadequate were often regarded as 'mentally deficient'.

The practical outcome of this was that a large number of individuals of dull-normal and normal intellect were certified as mentally deficient.

### (ii) The introduction of intelligence into definitions

Although adaptive behaviour is a useful criterion in a definition of mental handicap, it is also necessary to assess intelligence. Populations such as the dementing elderly or chronically mentally ill may have poor adaptive behaviour and may not appear any different from an individual with a mental handicap. However, in terms of prognosis, specific interventions and support, an accurate assessment of intelligence is also required.

O'Connor and Tizard (1954) found that over half of their sample of 12,000 patients in twelve mental deficiency institutions were classified as "feeble-minded". However, in common with other researchers, they discovered that the average IQ of "young adult feeble-minded defectives" was a little above 70 points.

From this type of information, it can be seen that adaptive behaviour is unsuitable as the sole criterion for a definition of mental handicap. It is for this reason that Clarke and Clarke (1985) make the point that low intelligence is a pre-requisite for any definition of mental handicap.

However, it is extremely important to assess social competence or adaptive behaviour, in addition to intelligence.

### (iii) Modern definitions

The DSM-III-R (American Psychiatric Association, 1987) diagnostic criteria for mental handicap are:

a) significantly subaverage general intellectual functioning: an IQ of 70 or below on an individually administered IQ test (for infants, a clinical judgement of subaverage intellectual functioning, since available intelligence tests do not yield numerical IQ values).

b) concurrent deficits or impairments in adaptive functioning, i.e. the person's effectiveness in meeting the standards expected for his/her age by his/her cultural group in areas such as social

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skills and responsibility, communication, daily living skills, personal independence and self-sufficiency.

c) Onset before age 18.

Thus, a low IQ score alone does not define a person as having a mental handicap. The criteria for mental handicap according to the Mental Health Act (1959) are:

"a state of arrested or incomplete development of mind which includes subnormality of intelligence and is of such a nature or degree that the person is incapable of living an independent life or of guarding himself against serious exploitation, or will be so incapable when of an age to do so".

The criteria in the White Paper "Review of the Mental Health Act 1959" include severe impairment of intelligence and social functioning. In the current manual of the World Health Organisation (The International Classification of Diseases, 9th edition, 1977) a general description of mental handicap as a condition and guideline to assessment are both given: "arrested or incomplete development of mind which is especially characterised by subnormality of intelligence. The coding should be made on the individual's current level of functioning.... the assessment should be based on whatever information is available, including evidence, adaptive behaviour and psychometric findings. The IQ levels are based on a test with a mean of 100 and a standard deviation of 15.... they are applied as a guide and should not be applied rigidly" (WHO, 1977).

The ranges of mental handicap in the current WHO classifications are:

Mild mental handicap        50 - 70 IQ points
Moderate mental handicap    35 - 49 IQ points
Severe mental handicap      20 - 35 IQ points
Profound mental handicap    Under 20 IQ points

The manual indicates that, in practice, these categories have a tendency to overlap but the scores have value both as a diagnostic and as a prognostic guide.

In addition to levels of handicap, the WHO classificatory coding

includes aetiological factors, current stressors and psychiatric problems, all of which provide relevant information necessary for scientific and treatment purposes.

The American Association of Mental Deficiency (AAMD) also has a classification system which was developed by scientists mainly interested in mental handicap and its associated diseases. It is different in this respect from the WHO classification and that of the Diagnostic and Statistical Manual (DSM IIIR), which, as stated previously, is part of a more comprehensive classificatory system.

The AAMD definition is:
"Mental retardation refers to subaverage general intellectual functioning which originates during the developmental period and is associated with impairment in one or more of the following:

1) maturation; 2) learning; and 3) social adjustment". This definition takes into account the role of intelligence, adaptive behaviour and also the concept of "maturation". People are only categorised as being mentally retarded if their handicap is a consequence of brain damage while *in utero* or during birth. People who suffer a severe head injury leading to brain damage later in life can exhibit skill deficits similar to people with a mental handicap. They may suffer from poor memory, impaired conceptual or psychomotor skills similar to a person with a mental handicap but they are not described as having a mental handicap.

(iv) Definition of adaptive behaviour
Adaptive behaviour is defined by (DSM IIIR) as the degree to which "an individual meets the standards of personal independence and social responsibility expected of his or her age or cultural group" (American Psychiatric Association, 1987). Many people with a mental handicap, in particular those with a severe mental handicap, have difficulty in learning the various skills required for independent daily living. In order to assess more accurately an individual's competence in the area of adaptive behaviour, the American Association of Mental Deficiency developed the Adaptive Behaviour Scale (ABS). This assessment is based on the work of Nihira et al. (1976) and is, perhaps, the best measure currently available.

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## 4. PROVISION OF SERVICES FOR PEOPLE WITH A MENTAL HANDICAP

The facilities and services provided for people with a mental handicap have changed to give much greater consideration of social aspects. This change has progressed to such an extent that community care provisions are now the most widespread development across the UK in services for people with a mental handicap. This Chapter will review the way in which social competence has influenced service development over the 20th Century.

### (i) Provision before 1970

One of the earliest known references to mental handicap is in the "De Praerogotavia Regis" in which a distinction is recorded between "born fools" (or idiots) and lunatics. The purposes of this distinction was to facilitate the Property Law. If a man was found to be a lunatic, the Crown took possession of his belongings only during the period of his illness. If, however, a man was found to be an idiot, his property was taken permanently by the Crown.

The establishment of any kind of care or help for people with a mental handicap did not occur until the 18th Century when there was a growing movement to build hospitals and asylums. These asylums were intended for "lunatics" but, as there was no separate provision for "idiots", many people with a mental handicap were also confined in them. In Scotland, the first legislation to recognise the needs of people with a mental handicap and to authorise any form of action was the Lunacy Act of 1862, although the provision of the first asylum (Strathmartine Hospital) was in 1852. Asylums were intended to provide a more humane form of care. Humane attitudes also played a part in legal provision; however, legislation was conceptualised as protecting society. This type of thinking prevailed over the following years.

During the first half of this Century, the major role of the mental hospital was to ensure the safe custody of the inmates at a low cost to the public. This had not always been the case. The more 'humane treatment' practiced in the asylums years earlier was

based on principles which would be generally accepted today, e.g. the emphasis on early discharge. However, this type of practice did not endure and the type of "care" that followed was characterised by large and overcrowded hospitals. These hospitals had a high proportion of chronic wards in which long-stay patients led a restricted and inactive life. The major function of these institutions was to prevent a mentally ill individual from harming himself or herself (Wing and Brown, 1970) and to ensure that he or she could not escape.

## (ii) The move against institutions

In the 1950's and 1960's, the traditional large scale institutions came under attack, initially from academics and researchers such as Goffman (1961), Townsend (1962) and Morris (1969). Goffman (1961) outlined a number of features common to all total institutions. Those features relevant to this research are loss of identity and loss of social competence. He noted that residents gradually lose their identity and that their social roles tend to atrophy from disuse. They lose the opportunity to practice travelling on buses, spending money or choosing food and clothes.

Many of the general features of the total institutions are certainly exhibited in mental handicap and psychiatric hospitals. Features of behaviour and attitudes which make up the syndrome of institutionalisation may readily be found among long-stay mentally ill patients (Barton, 1959; Belknap, 1956; Dunham and Weinberg, 1960; Goffman, 1961; Wing and Brown, 1970).

Wing (1962) collected data on patients in psychiatric hospitals and described institutionalisation as "a gradually acquired contentment with institutional life and apathy towards the outside world".

From the point of view of rehabilitation, a long-stay mentally ill patient may develop secondary handicaps in addition to the chronic symptoms or "primary disabilities". Secondary handicaps include deterioration of social skills and lack of interest in the outside world. As Wing (1961) and Wing and Brown (1970) have suggested, indifference towards leaving hospital is central to

institutionalisation; and one would expect to find this attitude developing in most total institutions. They suggested that people with a mental handicap are among the most vulnerable groups.

However, the deinstitutionalisation movement was influenced more by politics than by academic research. Several reports of Committees of Enquiry, e.g. the Ely Report (Cmnd 3975) were critical of the way institutions were run.

This created a major impact on policies for the care of people with a mental handicap. The Ely Report led to the setting up of the National Development Team for mental handicap hospitals and the Hospital (later Health) Advisory Service for mental illness hospitals, independent inspectorates reporting directly to the Secretary of State.

The movement towards reform which planned to lead away from institutional care took two main lines. On the one hand, there was emphasis on rehabilitation and resettlement. Meaningful domestic and industrial roles were provided in an open hospital setting, with a view to a proportion of residents eventually taking full participation in community life (Barton, 1959; Bell 1955; Bennet and Wing, 1963).

On the other hand, there was emphasis on early discharge, or avoidance of admission, to try and prevent the accumulation of long-stay institutionalised patients (Carse, 1958; et al., McMillan, 1958). These two lines gradually converged in the policies outlined in the 1959 Mental Health Act and later in the White Paper "Better Services for the Mentally Handicapped" (Cmnd, 4683).

Since the 1960's, there have been serious official attempts to run down and even close institutions and to develop alternatives. Although throughout the 1980's, hospitals still provided the majority of residential care, alternative provision did exist, embodied by the growing number of small experimental units.

Policies advocating alternative provision of residential care

express a dissatisfaction with institutions. The most well known
expression of anti-institution ideology is normalisation, which
has become associated with the residential care of people with a
mental handicap.

### (iii) Normalisation

The concept of normalisation originated in Scandinavia (Bank-
Mikkelsen, 1969; Nirje, 1969) and gained popularity in North
America through the writings of Wolfensberger (1972 and 1980). It
provides a strong foundation for planning and running services.

The concept of normalisation emerged from a belief that societies
reject some members on the basis of their perceived deviance.
This devaluation and rejection leads to poor-quality and perhaps
harmful forms of service, e.g. in custodial settings
(Wolfensberger, 1972). The principle of normalisation asserts
that services will be more effective if they recognise the impact
of perceived deviance on decisions concerning these services and
on Society in general. Therefore, the aim should be to create
services which attempt to reduce, rather than to magnify, the
deviant status of clients.

Generally, the principle of normalisation challenges services to
enhance both the skills and societal image of their clients.
Success in either of these areas increases the likelihood of
improvement in the other. Normalisation analyses the delivery of
services along two dimensions:
1) What services are provided to people with handicaps
2) How these services are provided.

The normalisation principle promotes the development of service
systems which, as Wolfenberger (1980) states, "attempt to change
the perceptions or values of the perceiver and to minimise the
stigma of deviancy that activates the perceiver's devaluation."
The most useful general definition of the normalisation principle
is provided by Wolfensberger (1972): "The utilisation of
culturally valued means in order to establish and/or maintain
personal behaviours, experiences that are culturally normative or
valued."

## 5. POLICY OF LEGISLATION

### (i) Early legislation

Until 1959, the legislative procedure was one of "certification as mentally deficient", provided the individual could be proven as "subject to be dealt with". These individuals underwent "periodic reassessment" with periodic visits from Justices of the Peace. In some cases, these individuals also had to undergo trial in daily employment, trial in residential employment and eventually, if the "patient" was fortunate, "discharge from care" (Clarke and Clarke, 1985).

When the NHS was established in 1948, most people who came into contact with the service and were diagnosed as mentally handicapped were housed in asylums provided by local authorities under the 1866 Idiots Act.

The 1959/60 Mental Health Acts saw a change in legislation with reference to the care of both the mentally ill and people with a mental handicap. There was a reappraisal of the act of certifying patients as mentally ill or as having a mental handicap because of concern about wrongful detention. The reports from the Royal Commission leading up to these Acts endorsed a move towards community care: "There should be a general re-orientation from institutional care in its present form and towards community care" (Recommendation 4, Part V).

### (ii) Better Services for the Mentally Handicapped

The Report of the Official Enquiry at Ely Hospital and the book "Put Away" (Morris, 1969) were published in the same year, bringing the plight of people with a mental handicap to public attention. The Hospital Advisory Service was set up and teams made a series of visits to mental handicap hospitals throughout the country. As a consequence, there was a feeling of outrage and public pressure, in addition to growing professional opinion, led to a new Government policy being developed. This was elaborated in the White Paper "Better Services for the Mentally Handicapped" (DHSS, 1971) which was the first Government policy document to recommend earlier diagnosis and intervention; active education and

training programmes; family support; and staff training (Tyne and Wertheimer, 1980). The White Paper intended to set the course for policy on services for people with a mental handicap which should be followed into the early 1990's. It was largely concerned with the development of co-ordinated and personal social services for people with a mental handicap in each locality. There was an intended shift in responsibility for the residential care of people with a mental handicap from health services to local authorities. This involved a significant increase in Adult Training Centre (ATC) provision as Figures 1 and 2 illustrate.

Figure 1: NHS PROVISION IN ENGLAND, SCOTLAND AND WALES

|  | 1970 | 1974 | 1975 | 1976 |
|---|---|---|---|---|
| NHS Residents adults and children | 65,326 | 60,154 | 59,119 | 58,570 |
| NHS Residents children under 15 | 7,384 | 5,666 | 5,259 | 4,870 |

Sources: "In-Patient Statistics from the Mental Health Enquiry for England" (DHSS)
"DHSS: Facilities of Mental Handicap Hospitals & Units – National and Regional Summaries for England."
"Health and Personal Social Services Statistics for Wales (Welsh Office).
"Scottish Health Statistics" (SHHD)

Figure 2: LOCAL AUTHORITY (LA) AND VOLUNTARY PROVISION IN ENGLAND AND WALES

|  | 1970 | 1977 |
|---|---|---|
| Places in LA homes – adults and children | 5,221 | 10,158 |
| Places in LA homes – children under 16 | 1,407 | 1,721 |
| Places in unstaffed homes | 85 | 653 |
| Places in ATC | 26,649 | 40,369 |

| | | |
|---|---|---|
| ATC places in special care units | not available | 1,672 |
| Places in voluntary and private homes | 1,814 | 3,404 |

Sources "Mental Health Statistics (DHSS) "Personal Social Services: LA Statistics" (DHSS and Welsh Office)

The 1971 White Paper based its principles on the current thinking about mental handicap at that time. This included the belief that families with members who have a mental handicap have the same needs for general social services as have all other families and that people with a mental handicap should not be segregated unnecessarily from other people of similar age. There was also concern that people should be given sufficient stimulation, social training and education in order to develop their maximum capacity. It was thought best for the person with a mental handicap to live with his/her family if possible. If this was not possible, there should be a wide range of services to ensure that s/he would be properly cared for outside the family home. It was hoped that the community would understand and help the person with mental handicap to lead as normal a life as possible.

(iii) The White Paper targets
"Better Services for the Mentally Handicapped" was unusual in that it set out some very clear targets for the development of services. These provided objective criteria against which to measure what had really been achieved. The document outlined six strategies for change in the main service system.

The first strategy was the adoption of an active discharge policy and the prevention of inappropriate admission, with a consequent run-down of the mental handicap hospital population. Figure 3 shows the number of adults in mental handicap hospitals in 1969 and 1977 and the White Paper targets for adult places in 1991.

Figure 3: ADULTS IN MENTAL HANDICAP HOSPITALS AND UNITS IN ENGLAND

|  | 1969 | 1977 | 1991 Target |
|---|---|---|---|
| Number | 49,200 | 44,000 | 27,300 |
| Rate per 100,000 pop. aged 16+ | 142 | 125 | 74 |

Source: "Mental Handicap: Progress, Problems and Priorities"

The next major change was the transfer of more able residents to care in the community. This required the strategy of developing local authority social service provision, in particular day care and residential care. Figure 4 shows the number of ATC places provided in 1969 and 1977 and the White Paper target for 1991. Figure 5 shows the number of places in residential homes for the same period.

Figure 4: ADULT TRAINING CENTRE PLACES IN ENGLAND

|  | 1969 | 1977 | 1991 White Paper |
|---|---|---|---|
| Number | 23,200 | 38,700 | 74,900 |
| Rate per 100,000 pop. aged 16+ | 67 | 110 | 202 |

Source: "Mental Handicap: Progress, Problems and Priorities"

Figure 5: PLACES IN RESIDENTIAL HOMES FOR ADULTS WITH A MENTAL HANDICAP IN ENGLAND

|  | 1969 | 1977 | 1991 Target |
|---|---|---|---|
| In L.A. Homes | 3,100 | 8,100 | Not available |
| In all homes | 4,200 | 11,700 | 30,000 |
| Rate per 100,000 pop. aged 16+ | 12 | 33 | 81 |

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The document also advocated the building of new small hospital units, particularly on general hospital sites and the refurbishment of hospitals in order to conform with the "minimum standards" drawn up in 1969. The final strategy was the coordination of health and social services. The first three strategies had clear guidelines defined in Table 5 of the White Paper, which stated that progress should be made over a 15 - 20 year period. The fourth strategy advocating the development of new small hospitals has been advanced by the DHSS Peterborough model. Clear standards were specified for the fifth strategy in the 1969 Department of Health letter which set out minimum standards for staffing and amenities (Tyne and Wertheimer, 1980).

(iv) The National Development Group

Increasingly, official reports have advocated many proposals based on the principles of normalisation (Wolfensberger, 1972). Examples can be seen in "The Report of the Committee of Enquiry into Mental Handicap Nursing and Care" (Jay Report, 1979) and "Helping Mentally Handicapped People in Hospital" (DHSS, 1978).

The National Development Group (NDG) was set up to advise Ministers on the development of policy concerning people with a mental handicap. The NDG has produced five pamphlets giving advice on various aspects of mental handicap services. In 1977, the NDG produced a report which advises how to improve services in mental handicap hospitals within existing resources. Although, ideally, the normalisation principle prescribes living in the community, the NDG observed that the mental handicap hospital still provides the majority of residential care.

The NDG sub-divided its recommendations to cover certain areas, for example, the aims of the mental handicap hospital, creating a home, family and community links, among others.

a. Aims of the mental handicap hospital: The NDG proposes that mental handicap hospitals should provide more than just activities for their residents; they should provide planned programmes of

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training and education that are based on the assessed and agreed needs of each individual (2.3.3). Mental handicap hospitals should provide specialist services for those who need them (2.5.1). The mental handicap hospital should be a base from which its staff go over to work with residents in the community (2.6.1). No one should be in a mental handicap hospital unless his or her needs can only be met by the specialist services provided there (2.7.3).

b. Creating a home: Living units must be small(4.4.2). No adult unit should have more than 12 people, no children's unit more than six. These should be regarded as maximum sizes (4.2.2). When wards are upgraded, both staff and residents should be allowed to choose from alternative schemes and furnishings (4.2.8). All items of clothing, including nightwear, should be personalised. Residents should be allowed to choose their own clothes, preferably by going themselves to a shop. Each resident's clothing should be stored in his or her own wardrobe in his or her own bedroom (4.3.2). The daily routine of residents should not be determined by staff shift systems (4.2.2).

c. Creating a learning environment: The NDG proposes that every resident should have a programme of activities and training which are related to his needs, and that this programme is regularly reviewed (5.3.3). Residents should use personalised forms of address for the staff rather than calling them impersonally "Sister" or "Nurse" (5.6.24). Hospital staff should be encouraged to meet the staff of local housing departments in order to explore what might be done to provide accommodation for residents who are able to take advantage of it. A representative of the appropriate Social Services Department should be closely involved at such meetings (5.7.32)

d. Family and community links: The NDG recommends that each hospital should have facilities for refreshments and meals as well as for accommodation for visitors (8.2.13). Each living unit should keep a careful record of the frequency of visits to each resident and discuss any apparent weakening of family links with a designated member of staff (8.2.16).

e. Organisation and management: The NDG proposal is that the organisation of the mental handicap hospital must be based on the needs of the residents (9.2.1). All hospitals should consider setting up residents committees (9.3.1).


(v) The Jay Report.

The Report of the Committee of Enquiry into Mental Handicap Nursing and Care (Jay, 1979) based its recommendations on the actual needs of people with a mental handicap and the staff who care for them.

The Committee identified three broad sets of principles which underlie their philosophy:


(i) People with a mental handicap have a right to enjoy normal patterns of life within the community.

(ii) People with a mental handicap have a right to be treated as individuals.

(iii) People with a mental handicap will require additional help from the communities in which they live and from professional services if they are to develop their maximum potential as individuals (Para.89).


With regards to the first principle, the Committee makes the following recommendations:


People with a mental handicap should be able to live with their peers in the community. Thus: "It is now generally considered in the best interests of patients who are fit to live in the general community that they should not live for long periods in large or remote institutions such as the present mental deficiency hospitals, in which they are inevitably largely cut off from the normal world and from mixing with other people" (Para. 601).


Staffed accomodation should wherever possible be provided in suitably adapted houses which are physically integrated into the community. These should be as local as possible to help the person with a mental handicap retain contact with his or her own family and community. This implies that a highly dispersed system of homes is needed. People with a mental handicap should be able to

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live in a mixed sex community. This would also include the right and opportunity for adults to get married. People with a mental handicap should be able to develop a daily routine like other people. There should be a proper separation of home, work and recreation (Para. 91).

Extensions of the second principle include: the right of an individual to live, learn and work in the least restrictive environment appropriate to that particular person; the right to make or be involved in decisions that affect oneself; the realisation that individual needs differ, not only between different individuals, but within the same individual over time; the right of parents to be involved in decisions about their children (Para. 92).

The two groups of principles outlined above help individuals with a mental handicap to be perceived as valued members of Society, with the same rights as everybody else.

In order to make full use of these rights and to contribute and participate in Society, people with a mental handicap may need help. The service systems should provide help which facilitates integration into the community and helps the community to accept differences in their peers rather than reinforce prejudice. The Committee, therefore, made the following recommendations with regard to service systems:

People with a mental handicap should use normal services wherever possible to prevent them being distanced from the rest of Society. Existing networks of community support should be strengthened by professional services. "Specialised" services, or organisations for people with a mental handicap, should be provided only to the extent that they meet additional needs that cannot be met by the general services. There must exist co-ordination and continuity between services at all levels. There should be someone to intercede on behalf of people with a mental handicap in obtaining service (Para. 93).

## (vi)  Services in Scotland compared with those in England and Wales

Policies and practices may develop in Scotland with a different emphasis and at different rates than those in England and Wales as a consequence of Scotland's separate legal and administrative systems. The move in England and Wales away from institutionalisation and towards community care has also been endorsed in Scotland. There are, however, differences in the provision of services between Scotland and the rest of Britain. In Scotland, there is a higher rate of provision of staffed residential accommodation, as well as more day services. However, the rate of hospitalisation is higher in Scotland and the rate of local authority provision of residential accommodation is lower. Figure 6 illustrates these differences.

### Figure 6: RESIDENTIAL AND DAY PLACES FOR ADULTS WITH A MENTAL HANDICAP IN 1984/1985 - SCOTLAND, ENGLAND AND WALES **

|  | Scotland | England | Wales |
|---|---|---|---|
| Residents aged 15*+ in mental handicap hospitals | 139 | 98 | 86 |
| Residential places for people with a mental handicap aged 16+ In L.A. staffed homes | 19 | 30 | 25 |
| In voluntary organisation homes | 17 | 8 | 8 |
| In private sector staffed homes | - | 8 | 26 |
| Total in staffed residential accommodation | 175 | 144 | 144 |
| Day places (expressed as rate per 100,000 pop. aged 16 - 64) | 194 | 161 | 180 |
| In LA ATC's  In voluntary organisation centres | 16 | n/a | n/a |

* For Wales, residents aged 16+ in mental handicap hospitals and units.  Source: "Balance of Care", Baker and Urquhart, 1987.

** Rates per 100,000 population.

Differences in provision of services between Scotland, England and Wales also existed in the 1970's. The numbers of persons living in Scotland in mental handicap hospitals did not vary much between 1974 and 1982, but then started to fall. This was due largely to the considerable drop in people under 35 admitted to hospital balanced by the numbers of a large increase in the number of people over 55. In 1974, about two thirds of the people attending Day Centres were resident in hospital. Between 1974 and 1984, the number of places in ATC's and Day Centres almost doubled. There was also an increase in the number of staffed residential homes. These were run by voluntary organisations, social work departments and housing associations.  By 1984, the number of adults with a mental handicap in receipt of residential or day care services had increased considerably.

Although following the White Paper of 1971 there has been a gradual shift in the balance of care from hospital services to community based care, large variations remain. In most localities, hospitals, ATC's and hostels still provide care for people with a mental handicap and any other developments from there are considered experimental. There is wide variation between individual Local Authorities in relation to innovation and funding of services. One of the main problems with the White Paper was that it did not conceive a total shift to local services. The policy advocated services based in local communities, yet hospital care continued to dominate residential provision.

This anomaly was addressed by the National Health Service and Community Care Act (1990), which shifted responsibility for Community Care to Local Authority Social Services Departments. The Act advocated that: "each local authority shall prepare and publish a plan for the provision of community care services in their area". In the preparation of plans, Local Authorities were directed to consult Health Authorities, Voluntary Organisations, Housing Associations and other relevant bodies. Under the Act, Community Care services were defined as services for "training and occupation of the mentally handicapped".

The White Paper "Caring for People: Community Care in the Next Decade and Beyond" (HMSO, 1989) strongly advocated an increasing role for community services for all client groups. In relation to Scotland it was noted that: "Between 1979 and 1987 the number of people with a mental handicap in hospital fell by 21%, while day care provision for this group rose by 35%". This trend has continued and the White Paper aimed "to enable those who need care to live as independently as possible in their own homes and elsewhere in the community and to reduce current reliance on residential care" (p.79).

Despite community care having been advocated for around 20 years, there still seems to be uncertainty as to what it is in practice. Although the White Paper made recommendations that community units be "homely" and "locally-based" and the National Health Service and Community Care Act (1990) mentions "training and occupation of the mentally handicapped", it appears that there is a need for more precise guidelines in relation to the care of people with a mental handicap.

## 6. EVALUATION OF DEINSTITUTIONALISATION

### (i) Research evidence
Changes in policy relating to the care of people with a mental handicap are based on three basic assumptions:
1. Institutions are detrimental to client growth;
2. An environment providing "normal social contact" and the potential for "normal social interaction" has a "normalising" effect on people with a mental handicap;
3. Community care facilities provide a relatively "normal environment", therefore they have a "normalising" effect on residents (Butler and Bjaanes, 1977).
The evidence relating to these assumptions is conflicting. Rosen et al (1977) reported that there is no argument between institutions and community placements if they both adhere to accepted standards of quality. The notion that institutions are detrimental to client growth has been well documented (e.g. Goffman, 1961; Farber, 1968; Wing and Brown, 1970). Close (1977) compared state institution placements with group home and

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community vocational placements. The results from this study suggested that a group home plus a vocational placement is more likely to produce an improvement in adaptive behaviour than an institutional placement. Conroy et al.(1982) compared adaptive behaviour changes in residents living in the community, using a pre-matched pre-test versus post-test control group design. The assessment used was the shortened form of the AAMD Adaptive Behaviour Scale (Nihira et al., 1974). This was conducted before relocation as well as one year after the change in placement. The results suggested no significant differences prior to relocation. Following relocation, the residents living in the community obtained significantly higher scores in on adaptive behaviour. Haney (1988) reviewed a range of studies investigating the relationships between placements in the community or institution, and adaptive behaviour. The evidence from these studies suggested that in general, community placements appear to be associated with greater improvements in adaptive skill than institutional placements.

However, a number of studies have observed increases in IQ and cognitive development in institutionalised individuals (Balla et al., 1974; Clarke and Clarke, 1954; Yando and Zigler, 1971; Zigler et al., 1968). Moreover, Nihira (1976) found some improvement in the adaptive behaviour of institutionalised individuals at all IQ levels. This work provides evidence to suggest that individuals with a mental handicap develop along a number of dimensions even when institutionalised. The assumption that institutionalisation is, without qualification, detrimental to client growth is too simplistic, as is the view that community-living arrangements are necessarily more "normalising" than are traditional institutions (Butler and Bjaanes, 1977; Edgerton, 1975; Landesman-Dwyer, 1981; Hemming, 1986). Some community care facilities might not be significantly different from institutions, in that they do not provide a relatively "normal" environment and thus do not have a normalising effect on their residents.

The situation is very complex. Arguments can be found for both institutionalisation and deinstitutionalisation. It is inhumane to institutionalise any individual, but it is equally inhumane to

deinstitutionalise particular individuals. In addition, empirical investigations have depicted apparently conflicting views of the benefits of deinstitutionalisation.

## (ii) The role of training

It is a convincing and compelling argument to provide people with a mental handicap with an environment which has as few restrictions as possible. However, deinstitutionalisation demands increased skill acquisition and simply moving people to community settings is not enough. Systematic training should be provided to teach deinstitutionalised individuals how to make use of their new environment (Kleinberg and Galligan, 1983). Several authors have argued that relocation alone is insufficient to allow people with a mental handicap to take advantage of the community facilities in which they now live. (Peter's Report, 1979; Butler and Bjaanes, 1977; McCarver and Craig, 1974; Edgerton 1977; Berkson and Landesman-Dwyer, 1977; Hendrix, 1981).

Residents' adjustments to the community is related to community support and training options (Hemming 1986; Landesman-Dwyer, 1981). One of the main findings of Butler and Bjaanes (1977) is that experience of the small community facility environment is not sufficient to support the normalisation process. Clients living in a community house must make use of the facilities within that community. Their data revealed that the residents of many small community houses rarely use outside facilities and, in effect, create socially isolated total institutions within the community. Felce et al. (1986) compared adaptive behaviour of residents in a community-based home, parental home or residential institution. Residents in the small-home group in the community made most gains in adaptive behaviour. However, the authors attributed these gains not simply to the characteristics of the setting but also to the specific individual programmes implemented by the staff for the residents to promote learning.

Conroy and Bradley (1985) reviewed the effects of the court-ordered deinstitutionalisation of residents from Penhurst school. These residents were relocated in community placements in numbers of no more than three. They were required to have an active day

programme, to attend work or school. In addition, they were given training in various skills such as community living. The combination of deinstitutionalisation, active programmes and training resulted in significant adaptive behaviour growth for these residents.

It is important that residents be taught the various social and community living skills that most members of society take for granted. Community placement alone is insufficient to ensure community adaptation and it must take place in conjunction with preparation, support and training. The following two chapters will consider methods for such training.

# SOCIAL SKILLS TRAINING

The present thesis is concerned with the training of community living skills. While the next Chapter will outline some more general aspects of Community living, the present Chapter will look at social skills in more detail.

## 1. DEVELOPMENT OF SOCIAL SKILLS TRAINING

Social interaction is a basic skill which cuts across all situations. Good interpersonal skills are necessary in various community living settings, such as shops, pubs, cafes and talking to neighbours. They are also necessary in settings designed for leisure and in other areas, such as talking to authority figures, e.g. policemen and in being assertive in relation to friends and strangers.

In addition to community living situations which require social abilities as their main element, there are several situations in which social skills are of secondary importance. For example, when boarding a bus it may be necessary to have some short conversations with the bus conductor or driver. When going into a shop, in addition to understanding the layout of the shop, choosing and buying the items and using the check-outs or cash desk, it may also be necessary to ask the shop assistants for advice, or to have some short social exchange with other customers. Thus, it seems essential that clients should have access to social skills training programmes to ensure that they can rely on a sound set of basic social abilities in various community settings.

Although social skills training is now firmly settled within the parameters of behaviourial psychotherapy, its initial impetus and development came from social psychology and social psychological theorists such as Argyle (1969,). Social psychologists first developed the idea that social skills and personal living skills can be considered analogous to work skills. This was perhaps the major theoretical development in social skills training. Rather than considering personal abilities as "complex unravelled whole",

these writers broke down complex abilities into much smaller parts so that they could be investigated and understood in more detail. In the same way, the complex of social and interpersonal skills was broken down into manageable elements which might be considered suitable for analysis and treatment. Analysis of all the skills is based on variation around a normal, sociable, skilled level of functioning. They may vary from total absence of the ability, through normal functioning, to excessive amounts of the behaviour.

In later years, workers in the area of social skills training have concluded that this minute dissection of social behaviour has been less useful than at first hoped (Trower, 1982, 1984). However, this should not detract from the value of the original writings. Indeed, when teaching people with a mental handicap who have a slower understanding of the development of abilities, it remains necessary to split social and community living skills into smaller units, so that they can be more easily comprehended and taught.

## 2. ELEMENTS OF SOCIAL SKILLS

Social behaviour has usually been analysed into three main sections.

### (i) Non-verbal communication
This part of the analysis includes only non-semantic and non-verbal responses. Other authors have termed this "body language", or "bodily communication" (Argyle and Cook, 1975). The main point about non-verbal communication is that people convey information and messages to each other without using sound or words. Non-verbal communication may be further analysed into discrete units or elements and the following are some major examples. These are based on the work conducted by Argyle (1971).

Gesturing: The element of gesturing suggests that individuals convey messages to one another using their hands and arms only. Some of the most clear messages may be conveyed by gestures. More commonly, gesturing will be used to accompany speech and to emphasise points which the speaker is making.

Facial expression: As with other non-verbal aspects of social skills, facial expression can be used to convey messages without using any speech. Therefore, a person can convey happiness, sadness or curiosity with only a facial expression.

Gaze direction: The way a person uses his/her eyes is an extremely important aspect of non-verbal communication. In general, training focusses on the amounts of gaze direction which the person uses to accompany speech or listening skills.

Proximity: The proximity of interaction is extremely important, although there are cultural differences to the proximity of interactors during a conversation, most individuals find it very uncomfortable if the other person is too close, or too far, away. Social skills training may deal with some aspects of bodily contact, such as meeting people and shaking hands, maintaining appropriate proximity.

Personal appearance: Personal appearance has been found to be extremely important in the impression which one person conveys to others. There are various classic experiments (Argyle, 1971) in which the individuals engaging in the same activities but dressed differently, evoked completely different reactions from others.

Hygiene: This element of non-verbal behaviour is extremely important when considering training with more under-privileged groups of clients, such as those who are the subject of this thesis. Clearly, individuals who are dirty and unhygienic create a vastly different impression from those who are clean or reasonably well-kept.

Posture: Posture is another non-verbal aspect of interpersonal behaviour which conveys immediate impressions to other people. This element of social interaction can vary from extremely slumped and poor posture, through normal relaxed postures, to those which are excessively erect and rigid.

Although these non-verbal behaviours are isolated for the purposes of analysis, they seldom occur on their own. Normally, they would

be integrated together and one important example of the integration of non-verbal behaviour is in the individual's listening skills. Here, several aspects of facial expression, gaze direction, posture and proximity are meshed together to convey the information that the listener is paying attention to what is being said. In addition to this, these non-verbal behaviours are integrated with other non-verbal aspects of speech.

## (ii) Non-verbal aspects of speech

The nonsemantic aspects of speech can also be broken down into smaller pieces of behaviour. This analysis is concerned with the way in which people say things rather than with what they actually say. Therefore, several aspects of speech would be considered and many of these are almost self-explanatory, as follows:

Volume: This refers to how loud a person talks and can range from almost inaudibly quiet through normal volumes to extremely loud.

Pitch: This refers to how high a person's voice quality is and can range from someone who speaks in an extremely low and gravelly voice, through normal pitch, to excessively high squeaky speech.

Clarity: This refers to the way in which people say the words and can range from speech being very slurred and indistinct, through the normal range of clarity, to precise clipped speech which might almost be considered military in presentation.

Tone of voice: Tone of voice can range from a monotonous unvarying tone, to normal ranges of tone, to an extremely varied unpleasant tone of voice.

Speech errors: This element of social behaviour is also included in non-verbal aspects of speech but is not related, as the above items are, to the quality of voice. Speech errors relate to the number of mistakes a person makes when speaking.

Pauses: Pausing is a nonsemantic aspect of speech which can be extremely important for individuals who are socially unskilled. Pausing can range from those people who have a great many pauses

in their speech, leading to extremely ponderous presentations, to people who talk with a great deal of pressure of speech, never pausing. Pauses can also be split into those which are filled with "er" and "um" utterances and those which are unfilled.

Pace of speech: Pace of speech ranges from extremely slow and hesitant speech to fast uninterrupted delivery.

Length of speech: This refers to the length of sentences which a person use is considered. Important aspects here are whether or not s/he uses short sentences or those with many subjective clauses.

Once again, the above items are not intended to be an exhaustive list of non-verbal aspects of speech.

## (iii) Verbal aspects of speech
This last group of the elements of social skills is concerned with what is being said during interaction.

Question asking: This has been repeatedly found to be an extremely important aspect of social interaction. It is the only utterance which guarantees that a dynamic back and forth sequence will occur between two people (Lindsay, 1982). It indicates that the person speaking is interested in the other person and is therefore an essential aspect of social interaction (Minkin et al., 1976, Kelly , 1982,  Hood et al., 1982).

Question answering: This is closely related to the above element of social interaction, in that it is insufficient merely to have a series of questions which can be asked during a conversation. It is essential to be able to answer questions in an informative manner which will not finish the conversation. The first requirement is that people are able to answer questions at all. Lindsay (1982) has shown that, in the conversation of non-handicapped groups, questions are always answered, whereas, in groups of individuals who are mentally ill, questions frequently go unanswered. The second important consideration is that questions can be answered in a brief and curt, or in an

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informative, manner. Here again, social skills training would endeavour to teach clients to give longer answers which encourage the development of the conversation rather than a brief "yes" or "no". Therefore, there are several different ways of answering questions, as there are different ways of asking questions.

Expressing opinions: This is an important element of social interaction. It is unusual, and it can make the other person uncomfortable or even bored, if a person never expresses his/her opinions. There is a graduation from never expressing opinions to being overbearing and unacceptably opinionated.

Giving information about oneself: It is appropriate during conversation to volunteer information about oneself. This can be graded in two ways: from volunteering no information to constantly telling other people about oneself; and the personal nature of the information that is volunteered. Clearly, a speaker might volunteer very personal information to a close friend which would not be volunteered to strangers.

Interest in other people: This element of social interaction pertains to the extent to which the speaker gains information about the other person. This information can be obtained by personal questions or by inviting the other person to comment on matters of discussion. Again, this can range along two dimensions: the number of personal questions which the individual asks; and the intrusiveness of these questions. This will once more be related to the situational aspects of the conversation.

As has already been mentioned, it is of great value to the therapist to be able to split social interaction, or indeed any personal skill, into component parts so it can be assessed, analysed and treated. However, in real interactions, these elements will be co-ordinated together, e.g. when two people are talking they will generally mesh their social interaction. While one person is talking, the other will be using non-verbal listening skills and perhaps some encouraging remarks. When the individual comes to the end of his speech, the other person will take up the speech using verbal skills, non-verbal aspects of speech and non verbal behaviour, while the first individual will

then move into a listening mode. Therefore, there is a natural co-ordination of social interaction skills.

## 3. EARLY STUDIES OF SOCIAL SKILLS TRAINING

In the late 1960's, three developments came together which promoted the implementation of social skills training. Two have already been mentioned, the acceptance of the importance of social functioning in the development of social competence and the analysis of social skills in terms of identifiable and trainable units. The third factor was the implementation and development of behaviour therapy (Wolpe 1969, Marks 1969). Behaviour therapy was applied to social interaction and some of the early studies were extremely promising in their initial exposition and findings. Wolpe and Lazarus (1966) were among the first to propose that social and assertion skills were appropriate for behaviour therapy. Wolpe (1969) presented a rationale for assertive training which developed from ideas of desensitisation. He stated that a patient's anxiety in an interpersonal context could prevent him from making the normal social responses. A number of case studies were reported in which the counterconditioning of anxiety (replacement of anxiety with the incompatible response of relaxation) resulted in the successful treatment of social difficulties. One of the first to include studies of behaviourial rehearsal was Lazarus (1966). He compared the effects of behaviourial rehearsal, direct advice and non-directive therapies in training passive clients to be more assertive in dealing with unreasonable requests. Rathus (1972) increased the assertive responses of 28 college women by a programme of social skills training using several aspects of modelling, instructions, role play, behaviourial rehearsal and feedback. Using a similar subject group, McFall and Marston (1970) found that subjects who engaged in rehearsal and obtained feedback on responses produced greater improvements in assertive behaviour than control subjects who received no treatment, pseudo-treatment or behaviour rehearsal alone. Similarly McFall and Lilliesand (1971) found that modelling and behaviourial rehearsal produced greater gains in assertive skills than modelling alone.

While these studies suggested that the methods of social skills training would be useful with individuals who had poor social skills, they were all conducted on students who are not representative of the disadvantaged and clinical populations reported in the present thesis. Argyle et al. (1974) reported a number of successful case studies of psychiatric out-patients. They employed the techniques of modelling, role playing and behaviourial rehearsal, feedback and discussions about social skills training in relation to difficult situations in the patient's life. They also used tuition about the elements of social interaction and exercises which explained and highlighted the principles of social communication. They reported a number of successful case studies and considered that the method was a promising technique for dealing with individuals who suffer from neurosis. They then conducted a controlled trial (Argyle et al., 1974) comparing social skills training with psychotherapeutic methods. They found that the therapies were equally effective, although social skills training used less therapist's time and the beneficial effects maintained to a greater degree at six week follow-up.

In a series of experiments, Hersen et al. (1973) used social skills training to treat a number of clients who suffered from general emotional disorders. They found the methods to be effective in helping people to deal with specific difficulties in marital interaction. They also found improvements in family interaction after short courses in social skills training (Eisler et al., 1974). They then assessed the effectiveness of these methods with a general day patient and found that modelling, in practice situations which required assertion, produced improvements in assertive responses; subjects who received no treatment, or practice alone, did not show any improvement (Eisler et al., 1973). Modelling and instructions produced superior, or equal, improvements to modelling alone, or instructions alone, in a number of components of assertion and the two together were better than no treatment or pseudo-treatment conditions (Hersen et al., 1973).

Taken together, these studies suggested that social skills

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training was a very promising technique for dealing with social
skills deficits in individuals who presented with clinical
difficulties. It also seemed that modelling, behaviour rehearsal
and instruction were more effective than the no treatment or
pseudo-treatment conditions and at least as effective as
alternative psychotherapeutic methods.

## 4. SOCIAL SKILLS TRAINING WITH LONG-TERM PATIENTS

This thesis deals with individuals who are more seriously impaired
than the groups studied above. While the latter indicate the
efficacy of social skills training, several authors have suggested
that analogue research with college students may not be
particularly relevant to clinical groups (Twentyman and Zimmering,
1979).

Following this initial work, several researchers began to
investigate the possibility of using the methods with more
chronic, seriously handicapped populations. Goldsmith and McFall
(1975) reported a very carefully designed and controlled attempt
to train psychiatric in-patients in social skills. They first
analysed problem social situations and then developed competent,
coping responses. The methods of modelling, behaviour rehearsal
and feedback were used to train the responses which had been
developed for the previously defined critical situations.  This
treatment was then compared with a realistic pseudo-treatment, in
which the therapist explored the subject's feelings about the same
critical situations. It was found that the social skills training
package improved the social functioning of psychiatric in-patients
while the pseudo-treatment was not effective at all in improving
their social abilities.

In one of the few studies to report a long-term follow-up, Longin
and Rooney (1975) used social skills training to improve the
social performance of 38 chronic hospitalised female patients.
A short treatment programme produced improvements in the social
behaviour of the experimental group, while a control group showed
no corresponding improvements. After two years, the experimental
group was still better than the control group in their social

effectiveness and social skills. These findings were supported by later studies which again showed the effectiveness of social skills training with chronic, poorly skilled groups of subjects. Shepherd (1977) found such training was effective in improving the abilities of a group of day patients who suffered from chronic neurosis. Matson et al. (1980) found social skills training to be effective in increasing the number of friendships of chronic schizophrenic patients. Patterson et al. (1975) demonstrated that rehearsal and other behavioural techniques were effective in increasing the speech intensity of chronic schizophrenic patients. Lindsay (1980) compared social skills training with another effective behavioural technique for increasing amount of speech and found that, while both treatment techniques increased the amount of speech engaged in, social skills training was far superior in improving the quality and content of conversation of a very chronic schizophrenic group.

Therefore, several authors have demonstrated the short-term effectiveness of social skills training with chronic, seriously impaired populations. The main problem with most of these studies was that, once abilities have been trained in this way, they do not maintain over long periods of time and do not generalise readily from the situation in which training has occurred to other situations in the client's life. A noteable exception to this is the study by Longin and Rooney (1975), which found that improvements were maintained over a period of two years. Corrigan (1991), in a review and meta-analysis of social skills training in adult psychiatric populations, found those who had participated in social skills training programmes broadened their repertoire of skills, continued to demonstrate those skills several months after treatment and showed diminished psychiatric symptoms related to social dysfunction.

The issues of generalisation and maintenance of skills will be dealt with later in this Chapter.

# 5. SOCIAL SKILLS TRAINING WITH INDIVIDUALS WHO HAVE A MENTAL HANDICAP

During the 1970's, while a great deal of work was being conducted with college students, psychiatric out-patients with neuroses and patients who had chronic neurotic or psychotic disorders, little work was done with clients who had a mental handicap. This is surprising considering the number of authors who have demonstrated that such clients have severe social impairments (Tizard, 1975; Zigler and Balla, 1977).

One of the first studies to appear was that of Gibson et al. (1976). They developed three training programmes aimed at improving peer-interaction skills in three developmentally disabled adults. The training procedures were: modelling, instructions and feedback and a combination of modelling, instructions and feedback. All the procedures were effective in improving peer-interaction skills but the combined procedure was the most effective.

Turner et al. (1978) found a significant increase in the social behaviour of an organically impaired and retarded client after a programme of social skills training. Bornstein et al. (1980) used social skills training to improve the abilities of four adults with a mental handicap. Using a multiple baseline strategy, they employed instruction, modelling, behaviour rehearsal, feedback and social reinforcement and demonstrated that these mentally handicapped clients had significantly improved their social abilities after treatment. The gains in social skills were still evident at one month follow-up. Further studies have compared the effectiveness of social skills training with other psychotherapeutic methods designed to help individuals with a mental handicap. Bates (1980) found that interpersonal skills training was significantly more effective than other treatments in improving the abilities of subjects.

# 6. PROBLEMS IN SKILLS TRAINING

The problems of generalisation and maintenance have plagued skills

training since its inception. Skills learned in one situation are not readily used in another situation. Thus, someone who is taught to interact in one setting may not use these skills in another area of his/her life. Also, once the training programme stops, there is a tendency for the newly learned skills to fall into disuse and to be poorly maintained. While the issues have been well documented over the years (Baer et al., 1968; O'Leary and Drabman, 1971; Stokes and Baer, 1978), the problems remain (Storey and Gaylord-Ross, 1987; Downing, 1988). Therefore, when developing any programme of skills training, it is essential to plan how the abilities will generalise to the target situations in the clients life and how they will be maintained by the client after the training programme has finished.

One of the simplest methods of ensuring generalisation to target situations is to carry out the training in the target situation itself (Baer and Stokes, 1977; Kazdin, 1977; Lindsay and Stoffelmyr, 1982). In this way, the stimuli and events in the environment will gain control over the person's responses. The individual will learn how to cope with the target surroundings and, in the end, the only difference will be that the teacher/therapist is absent in the latter. Therefore, if the individual is learning how to cope with a supermarket, it will be best to do the training in the local supermarket so that the requirements of this situation will maintain the person's skills. The main drawback of this approach is that it is not always possible to train a group of people in their local situation because of the time and number of teaching personnel required.

A less time consuming approach is to use similar stimuli in the training and target (generalisation) situations. In this way, the person will learn to respond to the salient stimuli in the situation irrespective of where they are. Baty et al. (1989) taught cafeteria skills in a therapy room on a ward. The room was made to resemble a cafeteria by setting up a counter and offering a range of food and drinks. When assessment was concluded in a real cafeteria, it was clear that the skills learned in the training setting had transferred to the real setting.

Another strategy to promote generalisation is training across several examplars. A number of authors have written that, by teaching in several related situations rather than in single situations, generalisation is enhanced (Stokes and Baer, 1978; Storey, 1987; Nietupski et al., 1987). In one example by Michie et al. (1990), pedestrian training was done on several quiet and busy roads. The pedestrian skills gained in these roads transferred to different roads from those used in training. Stokes et al.(1974) used two therapists to train greeting responses which then generalised to all adults in the unit.

A further approach is to train self-control techniques so that the individual is able to use self-statements, self-monitoring, etc. in various situations. Storey and Gaylord-Ross (1987) used self-monitoring to maintain behaviour after the experimental manipulations had ceased. Meichenbaum (1977) encouraged the use of self-instructional training to help generalise learned coping strategies beyond the immediate teaching situation.

## 7. SOCIAL VALIDATION

An important concern for those carrying out skills training is the extent to which the skills being taught fall within the normal range of ability shown by people who do not have a mental handicap. This is particularly true for social interaction, but is also relevant to other aspects of training leisure and work skills. Bellack (1983) wrote that: "The identification of appropriate target behaviours is probably the most critical task facing workers in the area of social skills" and Trower (1980) stressed the need for "a body of scientifically validated knowledge of normal social behaviour to provide training targets and assessment criteria". Lindsay (1982) compared the conversation skills of a group of manual workers and three groups of psychiatric patients before and after social skills training. He found that, although the social behaviour of the patients generally moved towards the level of ability displayed by the manual workers, there remained significant differences after treatment, with the patients' behaviour still falling outside the normal range. In one case, the training programme made the

patients' ability even more discrepant from the norms than before. Therefore, valuable insights into the effect of treatment can be obtained from a social validation comparison. Van Houten (1979) gives an example of a programme which was designed to bring about a simple increase in a classroom ability (question asking). This resulted in the child asking far too many questions, so that its level of skills still remained well outside normal limits.

As people with a mental handicap are encouraged to live normal lives in the community, so the need for normative goals of training and rehabilitation becomes paramount. Kazdin and Matson (1982) wrote that there are several main aspects of social validation. One is that the focus of intervention, or skills to be taught, should generally be considered important by the general population. Therefore, the skills will have to be valid in terms of the living skills needed by people who do not have a mental handicap. Another aspect is that the outcome of treatment should be similarly judged by the general population as to how it helps the client to cope with everyday living and the extent to which it approximates the functioning of non-handicapped peers. There are two basic ways of conducting a social validation exercise (Kazdin, 1977): subjective evaluation and social comparison. Subjective evaluation involves using specially qualified judges to rate aspects of competent and incompetent performance as a means of providing appropriate target behaviours and assessing change. Therefore, policemen have been used to identify important skills and to judge the appropriateness of youth/police interactions (Werner et al., 1975); socially competent individuals have been used to select socially important behaviours and to assess social performance (Minkin et al., 1976; Wildman, et al., 1986; job employment officers have been used to assess behaviour during job interviews (Hood et al., 1982).

In the method of social comparison, subjects' performance is compared with that of peers who are considered competent in the skills being treated. Observation of competent individuals can provide specific behaviourial targets for training and can also establish a normative range of behaviour to assess the effectiveness of treatments. The methods have been used to

compare childrens' problem behaviours after treatment with their
non-deviant peers (Patterson, 1974;  Walker et al., 1976);  to
compare the problematic eating behaviour of adult retardates after
treatment, with normal employees' eating habits (Azrin and
Armstrong, 1973);  to assess the social behaviour of clients with
co-workers in an industrial setting (Chadsey-Rusch et al., 1989);
and to assess the outcome of social skills training programmes
(McFall and Twentyman, 1973;  Storey et al., 1984).

## 8. RECENT STUDIES

More recent studies have addressed the question of generalisation,
maintenance and social validation of improvements made after
social skills training.  While some studies found positive results
when assessing maintenance of social skills in people with a
mental handicap (Bradlyn et al., 1983;  Bornstein et al., 1980),
these issues have been a major problem in the skills training
literature over the years.

Bradlyn et al., (1983) trained five adolescents with a mental
handicap in conversation skills, using instruction, modelling,
role play and social reinforcement.  They trained the skills of
using conversational questions, making self-disclosing statements
and making reinforcing and interested comments to others.
Improvements in ability were noted in unstructured and extended
conversations between subjects and also towards unfamiliar people
without a mental handicap.  The improvement maintained to a five
month follow-up assessment.  Downing (1987) trained
conversational skills in three adolescents with moderate to severe
mental handicap.  She found substantial increases in initiation
of conversation and ability to cue others to continue the
conversation.  However, these improvements did not generalise to
initiating conversation with other adults without a mental
handicap.  This type of study indicates that, despite the methods
recommended to promote generalisation of skills to new situations,
the problems remain.

Group comparison studies suggest that gains produced by social
skills training are consistent and effective when compared to

alternative group therapies and no treatment controls (Bates, 1980; Foxx et al., 1983 ; Matson and Senatore, 1981).

Wildman et al. (1986) used social skills training with seven adults, with a mild or moderate mental handicap, who were living in community settings. They concentrated on the conversation skills of asking questions, giving compliments and disclosing information and assessed the subjects when talking to familiar and unfamiliar peers without a mental handicap. They found that all subjects showed improvements after training and that these improvements maintained at one month, three month and six month follow-up. Community volunteers also rated the assessment tapes to ascertain the extent to which changes were socially valid, i.e. that any changes in social skills were in a socially acceptable direction and brought clients closer in skill level to their peers without a mental handicap. They judged that subjects had made positive adaptive changes in their social interaction.

Hasaltine and Miltenberger (1990) taught assertion skills to eight adults with mild mental handicap. Assertion skills were defined as those required to identify and safely respond to abduction and sexual abuse situations. The techniques used were instruction, modelling, rehearsal, feedback and praise. The researchers attempted to assess generalisation of acquired skills, as assessment focussed on actual skill acquisition in simulated real-life situations, rather than on knowledge acquisition. Results showed that criterion skills had been learned and maintained to a six month follow-up. They also demonstrated that the skills generalised from the small group training environment to the natural environment.

Schloss and Wood (1990) compared social skills training in isolation with social skills training plus the addition of self-monitoring using a hand-held counter. Target behaviours were asking non-directed questions, answering directed questions and asking directed questions. They examined the effect of self-monitoring on the generalisation and maintenance of the conversational skills of adults with a mental handicap. They also considered social validation by conducting social comparison

and subjective evaluation procedures. The study demonstrated that social skills training alone did not result in generalisation of conversational skills to the assessment setting but the addition of self-monitoring did. Results were maintained over six months and generalised to an increase in social behaviour not trained in the study. The importance of the effect of self-monitoring was supported by social competence and subjective evaluation data.

Nezu et al. (1991) carried out assertiveness and problem solving training with 28 people with dual diagnoses of mental handicap and mental illness. They investigated the effectiveness of this treatment programme on the subjects' social behaviour, psychiatric symptoms, anger control and problem-solving coping skills. Assessments were conducted at pre-, mid- and post-treatment and at three months follow-up. Caregiver ratings of adaptive functioning showed a specific improvement as did subject self-report measures of distress. The results indicated that the skills training package was effective with people with a mental handicap with dual psychiatric diagnoses.

Sherman et al. (1992) evaluated whether the social behaviours commonly taught to people with a mental handicap in social skills training, i.e. following instructions, accepting criticism and negotiating to resolve conflicts, were responded to favourably by others. Thirty-seven people with mild, moderate and severe mental handicaps were asked to participate in video-taped roleplays comprising each of the social skills. Forty-six community members, representing a wide range of occupations, also participated in the roleplays. Performances were scored using behavioural checklists. The participants with a mental handicap scored as well as the community participants on following instructions and accepting criticism, but lower on negotiating. Thirty-seven community members, from a range of occupations similar to the group of community roleplay participants, were recruited to evaluate the performances of those who roleplayed the social situations. There were high positive correlations between the scores derived from the behavioural checklists and the evaluation of community members for both groups of participants.

Storey and Gaylord-Ross (1987) reported three studies with groups of adolescents with mixed mental handicaps in a work training setting. They used a social skills training package to increase positive verbal statements while playing a game during break-time. Positive verbal statements were words or statements offering encouragement, condolence or reinforcement. After several aspects of the treatment package were withdrawn, contingent social reinforcement and self-monitoring were found to be sufficient to maintain improvements at a substantial level for up to eight weeks. Post-treatment levels of social interaction shown by the subjects were no different from levels shown by groups of peers without a mental handicap. There was, however, little generalisation of improved social abilities to other leisure activities. Matson and Senatore (1981) also found that improvements in social skills maintained to a three month follow-up assessment following a social skills training programme.

Other recent studies addressed the importance of social skills and analysed them in various community living situations requiring adaptive behaviour. Chadsey-Rusch (1992) investigated social skills in employment settings. She aimed to define social skills by identifying those components that are required for teaching social skills to people with a mental handicap in employment settings. Three measurement approaches were also considered:

(i) Measuring the perception of others. This was regarded as important because social competence is judged by other co-workers.
(ii) Measuring the goals and perceptions of the target individuals. Very few studies have assessed the social goals or perceptions of the individuals participating in a social skills training programme. This study highlighted the close link between the goals and perceptions of each individual in a social skills training programme and the motivational aspects of training.
(iii) Measuring the performance of social behaviour in natural contexts. In this study the acquired social skills were measured in the actual employment setting.

This study demonstrated the importance both of teaching social skills in the setting in which they were required and of considering social validation in the assessment of the trained

skills.

Kopp et al. (1992) observed 15 pre-school age children with a mild mental handicap with matched peers without a mental handicap during structured play sessions. The former spent more time alone and were less sociable when in social situations. According to the authors, "time alone represents missed opportunities to learn what interactions are all about." They noted that when the children with a mental handicap were encouraged to interact with their peers, they shared many play behaviours in common.

Oetting and Rice (1992) examined the influence of social context on the interpersonal communication skills of 16 people with mild to moderate mental handicap. They were video-taped engaging in conversation about various topics. Seven people without a mental handicap, blind to the conditions of the study, assessed the conversational segments. The data demonstrated that people with a mental handicap were proficient at participating in simple conversations but poor at taking part in complex conversations, such as those that would occur in job settings or group homes. In complex conversations, they were less able to judge topic maintenance or to make appropriate responses. This emphasises the need to train these skills and to consider training in appropriate settings.

Williams and Asher (1992) found significantly greater amounts of loneliness in boys with, than those without, a mental handicap, even in social settings such as school. This also supports the idea that people with a mental handicap are often lacking in a wide range of social skills, resulting in loneliness, exclusion from various community settings and loss of employment.

Healey and Masterpasqua (1992) examined the classroom behaviour of 73 children with mild mental handicap. They found that interpersonal cognitive problem solving skills were an important factor in well adjusted classroom behaviour. Their findings suggest that cognitive interpersonal skills may be more important for children with, than for those without, a mental handicap.

Recently, authors have begun to re-consider the importance of social competence in people with a mental handicap. Greenspan and Granfield (1992) presented a model of general competence in which the concept of mental handicap was characterised by deficits in social, practical and conceptual intelligence. Siperstein (1992) noted that there is a growing movement toward the inclusion of social competence in the identification and treatment of people with a mental handicap.

In a review of social skills training with people with a mental handicap, Storey (1987) concluded that, although the number of studies is limited, the evidence suggests that clients can learn to interact appropriately with others in the community. He recommends that improved "social interactions be embedded in a larger sequence of community integration and participation, rather than being taught as an isolated skill." This is similar to the idea put forward by Shepherd (1980), that social skills should be taught within an "existing social network" which will sustain abilities beyond the initial impetus provided by the training group.

Underlying the increasing move towards community placement is the assumption that placement in a normal environment is sufficient to learn the skills necessary for community adaptation. As indicated in Chapter One, the research that has been carried out indicates that experience of a small community facility is not sufficient to support the normalisation process. With community placement, there is a tendency to de-emphasise formal training. However, clients living in a community house must make use of the facilities within that community. In order to use community facilities, residents must be taught the necessary social and community living skills, e.g. how to use a cafeteria (Baty et al., 1989), how to cross the road, (Marchetti et al., 1983;) and how to use shops (Aeschleman and Schladenhauffen, 1984).

Over the past 15 years, research has looked at the application of behaviour modification approaches to teach independent functioning skills, such as toileting, grooming and eating. A development from this was the streamlining of such techniques, so that new skills could be learned more quickly and efficiently, e.g. the successful approach of Foxx and Azrin (1973) to toilet training. However, there is limited research on behaviour modification procedures in other areas, in particular those skills needed for community living, the importance of which has been noted above.

This Chapter will review the literature on training programmes designed to teach skills necessary for community adaptation.

## 1. PEDESTRIAN SKILLS

The ability to participate within the community depends to a large extent on a person's ability to move around within that community. This ability demands a knowledge of how to use public transport, to cross roads and to use pedestrian crossings. These last two are especially important, as any errors are potentially dangerous.

Page et al. (1976) taught pedestrian skills to five adults with a mild mental handicap, using a classroom setting and a model simulating four square city blocks. Subjects were taught the

specific skills required to complete a street crossing sequence:
These were: (1) intersection recognition;  (2) pedestrian light
skills;  (3) traffic light skills and (4) responding appropriately
to a "stop" sign.  The ability to use these specific skills was
trained using a model and was then tested under actual traffic
conditions.  Skills generalised to the natural environment and
were maintained at appropriate levels at a two-to-six week follow-
up.  This study demonstrated that pedestrian skills could be
taught to adults with a mental handicap in a classroom setting and
that such training would generalise to the natural environment.
Matson (1980) carried out a pedestrian training study designed to
extend the findings of Page et al. (1976).  In this study, 30
adult in-patients, in the moderate to severe range of mental
handicap, served as subjects and were assigned to one of three
experimental conditions.  Ten were assigned to a no treatment
control group, 10 to a group which received treatment similar to
the classroom procedures employed in the Page et al. (1976) study
and 10 were assigned to a third group which received "independence
training".  The technique emphasised self evaluation of
performance, social reinforcement, sign recognition and the use of
a mock-up of an intersection in the hostel grounds.  Independence
training was found to be more effective than no treatment or
classroom training.  Classroom training was found to be more
effective than no treatment at all.

Marchetti et al. (1983) taught pedestrian skills to 18 adults with
a moderate mental handicap using classroom or community training
procedures.  Pedestrian behaviour was based on that described by
Page et al. (1976).  Subjects were taught the following
behaviours: (1) crossing at an intersection with no signs or
traffic lights;  (2) crossing with a "stop" sign and cars moving
in the same direction as the pedestrian;  (3) crossing with a stop
sign and cars passing the path of pedestrians; (4) crossing with a
pedestrian light; (5) crossing with a single traffic light and (6)
crossing with multiple traffic lights. A 32-item check list was
used to assess pre-test and post-test skills.  All subjects were
assessed at baseline and at post-training in the community.
Subjects in the classroom group were trained using a model of four
city square blocks.  The model consisted of simulated streets,

buildings, vehicles and pedestrians. In order to make pedestrian
responses, subjects had to move a doll across the intersections
according to the relevant behaviour on the check list. Subjects
in the community group received all training at actual
intersections in the community. Subjects in both conditions were
rewarded for correct responses with social reinforcement. Verbal
and physical prompts were used to shape target behaviours and were
subsequently faded over the trials. In this study, community
training procedures were significantly more effective than
classroom training procedures for training pedestrian skills to
adults with a mental handicap.

In a pilot project to the present study, Michie et al. (1990)
extended this work to teach pedestrian skills to clients who have
a severe mental handicap. These studies indicate that is possible
to teach pedestrian skills to adults with a mental handicap.
However, it is important to assess different treatment modalities,
as some are more efficient than others. Page et al. (1976)
demonstrated that pedestrian skills could be taught in the
classroom and that these would generalise to a natural
environment. However, this study had only a small sample (five)
and did not compare other training procedures. Matson (1980)
found independence training procedures to be superior to classroom
and no treatment control procedures. In this study, however,
subjects were not trained or assessed in the community. It seems
important to consider this type of training in terms of the actual
community in which the trainees live.

This was one of the aims of the present study, in which pedestrian
skills were taught using both in vivo and classroom techniques
which were compared with a no treatment control. Techniques used
for training that were conducted in the natural environment are
referred to as in vivo throughout this study.

2. USE OF PUBLIC TRANSPORT

Neef et al. (1978) extended their research on the training of
pedestrian skills to the use of public transport. Five adults
with a mild to moderate mental handicap were taught how to use

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public transport using the model of city square blocks previously described in their pedestrian skills study. The subjects in this study had basic pedestrian skills but could not ride a bus independently. Two additional trainees were taught using an _in vivo_ procedure on a bus in the community. This condition was used to compare the _in vivo_ procedure with the classroom techniques. Contrary to other studies, e.g. Matson (1980), these authors found classroom training to produce highly effective generalisation to the natural environment. These differences may be due to the way in which _in vivo_ training was carried out; of course, a major consideration in this study was the small size of the groups (five and two). A between-group comparison with such small numbers should be interpreted with caution. Grossmark (1983) used the psychological procedures of modelling, prompting and fading to teach one person with a mental handicap how to use the bus. The goal of training was to complete all the stages required to make a successful bus journey in a totally independent manner. The trainer met the trainee before and after each trial in order to: praise the trainee on her progress; tell which parts of the journey she was going to be required to do; go over the journey with her and to have her repeat the instructions for use later when she was on her own. Prompts were gradually faded out and the trainer eventually stopped travelling with her, although she was observed by another person unknown to her. The trainee's ability to complete a successful bus journey improved after the second trial. By the eighth trial, her performance had improved significantly, the improvement being maintained until the twelfth and final trial.

Desai (1983) taught bus, shopping and cafeteria skills to four adults with a mental handicap. In bus training, the target skills taught were identified by task-analysis. Non-target social skills involved in using a bus were also taught. The trainees were taught in three weekly sessions, using modelling, shaping and role play, with verbal and visual feedback. The trainees were assessed under actual conditions, using a local service to a nearby shopping complex. According to the author, there was a clear skill improvement in the target skills, as measured by a trainee assessment form, but this was not

statistically significant. There was a consistent improvement of non-target skills; trainees' level of confidence also showed improvement.

Marchetti et al. (1984) taught 27 adults with a mild to severe mental handicap how to use public transport. Subjects were assigned to one of three treatment groups: 1) classroom instruction; 2) community instruction; and 3) facility-grounds instruction. Classroom instruction covered two areas: 1) training on a simulated bus; and 2) training using a slide presentation. Community instruction procedures were conducted in the local community using two specified bus routes. Facility-grounds instruction procedures were identical to the community instruction group except that all training was conducted in the grounds of a residential facility. Bus stop signs and other relevant props were installed and a bus route was organised. All pre- and post-training and generalisation assessments were measured in the community. The findings of the study indicated that all three treatment procedures were effective in improving people's ability to use a bus. However, these authors found that classroom training procedures did not result in successful generalisation to the community. They proposed that the facility grounds procedures provide an alternative to more costly, less efficient community training procedures.

Robinson et al. (1984) combined classroom and community training in the teaching of bus riding skills to 34 trainees from a sheltered workshop who were in the mild to moderate range of mental handicap. The experimental design was based on the work of Neef et al. (1978). Training began with a slide presentation, with the trainer modelling the appropriate response. In the next sequence, the trainee role-played the appropriate response. Trainees who had responded correctly at least once in each of the three skill areas moved on to making bus journeys in the community. The trainer travelled with each trainee individually and observed the trainee's performance on all 15 responses. Incorrect responses were made explicit and feedback was given as to the correct response. Test trials were conducted after each phase of learning. Results showed that all trainees learned the

necessary skills and maintained their performance throughout the follow-up period of at least one year. The combination training method was found to be efficient and cost effective.

The studies described above indicate that it is possible to train adults with a mental handicap how to use public transport. It would appear that training carried out in the community is most effective. However, this type of training needs to be examined with larger groups and long-term follow-up assessments. One of the main problems with all of these studies is the lack of follow-up assessment. Neef et al. (1978) carried out only a two week follow-up and Grossmark (1983) had no follow-up at all. Clearly, there is a need for extended follow-up of subjects' ability to continue to use public transport.

## 3. MONEY MANAGEMENT

In the area of community living skills, the one topic which has been extensively investigated is that of money management. People with a mental handicap who are living in the community will usually be earning a wage or receiving some form of benefit. Therefore, it is essential that they know how to manage their money. Most of the research has focussed on identifying and counting coins, with the resultant omission of more complex money management skills, e.g. budgeting for rent, shopping, paying bills, or using banks for saving purposes. Therefore, while people can recognise coins, there is no evidence that they can use money more effectively.

Bellamy and Butters (1975) taught monetary counting skills to five adolescents with a moderate mental handicap. The training programme comprised three stages: baseline; training academic skills; and teaching the skills associated in counting money. The programme was conducted over a six month period, with 206 trials and 100 hours of instruction. The teaching phase used modelling and physical guidance to enhance learning. Subjects were given verbal reinforcement and feedback, using a point card, for a correct response. the programmes resulted in the development of the students' ability to count money, but a general lack of detail

in this study makes it difficult to replicate the procedures used.
Lowe and Cuvo (1976) developed a programme to teach two females
and two males to add up various combinations of coins.  The
trainees were first taught how to count coins singly and then in
combinations.  Trainees were instructed to use one finger to
indicate the number of fives in the coin's value.  This procedure
was modelled by the experimenter, the trainee being required to
initiate the procedure alongside the experimenter and then to
perform the task alone.  The proportion of correct responses
increased with training and the increase was maintained over a few
weeks.

Following the work of Bellamy and Butters (1975) and Lowe and Cuvo
(1976), Borakove and Cuvo (1976) assessed the teaching of coin
summation using a pretest/post-test matched group design.  They
suggested that the counting technique described in the previous
studies could be improved by placing the coin aside after it was
counted.  They implied that moving the coin would facilitate
interest in the next coin to be counted.  They also incorporated
previous research in which Spradlin et al. (1974) found that it
was easier for groups to count moveable objects than those in a
fixed order.  Two training procedures were assessed.  The
procedure carried out by Lowe and Cuvo (1976) was replicated,
while the second procedure used the same techniques but with the
addition of the coin displacement method described earlier.
Trainees in the coin displacement group acquired skills more
rapidly, acquired significantly greater spelling proficiency and
maintained proficiency in summation of coins better than trainees
in the other group.

These findings support the earlier research by Spradlin et al.
(1974), who found that displacement of objects minimised
dependence on memory skills and facilitated the effect of teaching
coin summation. Trace et al.(1977) taught coin equivalence to
seven institutionalised residents in the mild to severe range of
mental handicap.  The main dependent measure required the trainees
to select correct coin combinations.  Training attempted to
develop a response chain by moving coins, selection and counting
and placing coins of various monetary values in a coin machine.

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If trainees performed the task incorrectly, feedback was given using modelling procedures and verbal instruction. Correct responses were reinforced with social praise and sweets. The experimental group increased significantly from baseline to post-test, whereas the no-treatment control group showed no significant improvement. The gains made by the experimental group were maintained at follow-up. As the authors suggested, further research could include the use of a controlled condition which did not use the coin machine so that the effectiveness of the instructional programme alone could be assessed.

Miller et al. (1977) extended their research on coin summation by testing whether it would be more efficient to teach verbal production of coin values directly or to teach auditory comprehension first. Subjects in both experimental conditions improved significantly and this level was maintained at a four week follow-up. Teaching production alone was found to be more effective than the combination of teaching production and comprehension.

Cuvo et al. (1978) taught change making skills to three adolescents with a mental handicap. Training consisted of giving the subjects a fixed amount of money and a picture of an item with a price tag attached and then asking them to purchase the item and to state how much change they should receive. The training sessions were held weekly and lasted 45 to 60 minutes. Modelling and verbal and tangible reinforcers were used during training. Measures taken at baseline and at post-test showed rapid improvement which was maintained at a two week follow-up.

As mentioned previously, there is little point in teaching coin values in isolation to the use of money. Only a few studies have included teaching the practical use of money rather than simply the various coin valued.

## (i) Practical use of money

Smeets (1978) investigated the use of a calculator to make independent purchases. Three individuals with a moderate mental handicap who possessed few numerical skills were trained to enter

numbers on the calculator, as well as a letter key and the price of one or more items. In addition, subjects were required to pay coins and bank notes to match the price of an item and to check their change. All subjects acquired the target behaviour in eight to ten hours of training. This study was carried out using Dutch currency and needs to be replicated with currency from other countries. British money, for example, differs less in colour across denominations than does Dutch currency, so that discrimination between values may be more difficult. Matson and Long (1986) taught computation and shopping skills to three adults with a mild to moderate mental handicap. The target behaviours were calculator and shopping skills. Trainees were required to add prices of items together and to give more money to the cashier than the total purchase price. Training was carried out the classroom and in a grocery store. Target behaviours were assessed in the classroom, in the local grocery store and in a large supermarket. The training programmes included instruction, modelling, performance feedback, social and tangible reinforcement, participant modelling and self-evaluation of performance. Computational and shopping skills were stable or decreased during the baseline, but improved rapidly after treatment. Skills generalised to other stores and were maintained at a two month follow-up.

These case studies suggest that use of money can be taught. However, there is a need for controlled evaluation of practical use of money, e.g. buying from cafes and shops.

(ii) Banking skills

Aeschleman and Gedig (1985) evaluated a programme designed to teach banking skills to three adolescents with a mild mental handicap. The first part of the programme aimed to teach participants to open savings and cheque accounts. The second part aimed to teach participants how to conduct banking transactions. The training programme used verbal instructions, slides depicting correct and incorrect responses, modelling, role play and descriptive praise. Participants were taught how to open a savings and cheque account before learning how to conduct banking transactions. The second part of the programme compared

participants' post-training performance with that of a normative sample. The skills required in the latter part were maintained at a three month follow-up and generalised to two normal environments. The average performance of this group compared favourably with that of the normative sample. LaCampagne and Cipani (1987) trained four adults with a mental handicap how to pay bills through cheque accounts. The skill areas covered were: (1) cheque writing skills; (2) cheque recording skills and (3) mailing skills. Training was conducted in a classroom at a Day Centre for adults with a mental handicap. The results indicated that the procedures were effective in training the above three skills to high levels of performance. The skills maintained at a two month follow-up and generalised across several types of banks. Social validation data were also collected through bank personnel and teachers rating pre-and post-training cheques. This indicated that the training procedures produced a skill level that would lead to a successful financial transaction.

Most of the studies concerning money management have concentrated on coin summation and related money management skills. These studies are well designed and treatment procedures have proved effective. However, there has been limited research on money management with respect to budgeting, shopping, paying bills or saving. There are a few controlled studies but an absence of follow-up data.

## 4. SEWING AND MENDING

It has been suggested that awareness of physical appearance is a major goal for people with a mental handicap with reference to integration in the community (Saunders, 1978). The ability to sew or mend, therefore, encourages the person with a mental handicap to care for him/herself and may promote awareness of personal appearance (Matson, 1981).

Nettlebeck and Kirby (1976) taught sewing and mending tasks to 36 females in the mild to moderate range of mental handicap. Six components were incorporated into the training programme: (1) training was carried out in task analysed component steps; (2)

trainees were actively involved by carrying out all the work under guidance of staff; (3) instruction and performance feedback was given to ensure that errors were minimised; 4) feedback was given in the format of frequent verbal instructions; (5) work output was graphed, based on short periods during which a number of sewing tasks were practised; and (6) the component steps were combined after performance had become proficient in each. All trainees increased the number of tasks that they were able to perform. However, the data were difficult to interpret as some of the trainees had previous sewing experience whereas others had not; in addition, the target behaviours were not clearly defined. No follow-up measures were taken.

Cronin and Cuvo (1979) trained mending skills to five adults with a moderate mental handicap. Before training, a screening test was carried out which was designed to measure three prerequisite skills: (1) identification of sewing material; (2) needle threading; knot tying, pinning; and (3) button and thread selections. Each of these skills was scored as having been correctly or incorrectly performed. The test was administered at baseline, immediately after achieving the criteria for the three tasks and at one and two week follow-up intervals.

At the beginning of the programme, trainees were asked to identify the mending tasks necessary for a particular garment before being instructed to carry them out. Verbal instruction, physical guidance, visual cues, verbal praise and information feedback were used throughout training as required. The target behaviours were operationally defined and a multiple baseline, designed across subjects and responses, was used. Before training, all tasks were performed at 35% accuracy or below. At a two week follow-up, all five trainees maintained their skills at 100% accuracy and the need for prompts had decreased.

Although research in this area is extremely limited, this study by Cronin and Cuvo (1979) provides a good base from which to extend further work.

# 5. LEISURE SKILLS

The use of leisure time in a constructive and appropriate manner may be an important consideration when gauging the effectiveness of integration of people into the community. Edgerton (1967) stated that: "The use of leisure time indicates better than anything else the richness or impoverishment of their lives."

Several authors have suggested that very few people with learning disabilities engage in self-directed recreational activities (Katz and Yekutiel, 1974; Wehman 1975; Anderson and Allan, 1982). Katz and Yekutiel (1974) stated that programmes for leisure time were an essential part of rehabilitation services for people with learning disabilities. Their research suggested that this client group made little productive use of leisure time, using it mainly to stay at home. Along with Luckey and Shapiro (1974), they found that people with learning disabilities did not generally use their free time to participate in community, social and recreational activities.

Several authors have noted that the main leisure activities of this group seem to be passive and solitary pastimes, with watching television and listening to the radio or records being among the most frequent activities (Jones Owen, 1977; Cheseldine and Jeffree, 1981; Reiter and Levi, 1981; Hill et al., 1984; Groake, 1985; Donegan and Potts, 1988). A number of reasons have been proposed to explain this. Luckey and Shapiro (1974) suggested that they may be unaware of the available recreational resources. Beck-Ford and Smith (1979) suggested that lack of preparation for participation in leisure activities may be responsible. Donegan and Potts (1986) found that financial constraints limited the range of leisure activities available to people with learning disabilities. They concluded from their study that these individuals spent a great deal of time alone and therefore lack the social support that usually arises from having a network of friends, relatives, neighbours and workmates. They also noted that the participants in their study lacked the necessary skills to initiate or develop contacts with other people. Atkinson and Ward (1986) found that the range of friendships of people with learning disabilities was an important

determinant of their quality of life. O'Connor (1983) has written that one problem for people with learning difficulties living in the community is lack of social contact and hence loneliness. Therefore, it would seem extremely important to develop training programmes to enable people to make use of leisure facilities and to organise leisure activities.

Given the importance of leisure and the problems in making use of leisure time, it is necessary to consider training programmes which have already been developed to help people with learning disabilities to make better use of their free time. Most research in this area has concentrated on "desk top" type activities, geared toward people living in institutions, domestic activities, or other home based activities such as playing with toys.

### (i) Teaching single leisure skills

Adkins and Matson (1980) conducted a study which aimed to teach an active leisure skill (pot holder making) to six institutionalised women with moderate to severe learning disabilities. Three baseline and three experimental conditions were used. During the first experimental condition, trainees were informed of the activity room and leisure materials available for their use. The second experimental condition used a discussion-based format to indicate the importance of constructive leisure skills. No specific instructions in how to do leisure activities were given. The third experimental condition was identical to the second condition, in so far as staff-to-trainee ratio and length of training periods were concerned. However, in this condition, specific instructions were provided on how to make pot holders. The baseline and the first and second experimental conditions had little or no effect upon the use of the leisure activity room. Most of the trainees spent their time in the same way as before, watching television or sitting by themselves. However, trainees in the third experimental condition learned a constructive leisure skill and demonstrated that they were willing to use it. The trainees continued to engage in the trained leisure activity once training was finished. Trainees in this condition also began other leisure behaviours, such as drawing and colouring. One

interesting and valuable finding from this study was that the incidence of physical and verbal aggression decreased.  The teaching of leisure skills to people with learning disabilities can serve to provide constructive hobbies and to provide methods for decreasing inappropriate behaviour.

Matson and Marchetti (1980) carried out a study which aimed to teach age appropriate leisure skills to adults with severe to moderate learning disabilities.  The authors trained 55 individuals in the use of a stereo.  Trainees were assessed on their proficiency in stereo operation skills.  They were then placed in matched groups and assigned to one of five treatment conditions:  (1) no treatment;  (2) placebo treatment;  (3) independence training;  (4) traditional classroom training; or independence training plus traditional classroom training.  The most effective method proved to be independence training, which included social reinforcement, in vivo modelling, instruction and feedback.  The next most effective method was classroom training, followed by the combined treatment package. Although this was a well organised study and provided clear details of how to organise a training programme, the choice of activity might not have been particularly appropriate, given that the majority of people with learning disabilities spend their leisure time either watching television or listening to records (Katz and Yekutiel, 1974).  It might have been more appropriate to train activities that would have involved participation in the local community, e.g. in social clubs, leisure or community centres.

## (ii) Teaching play activities

Much of the work concerned with teaching leisure behaviour to people with learning disabilities has focussed on the use of toys and play activity.  It was previously assumed that play experience in people with learning disabilities occurred spontaneously, which in turn was supposed to influence emotional and intellectual development (Odum, 1981;  Fine and Fine, 1982;  Ellis, 1975). However, research has indicated that, within this population, play development does not occur spontaneously unless specific instruction is given (Wehman, 1975; Li, 1981).  Flavell and Cannon (1976) found, in a study of 11 young women with severe learning

disabilities, that there were definite preferences in their use of toys; if preferred toys were offered, then the women would engage in more play behaviour. The study makes the point that high levels of undesirable behaviour resulted when clients were not constructively occupied. While this is a very valid point, more appropriate ways of helping clients to use their time constructively could have been introduced. The ages of the clients in this study were between 11 and 26 years, therefore the use of toys is questionable as a means of constructive occupation. It is usual for young women in this age range, for example, to meet friends in a cafe or to go shopping. Involvement in such activities is also likely to reduce levels of undesirable behaviour. There seems to be a tendency to introduce toys to clients who have severe or profound learning disabilities. However Saxby et al. (1986) carried out a study which used time sampling procedures to look at social integration in the community. They found that social contact with members of the community did take place. This would appear to be a more appropriate outcome than engagement in toys.

In another study (Flavell, 1973), it was found that the introduction of social reinforcement, contingent on play, increased the use of toys over availability of toys alone. The experimenter attended to the subject when she began playing and it was found that this increased the amount of play and decreased the amount of stereotyped mannerisms. Wehman et al. (1976) and Wehman (1977) investigated the effects of social reinforcement, modelling and prompting/guidance procedures on the amount of play engaged in by adults with severe learning disabilities. In the former study, they compared these methods with a condition in which toys were merely available. They found large increases in the use of toys and a lower incidence of stereotyped mannerisms when the methods of skills training were used to train play. In the latter study, this finding was replicated, and in addition, it was found that modelling plus social reinforcement also increased the amount of social interaction with peers. Wehman (1978) investigated the relative effects of these procedures with three adults with severe or profound learning disabilities. He compared four conditions: (1) availability of toys; (2) availability of toys plus social

reinforcement; (3) availability of toys plus modelling and social reinforcement; and (4) availability of toys plus verbal instructions, modelling and reinforcement. All three active procedures produced improvements when compared to the mere availability of toys. Condition 4, which included all active procedures, was the most successful. Other researchers have found similar results when investigating methods of increasing play with toys in people with learning disabilities (Wehman and Marchant, 1978; Hopper and Womble, 1978). The same criticism of age appropriateness and the use of toys can be applied to all of these studies. However, the latter studies outlined included social reinforcement as part of the procedure, which encouraged social interaction both with researchers and peers.

### (iii) Teaching the use of cafeterias, shops and public houses

While there have been a number of studies of increasing play skills and teaching single hobby type leisure skills, fewer studies have been reported on more complex community based recreational pursuits. A great deal of leisure time is spent in cafes, shops and pubs; therefore, knowing how to use such facilities is a useful addition to a repertoire of leisure skills (Saxby et al., 1986).

Several authors have investigated the use of community facilities such as cafes and cafeterias. Van den Pol et al. (1981) evaluated a programme to teach restuarant skills to three adults with learning disabilities, using "classroom based" instruction. This instruction involved role playing as well as question asking and answering. Assessments of skills were conducted in a McDonald's restaurant prior to, during and up to one year following the cessation of training. In addition, two assessments were conducted in a Burger King restaurant to assess further generalisation to a location different from the one depicted throughout training. The results showed that the trainees' restaurant performance improved noticeably as a result of the training, it generalised to novel settings, maintained over an extended period of time and was comparable to that of a normative sample. However, the authors point out that their trainees had some experience of eating in public prior to training

and warn that simulated training alone might not be sufficient to produce generalised improvements in individuals with no prior experience of restaurants or cafeterias.

Marholin et al. (1979) taught cafeteria use to four institutionalised males with learning disabilities as part of a transport, purchasing and restaurant skills package. Training was conducted in the community and included graduated prompting, modelling, corrective feedback, social reinforcement and behaviourial rehearsal. Appropriate responses increased during training and generalised to a new environment.

Desai (1983) also trained adults with learning disabilities in how to use a cafeteria as part of a bus travel, shopping and cafeteria usage package. The trainees lived in the community, either at home or in a hostel. Training involved modelling, shopping and role play, with assessment conducted in a real life situation. The author found that training in these areas resulted in general social interaction among trainees. Clear improvements in the three skills taught were also in evidence, although they were not all statistically significant.

Saxby et al. (1986) conducted a study which addressed the question of social integration and participation by adults with severe and profound learning disabilities when in the community, in the company of staff. Ten adults with severe and profound learning disabilities were observed in local shops, cafes and public houses, using a time sampling procedure. The results showed that all of the individuals were able to engage in normative activity appropriate to the setting while shopping, visiting cafes and in public houses. Most had some contact with members of the community. Some inappropriate behaviour occurred, but a questionnaire survey of the businesses visited indicated largely favourable views concerning the interaction, appearance and behaviour of the individuals. Although this study did not involve training, it showed the extent of adaptive behaviour of a group of people with severe learning disabilities using community facilities. The data indicated some measure of achievement and suggested that improvements in these areas might be derived from

intensive teaching programmes similar to the ones previously outlined.

Baty et al.(1989) taught three women with moderate to severe learning disabilities how to use cafeterias. Previous work had established that institutionalised individuals with prior experience of cafes or restaurants could be successfully taught the appropriate skills for cafeteria use. However, this study attempted to address the issue of whether a role playing procedure could successfully be employed in training cafeteria skills in hospital based individuals who had moderate to severe learning disabilities and no prior experience of cafeterias. The study also attempted to ascertain whether skills taught in training transferred to a realistic situation and whether they generalised to an unfamiliar cafeteria with an entirely different system of use. A role playing procedure was used during training, which was conducted in groups by two instructors. Modelling, prompting, shaping and verbal feedback were used throughout training. In vivo assessments were carried out prior to, and after, training, in addition to an in vivo generalisation assessment. Training was found to be successful, with the skills taught transferring to the real life situation. Performance improved in the majority of skills areas after training and generalised to a new cafeteria with a completely different system of use. Therefore, there seems to be a growing body of evidence that the leisure skill of using a cafeteria or fast food restaurant can be trained effectively in people with learning disabilities.

Shopping can be viewed as a leisure activity, but it is also an extremely important skill to have when living independently in the community. Aeschleman and Schladenhauffen (1984) taught grocery shopping skills to four individuals with a mental handicap. The target skill was buying groceries for a "brown bag" lunch. A task analysis of this skill yielded 15 skill components including appropriate social behaviours and 20 total responses. The experimental procedure contained four phases: baseline; mnemonics; training; shopping skills training; and follow-up. The mnemonics training procedure and simplified monetary transaction component were adopted in view of the participants' deficient

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reading and arithmetical skills. After the mnemonics training, two store assessments were conducted to determine the effects of this procedure on target skills. In the shopping skills training phase, the trainees received alternative presentations of three different training procedures: verbal instruction; role play; and in vivo training. Store assessments were conducted and, before moving on to a different training programme, trainees had to attain predetermined criteria and performance. In the follow-up phase and during baseline and training, store assessments were conducted in the store. In addition, two novel stores were used to assess maintenance and generalisation. Results indicated that all trainees acquired grocery shopping skills which were maintained for at least five months. There was only a modest decrement in performance during the generalisation assessments in two novel stores. The results also suggested that role play training contributed most significantly to the acquisition of shopping skills and that in vivo training was not required to teach this skill.

Matson and Long (1986) taught computation and shopping skills to three adults with a mild to moderate mental handicap. Target behaviours were identified for the skills and were assessed in the classroom and in the local grocery store. Initially, all training was done in the classroom. Calculator and shopping skills contributed to the first 45 minutes of the session, the remaining half hour being spent in the grocery store. The training programme incorporated instructions, modelling, performance feedback, social and tangible reinforcement, participant modelling and self-evaluation of performance. The results indicated that trainees made rapid gains in computational and shopping skills soon after treatment began. The skills generalised to other stores and the gains were maintained after two months follow-up. Westling (1988) carried out a study which aimed to analyse the effect of single setting, as opposed to multiple setting, training. He taught shopping skills to 15 individuals with a moderate, severe and profound mental handicap. One group received training in one department store; the other received training in three department stores. Target behaviours were identified, which included operational and social behaviours. Measures were also taken of the

number of sessions required to achieve criterion performance in the training settings used. The results indicated no differences between the groups at baseline level, no differences between them in the number of training sessions required to achieve criterion and no differences on post-training measures. Both groups made significant gains from baseline to post-training. This study suggests that, for some individuals with a mental handicap, training in single community settings may result in just as much generalisation as training using the multiple community setting. Although research is limited in the area of teaching cafeteria skills and shopping skills, the studies outlined above were well designed, with adequate description of target behaviours, treatment procedures and assessment measures, thus providing a basis for replication. Again, all of the studies would have benefitted had a larger number of participants been involved. However, there is a need for studies to look at integrated leisure programmes. Marholin et al. (1979) and Desai (1983) taught bus travel, shopping and cafeteria skills as an integrated programme. While these two studies proved successful, they would both have benefitted from using larger numbers of participants and incorporating a no-treatment control group.

La Grow et al. (1990) advocated the need for a comprehensive approach to training, citing the example of "travel training". Their approach incorporated meeting the travel demands of the individuals, e.g. residential and business environments as well as unfamiliar environments. They also aimed to develop appropriate behaviour and social skills. The package included teaching pedestrian skills, the use of public transport and recovery strategies to use when lost, confused or disorientated. Recovery strategies require the ability to use the telephone and handle money, therefore these skills were also included. Such a comprehensive organised approach as advocated in this study is essential for development of effective community skills.


6. **SELF-ADMINISTRATION OF MEDICATION**

Staff administration of drugs is commonplace in most institutions. There have been very few attempts to teach self-administration of

drugs. One study, by McFarlane and Hames (1973), taught diabetic children how to take their medication, using various techniques such as counselling, films and modelling. However, problems were found in interpreting the results of this study, as it failed to specify the behaviours to be trained and the methods of testing them. Brickey (1978) taught self-administration of drugs to 20 adults with moderate borderline mental handicap. These individuals were enrolled at a sheltered workshop, where the teaching was carried out. Trainees were told what type of medication they were taking and instructed to pick up their pills from the secretary at lunchtime. Staff provided prompts, as necessary, to elicit correct responses. After two weeks of choosing the correct drug and dosage, the trainees carried out and dispensed their own medications. Spot checks were carried out to ensure that the correct dosages were taken. The last step of the programme was for trainees to buy their medication; this step required transportation and money handling skills. The first part of the programme was successfully managed by all of the trainees, although no-one managed the last part.

This is a very important area in view of the consequences of incorrect dosage of medication. Research needs to find an effective method of teaching self-administration of drugs.

## 7. USING THE TELEPHONE

The ability to use the telephone is an essential and useful skill for community adaptation. It ensures the opportunity for people to make contact with each other and it is valuable in emergency situations, in applying for jobs, in obtaining information, e.g. about public transport times and opening times of leisure facilities. Leff (1974) taught 100 people with a mental handicap how to use the telephone, by using either a standard number system or a colour coded system. The systems were compared. Training procedures and target behaviours were not clearly specified in this study. The results indicated that, of 100 trainees with mild to moderate mental handicap, 47 were able to dial with numbered discs, 44 required card discs and nine were unable to learn the dialling procedure. A two week follow-up was conducted but

assistance was provided to the trainees, so that there was no measure of independent performance. The extent of maintenance of this skill is unclear from the study and the poor methodological control makes it difficult to assess the effectiveness of the treatment procedures.

Leff (1975) carried out another study to train 50 individuals with a moderate mental handicap in telephone use. Twenty-five trainees were placed in the "dial-a-phone" (Leff, 1974) condition and 25 were placed in the controlled condition. The techniques used in the latter were based on those used by the staff employed at the facility to teach telephone usage; this teaching was conducted in an unsystematic way. In the "dial-a-phone" condition, 96% of the trainees learned this skill. Sixteen trainees from the control condition, who did not reach the specified criteria, were later taught dialling, using the "dial-a-phone" technique. A 10 day follow-up showed maintenance of dialling skills. The design of the study could have been improved by the introduction of a no-treatment control group to assess the effect of the treatment conditions. In addition, the methods employed with trainees in the control group were not standardised, thus making replication difficult. The follow-up assessments were based on staff impressions rather than on empirical information, which suggests that the results should be interpreted with caution. This study would have benefitted from a more adequate description of target behaviours and from having independent raters.

Risley and Cuvo (1980) taught three adults with a mental handicap how to make emergency telephone calls. This skill was divided into four components: (1) decision about whom to call (i.e. doctor, police, fire); (2) searching the telephone directory for the telephone number; (3) dialling the number without error; and (4) providing the service person with identifying information. In order to complete the programme, trainees had to dial the proper emergency number after being given a visual and verbal description of an event (e.g. "the house is on fire"). Trainees had to perform each set of tasks within five seconds. Prompts of three types were given for incorrect responses, verbal instruction, verbal instructions and modelling and verbal instructions and physical

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guidance. Feedback was provided at various predetermined stages throughout training. The results showed that all trainees reached 100% criteria in six to 29 practice trials. At the one-to-two week follow-up assessment there was 100% maintenance of the trained skill for two trainees and 85% for the third. The main problems with this study were the small subject population and an incomplete description of the training methods used. There was also a lack of adequate follow-up assessment. Since some emergency skills are not used very often, long-term follow-up measures are essential.

A study by Horner et al. (1987) looked at the teaching of generalised telephone skills to four adults who had a moderate to severe mental handicap. Four students from a special education class were taught how to make and receive telephone calls. Teaching was conducted in two classrooms and two different hallways in the school building. The main dependent variable was generalisation of telephone skills to non-trained telephone situations at home, school and in community settings. The results indicated that the training approach used was effective and efficient. This study is particularly important because an 18-month follow-up assessment showed that telephone use continued to be a regular part of each trainee's lifestyle. Therefore, it is one of the few studies to suggest that training can be incorporated into lifestyle and gains made can be used in community settings. This study was interesting in that it combined two training approaches; simulated training and in vivo training. Instruction in receiving calls was conducted using a simulated training format and that in making calls training was conducted in vivo. This approach incorporated two recent recommendations with regards to skills training: that relevant stimuli be presented in "actual" rather than in simulated (or "approximated" form (Welsh and Pear, 1980); and that community skills be trained in a combined, simulation - in vivo format to maximise the efficient instruction of generalised skills (Brown et al., 1983; McDonell et al., 1984).

This is an important study in that it proves a base for training other community skills. It would have been more useful if a larger

number of trainees and a no treatment control condition had been included. The area of telephone usage has been sorely neglected. Of the studies considered in this review, only two were methodologically sound. Thus, future research needs to look at the development of empirically validated procedures for teaching telephone use.

In the majority of studies outlined in this Chapter, the training of community living skills was carried out in isolation, with no sequencing of skills or no integrated community living skills training programmes. Most of the studies were case studies using small numbers; there were few group studies. There was very little information on the generalisation or maintenance of skills. The present study attempts to address these issues by developing an integrated package of community living skills training, employing groups, assessing generalisation and assessing maintenance of skills at two year follow-ups.

Throughout the 1950's and 1960's, there was increasing dissatisfaction with the statutory provisions for people with a mental handicap. This dissatisfaction was expressed by a number of movements including criticism of institutions (Goffman, 1961); normalisation (Wolfensberger, 1972) and culminated in the UK with the official enquiry at Ely Hospital (DHSS, 1969). This led to new Government policy being developed and the 1971 White Paper "Better Services for the Mentally Handicapped" provided a starting point for the types of care offered to people with a mental handicap. These policies developed through the 1970's with the NDG in 1977 advising on resettlement and rehabilitation. The 1989 White Paper "Caring for People: Community Care in the Next Decade and Beyond" endorsed these developments and further promoted community care policies. These developments have reflected changes in the philosophy underlying the care of people with a mental handicap. This new philosophy provided a basis for the present research. With the move away from hospitals towards community care, people with a mental handicap are expected to lead more independent lives. However, this may prove difficult after years of institutionalisation. Skills that a non-institutionalised person takes for granted, e.g. crossing the road or shopping, need to be taught to the person that has spent most of their life in a hospital. It was from this viewpoint that the present research was initiated.

In addition, there was a practical reason, relevant to service provision in Tayside, for undertaking this work. When the study began, the relocation from hospital to community provision was in its early stages. During the time that the study was conducted, the number of people living in Strathmartine Hospital reduced from approximately 520 (1987) to approximately 190 (1992).

From the review of the literature on social skills training, it is clear that this approach is effective in enabling people with a mental handicap to interact appropriately with the others in the community. This approach has also been successfully adapted for use in training a number of community living skills. However, the

review of the literature also highlights some limitations of the research.

1. Few studies compared different training methods or compared training with a no-treatment control. This is essential if the most effective procedures are to be employed to help people with a mental handicap learn to live in local communities. If procedures are no better than a no-treatment control group, then simply relocating clients will be sufficient in the move towards community integration. However, if training methods are effective, then we would wish to employ the most successful. Page et al. (1976) taught pedestrian skills in the classroom, while Matson (1980) found classroom based teaching to be relatively less effective than in vivo methods. Clearly, the issues surrounding the relative effectiveness of training methods is important.

2. There was a significant lack of follow-up data, some with no follow-up data. Of those that had, the follow-up periods were relatively short, ranging from two weeks to five months. Neef et al. (1978) and Cronin and Cuvo (1979) carried out only a two week follow-up, Grossmark (1983) and Nettlebeck and Kirby (1976) had no follow-up data at all, while slightly longer follow-up periods ranging from two to five months were carried out (Matson and Long, 1986, LaCampagne and Cipani, 1987; Van den Pol et al.,1981; and Aeschleman and Schadenhauffen,1984). This is an important deficiency in the research findings since it would be of considerable concern if people with learning disabilities, resettled in a local community, and failed to use community facilities over the years of their stay there. If it was to be found that, over a larger period of time, community living skills were not used, there would be a danger of increasing isolation and withdrawal from that community. Some of the literature on social skills training suggests that such skills may not maintain for longer periods of time.

3. There were few studies conducted with groups of people. The majority conducted case studies which involved training one person (Grossmark,1983,) or in small groups of two or three (Matson, 1980; Desai,1983; Lowe and Cuvo, 1976). If these training methods

are effective in larger groups, it is an important finding in terms of cost effectiveness.

4. In some areas, such as leisure, the skills taught were often age inappropriate, e.g. teaching adults to play with toys (Flavell and Cannon, 1976). In preparation for the community, it is important to teach practical and age appropriate skills relevant to that community.

5. Some studies tended only to observe subjects in natural settings (Saxby et al., 1986) rather than to teach the skills relevant to the settings. It has been suggested previously that relocation or placement in a particular setting does not necessarily enable a person to use that setting.

6. Most of the studies taught skills in isolation, with few attempts to sequence skills together. While it is worthwhile to teach one or two skills, a variety of skills are required for an independent life in the community. Therefore, if a variety of skills can be taught in an integrated package this again has important implications for community preparation and cost effectiveness.

## AIMS OF STUDY

The present study attempts to address the limitations outlined above. In addition to this, the study was initiated in light of the many changes in the philosophy of care of people with learning disabilities and particularly with reference to the changes in service provision in Tayside.

The study therefore has six aims:

1. To train a series of relevant community living skills in an integrated package to individuals with a mild to moderate mental handicap.

2. To conduct training in a controlled group design rather than as individual case studies.

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3. To compare two methods of training community living skills, one conducted <u>in</u> <u>vivo</u> using a variety of behavioural and cognitive techniques and the other employing classroom type techniques.

4. To compare the two methods above with a no-treatment control.

5. To ascertain whether any improvements in ability occur at post-training and whether they are maintained two years later.

6. To assess whether training has any effect on general functioning, i.e. adaptive/maladaptive behaviour, emotional functioning and general health.

## 1. SUBJECTS

### (i) Selection of Groups

Subjects were drawn from the mental handicap services in Dundee, which include Strathmartine Hospital, Dudhope Hostel and Maryfield Hostel. Before the project started, staff in all these establishments were made aware that a major community living skills project was due to begin and referrals were invited. All referrals were then accepted into the project by the author. It was considered by the author and other project staff that an intensive input of training might make a difference to staff procedures within the various establishments. Therefore, it was decided to split the Experimental and Control Groups, so that they were drawn from different establishments. Within Strathmartine Hospital there are two rehabilitation areas, each supervised by different Consultant Psychiatrists and, within Dundee District, there are two functionally equivalent services, Dundee West and Dundee East, each having a Hostel and an Adult Training Centre. These services were randomly allocated to conditions, so that one of the areas in Strathmartine was assigned to the Experimental Group and the other to the Control Group.

### (ii) Description of Groups

Fifty seven adults within the mild to moderate range of mental handicap served as subjects (mean IQ = 57.2, S.D. = 9.7, range 41-77). The mean age was 36.2 (S.D. = 12.7, range = 19.6 - 63.3).

**Experimental Group.** Twenty nine subjects made up this Group. The mean age of this Group was 37.2 years (S.D. = 12.6, range 19.8 - 58.9). The mean IQ was 57.3 (S.D. = 9.9, range 41 - 72). This Group received a full community living skills package. Seventeen of the subjects in this Group lived in one of the rehabilitation wards in Strathmartine Hospital and 12 in Dudhope Hostel.

**Teaching Control Group.** This Group comprised 13 subjects. The mean age of this Group was 34.3 years (S.D. = 13.2, range = 21.5 - 63.3); the mean IQ was 56.9 (S.D. = 9.3, range = 41 - 76). Six

lived in one of the rehabilitation wards in Strathmartine Hospital and seven in Maryfield Hostel, a community establishment for Dundee East.

**No Treatment Control Group.** The No-Treatment Control Group was made up of 15 subjects. The mean age of this Group was 36.3 years (S.D. = 12.5, range = 19.6 - 60.1); the mean IQ was 51.5 (S.D. = 10.0, range = 41 - 77). Six lived in one of the rehabilitation wards in Strathmartine Hospital and nine in Maryfield Hostel.

Subjects in all Groups were involved in similar regimes of learning basic self-help and domestic skills, but were not involved in any social or community living skills training. Therefore, the procedures involved in the present study provided additional treatment for the Experimental and Teaching Groups.

## 2. GENERAL ASSESSMENT MEASURES

In addition to the assessments of specific skills, described later and in Appendix 1, subjects were assessed on: adequacy of functioning; emotional state; and intelligence. These assessments were carried out before training commenced, at the halfway stage and at the end of the training project. The following assessments were used:

**(i) The AAMD Adaptive Behavior Scale (Nihira et al., 1974)**
This is a behaviour rating scale for people with learning disabilities. It is designed to provide objective descriptions and evaluations of a person's adaptive and maladaptive behaviour. The manual for ABS (Nihira et al., 1974) reported that the mean reliability of Part 1 of the scale (adaptive behaviour) was z = 0.86 and for Part 2 (maladaptive behaviour) was z = 0.57. Data on validity suggested that the ABS discriminates successfully between institutionalised and non-institutionalised adults with learning disabilities. This scale was used because it is a widely used assessment of global functioning which would thus allow comparison with other studies.

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**(ii) The Zung Self-Rating Anxiety Scale (Zung, 1971)**

This is a self report measure for evaluating and recording the presence of anxiety as a clinical disorder. Zung (1971) reported a split half correlation of r = 0.71. The scale successfully discriminated between five diagnostic groups, including anxiety and depressive disorders and controls. Although such self report measures have seldom been used for clients with learning disabilities, Michie (1988) reported acceptable reliability coefficients (r = 0.69).

**(iii) The Zung Self Rating Depression Scale (Zung, 1965)**

This is a self report measure used to assess depression as a primary disorder, which Zung (1965) reported to discriminate successfully between depressed and non-depressed populations. Michie (1988) reported acceptable reliability coefficients for the present client group. The Zung Anxiety and Depression Scales were chosen because they are widely used clinical and research instruments.

**(iv) The General Health Questionnaire (GHQ 60; Goldberg, 1972)**

This is a self-administered Questionnaire which aims to detect psychiatric disorders among individuals in community settings. The focus of the GHQ is on the psychological components of ill health. The manual of the GHQ (Goldberg, 1972) reported test-retest reliability r = 0.95. The GHQ successfully detects psychotic and neurotic symptoms and mixed affective neuroses with symptoms of both depression and anxiety together. It also successfully discriminates between psychiatric patients and healthy controls. As with the previous scales, this test was modified for clients with learning disabilities (Michie, 1988).

**(v) The Eysenck-Withers Personality Inventory (EPI(W); Eysenck, 1965)**

This Inventory was devised to assess the personality variables of extraversion, introversion and neuroticism in people with learning disabilities. The manual of the EPI(W) reported split half reliability of the three scales to be: E = 0.70; N = 0.88; L = 0.70. Data reported in the manual suggested the EPI(W) personality variables are not related to IQ.

## 3. GENERAL ASSESSMENTS AT BASELINE

Statistical comparisons were made of the Groups on all of these assessments in order to assess changes from Baseline through Post-Training to Follow-up One and Follow-up Two. Analyses of Variance were conducted on each measure and none of these showed any difference between Groups at Baseline. In addition to this, 142 comparisons were made between the Experimental Group and the No-Treatment Control Group using the standard t-test formula. It would be expected that seven of these comparisons would be significant by chance, since the test accepts statistically significant differences at the 5% level of probability.

Of the comparisons between the Experimental Group and the Teaching Control Group, the following measures were showing significant differences at Baseline. On the ABS, there were significant differences in Physical Development ($t = 2.12$, $df = 41$, $p < 0.05$) and Hyperactive Tendencies ($t = -2.41$, $df = 41$, $p < 0.05$). The Teaching Control Group showed significantly greater Physical Development than the Experimental Group; and the Experimental Group showed higher scores for Hyperactive Tendencies than the Teaching Control Group. There was no difference between the Groups on any of the important measures, such as: Independent Functioning; Economic Activity; Language Development; Domestic Activity; Vocational Activity; Self Direction; Responsibility; Socialisation; Violent/Destructive Behaviour; Rebellious Behaviour; or any other Maladaptive Behaviours.

There were significant differences between the Experimental Group and the Control Group on the ABS in Withdrawal ($t = 2.06$, $df = 43$, $p < 0.05$) and Unacceptable Vocal Habits ($t = 2.48$, $df = 43$, $p < 0.05$). In the former, the Experimental Group showed higher scores and, in the latter, the No-Treatment Control Group. Once again, there was no difference in the major items of the ABS. There was also no consistent pattern of difference between the Groups. There was only one difference between the Teaching Control Group and the No-Treatment Control Group, on the Zung Depression Inventory, on which the Teaching Group had higher scores ($t = -2.19$, $df = 27$, $p < 0.05$).

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There were thus very few differences between the Groups at Baseline and, where there were differences, there was no consistent pattern. There were no differences in the major assessments, i.e. age, IQ, the main items on the ABS and on any items of the GHQ.

All general assessments were carried out by staff in the clinical psychology department, including the author. All general assessments were carried out by the author at baseline. Subsequent general measures were carried out by temporary staff, trained by the author and blind to the experimental conditions.

4. **DESIGN**

The study was designed to compare the effectiveness of _in vivo_ techniques with teaching techniques against a no-treatment control. The following areas of social competence were selected for investigation following the review of the literature in Chapter Three. The intention of the study was to train individuals with learning disabilities in each of these social competencies.

(i) **Conversation Skills.** These are the skills required to talk to others. The specific skills trained were: beginning a conversation; continuing a conversation; joining a conversation group; interrupting and ending a conversation.

(ii) **Assertion Skills.** The area of assertion was divided into several discrete situations: refusing advances from strangers; saying "no" to friends; returning goods to shops; giving and receiving compliments.

(iii) **Social Interaction Skills.** These are the skills required to make appropriate social arrangements with others. The specific skills trained were: inviting male/female friend(s) to join in a recreational activity; this included the ability to make conversation and arrangements.

(iv) **Dealing with Authority Figures.** These are the skills required to talk to policemen, social workers, D.S.S. officials and G.P's. The specific skills trained were: dealing with the G.P. (this

included: making appointments; arriving at the surgery and talking to the receptionist; waiting room behaviour; and finally talking to the doctor); dealing with the police (this included going to a police station to report a loss; and asking a policeman for directions).

(v) **Pedestrian Skills.** These are the skills required to cross roads and to use pedestrian crossings. Specific skills trained were: operating a pedestrian crossing; looking for traffic; and identifying when it was safe to cross the road.

(vi) **Public Transport Skills.** Training focussed on the ability to use buses, as this was thought to be the most likely method of public transport used by clients in this study. Specific skills trained were: signalling the bus to stop; boarding the bus; paying fare; pressing bell for bus to stop; and alighting bus at appropriate stop.

(vii) **Telephone Use.** Training focussed on those skills required to answer the telephone and to make telephone calls. Specific skills trained were: dialling the telephone; giving personal information; asking for the particular person with whom they wish to speak; leaving a message if the desired person is unavailable; answering the telephone with an appropriate greeting; taking messages; and putting down the telephone.

(viii) **Cafeteria Skills.** These are the skills required for using public places for eating and drinking. Specific skills trained were: collecting a tray; moving along the service counter; making a choice of food and/or drink; giving order to the assistant; paying for the items; moving from the counter to a table; asking to join someone at a table if the cafeteria is busy; and taking a seat.

(ix) **Public House Skills.** These are the skills required to order and pay for a drink in a public house. Specific skills trained were: approaching the bar; ordering a drink; paying for the drink; and returning to a table with the drink.

(x) **Library Skills.** These are the skills required to choose or

borrow a book from the library and return it when due. Specific skills trained were: joining the library; completing the appropriate forms; asking for assistance if necessary; choosing a book; behaviour appropriate to a library; and returning books to the library within a certain time period.

(xi) <u>Shopping Skills.</u> These are the skills required to buy groceries in a supermarket. Specific skills trained were: using a checklist; entering shop through correct door; using a turnstile; collecting a basket/trolley; looking for items; placing items in basket; putting items through checkout; paying for items; waiting for change; and placing groceries in bag.

## 5. <u>TREATMENT GROUPS</u>

Four to six trainees were included in each Treatment Group. The groups were run concurrently in the hospital and the community. Note that in the following account, "Group" with a capital G denotes a category of subjects, i.e. Experimental, Teaching or No-Treatment Group, whereas "group" with a lower case g refers to a few people being trained together.

### (i)    <u>Experimental Group</u>
Subjects in this Group were taught using the following methods:
(a)    Verbal presentation of the important aspects of the skill area to be trained.
(b)    Modelling competent and less competent performance.
(c)    Roleplay of a variety of familiar and unfamiliar situations.
(d)    A variety of behavioural techniques, including prompting, shaping, cueing, chaining and social reinforcement, to promote skilled performance.
(e)    Cognitive techniques such as self-instructional training.
Sessions were conducted twice weekly.

### (ii)   <u>Teaching Control Group</u>
Subjects were taught in a classroom setting with the aid of slide and video presentations. The following methods were used:
(a)    Verbal presentations of the important aspects of the skill area to be trained.

(b)    Watching and discussing slides showing people in the relevant community living situations.

(c)    Watching, analysing and discussing videotapes of clients in various community living situations. Sessions were conducted twice weekly.

### (iii)   No-Treatment Control Group

Trainees in the Group were assessed in the same areas of activity as trainees in the other two Groups, but no formal training was given in addition to the normal ward and hostel routines.

## 6. PROCEDURE

Each individual in each Group was assessed at various stages in each area of social competence over a two and a half year programme.  Before any training began, subjects were assessed on level of skill, adequacy of functioning, intelligence, emotional state and physical symptoms. Level of skill was assessed using a series of behaviour rating scales which can be seen in Appendix B. Intelligence was assessed using the Wechsler Adult Intelligence Scale. Adequacy of functioning, emotional state and physical symptoms were assessed using the AAMD Adaptive Behaviour Scale, the Zung Anxiety and Depression Scales, the Goldberg General Health Questionnaire and the Eysenck-Withers Personality Inventory, as described previously.  These assessments (except intelligence) were carried out half-way through, and at the end of, the training programme.  The community living skills training programme was organised sequentially over two and a half years.  Table 1 shows the various stages of the study.

TABLE 1.  STAGES AND PLAN OF STUDY

1.    Assessment of community adjustment

2.    Assessment of conversation skills

3.    Conversation skills training

4.    Re-assessment of conversation skills

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5.      Assessment of assertion skills

6.      Assertion skills training

7.      Re-assessment of assertion skills

8.      Assessment of social interaction skills

9.      Social interaction skills training

10.     Re-assessment of social interaction skills

11.     Assessment of dealing with authority figures

12.     Training dealing with authority figures

13.     Re-assessment of dealing with authority figures

14.     Assessment of pedestrian skills

15.     Training of pedestrian skills

16.     Reassessment of pedestrian skills

17.     Assessment of community adjustment (this assessment is half-
        way through the programme)

18.     Assessment of public transport skills

19.     Training public transport skills

20.     Re-assessment of public transport skills

21.     Assessment of telephone use

22.     Training telephone use

23.     Re-assessment of telephone use

24.    Assessment of cafeteria skills

25.    Training cafeteria skills

26.    Re-assessment of cafeteria skills

27.    Assessment of public house skills

28.    Training of public house skills

29.    Re-assessment of public house skills

30.    Assessment of library skills

31.    Training of library skills

32.    Re-assessment of library skills

33.    Assessment of shopping skills

34.    Training of shopping skills

35.    Re-assessment of shopping skills

The areas of community adjustment were completed in six weeks.
Assessment of skills was usually completed in a day and training of
each skill area was usually completed in a month. Post-training
assessments were carried out at three months, with Follow-up
assessments at one and two years.

The procedure for each skill area will be described in Sections.
The area of conversation skills, for example, will comprise one
Section and, within it, the training procedures for each Group will
be described.

(i) Conversation Skills
Before training commenced, all Groups were assessed to give a
baseline measure. Training was carried out twice  weekly over a
period of one month. Groups were usually run by one therapist,

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although there were often observers sitting in to watch the session, who were encouraged to make suggestions and paricipate in the discussion. A post-training assessment was carried out one week after training. Follow-up assessments were conducted three months, one year and two years after training. This time scale for assessment of skills applies to all subsequent skills trained.

The assessments conducted at each phase (baseline, post-training and follow-up) all adopted the same format. In these assessments, two or three trainees were left alone in a room and instructed to "have a chat" or join a conversation group, depending on the aspects of conversation skills being assessed.
During training, the following aspects of conversation skills were emphasised:
* Asks questions
* Answers questions
* Content of speech
* Tone of voice
* Clarity of voice
* Listens to what others are saying
* Responds to cues
* Takes up conversation
* Eye contact
* Facial expression
* Gaze direction
* Posture

## Experimental Group

The maximum number of trainees in each training session was six. During these sessions, the following aspects of conversation skills were emphasised: asking and answering questions; the content of speech; tone of voice; clarity of voice; listening to what others are saying; responding to cues; taking up the conversation; and non-verbal aspects of speech such as facial expression, gaze direction and posture.

The main techniques of training used with the Experimental Group were role-playing, modelling, coaching, behavioural methods and sequencing conversations. All the training was done in the context

of performance during role-plays.

Beginning a conversation - this aspect of conversation training was done in a two or three person group. Therefore, it was similar to talking to a neighbour in the garden or meeting a friend while shopping. Trainees began the conversation by saying "hello" and using the other person's name. They were then encouraged to ask a simple question, such as "How are you?". In this way, the other person was encouraged to answer and continue the conversation. The other trainee was then encouraged to ask the same question back to the first person, thus continuing the conversation still further.

Continuing a conversation - one of the main methods used here was group discussion of the things which people say to each other to continue a conversation. Trainees were encouraged to think about the interests of the person to whom they were talking and ask questions about these interests. Beginning and continuing conversations were generally trained as separate role-plays before being amalgamated into longer conversations. In this way, conversations were divided into sequences of skill rather than trained as one long, complex ability.

Joining a conversation group - there are two main aspects to joining a conversation group. The first is to select the appropriate time and place to move into the group. The next aspect is to decide when it is appropriate to speak. The same sequences were used as in initiating conversations. The skills learned in continuing conversations then followed, so that the person became integrated into the conversation group.

Interrupting a conversation - this is an important skill when it is necessary to talk to someone already engaged in conversation, or to give a group a piece of information. Therefore, trainees practised interrupting conversations by approaching people engaged in conversation and saying "excuse me ....".

**Teaching Control Group**
This Group comprised a maximum number of six trainees with one instructor per teaching session, which lasted one hour. Assessments

were carried out in vivo as described previously. A room in the hostel or hospital served as a classroom. Slides depicting scenes described in the role-play situations were used as an aid to teaching, as was a video tape presentation of people acquiring the skills, inappropriate and appropriate behaviour. The instructor asked various question relating to each slide, such as: "How do you interrupt a conversation?". Trainees were also invited to comment on the video tape and suggest ways of improving certain behaviours.

## No Treatment Control Group

This Group was assessed in vivo at baseline and one week, three months, one year and two years later.

## (ii) Assertion Skills

Assertion skills training lasted one month with training sessions held twice weekly. Baseline, post-training and follow-up assessments were conducted with the same time scale as conversation skills. A day room in the hospital and a room in the hostel were used for training saying "no" to friends, refusing advances from strangers and positive assertion.

During training, the following aspects of assertion skills were empasised:
* Refusing advances from strangers
* Saying "No" to friends
* Returning goods to shops
* Positive assertion
* Body language
* Eye contact
* Clarity of voice
* Tone of voice

## Experimental Group

Training sessions lasted between one and two hours and comprised of six trainees and one instructor.

Assertion skills were divided into four main areas and the following describes examples of the role-plays used.

Refusing advances from strangers - this was the first area to be trained because of the dangers of exploitation and assault. The Experimental training sessions were organised so that trainees learned how to be assertive in several different situations and with "strangers" of varying persuasiveness. The role of the "stranger" was played by persons unknown to the trainees but known to the project staff. During the role-plays, trainees were encouraged to concentrate on tone of voice and body language, and to repeat the word "no".

Saying "no" to friends - this area concentrated on declining requests from friends. Trainees were encouraged to think about why they were unwilling to respond to the request and to give the friend an explanation of the refusal. However, if the friend persisted, trainees role-played a much firmer response more akin to the role-plays used in saying "no" to strangers.

Returning goods to shops - trainees were taught how to return faulty goods to shops and how to deal with awkward shop assistants. The trainee was required to return a faulty product to the shop and ask for a refund or replacement. The "shop assistant" was rol-played with varying degrees of awkwardness, so that the trainees learned to respond assertively to a variety of individuals. In training these skills, emphasis was given to maintaining a clear and loud voice, since quiet, withdrawn behaviour seldom appears assertive and resolute.

Positive assertion - the role-plays included such situations as paying compliments to others about their clothing or hair, or expressing pleasure about a meal. The most important aspects of positive assertion were content of speech and the accompanying non-verbal aspects of speech, such as smiling, tone of voice and eye contact.

**Teaching Control Group**
This Group comprised a maximum of six trainees and one instructor per teaching session which lasted an hour. A room in the hostel or hospital was used as a classroom. Slides depicting scenes designed for the role-play situations were used as an aid to teaching, as

was a video tape presentation of people acquiring the skills, appropriate and inappropriate behaviour. The instructor asked various question relating to each slide, e.g. "What do you say when someone pays you a compliment?". Trainees were invited to comment on the video tape and suggest ways of improving certain areas.

## No-Treatment Control Group

This Group was assessed in vivo at baseline and one week, three months, one year and two years later.

## (iii) Social Interaction Skills

Training was carried out twice a week over a month with six members and one instructor to a group. Experimental Group sessions lasted between one and two hours and Teaching Group sessions lasted an hour.

Assessments of skill were carried out to the same time scale as previous skill areas. During these assessments, trainees were instructed to make coversation and invite a friend to a place of their choice.

During training, the following aspects of social interaction skills were emphasised:
* Makes conversation
* Invites male/female friend to join in a recreational activity
* Makes arrangements, e.g. time, place, location.

## Experimental Group

These sessions were conducted in a room in the hospital and hostel. The role-plays included inviting friends to tea, to the pictures, for coffee or for a drink. Trainees were required to use conversation skills, learned previously, as well as considering arrangements such as time, date, location and venue.

## Teaching Control Group

These sessions were conducted in a room in the hospital or hostel which served as a classroom. Slides depicting scenes used in the role-play sitations were used as an aid to teaching, as was a video tape presentation of acquiring these skills, appropriate and

inappropriate behaviour. The instructor asked various questions relevant to each slide, e.g. "What must you remember when you arrange to meet someone?". Trainees were invited to comment on the tape and suggest how certain behaviours could be improved.


## No-Teaching Control Group

This Group was assessed _in vivo_ at baseline and one week, three months, one year and two years later.


## (iv) Dealing with Authority Figures

The authority figures used in detail in the training sessions were policemen and G.P.s. It was stressed to the trainees that these skills were also required when dealing with social workers and D.S.S. officials. Training focussed on enabling trainees to prepare relevant information and convey it clearly. The maximum number of trainees in a group was six with one instructor. Training was carried out twice a week over one month. Experimental Group sessions lasted between one and two hours and Teaching Group sessions lasted one hour. All assessment sessions were conducted in a local G.P. surgery and police station, at baseline, post-training, three months and one year follow-up.

The abilities trained were:
* Makes appointment with G.P.
* Speaks to the receptionist
* Waiting room behaviour
* Talks to the doctor
* Reports a loss to the police station
* Asks policeman for directions


## Experimental Group

Training was conducted in two adjoining rooms in the rehabilitation ward in the hospital and two adjoining rooms in the hostel. One room served as the waiting room. The other served as the consulting room and incorporated as many features of the actual surgery as possible, e.g. an interviewing doctor, a desk, some simple medical equipment and an examination couch.

The doctor's surgery - in addition to speaking to the doctor, other

aspects of coping with the surgery were also trained. Therefore, this area was divided into making appointments, arriving at the surgery and talking to the receptionist, waiting room behaviour and finally talking to the doctor.

Trainees were also instructed in making appointments and dealing with the receptionist. Skills emphasised here were knowing one's own name and address, remembering the information to give to the receptionist, and the information from the receptionist.

The waiting room - it was considered important by the author that the trainees learned the system appropriate to their local G.P. surgery and thus training was specific to that system.

The doctor's interview - trainees were instructed in the ability to give a clear account of themselves to the doctor and explain their symptoms. Therefore, content of speech was strongly emphasised. They were also given an idea of the types of questions a doctor might ask, e.g. "Have you had this before?", or questions about medication. Listening skills were emphasised as it was important that any advice given by the doctor was remembered and acted on.

The police station - two fairly typical situations were assessed and trained to help trainees develop skills for dealing with policemen. In the first situation they had to report a lost possession and in the second they had to ask a policeman for directions.

The training sessions were carried out in adjoining rooms in the hospital which incorporated as many features of the actual police station as possible, e.g. the room which served as the reception area had a window to speak through and a bell to attract attention. The other room served as the interview room with a desk, notepad and a project staff member role-playing a policeman.

Reporting a loss - trainees were required to go to the police station, report to the desk using the bell to attract attention if necessary, report the loss describing the item/s, leave a name, address and telephone number.

Asking directions - trainees were required to stop a policeman by saying "excuse me", ask for directions to a particular place, listen to the directions and remember them. Trainees were asked what the directions were directly after the role-play, to ensure that they had listened to the policeman and could remember his instructions.

**Teaching Control Group**

Teaching sessions were conducted in a room in the hospital and in the hostel which served as a classroom. Slides depicting the scenes used in the role-play situations were used as an aid to teaching, as was a video tape presentation of people acquiring these skills, appropriate and inappropriate behaviour. The instructor asked various questions relevant to each slide, e.g. "What do you say to the receptionist when you arrive at the surgery?". Trainees were also invited to comment on the video tape and suggest how certain behaviours could be improved.

**No-Treatment Control Group**

This Group was assessed in vivo at baseline and one week, three months, one year and two years later.

**(v) Pedestrian Skills**

Pedestrian skills were defined as behaviours required to cope safely with two main conditions: (i) using a pedestrian crossing; and (ii) crossing a busy road. The following target behaviours were identified by the author as necessary for safe behaviour on the roads.

Target behaviours for condition one:
* Approaches pedestrian crossing, if red man signals, presses "wait" button on the box at crossing
* Waits on the pavement while observing the light signals at the crossing
* Waits until the appropriate light signal (i.e. green man) indicates that it is safe to cross
* Starts crossing once it is safe to do so
* Walks briskly across the road

Target behaviors for condition two:

* Finds a safe place to cross where visibility is clear and stops

* Stands on the pavement near the kerb, away from traffic, but still in a position to view traffic

* Looks all around for traffic and listens

* When there is no traffic in sight, walks straight across the road looking and listening for traffic

* Walks briskly across the road

## Experimental Group

Pedestrian skills training was carried out at a local pedestrian crossing, a quiet road and a busy road twice a week over one month with a maximum of six trainees and one instructor. An additional member of staff was included to act as a "safety monitor", who stood nearby the trainee to ensure that s/he was not in danger from traffic. All baseline, post-training, three months, one year and two years follow-up assessments were conducted in vivo in the community, using a local road and pedestrian crossing.

Instructors modelled the appropriate behaviour required for a pedestrian crossing and crossing a road. This was based on a number of defined target behaviours, e.g. waiting on the pavement while observing the light signals at the crossing, looking for traffic and walking briskly across the road.

Each trainee was asked to go through the steps required to use a pedestrian crossing and a road and s/he was socially reinforced for correct responses. The required target behaviours were shaped using verbal and physical prompts which were faded over the sessions. The number of practice attempts each trainee made depended on his/her progress. Trainees were allowed as much practice as necessary to attain a level of competence that was considered safe by the project staff. The amount of practice required varied between trainees. In the first session, the instructor prompted the trainee at each target behaviour in the sequence. In later sessions, prompts were not given unless the trainee was in danger. Trainees were encouraged to say what they considered to be appropriate behaviour in each condition.

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Target behaviours were role-played several times. If trainees were having difficulty with a particular target behaviour, they were given the opportunity to practice and concentrate on this, e.g. some trainees found it extremely difficult to look for traffic and simultaneously cross the road. Thus, trainees often practiced simply walking and looking at the same time. It was important to check that trainees were actually paying attention by asking questions about what was in view. Trainees also practised looking at the red and green man dispays on the crossing.

In summary, each training session was structured around the following format:

(i) The instuctors walked back and forth over the road with the trainees to give an idea of the speed that was required to cross a road.

(ii) Trainees practiced "looking for traffic". Instructors checked that trainees were looking by asking questions relevant to the traffic situation.

(iii) A similar type of exercise was carried out at the pedestrian crossing concerning the light display.

(iv) Instructors discussed the target behaviours with the trainees. They were encouraged to say what behaviour they thought was appropriate for each part of the sequence. Instructors asked such questions as "What do you do first when you want to use a pedestrian crossing?", or "What do you do when the red man is showing?", or "Would you cross the road when cars are coming?". In the first session, all these behaviours were modelled by the instructor. In subsequent sessions, they were modelled as necessary.

(v) Instructors gave the instruction "Cross the road when you think it is clear".

## Teaching Control Group

This Group comprised a maximum of six trainees and one instructor during each one hour teaching session. Teaching took place in a room in the hostel or hospital which served as a classroom. The target behaviours comprising the behavioural sequence required to cross a road were made explicit through a series of slides depicting the various behaviours. A video tape of people acquiring

these skills, appropriate and inappropriate behaviour was also shown. The instructor asked various questions relevant to each slide, e.g. "What is the first thing to do at a pedestrian crossing?". Trainees were also asked to comment on the tape and suggest how certain behaviours could be improved.

### No-Treatment Control Group

This Group was assessed _in vivo_ at baseline and one week, three months, one year and two years later.

### (vi) Using Public Transport

The method of public transport that the clients in this study were most likely to use was the bus. Therefore, an intensive training programme was conducted to enable trainees to use the local bus system.

A bus and driver were hired from the local bus company and all assessments and training were carried out in the local community. The behavioural sequence required to complete a successful bus journey was as follows:

* Waits at the bus stop (without engaging in socially inappropriate behaviour)
* Recognises bus and signals for it to stop
* Boards bus
* Pays fare
* Finds a seat
* Recognises where to get off
* Signals bus to stop (rings bell)
* Waits for doors to open
* Exits bus

Baseline, post-training and follow-up assessments followed the same procedure for all groups. Before trainees boarded the bus, each trainee was told in which area of town they were to get off. All trainees were assessed boarding the bus one at a time. Once on the bus, they had to pay their fare, find a seat and then make sure they stopped the bus in time to get off at their designated stop. Various people unknown to the trainees also got off the bus at the same time to ensure their safety. Before getting off the bus, each

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trainee was told to wait at the bus stop and hail a number 62 bus. Once all the trainees had boarded and exited the bus, the driver changed the number to 62 and drove around the various bus stops to where the trainees were waiting. The trainees had to hail the bus and, if they did not, the driver was instructed to drive past (trainees who failed to do this were picked up after the round of bus stops). This enabled assessment of ability to recognise the correct bus and stop it. The number 62 was chosen as there were no other number 62 buses in town, thus diminishing the possibility of trainees boarding other buses.

## Experimental Group

A maximum number of eight trainees and two instructors took part in each training session. Four training sessions, each lasting two hours, were conducted. Trainees were also required to use the bus during other training sessions involving the use of community facilities such as shops, cafes, pubs and libraries. Training concentrated on making explicit the component parts of the behavioural sequence described previously. If a trainee was having difficulty with one of the component behaviours, it was broken down further, e.g. "boards bus" might have had to be further broken down into:
- waits until the bus stops
- waits for the doors to open
- understands that doors will not close on person
- climbs stairs
- walks to pay point

The instructors modelled the various behaviours and successful completion of a role-play was reinforced with praise and encouragement. Verbal feedback was also provided as to how each trainee had performed. Attention was also paid to social behaviour while on the bus. Some trainees would talk in an over friendly manner to strangers, or stare at people. Appropriate social behaviour was discussed and practised.

Post-training, three months, one year and two years follow-up assessments were conducted in the same way as the baseline assessments. A generalisation assessment was carried out using an

ordinary local bus. Trainees were instructed to board a certain bus and alight at a designated place. Two people unknown to the trainees and blind to the conditions of the study were already on the bus; they each had a rating scale and completed an assessment while on the bus.

### Teaching Control Group

Each training session involved a maximum of six trainees. Assessments were carried out _in vivo_ as with the other two Groups. Teaching was carried out in a room in the hospital used as a classroom and a similar type of room in the hostel. The target behaviours comprising the behavioural sequence required to complete a succesful bus journey were made explicit through a series of slides depicting the various behaviours. A video tape presentation of people behaving appropriately and inappropiately with regards to travelling by bus was also shown. The instructor asked various questions relating to each slide, e.g. "How do you signal to the bus driver that you want to get on/off the bus?", or "What must you know before beginning a bus journey?". The video tape was used to initiate discussion as to how various behaviours on the tape could be improved. Post-training, three months, one year and two years follow-up assessments were carried out _in vivo_, as described for the Experimental Group.

### No-Treatment Control Group

This Group was assessed _in vivo_ at baseline and one week three months, one year and two years later.

### (vii) Using The Telephone

Trainees were taught how to make and receive telephone calls. All groups usually comprised a maximum of six trainees with one instructor. Assessments and training were carried out in the place where trainees were resident, i.e. hospital or hostel.

The following aspects of using the telephone were emphasised during training:

### Making calls

* Knows telephone number

* Dials number

* Conveys personal information
* Asks for person to whom they wish to speak
* If desired person is unavailable, leaves message

### Receiving calls

* Picks up telephone and gives appropriate greeting
* Informs caller of their name
* Informs caller that the person they wish to speak to is
  unavailable and takes a message
* Says "Goodbye" and puts down the telephone

The following scenario was devised to enable assessment of telephone skills. The trainee was led into a room with a telephone and asked to telephone someone in the hospital or hostel and make some arrangement with them, or leave a message. If the trainee did not know the number, this information was provided but no other assistance was given. It had been pre-arranged that various people uninvolved with the study were on hand to answer the call and offer to take a message, as the person with whom they wished to speak was unavailable. A similar procedure was devised to assess receiving calls.

### Experimental Group

Training occurred twice weekly over one month with each session lasting two hours. Sessions usually began with a discussion of why people use the telephone and with trying to remember telephone numbers, e.g. numbers of people they knew, friends relatives and emergency numbers. A considerable amount of time was spent practising dialling using both a push button and a circular dial telephone. Time was also spent simply picking up the receiver and saying "Hello, this is (name) speaking". The range of target behaviours already described was practiced both as separate behaviours and together as a sequence. Trainees varied as to how many trials they required. If someone was having particular difficulty, the instructor, or a more able member of the group, modelled the behaviour and encouraged the trainee to role-play it.

Assessments of skill were conducted using the scenario described previously at post-training, three months, one year and two years

follow-up.

## Teaching Control Group

Teaching sessions were carried out twice weekly over one month and each session lasted one hour. A "classroom" was set up in a room in the hostel and in the hospital. The target behaviours already described were made explicit using a series of slides and a video tape presentation. The instructor asked various questions relating to each slide and to scenes in the video tape, e.g. "What do you say when you pick up the telephone?".

Post-training, three months, one year and two years follow-up assessments were conducted as for the Experimental Group.

## No-Treatment Control Group

This Group was assessed at baseline and one week, three months, one year, and two years later.

## (viii) Cafeteria Skills

Cafeteria skills training was carried out twice weekly over one month. Before training began, an *in vivo* baseline assessment was conducted with all Groups in the cafeteria of a large supermarket. The same cafeteria was also used for post-training and follow-up assessments. The Experimental and No-Teaching Control Groups were assessesed at baseline , post-training, three months, one year and two years follow-up. A further post-training assessment was conducted in a different cafeteria to assess generalisation. This cafeteria had a quite different system from the one used in the other assessments, as it was self service and the only interaction with the assistant was when asking for a drink prior to paying. This cafeteria was also bigger and considerably busier than the other.

Before training began, the behavioural sequence required for succesful performance in a cafeteria was analysed and broken down into the following specific behaviours:
* Collects tray
* Moves along the serving counter looking at items on display
* Makes a choice

* Gives order to the assistant

* Pays for items

* Collects cutlery, sugar, tray, etc.

* Moves from serving point to table

* Requests to join someone at a table if the cafeteria is busy

* Takes seat


## Experimental Group

Sessions lasted for two hours with a maximum of six trainees and two instructors. One instructor role-played a cafeteria assistant. Training was conducted in a room in the hospital or hostel incorporating as many features from the cafeteria as possible. A table was positioned to act as a counter, with trays at one end followed by a selection of imitation food. An "assistant" waited at the other side of the table to take the order and payment. Crockery, tea, coffee and juice were used to enchance the realism of the situation.

Trainees were seated at a table and approached the serving counter at the request of the instructor. Modelling, prompting, shaping and verbal feedback were used throughout training as required. Correct responses during role-play were followed by descriptive praise designed to provide information and social reinforcement.

Two of the training sessions were spent tackling the specific behavioural deficits of poor eye contact and inability to carry a tray without upsetting it.


## Teaching Group

Sessions lasted one hour with a maximum of six trainees and one instructor. They took place in a room in the hospital or hostel which served as a classroom. Slides depicting people carrying out the same component behaviours as described for the Experimental Group were used to aid teaching. A video tape presentation of a person acquiring these skills, of appropriate and inappropriate behaviour, was also used. The instructor asked various questions relating to each slide and the video, e.g. "What do you say if you want to join someone at a table?". Trainees were also invited to comment on the video tape and make suggestions as to more

appropriate behaviour.

## No-Treatment Control Group

An initial assessment was conducted at the same time and in the same place as with the other two Groups. Assesments were also conducted one week after the initial assessment and three months, one and two years later.

## (ix) Public House Skills

Training sessions for this part of the study were held twice a week over one month. Experimental Group sessions lasted two hours and Teaching Group sessions lasted one hour. Trainees were assessed at pre- and post-training, three months, one year and two years follow-up. The same pub was used for all assessment and training sessions. It was decided by the author to use a pub which was, approximately, a ten minute bus journey from the hospital and fifteen minutes by bus from the hostels. The behaviour of each trainee was recorded as they approached the bar, chose, ordered and payed for their drink. They each ordered a drink in turn.

The abilities trained were:
* Approach to  the bar
* Gain attention of barman
* Ask for required drink
* Appropriate use of please and thank you
* Appropriate use of money
* Eye contact
* Clarity of voice

It was also necessary for trainees to be aware of opening hours, location of desired public house and how to get there. Awareness of the above was informally assessed before and after training.

## Experimental Group

A maximum number of six trainees and one instructor comprised this group. Before each session, trainees were asked about opening hours and to decide which bus they would take to the pub. Trainees were provided with £2.00 each which was considered enough to purchase one drink. If more drinks were desired, trainees had to use their

own money. On arrival at the pub, trainees role-played the various behaviours required to order a drink in a bar, from gaining the attention of the bar person, to ordering and paying for a drink. Correct responses during roleplay were followed by praise, encouragement and feedback. If a trainee failed to respond to prompting during the role-play, the desired response was modelled by an instructor or a more competent group member, and the trainee was encouraged to role-play the situation again. Bar staff were informed that it might take a few times to order a drink, but only one drink was required once the instructor indicated that responses were appropriate.

Some trainees had specific problems in ordering a drink at the bar. These were usually to do with the requirements of speed in a busy situation, confidence in relation to eye contact and voice quality when a pub was noisy.

### Teaching Control Group

A maximum number of six trainees and one instructor made up this group. Sessions took place in a room in the hospital which served as a classroom and a similar room in the hostel.

Slides depicting people carrying out the same component behaviours as described for the Experimental Group were used to aid teaching. A video tape presentation of a person acquiring these skills, appropriate and inappropriate behaviour was also used. The instructor asked various questions relating to each slide, e.g. "What should the person do now?", or "How can they attract the attention of the barman?". Trainees were also invited to comment on the video tape and make suggestions as to more appropriate behaviours.

### No-Treatment Control Group

An initial assessment was carried out with this Group at the same time and in the same place as with the other two groups. A one week, three months, one year and two years reassessments, and a generalisation assessment were also conducted as described for the other two Groups.

## (x) Library Skills

A training programme designed to enable clients to use libraries was conducted twice a week over one month. All baseline, post-training, follow-up and generalisation assessments, and training sessions were carried out _in vivo_ in a local library.

Before training began, it was decided that trainees should be taught the following component behaviours:

* Joins library
* Fills out appropriate forms
* Asks for assistance if necessary
* Looks for a book
* Chooses a book
* Checks book out
* Behaves in a socially appropriate manner in the library
* Returns book to the library within a certain time period
* Library opening hours
* Location of nearest library
* How to get there

All training and assessment sessions were conducted in the same local library. A generaliation assessment was carried out in another library. Assessments for the Experimental and No-Teaching Control Groups were conducted at baseline, post-training, three months, one year and two years. During assessment sessions, trainees were taken to the library and given the instructions "Return your book to the library" and "Take a book out of the library". The same procedure was occurred for each Group at each phase.

## (i) Experimental Group

A maximum number of six trainees and one instructor per training session comprised this group. Before each session, trainees were asked about opening hours and to decide which bus to take them to the library. Sessions usually lasted two hours.

At the beginning of the first training session, the librarian talked for a short time about library procedure and gave advice on joining the library, opening hours, the various sections within the

library, returning the books, asking for assistance to find books and appropriate behaviour in the library, e.g not making too much noise. Trainees then role-played the various behaviours from joining the library to returning books to the library. Correct responses during role-plays were rewarded by praise, encouragement and feedback. If a trainee failed to respond to prompting during the role-play, the desired response was modelled by either one of the instructors or a more competent member of the group, and the trainee encouraged to role-play the situation again. The trainee was encouraged to practise the behaviour as often as was necessary.

### Teaching Control Group

A maximum number of six trainees and one instructor made up this group per teaching session. Sessions took place in a room in the hospital which served as a classroom. A similar room was used in the hostel.

Slides depicting people carrying out the various component behaviours, described previously, were used to aid teaching. The instructor asked questions relating to each slide, e.g. "What would you do if you could not find the book you were looking for?", or "What must you remember when you want to take a book out?". A video tape presentation which demonstrated appropriate and inappropriate behaviour in the library was also shown. Trainees were invited to comment and make suggestions as to how certain behaviour could have been improved.

### No-Treatment Control Group

An initial assessment was carried at the same time and ihe same place as with the other two Groups. Reassessments were conducted one week, three months, one year and two years later. A generalisation assessment was also conducted. All assessments were carried out as described for the other two Groups.

### (xi) Shopping Skills

Shopping skills training was carried out twice weekly over a period of one month. Sessions lasted for two hours in the Experimental Group and one hour in the Teaching Group. Before training began, an _in vivo_ baseline assessment was carried out with

all Groups in a large supermarket. Training with the Experimental Group and all post-training and follow-up assessments were also conducted here. In the assessment phase, trainees were given a shopping list with pictures of various items. The five items of food they were required to buy were circled. Trainees were assessed one at a time. These sessions could not be recorded due to shop security policy. Therefore, an individual unknown to the trainees was required to observe them unobtrusively and mark down on a checklist whether s/he could perform certain behaviours. (See Appendix B). The ability to perform each of these behaviours was given a point which were summed to give a total score.

It was decided by the author that successful performance in a shop depended on the following target behaviours:
* Has grocery list
* Reads list either by recognising pictures or reading the items
* Enters through correct door
* Uses turnstile/self-operating door
* Collects basket/trolley
* Looks around the shop and finds the correct section (e.g. food) within five minutes
* Goes to checkout counter within five minutes of selecting the last item
* Waits at checkout counter
* Removes items from basket and places them on the counter
* Remains within three feet of counter during purchasing period
* Pays for items
* Places groceries in shopping bag
* Exits with groceries within one minute of completing monetary transaction
* Recognises shop assistants
* Asks for help to find a particular section of shop when necessary
* Appropriate use of please and thank-you
* No inappropriate interaction with other customers or shop assistants

## Experimental Group

The above target behaviours were made explicit during training. The instructor worked only with three trainees per training session,

because the shop was usually busy and to ensure the trainees had ample opportunity to take in information and practise certain behaviours. Trainees role-played buying items from various sections of the store, e.g. fresh food, dairy food and tinned food.

Role-play, practise, modelling, shaping, praise and feedback were used in the same way as with the other skill areas. At the end of each session, the instructor discussed and summarised the trainees progress and gave additional encouragement and feedback.

Assessments were conducted at post-training, three months, one year and two years follow-up.

### Teaching Control Group

A maximum number of six trainees and one instructor comprised this group per teaching session. They were conducted in a room in the hostel or hospital which served as a classroom. Slides depicting people carrying out the same component behaviours as described for the Experimental Group were used to aid teaching. The instructor asked questions relating to each slide. A video tape presentation of people acquiring the relevant skills, appropriate and inappropriate behaviour was also used. Trainees were invited to make comments and suggestions as to more appropriate behaviours. Assessments were conducted as described for the Experimental Group.

### No-Treatment Control Group

An initial assessment was carried out with this Group at the same time and in the same place as with the other two Groups. Reassessments were conducted one week, three months, one year and two years later, A generalisation assessment, as described for the other two Groups, was also conducted.

### 7.   APPARATUS

A video camera was used to record all assessments and _in vivo_ training sessions for later analysis.  A slide projector and videotape recorder were used in teaching sessions.

# 8. ASSESSMENT OF COMMUNITY LIVING SKILLS

## (i) Method

In order to measure skills, subjects were videotaped engaging in the community living skill. Each skill area was divided into several component parts and ratings were then made of each component. (Assessment Scales can be seen in Appendix B) Videotapes were later rated by independent observers blind to the conditions of the study.

## (ii) Reliability

The raters were post-graduate students who had been trained how to rate the tapes. All rating scales can be seen in Appendix 3. For each area of skills, reliability was calculated on between 10% and 20% of the overall number of ratings (approximately 300 ratings). Ratings were taken from all assessment phases, i.e baseline, post-training, the first and second follow-ups. Reliability was calculated by dividing the number of agreed ratings by the total number of ratings and expressing the figure as a percentage. Table 2 shows that, in all cases, average reliability exceeded 85% agreement within one scaled point of a seven point scale. This is well within generally acceptable limits for observer agreement.

## TABLE 2. RELIABILITY OF RATINGS IN EACH SKILL SITUATION

| SKILL | No.of Observation Pairs | % Absolute Agreement | % Agreement +/- 1 scale point |
|---|---|---|---|
| Conversation | 487 | 49.41 | 85.03 |
| Assertion | 342 | 57.82 | 91.38 |
| Social Interaction | 886 | 53.09 | 92.81 |
| Police | 521 | 52.32 | 87.92 |
| G.P.s | 441 | 67.82 | 93.77 |
| Pedestrian | 474 | 53.11 | 98.47 |
| Bus | 632 | 68.46 | 98.44 |
| Telephones | 447 | 62.34 | 94.58 |
| Cafeterias | 498 | 70.00 | 98.60 |
| Pubs | 453 | 48.21 | 94.32 |
| Libraries | 304 | 69.02 | 97.36 |

In a study on group conversation skills training and social validation with mentally retarded adults, Wildman et al. (1986) reported inter-rater reliability ranging from $r = 0.69$ to $r = 0.92$. Whitman et al. (1987) compared external and self-instructional teaching formats with mentally retarded adults in a vocational training setting. They reported reliability between raters ranging from $r = 0.80$ to $0.99$. In a social skills training programme, Storey et al. (1987) quoted reliability figures ranged between $r = 0.08$ and $r = 0.66$ averaging $r = 0.58$. They stated that "the large magnitude of treatment effect observed was a safeguard against low reliability scores". Matson et al. (1988) trained social skills to severely mentally retarded, multiply handicapped adolescents and reported rater agreement between 73% and 97% with Cohen's Kappa between $K = 0.53$ and $K = 0.96$. Nezu et al. (1991) conducted assertiveness and problem solving training for mildly mentally retarded persons with dual diagnoses and found that inter-rater reliability ranged between $r = 0.83$ and $r = 0.94$. Therefore, inter-rater reliability reported in the present study is consistent with other studies of skills training.

## RESULTS

The skills in the study are presented in the order in which they were taught. As there is a large amount of data, only the results on overall level of skill are presented in detail. Individual skills are shown in the summary tables.

In the results to follow, each section is presented in the same manner. The first Table (numbers 3, 7, 11, 15, 19, 23, 27, 31, 35, 36, 43, 47, 51, 55, 58, 61, 64, 67, 71, 75, 79, ) after each new heading represents the mean group scores for the Experimental Group (Group 1), Teaching Control Group (Group 2) and No Treatment Control Group (Group 3) at each assessment, i.e. baseline, post-training, three months and one year follow-up and, for Group 1, two years follow-up. A multivariate analysis of variance (SPSSX version 3) was computed on each matrix of scores for each skill area.

The second Table in each section (numbers 4, 8, 12, 16, 20, 24, 28, 32, 37, 40, 44, 48, 52, 56, 59, 62, 65, 68, 72, 76, 80) shows the summary table of simple effects for each analysis of overall skill. This has within subjects ANOVAs for each group and between subjects ANOVAs for each point in testing. The results of the Scheffe comparisons make up the third Table in each section (numbers 5, 9, 13, 17, 21, 25, 29, 33, 38, 41, 45, 49, 53, 57, 60, 63, 66, 69, 73, 77, 81). These show the significant differences between groups at baseline, post-training, three months and one year follow-up (as only Group 1 completed a two years follow-up assessment there can be no comparison between groups at this point in testing).

The final Table in each section (numbers 6, 10, 14, 18, 22, 26, 30, 34, 42, 46, 50, 54, 70, 74, 78, 82) shows the mean ratings for subjects in Groups 1, 2 and 3 across times of testing for all the remaining skills analysed in each section thus, e.g. in conversations, volume; pace; presentation; question asking; question answering; gaze; gesture; interest in others and self-disclosure were presented for each group at each point in testing. The Tables also show the group x performance ANOVA results and probability levels for each skill.

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# 1. CONVERSATION SKILLS

## (i) General Conversation

### Analysis of overall level of skill

Table 3. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n=23 | 1.46 | 3.56 | 3.60 | 3.95 | 3.91 |
| 2 n=12 | 1.92 | 1.83 | 1.83 | 1.58 | |
| 3 n=12 | 1.67 | 1.58 | 2.00 | 1.92 | |

Table 3 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects* (F = 8.98; DF = 2,44; P <0.001), a significant effect within subjects* (F = 13.97; DF = 3,132; P <0.001) and a significant interaction of these two main effects (F = 17.72; DF = 6,132; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 4. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 11.47 | 4 | 0.64 | 88 | 18.02 | 0.000 |
| Within Ss Gp 2 | 0.25 | 3 | 0.14 | 33 | 1.74 | 0.179 |
| Within Ss Gp 3 | 0.47 | 3 | 0.37 | 33 | 1.29 | 0.294 |
| Between Ss BL | 0.87 | 2 | 1.53 | 44 | 0.57 | 0.570 |
| Between Ss PT | 21.18 | 2 | 1.76 | 44 | 12.07 | 0.000 |
| Between Ss FU1 | 17.43 | 2 | 1.95 | 44 | 8.94 | 0.000 |
| Between Ss FU2 | 29.59 | 2 | 1.35 | 44 | 21.90 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one way ANOVAs were conducted to determine the source of the variation. Table 4 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A).

Footnote: between subjects* - between subjects effects refers to differences between the Experimental and Control Groups.
Within subjects* - refers to differences on test occasions.

As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except for baseline. Table 3 shows that these were due to a significant improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 5. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 (P <0.01); 1 > 3 (P < 0.05) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 5). There was no significant difference between the groups at baseline and at every subsequent point of testing Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 6. Summary Table of all skills rated in 'General Conversation', showing group means of rated skill and details of within subjects x between subjects interaction in a two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 1 | 1.88 | 3.36 | 3.56 | 3.83 | 3.60 | 7.83; 6 | 0.49; 132 | 15.85 | <0.001 |
| | 2 | 2.36 | 1.91 | 1.63 | 1.55 | | | | | |
| | 3 | 2.54 | 2.31 | 2.38 | 2.00 | | | | | |
| Pace | 1 | 1.35 | 3.20 | 3.56 | 3.88 | 3.00 | 7.38; 6 | 0.37; 132 | 19.68 | <0.001 |
| | 2 | 2.18 | 2.27 | 2.46 | 2.55 | | | | | |
| | 3 | 2.15 | 2.15 | 2.08 | 2.00 | | | | | |
| Present-ation | 1 | 1.78 | 3.60 | 3.60 | 3.79 | 3.55 | 7.89; 6 | 0.52; 132 | 15.26 | <0.001 |
| | 2 | 1.92 | 2.00 | 1.75 | 1.58 | | | | | |
| | 3 | 2.31 | 2.17 | 2.25 | | | | | | |
| Question Answering | 1 | 1.63 | 3.36 | 3.44 | 3.80 | 3.82 | 8.40; 6 | 0.67; 132 | 12.54 | <0.001 |
| | 2 | 2.00 | 2.25 | 2.00 | 1.75 | | | | | |
| | 3 | 1.50 | 1.42 | 1.33 | 1.67 | | | | | |
| Question Asking | 1 | 1.62 | 3.00 | 2.88 | 3.54 | 3.08 | 5.20; 6 | 0.56; 132 | 9.33 | <0.001 |
| | 2 | 1.67 | 1.25 | 1.50 | 1.25 | | | | | |
| | 3 | 1.91 | 1.83 | 1.75 | 1.67 | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Gaze | 1 | 1.70 | 3.60 | 3.68 | 4.04 | 4.00 | 8.93; 6 | 0.47; 132 | 19.16 <0.001 |
| | 2 | 2.54 | 2.27 | 2.09 | | | | | |
| | 3 | 2.00 | 1.77 | 2.31 | 1.69 | | | | |
| Gesture | 1 | 1.31 | 3.36 | 3.64 | 3.83 | 3.67 | 8.63; 6 | 0.59; 132 | 14.67 <0.001 |
| | 2 | 1.73 | 1.90 | 1.73 | 1.64 | | | | |
| | 3 | 1.92 | 1.85 | 1.77 | 1.85 | | | | |
| Interest | 1 | 1.74 | 3.36 | 3.52 | 3.72 | 3.80 | 7.36; 6 | 0.39; 132 | 18.69 <.001 |
| In Others | 2 | 1.88 | 2.00 | 1.83 | 1.66 | | | | |
| | 3 | 2.50 | 2.33 | 2.50 | 2.50 | | | | |
| Self- | 1 | 1.82 | 3.45 | 3.71 | 3.67 | 3.51 | 8.62; 6 | 0.69; 132 | 12.54 <.001 |
| disclosure | 2 | 1.58 | 2.08 | 2.31 | 2.14 | | | | |
| | 3 | 1.91 | 1.83 | 2.00 | 1.91 | | | | |

Table 6 shows all the skills analysed for Conversation Training. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two- way ANOVA of main effects is shown. Other results of the one-way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there are significant interactions in all of the skill areas. In each conversation skill, one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each at $P < 0.001$). The reason for this can be seen in the rated group means for each skill in Table 6, which showed that Group 1 improved from baseline to all subsequent points in testing. The one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in the scores for Group 1 are the source of the significant interaction effects seen in Table 6.

For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline. For the areas of 'volume', 'presentation', 'question answering', 'gesturing' and 'self-disclosure', Group 1 scores were significantly higher than Groups 2 and 3 at all subsequent points of testing ($P < 0.01$ or $0.05$). For 'pace of speech', there were no significant differences between Groups until the third follow-up when Group 1 was significantly higher than Groups 2 and 3. For

'question asking' at post-training, Group 1 was significantly higher than Group 2 only, there were no significant differences at follow-up 1 and Group 1 was significantly higher than Groups 2 and 3 at follow-up 2. There were no significant differences between Groups 2 and 3 on any skill at any point in testing.

## (ii) Interrupting a Conversation
## Analysis of overall level of skill

Table 7. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n = 25 | 1.94 | 3.80 | 3.68 | 3.89 | 3.90 |
| 2 n = 11 | 2.11 | 2.09 | 2.00 | 2.10 | |
| 3 n = 13 | 1.94 | 1.96 | 1.96 | 1.84 | |

Table 7 shows the mean overall scores on 'interrupting a conversation' for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 12.96; DF = 2,46; P <0.001), a significant effect within subjects (F = 12.14; DF = 3,138; P <0.001) and a significant interaction of these two main effects (F = 23.76; DF = 6,138; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 8. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 18.43 | 4 | 0.30 | 96 | 61.67 | 0.001 |
| Within Ss Gp 2 | 0.06 | 3 | 0.19 | 30 | 0.31 | 0.816 |
| Within Ss Gp 3 | 0.13 | 3 | 0.16 | 36 | 0.82 | 0.419 |
| Between Ss BL | 0.45 | 2 | 1.26 | 46 | 0.36 | 0.700 |
| Between Ss PT | 23.16 | 2 | 0.95 | 46 | 24.39 | 0.000 |
| Between Ss FU1 | 18.38 | 2 | 0.88 | 46 | 20.97 | 0.000 |
| Between Ss FU2 | 20.94 | 2 | 1.10 | 46 | 19.04 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 8 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing (full details are in Appendix A). As can be

seen, there was a significant effect within subjects for Group 1 only and all effects between subjects were significant except at baseline. Table 7 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 9. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 (P <0.01); 1 > 3 (P <0.05) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 9). There was no significant difference between the groups at baseline and at all subsequent points of testing Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 10. Summary table of all skills rated in 'Interrupting a Conversation' showing group means of rated skills and details of within subjects x between subjects interaction in a two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|
| Gaze | 1 | 2.61 | 3.66 | 3.62 | 3.41 | 3.00 | 5.14; 6 | 0.43; 138 | 12.03 | <0.001 |
| | 2 | 2.45 | 2.24 | 2.52 | 2.30 | | | | | |
| | 3 | 2.37 | 2.41 | 2.02 | 2.17 | | | | | |
| Gesture | 1 | 2.46 | 3.41 | 3.77 | 3.79 | 3.43 | 7.31; 6 | 0.59; 138 | 12.46 | <0.001 |
| | 2 | 1.99 | 2.62 | 2.40 | 2.90 | | | | | |
| | 3 | 2.21 | 1.50 | 1.92 | 2.08 | | | | | |
| Volume | 1 | 2.21 | 3.34 | 3.71 | 3.80 | 3.32 | 6.63; 6 | 0.29; 138 | 22.95 | <0.001 |
| | 2 | 2.40 | 2.84 | 2.92 | 2.73 | | | | | |
| | 3 | 2.41 | 2.49 | 2.81 | 2.80 | | | | | |
| Clarity | 1 | 2.41 | 3.04 | 3.36 | 3.41 | 2.72 | 7.23; 6 | 0.38; 138 | 19.03 | <0.001 |
| | 3 | 2.34 | 2.77 | 2.77 | 2.42 | | | | | |
| | 3 | 2.34 | 2.77 | 2.77 | 2.42 | | | | | |

| Skill | Group | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Effective-ness of interruption | 1 | 1.62 | 3.00 | 2.88 | 3.54 | 3.47 | 5.20; 6 | 0.56; 138 | 9.33 | <0.001 |
| | 2 | 1.67 | 1.25 | 1.80 | 1.25 | | | | | |
| | 3 | 2.17 | 2.11 | 1.26 | 2.25 | | | | | |
| Ability to join group conversat. | 1 | 2.24 | 3.46 | 3.99 | 3.49 | 3.56 | 7.01; 6 | 0.31; 138 | 22.61 | <0.001 |
| | 2 | 2.04 | 2.22 | 2.28 | 2.31 | | | | | |
| | 3 | 2.44 | 2.09 | 2.19 | 2.21 | | | | | |
| Acceptance by group | 1 | 2.17 | 3.61 | 3.74 | 3.01 | 3.42 | 6.74; 6 | 0.25; 138 | 26.91 | <0.001 |
| | 2 | 2.72 | 2.41 | 2.46 | 2.82 | | | | | |
| | 3 | 2.31 | 2.77 | 2.88 | 2.42 | | | | | |
| Confidence | 1 | 2.33 | 3.38 | 3.83 | 3.72 | 3.28 | 11.46;6 | 0.32; 138 | 35.77 | <.001 |
| | 2 | 2.27 | 2.48 | 2.27 | 2.31 | | | | | |
| | 3 | 2.29 | 2.08 | 2.07 | 2.19 | | | | | |
| Interest in others | 1 | 2.14 | 3.72 | 4.28 | 3.91 | 3.99 | 6.14; 6 | 0.49; 138 | 22.76 | <.001 |
| | 2 | 2.17 | 2.71 | 2.72 | 2.28 | | | | | |
| | 3 | 2.05 | 2.28 | 2.17 | 2.22 | | | | | |

Table 10 shows all the skills analysed for 'Interrupting a Conversation'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two way ANOVA of main effects is shown. Other results of the one-way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there are significant interactions in all of the skill areas. In each skill on interrupting a conversation, one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each one was significant at P <0.001). The reason for this can be seen in the rated Group means for each skill in Table 10, which showed that Group 1 improved from baseline to all subsequent points in testing. Except for the skills noted below, the one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, suggesting little significant change across times of testing on rated skills. Therefore, the changes in scores for Group 1 at the source of the significant interaction effects seen in Table 8 are in the areas of 'clarity', 'volume', 'gaze', 'ability to join a conversation', 'acceptance by the group' and 'confidence'. In the area of 'gesture', ANOVAs within Groups 2 and 3 were significant (P <0.05). Group 2 showed a modest improvement at all points of testing following baseline and Group 3 showed a reduced level of skill

post-training. For 'effectiveness of the interruption', the ANOVA within Group 2 was significant (P <0.05) due to improvements in skill at post-training and follow-up. In 'interest in others' the ANOVA within Group 2 was significant (P <0.05) due to improvements post-training and at the first follow-up. For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline. For all the skill areas except 'clarity', Group 1 scores were significantly higher than Groups 2 and 3 at all subsequent points of testing. For the area of 'clarity', there were no significant differences between groups until the second follow-up, at which Group 1 was significantly higher than Group 3 only. All other comparisons between Group 1 and 2 and between Groups 1 and 3 were significant. Group 2 was significantly higher than Group 3 on 'gesture' at post-training and the second follow-up; 'effectiveness of the interruption' at post-training; and 'interest in others' at the first follow-up. There were no other significant differences between Groups 2 and 3.

## 2. SOCIAL INTERACTION SKILLS

### Analysis of overall level of skill

Table 11. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|-------|------|------|------|------|------|
| 1 n = 24 | 1.77 | 3.80 | 3.67 | 3.79 | 3.55 |
| 2 n = 11 | 1.93 | 2.12 | 1.75 | 1.85 | |
| 3 n = 12 | 2.22 | 2.06 | 2.27 | 2.52 | |

Table 11 shows the mean scores of Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 7.78; DF = 2,44; P <0.001), a significant effect within subjects (F = 6.90; DF = 3,132; P <0.001) and a significant interaction of these two main effects (F = 15.26; DF = 6,132; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

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Table 12. Summary of simple effects.

| Source | Effect MS | Effect DF | Error MS | Error DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 5.93 | 4 | 0.59 | 92 | 10.13 | 0.000 |
| Within Ss Gp 2 | 0.41 | 3 | 0.21 | 30 | 1.93 | 0.150 |
| Within Ss Gp 3 | 0.17 | 3 | 0.39 | 33 | 0.42 | 0.740 |
| Between Ss BL | 2.92 | 2 | 1.54 | 44 | 1.90 | 0.161 |
| Between Ss PT | 14.17 | 2 | 1.42 | 44 | 9.93 | 0.000 |
| Between Ss FU1 | 17.02 | 2 | 1.48 | 44 | 11.53 | 0.000 |
| Between Ss FU2 | 22.43 | 2 | 1.40 | 44 | 15.99 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 12 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 11 shows that these were due to an improvement in Group scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 13. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 (P <0.01); 1 > 3 (P <0.05) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 13). There was no significant difference between the groups at baseline: at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 14. Summary table of skills rated in 'Social Interaction Skills' showing group means of rated skill and details of within subjects x between subjects interaction in a two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|
| Gaze | 1 | 2.52 | 3.82 | 3.91 | 3.79 | 3.79 | 6.31; 6 | 0.39; 132 | 16.21 | <0.001 |
|  | 2 | 2.71 | 2.61 | 2.59 | 2.73 |  |  |  |  |  |
|  | 3 | 2.37 | 2.55 | 2.56 | 2.46 |  |  |  |  |  |
| Gesture | 1 | 2.31 | 3.77 | 3.52 | 3.41 | 3.46 | 5.08; 6 | 0.36; 132 | 14.11 | <0.001 |
|  | 2 | 2.31 | 2.48 | 2.32 | 2.39 |  |  |  |  |  |
|  | 3 | 2.47 | 2.51 | 2.55 | 2.31 |  |  |  |  |  |
| Volume | 1 | 2.01 | 3.42 | 3.37 | 3.59 | 3.41 | 4.45; 6 | 0.49; 132 | 9.03 | <0.001 |
|  | 2 | 2.39 | 2.49 | 2.51 | 2.33 |  |  |  |  |  |
|  | 3 | 2.45 | 2.31 | 2.49 | 2.59 |  |  |  |  |  |
| Clarity | 1 | 2.37 | 3.49 | 3.27 | 3.19 | 3.25 | 3.93; 6 | 0.57; 132 | 6.91 | <0.001 |
|  | 2 | 2.19 | 2.71 | 2.80 | 2.42 |  |  |  |  |  |
|  | 3 | 2.58 | 2.51 | 2.42 | 2.49 |  |  |  |  |  |
| Question Asking | 1 | 2.17 | 3.37 | 3.48 | 3.29 | 3.71 | 7.44; 6 | 0.42; 132 | 17.70 | <0.001 |
|  | 2 | 2.38 | 2.49 | 2.08 | 2.49 |  |  |  |  |  |
|  | 3 | 2.41 | 2.19 | 2.31 | 2.29 |  |  |  |  |  |
| Confidence of Request | 1 | 2.09 | 3.27 | 2.91 | 3.08 | 3.41 | 9.31; 6 | 0.40; 132 | 23.32 | <0.001 |
|  | 2 | 1.99 | 2.27 | 2.18 | 2.21 |  |  |  |  |  |
|  | 3 | 2.23 | 2.30 | 2.32 | 2.19 |  |  |  |  |  |
| Length of Request | 1 | 2.17 | 2.98 | 3.42 | 3.38 | 3.50 | 4.84; 6 | 0.55; 132 | 8.82 | <0.001 |
|  | 2 | 2.28 | 2.49 | 2.09 | 2.18 |  |  |  |  |  |
|  | 3 | 2.01 | 2.31 | 2.08 | 2.21 |  |  |  |  |  |
| Interest In Others | 1 | 2.30 | 3.44 | 3.47 | 3.46 | 3.40 | 8.31; 6 | 0.51 132 | 16.37 | <.001 |
|  | 2 | 2.19 | 2.44 | 2.34 | 2.50 |  |  |  |  |  |
|  | 3 | 1.97 | 2.32 | 2.31 | 2.27 |  |  |  |  |  |
| Self-disclosure | 1 | 1.21 | 2.81 | 3.20 | 3.21 | 3.01 | 9.14; 6 | 0.37; 132 | 24.70 | <.001 |
|  | 2 | 1.32 | 1.97 | 1.72 | 2.09 |  |  |  |  |  |
|  | 3 | 2.08 | 2.12 | 1.89 | 1.92 |  |  |  |  |  |

Table 14 shows all the skills analysed for 'Social Interaction Skills'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results on the one-way ANOVAs and the Scheffe comparisons are reported in the text below. As can be seen, there is a significant interaction in all of the skill areas. In each social interaction

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skill, one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each at P <0.001). The reason for this can be seen in the rated group means for each skill in Table 14, which showed that Group 1 improved from baseline to all subsequent points in testing. The one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in scores for Group 1 are the source of the significant interaction effects seen in Table 14. For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline. For the area of 'clarity', Group 1 scores were significantly higher than Group 3 only at the first follow-up. For the area of self-disclosure, Group 1 was significantly higher than Groups 2 and 3 at FU1 and FU2 only. For all other areas, Group 1 was significantly higher than Groups 2 and 3 (P <0.01; P <0.05). There were no significant differences between Groups 2 and 3.

## 3. ASSERTION SKILLS

### (i) Saying No to Strangers

Table 15.  Mean ratings of overall level of skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n = 25 | 1.68 | 4.36 | 4.24 | 4.36 | 4.36 |
| 2 n = 11 | 1.56 | 2.46 | 1.90 | 2.09 | |
| 3 n = 13 | 1.46 | 1.92 | 1.54 | 1.62 | |

Table 15 shows the mean scores of Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 32.28; DF = 2,46; P <0.001), a significant effect within subjects (F = 27.15; DF = 3,138; P <0.001), and a significant interaction of these two main effects (F = 13.94; DF = 6,138; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

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Table 16. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|--------|-----------|----|----------|-----|------|------|
| Within Ss Gp 1 | 35.18 | 4 | 0.51 | 96 | 68.53 | 0.000 |
| Within Ss Gp 2 | 1.58 | 3 | 0.46 | 30 | 3.43 | 0.029 |
| Within Ss Gp 3 | 0.53 | 3 | 0.59 | 36 | 0.91 | 0.448 |
| Between Ss BL | 0.21 | 2 | 1.50 | 46 | 0.14 | 0.865 |
| Between Ss PT | 30.29 | 2 | 0.90 | 46 | 33.65 | 0.000 |
| Between Ss FU1 | 39.65 | 2 | 1.01 | 46 | 39.05 | 0.000 |
| Between Ss FU2 | 39.75 | 2 | 0.95 | 46 | 41.80 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 16 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects in both Groups 1 and 2 and all effects between subjects were significant except at baseline. Table 15 shows that these were due to an improvement in Group 1 scores following baseline which was maintained until three months and one year follow-up, and a more modest improvement in scores for subjects in Group 2. There were no corresponding changes for Group 3.

Table 17. Scheffe comparisons between Groups

| | |
|----|----|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 17). There was no significant difference between the groups at baseline; at all subsequent points of testing, Group 1 had showed significantly higher scores than Groups 2 and 3. There was no significant difference between Groups 2 and 3 at any point in testing.

Table 18.  Summary table for all skills rated in 'Saying No to

Strangers', showing group means of rated skill and details of
within subjects x between subjects interaction in a two way ANOVA
of main effects, MS and DF of effect, MS and DF of error, F ratio
and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS | DF | Error MS | DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Body | 1 | 1.88 | 3.96 | 3.68 | 3.80 | 3.80 | 5.25; | 6 | 0.34; | 138 | 15.27 | <0.001 |
| Movements | 2 | 1.73 | 2.18 | 1.81 | 1.82 | | | | | | | |
| | 3 | 1.69 | 1.54 | 1.62 | 1.46 | | | | | | | |
| Confidence | 1 | 1.76 | 3.96 | 3.97 | 3.84 | 3.92 | 7.32; | 6 | 0.47; | 138 | 15.55 | <0.001 |
| of Refusal | 2 | 1.73 | 2.27 | 1.73 | 2.09 | | | | | | | |
| | 3 | 1.92 | 1.77 | 1.62 | 1.85 | | | | | | | |
| Voice | 1 | 1.84 | 3.80 | 3.60 | 3.80 | 3.80 | 6.36; | 6 | 0.27; | 138 | 23.76 | <0.001 |
| | 2 | 2.18 | 2.09 | 2.00 | 2.09 | | | | | | | |
| | 3 | 1.92 | 1.69 | 1.76 | 1.85 | | | | | | | |
| Clarity | 1 | 1.76 | 4.12 | 4.24 | 3.96 | 3.88 | 8.28; | 6 | 0.47; | 138 | 17.73 | <0.001 |
| | 2 | 1.73 | 2.18 | 1.91 | 2.00 | | | | | | | |
| | 3 | 1.85 | 1.77 | 1.62 | 1.77 | | | | | | | |
| Complies/ | 1 | 0.20 | 0.96 | 0.88 | 0.88 | 0.88 | 0.65; | 6 | 0.07; | 138 | 8.85 | <0.001 |
| Not | 2 | 0.18 | 0.36 | 0.27 | 0.36 | | | | | | | |
| | 3 | 0.15 | 0.23 | 0.08 | 0.15 | | | | | | | |
| Overall | 1 | 1.68 | 4.36 | 4.24 | 4.36 | 4.30 | 7.93; | 6 | 0.57; | 138 | 13.96 | <0.001 |
| | 2 | 1.55 | 2.46 | 1.91 | 2.09 | | | | | | | |
| | 3 | 1.46 | 1.92 | 1.54 | 1.62 | | | | | | | |
| Stranger | 1 | 3.65 | 4.35 | 4.23 | 4.39 | 4.25 | 0.90; | 6 | 0.39; | 138 | 2.30 | <0.001 |
| Persuasive- | 2 | 3.55 | 3.82 | 3.36 | 3.46 | | | | | | | |
| ness | 3 | 3.69 | 3.62 | 3.85 | 3.84 | | | | | | | |

Table 18 shows all the skills analysed for 'Saying No to
Strangers'. Each skill was analysed in the same way as for overall
level of skill, i.e. a two-way ANOVA of main effects, subsequent
one-way ANOVAs of simple effects between subjects and within
subjects, and Scheffe comparisons between groups at each point in
testing.  Only the between subjects x within subjects interaction
result from the two-way ANOVA of main effects is shown.  Other
results of the one-way ANOVAs and the Scheffe comparisons are
reported in the test below.

As can be seen, there is a significant interaction in each of the
skill areas.  In each skill, one-way ANOVAs were computed within
subjects and only those for Group 1 were consistently significant
(each one was significant at P <0.001).  The reason for this can be
seen in the rated group means for each skill in Table 18, where
Group 1 improved from baseline to all subsequent points in testing.

The one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in the scores for Group 1 are the source of the significant interaction effects seen in Table 18.

For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline. Thereafter, Group 1 showed significantly higher scores than Groups 2 and 3 at all subsequent points in testing. There were no significant differences between Groups 2 and 3.

It will be noted that. for the rating of 'complies/not complies', a score of 0 was given for 'compliance' and a score of 1 was given for 'non-compliance'. Therefore, a mean score of 0.20 indicates that 4/5ths of subjects complied with requests of the stranger, while a score of 0.80 indicates that only 1/5th of the subjects complied. To ensure that any improvements in 'saying no' were not a result of a decrease in persuasiveness of the stranger, this was rated by judges. There was no difference at baseline in the persuasiveness of strangers across groups. However, at post-training, first follow-up, second follow-up and third follow-up the stranger was more persuasive for subjects in Group 1. It would seem reasonable to suppose that the stranger was responding to the increased assertiveness of the subjects in Group 1, trying harder to convince them to go with him.

## (ii) Returning Goods to Shops
### Analysis of overall level of skill

Table 19. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|-------|------|------|------|------|------|
| 1 n = 26 | 1.72 | 4.31 | 4.44 | 4.31 | 4.41 |
| 2 n = 11 | 1.81 | 1.92 | 2.06 | 2.09 | |
| 3 n = 13 | 1.69 | 1.42 | 1.78 | 1.91 | |

Table 19 shows the mean scores of Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, two years follow-up. A two-way (3 x 4) ANOVA conducted on

this table of scores found a significant effect between subjects (F = 23.41; DF = 2,47; P = <0.001), a significant effect within subjects (F = 23.35; DF = 3,141; P <0.001), and a significant interaction of these two main effects (F = 33.42; DF = 6,141; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 20. Summary of simple effects

| Source | Effect | | Error | | | |
|--------|--------|-----|-------|-----|-----|-----|
| | MS | DF | MS | DF | F | P |
| Within Ss Gp 1 | 26.80 | 4 | 0.22 | 100 | 123.97 | 0.000 |
| Within Ss Gp 2 | 0.09 | 3 | 0.19 | 30 | 0.48 | 0.701 |
| Within Ss Gp 3 | 0.07 | 3 | 0.29 | 36 | 0.24 | 0.867 |
| Between Ss BL | 0.05 | 2 | 0.91 | 47 | 0.05 | 0.94 |
| Between Ss PT | 38.44 | 2 | 1.08 | 47 | 35.41 | 0.00 |
| Between Ss FU1 | 33.88 | 2 | 1.15 | 47 | 29.40 | 0.00 |
| Between Ss FU2 | 35.96 | 2 | 1.14 | 47 | 31.31 | 0.00 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 20 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except for baseline. Table 19 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 21. Scheffe comparisons between Groups

| BL | No significant differences |
|----|----------------------------|
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 21). There was no significant difference between the groups at baseline and, at all subsequent points of

testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 22. Summary Table of all skills rated in 'Returning Goods to Shops', showing group means of rated skill and details of within subjects x between subjects interaction in a two-way ANOVA of main effects, MS and DF of effect , and MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS | DF | Error MS | DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gesture | 1 | 1.96 | 4.04 | 4.00 | 3.81 | 4.00 | 0.75; | 6 | 0.35; | 141 | 12.16 | <0.001 |
| | 2 | 1.82 | 1.91 | 1.73 | 2.00 | | | | | | | |
| | 3 | 1.85 | 1.54 | 1.54 | 1.46 | | | | | | | |
| Voice | 1 | 1.50 | 3.58 | 3.54 | 3.64 | 3.69 | 5.50; | 6 | 0.36; | 141 | 15.48 | <0.001 |
| Loudness | 2 | 1.36 | 1.73 | 1.46 | 1.64 | | | | | | | |
| | 3 | 1.61 | 2.00 | 1.85 | 1.69 | | | | | | | |
| Clarity | 1 | 1.65 | 3.81 | 3.77 | 3.77 | 3.62 | 8.98; | 6 | 0.31; | 141 | 28.89 | <0.001 |
| | 2 | 1.73 | 1.91 | 1.55 | 1.54 | | | | | | | |
| | 3 | 1.62 | 1.23 | 1.39 | 1.08 | | | | | | | |
| Confidence | 1 | 1.92 | 4.23 | 4.15 | 4.19 | 4.17 | 8.70; | 6 | 0.26; | 141 | 33.42 | <0.001 |
| | 2 | 1.82 | 1.82 | 2.00 | 1.82 | | | | | | | |
| | 3 | 1.85 | 1.69 | 1.69 | 1.77 | | | | | | | |
| Persist- | 1 | 1.73 | 4.24 | 4.25 | 4.08 | 4.06 | 8.12; | 6 | 0.29; | 141 | 27.91 | <0.001 |
| ence | 2 | 1.84 | 2.00 | 2.31 | 2.09 | | | | | | | |
| | 3 | 1.91 | 1.88 | 2.03 | 2.10 | | | | | | | |
| Compliance | 1 | 1.35 | 4.27 | 4.27 | 4.23 | 4.34 | 14.12; | 6 | 0.35; | 141 | 40.23 | <0.001 |
| | 2 | 1.64 | 1.73 | 1.81 | 1.73 | | | | | | | |
| | 3 | 1.70 | 1.54 | 1.46 | 1.31 | | | | | | | |
| Refund | 1 | 0.12 | 0.89 | 0.88 | 0.81 | 0.81 | 0.94; | 6 | 0.05; | 141 | 18.84 | <0.001 |
| | 2 | 0.09 | 0.09 | 0.09 | 0.09 | | | | | | | |
| | 3 | 0.15 | 0.08 | 0.15 | 0.08 | | | | | | | |
| Assistant | 1 | 4.73 | 4.73 | 4.89 | 4.69 | 4.62 | 0.24; | 6 | 0.23; | 141 | 1.03 | NS |
| | 2 | 1.88 | 2.00 | 1.83 | 1.66 | | | | | | | |
| | 3 | 2.50 | 2.33 | 2.50 | 2.50 | | | | | | | |

Table 22 shows all the skills analysed for 'Returning Goods to Shops'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results of the one- way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there is a significant interaction in all of the skill areas except for assertiveness of the person role playing the shop assistant. In each skill, one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each at $P < 0.001$). The reason for this can be seen in the rated group means for each skill in Table 22, which show that Group 1 improved from baseline to all subsequent points in testing. The one-way ANOVAs within subjects, conducted on scores for Groups 2 and 3, were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in scores for Group 1 are the source of the significant interaction effects seen in Table 22. For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline and Group 1 scores were significantly higher than Groups 2 and 3 at all subsequent points in testing. For the area of 'assistant assertiveness' there was no difference between the groups at any point in testing, with the assistant being rated as highly assertive throughout.

### (iii) Compliments

Table 23. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|-------|------|------|------|------|------|
| 1 n = 23 | 1.34 | 3.62 | 3.46 | 3.77 | 3.65 |
| 2 n = 12 | 1.48 | 1.92 | 1.48 | 1.72 | |
| 3 n = 12 | 1.55 | 1.52 | 1.33 | 1.61 | |

Table 23 shows the mean scores of Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 8.25; DF = 2,44; $P < 0.001$), a significant effect within subjects (F = 10.21; DF = 3,132; $P < 0.001$) and a significant interaction of these two main effects (F = 14.67; DF = 6,132; $P < 0.001$). (Full details of this two way ANOVA of main effects can be seen in Appendix A).

Table 24. Summary of simple effects

| Source | Effect | | Error | | F | P |
|---|---|---|---|---|---|---|
| | MS | DF | MS | DF | | |
| Within Ss Gp 1 | 8.70 | 4 | 0.92 | 88 | 9.46 | 0.000 |
| Within Ss Gp 2 | 0.14 | 3 | 0.36 | 33 | 0.40 | 0.755 |
| Within Ss Gp 3 | 0.05 | 3 | 0.22 | 33 | 0.24 | 0.871 |
| Between Ss BL | 1.83 | 2 | 1.54 | 44 | 1.18 | 0.313 |
| Between Ss PT | 13.51 | 2 | 1.92 | 44 | 7.03 | 0.002 |
| Between Ss FU1 | 21.87 | 2 | 1.70 | 44 | 12.85 | 0.000 |
| Between Ss FU2 | 26.17 | 2 | 1.76 | 44 | 14.80 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 24 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except for baseline. Table 23 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 25. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.001) |
| FU1 | 1 > 2 & 3 (P <0.001) |
| FU2 | 1 > 2 & 3 (P <0.001) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 25).

There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 26.   Summary Table of all skills rated in 'Ability to give compliments', showing group means of rated skill and details of within subjects x between subjects interaction in a two way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|-------|----|----|----|-----|-----|-----|--------------|-------------|-------|---|
| Eye | 1 | 1.34 | 3.21 | 3.39 | 2.98 | 3.42 | 7.83; 6 | 0.55; 132 | 14.23 | <0.001 |
| Contact | 2 | 1.62 | 1.82 | 1.63 | 1.91 | | | | | |
| | 3 | 1.51 | 1.42 | 1.53 | 1.47 | | | | | |
| Gestures | 1 | 1.82 | 2.98 | 3.07 | 3.19 | 3.10 | 7.14; 6 | 0.66; 132 | 10.81 | <0.001 |
| | 2 | 1.91 | 1.80 | 1.72 | 1.89 | | | | | |
| | 3 | 2.03 | 1.94 | 1.92 | 1.99 | | | | | |
| Volume | 1 | 1.58 | 2.91 | 3.42 | 3.33 | 3.08 | 6.39; 6 | 0.57; 132 | 11.23 | <0.001 |
| | 2 | 1.21 | 1.42 | 1.51 | 1.48 | | | | | |
| | 3 | 1.30 | 1.37 | 1.32 | 1.30 | | | | | |
| Clarity | 1 | 1.01 | 2.48 | 2.59 | 2.32 | 2.61 | 5.05; 6 | 0.62; 132 | 8.16 | <0.001 |
| | 2 | 1.62 | 1.42 | 1.42 | 1.50 | | | | | |
| | 3 | 1.21 | 1.30 | 1.37 | 1.48 | | | | | |
| Pace | 1 | 2.21 | 2.81 | 2.64 | 2.82 | 2.67 | 1.43; 6 | 0.42; 132 | 3.40 | <0.001 |
| | 2 | 2.30 | 2.52 | 2.44 | 2.35 | | | | | |
| | 3 | 2.41 | 2.34 | 2.21 | 2.29 | | | | | |
| Giggling | 1 | 2.08 | 2.74 | 2.62 | 2.84 | 2.84 | 3.03; 6 | 0.63; 132 | 4.81 | <0.001 |
| | 2 | 1.92 | 2.21 | 2.12 | 2.11 | | | | | |
| | 3 | 1.88 | 1.92 | 2.06 | 1.84 | | | | | |
| Confidence | 1 | 0.62 | 3.31 | 3.42 | 3.42 | 3.11 | 9.73; 6 | 0.36; 132 | 26.99 | <0.001 |
| | 2 | 0.79 | 1.21 | 1.11 | 1.29 | | | | | |
| | 3 | 0.91 | 0.71 | 1.42 | 1.09 | | | | | |

Table 26 shows all skills analysed for the 'Ability to Give Compliments'. Each skill was anlysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results on the one-way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there was significant interaction in all skills except 'pace of speech'. Following the significant interaction results, one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each at P <0.001). The reason for this can be seen in the rated group means for each

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skill in Table 26 which showed that Group 1 improved from baseline to all subsequent points in testing except, for the skill of 'pace of speech'. The one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in scores for Group 1 are the source of significant interaction effects seen in Table 26.

For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline and Group 1 scores were significantly higher than Groups 2 and 3 at subsequent points of testing. There were no significant differences between Groups 2 and 3.

## 4.  DEALING WITH AUTHORITY FIGURES

### (i)  Police - Reporting a Loss
#### Analysis of ratings of overall level of skill

Table 27.  Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 |
|---|---|---|---|---|
| 1 n = 21 | 2.29 | 4.05 | 4.14 | 4.24 |
| 2 n = 12 | 2.42 | 2.25 | 2.33 | 2.33 |
| 3 n = 12 | 2.17 | 1.92 | 1.67 | 1.92 |

Table 27 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 23.14; DF = 2,42; P <0.001), a significant effect within subjects (F = 7.23; DF = 3,126; P <0.001), and a significant interaction of these two main effects (F = 18.39; Df = 6,126; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 28. Summary of simple effects

| Source | Effect | | Error | | | |
|---|---|---|---|---|---|---|
| | MS | DF | MS | DF | F | P |
| Within Ss Gp 1 | 18.23 | 3 | 0.38 | 60 | 48.52 | 0.000 |
| Within Ss Gp 2 | 0.06 | 3 | 0.21 | 33 | 0.27 | 0.848 |
| Within Ss Gp 3 | 0.50 | 3 | 0.39 | 33 | 1.27 | 0.301 |
| Between Ss BL | 0.18 | 2 | 0.78 | 42 | 0.23 | 0.787 |
| Between Ss PT | 21.94 | 2 | 0.81 | 42 | 27.00 | 0.000 |
| Between Ss FU1 | 27.04 | 2 | 0.95 | 42 | 28.46 | 0.000 |
| Between Ss FU2 | 25.52 | 2 | 0.89 | 42 | 28.67 | 0.000 |

Given the significant interaction in the ANOVA of main effects, futher one-way ANOVAs were conducted to determine the source of the variation. Table 28 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 27 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 29. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from the apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 29). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 30. Summary Table of all skills rated in 'Reporting a Loss to the Police', showing Group means of rated skill and details of within subjects x between subjects interaction in a two-way ANOVA

of main effects, <u>MS and DF of effect, MS and DF of error, F ratio</u>
<u>and P</u>

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS | DF | Error MS | DF | RATIO | P |
|-------|----|----|----|-----|-----|-----|-----------|----|----------|----|-------|---|
| Gaze | 1 | 2.14 | 3.81 | 3.62 | 3.62 | | 4.09; | 6 | 0.36; | 126 | 11.25 | <0.001 |
| | 2 | 2.25 | 2.00 | 2.17 | 2.17 | | | | | | | |
| | 3 | 2.00 | 1.83 | 2.17 | 1.75 | | | | | | | |
| Clarity | 1 | 1.86 | 3.05 | 2.86 | 2.91 | | 1.99; | 6 | 0.53; | 126 | 3.72 | <0.001 |
| | 2 | 2.83 | 2.67 | 2.50 | 2.75 | | | | | | | |
| | 3 | 2.33 | 2.33 | 2.42 | 2.42 | | | | | | | |
| Volume | 1 | 2.52 | 2.71 | 3.10 | 3.14 | | 1.24; | 6 | 0.66; | 126 | 1.88 | NS |
| | 2 | 3.33 | 3.00 | 2.09 | | | | | | | | |
| | 3 | 2.83 | 2.83 | 2.67 | 2.83 | | | | | | | |
| Posture | 1 | 2.10 | 3.86 | 3.57 | 3.87 | | 4.30; | 6 | 0.36; | 126 | 12.07 | <0.001 |
| | 2 | 2.92 | 2.75 | 2.83 | 2.83 | | | | | | | |
| | 3 | 2.58 | 2.42 | 2.33 | 2.42 | | | | | | | |
| Confidence | 1 | 2.60 | 3.35 | 3.55 | 3.60 | | 1.98; | 6 | 0.19; | 126 | 10.36 | <0.001 |
| | 2 | 3.08 | 3.00 | 2.75 | 2.58 | | | | | | | |
| | 3 | 2.67 | 2.50 | 2.58 | 2.66 | | | | | | | |
| Clarity of Inform- ation | 1 | 2.14 | 3.95 | 3.95 | 3.81 | | 4.18; | 6 | 0.60; | 126 | 6.92 | <0.001 |
| | 2 | 2.83 | 3.00 | 3.08 | 2.83 | | | | | | | |
| | 3 | 2.17 | 2.00 | 2.25 | 2.17 | | | | | | | |
| Gives Inf- ormation | 1 | 1.86 | 4.00 | 3.81 | 3.81 | | 6.34; | 6 | 0.54; | 126 | 11.66 | <0.001 |
| | 2 | 2.33 | 2.75 | 2.33 | 2.42 | | | | | | | |
| | 3 | 2.23 | 2.00 | 2.00 | 1.92 | | | | | | | |

Table 30 shows all the skills analysed for 'Reporting a Loss to the Police'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results of the one-way ANOVAS and the Scheffe comparisons are reported in the text below.

As can be seen, there is a significant interaction in all of the skill areas except 'volume'. For each conversation skill except 'volume', one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each at P <0.001). The reason for this can be seen in the rated means for each skill in Table 30, which show that Group 1 improved from baseline to all subsequent points of testing. The one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant,

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indicating no significant change across times of testing on any rated skill. Therefore the changes in scores for Group 1 are the source of significant interaction effects seen in Table 30.

For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline. For the areas of 'gaze' and 'ability to give information', Group 1 was significantly higher than Groups 2 and 3 at all subsequent points of testing. For the area of 'clarity of voice', there were no significant differences between the groups at any point in testing. For the area of 'posture' Group 1 was significantly better than Group 3 only at post-training. There were no significant differences between groups at first follow-up or second follow-up. For the area of 'confidence', Group 1 was not significantly better than Group 2 at post-training but was significantly better than Groups 2 and 3 at all other comparisons. For the area of 'clarity of information', Group 1 was significantly better than Group 3 only, at post-training, first and second follow-up. There were no significant differences between Groups 2 and 3.

(ii) **Police - Asking for Directions**
**Analysis of ratings of overall level of skill**

Table 31. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 |
|---|---|---|---|---|
| 1 n = 21 | 2.67 | 4.09 | 3.81 | 3.95 |
| 2 n = 12 | 2.59 | 2.50 | 2.50 | 2.50 |
| 3 n = 12 | 2.25 | 1.92 | 2.17 | 2.08 |

Table 31 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects ($F = 9.25$; $DF = 2,42$; $P < 0.001$), a significant effect within subjects ($F = 3.74$; $Df = 3,126$; $P < 0.05$), and a significant interaction of these two main effects ($F = 9.56$; $DF = 6,126$; $P < 0.001$). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 32. Summary of simple effects

| Source | Effect | | Error | | | |
|---|---|---|---|---|---|---|
| | MS | DF | MS | DF | F | P |
| Within Ss Gp 1 | 8.96 | 3 | 0.37 | 60 | 24.06 | 0.000 |
| Within Ss Gp 2 | 0.02 | 3 | 0.23 | 33 | 0.09 | 0.965 |
| Within Ss Gp 3 | 0.24 | 3 | 0.30 | 33 | 0.80 | 0.503 |
| Between Ss BL | 0.68 | 2 | 1.90 | 42 | 0.35 | 0.700 |
| Between Ss PT | 20.95 | 2 | 1.08 | 42 | 19.25 | 0.000 |
| Between Ss FU1 | 12.53 | 2 | 1.09 | 42 | 11.47 | 0.000 |
| Between Ss FU2 | 15.96 | 2 | 1.30 | 42 | 12.22 | 0.000 |

Given the significant interaction in the ANOVA of main effects, futher one-way ANOVAs were conducted to determine the source of the variation. Table 32 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a signifciant effect within subjects in Group 1 only, and all effects between subjects were significant except at baseline. Table 31 shows that these were due to an improvement in Group 1 scores following baseline, which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 33. Scheffe comparisons between Groups

| BL | No significant differences |
|---|---|
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 33). There was no significant difference between the groups at baseline and at all subsequent points in testing Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 34. Summary Table of all skills rated in 'Police - Asking for Directions', showing group means of rated skill and details of within subjects x between subjects interaction in a two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P indicated by an asterisk)

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS | DF | Error MS | DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gaze | 1 | 1.48 | 2.91 | 3.24 | 3.43 | | 5.24; | 6 | 0.40; | 126 | 13.16 | <0.001 |
| | 2 | 1.83 | 1.50 | 1.75 | 1.75 | | | | | | | |
| | 3 | 1.83 | 1.33 | 1.58 | 1.83 | | | | | | | |
| Posture | 1 | 2.00 | 3.38 | 3.29 | 3.14 | | 2.89; | 6 | 0.36; | 126 | 8.21 | <0.001 |
| | 2 | 2.33 | 2.00 | 2.42 | 2.42 | | | | | | | |
| | 3 | 2.67 | 2.41 | 2.75 | 2.42 | | | | | | | |
| Voice Clarity | 1 | 1.57 | 3.38 | 3.57 | 3.43 | | 7.19; | 6 | 0.48; | 126 | 14.89 | <0.001 |
| | 2 | 2.08 | 1.53 | 1.75 | 1.75 | | | | | | | |
| | 3 | 1.67 | 1.42 | 1.25 | 1.33 | | | | | | | |
| Asking for Inform- ation * | 1 | 0.52 | 1.76 | 1.62 | 1.57 | | 1.85; | 6 | 0.18; | 126 | 10.41 | <0.001 |
| | 2 | 0.58 | 0.50 | 0.33 | 0.67 | | | | | | | |
| | 3 | 0.42 | 0.58 | 0.50 | 0.58 | | | | | | | |
| Confidence | 1 | 2.00 | 3.43 | 2.52 | 3.43 | | 3.36; | 6 | 0.44; | 126 | 7.68 | <0.001 |
| | 2 | 2.08 | 2.17 | 2.08 | 1.83 | | | | | | | |
| | 3 | 1.83 | 1.83 | 1.75 | 1.67 | | | | | | | |

* Asking directions was rated on a four point scale.

Table 34 shows all the skills analysed for 'Police - Asking for Directions'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results on the one-way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen there is a significant interaction in all of the skill areas. In each skill, one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each one at P <0.001). The reason for this can be seen in the rated group means for each skill in Table 34, where Group 1 improved from baseline to all subsequent points in testing. The one-way ANOVAs within subjects conducted on scores for Groups 2 and

3 were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in scores for Group 1 are the source of the significant interaction effects seen in Table 34.

For all skill areas the Scheffe comparisons revealed no significant differences between the groups at baseline, and Group 1 scores were significantly higher than Groups 2 and 3 at all subsequent points in testing. There were significant differences between Groups 2 and 3.

(iii)  **Doctor's** - **At the Doctor's Surgery**

Only two skills were analysed for this area - 'Waiting Room Behaviour' and 'Dealing with the Receptionist' - these were given a rating for overall level of skill.

(a) **Waiting Room Behaviour** - **Analysis of ratings of overall level of skill**

Table 35. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 |
|-------|------|------|------|-------|
| 1 n = 15 | 3.33 | 4.00 | 4.33 | 4.077 |
| 2 n = 11 | 3.64 | 3.91 | 3.91 | 3.73 |
| 3 n = 12 | 3.42 | 3.17 | 3.58 | 3.50 |

Table 35 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, first and second follow-up. A two-way ANOVA computed on these scores found a non-significant effect between subjects ($F = 0.55$; $DF = 2,35$; $P < 0.58$), a significant effect within subjects ($F = 4.26$; $DF = 3,105$; $P < 0.01$) and a non-significant interaction ($F = 2.15$; $DF = 6,105$; $P < 0.053$). Given the non-significant interaction, no further analysis was indicated. Looking across all mean group scores (Table 35) baseline ratings are high, suggesting that subjects were quite able to use the waiting room prior to training.

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**(b) Talking to the Receptionist - Analysis of ratings of overall skill**

Table 36. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 |
|-------|------|------|------|------|
| 1 n = 15 | 2.33 | 4.07 | 3.93 | 3.80 |
| 2 n = 11 | 2.36 | 2.18 | 2.09 | 1.82 |
| 3 n = 12 | 2.27 | 2.33 | 2.42 | 2.25 |

Table 36 shows the mean ratings of overall skill in talking to the receptionist for Groups 1, 2 and 3 at baseline, post-training, first follow-up and second follow-up. A two-way ANOVA computed on these scores found a significant effect between subjects ($F = 6.01$; $DF = 2,35$; $P < 0.01$), a significant effect within subjects ($F = 4.2$; $DF = 3,105$; $P < 0.001$) and a significant interaction ($F = 8.6$; $DF = 6,105$; $P < 0.001$). (Full details in Appendix A).

Table 37. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|--------|-----------|-----|----------|-----|-------|-------|
| Within Ss Gp 1 | 9.78 | 3 | 0.62 | 42 | 15.69 | 0.000 |
| Within Ss Gp 2 | 0.57 | 3 | 0.45 | 30 | 1.26 | 0.306 |
| Within Ss Gp 3 | 0.08 | 3 | 0.20 | 33 | 0.39 | 0.763 |
| Between Ss BL | 0.02 | 2 | 2.42 | 35 | 0.01 | 0.990 |
| Between Ss PT | 14.86 | 2 | 1.12 | 35 | 13.26 | 0.000 |
| Between Ss FU1 | 13.00 | 2 | 1.56 | 35 | 8.31 | 0.001 |
| Between Ss FU2 | 14.54 | 2 | 1.37 | 35 | 10.54 | 0.000 |

Following the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of variation. Table 37 summarises the ANOVAs of main effects (full details in Appendix A). Only Group 1 shows a significant effect within subjects and all effects between subjects are significant except at baseline. Table 36 indicates that these effects are due to improvements in Group 1 scores following baseline which maintain through post-training, first and second follow-up. There were no corresponding changes in Groups 2 and 3.

Table 38. Scheffe comparisons between Groups

| BL | No significant differences |
|---|---|
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following the apparent trends seen above, Scheffe comparisons were conducted between groups at each point in testing (Table 38). There were no significant differences between groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Group 2. Group 2 was significantly better than Group 3 at post-training and second follow-up only. There were no significant differences between Groups 2 and 3 at any point in testing.

(iv) Talking to the G.P.

Analysis of ratings of overall level of skill

Table 39. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 |
|---|---|---|---|---|
| 1 n = 16 | 2.00 | 3.88 | 3.94 | 3.80 |
| 2 n = 11 | 2.00 | 2.00 | 1.73 | 1.73 |
| 3 n = 12 | 2.00 | 1.92 | 2.00 | 1.25 |

Table 39 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 8.22; DF = 2,36; P <0.001), a significant effect within subjects (F = 6.14; DF = 3,108; P <0.001) and a significant interaction of these two main effects (F = 10.78; DF = 6,108; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 40. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 14.39 | 3 | 0.42 | 45 | 33.94 | 0.000 |
| Within Ss Gp 2 | 0.27 | 3 | 0.52 | 30 | 0.52 | 0.671 |
| Within Ss Gp 3 | 0.17 | 3 | 0.47 | 33 | 0.35 | 0.786 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Between Ss BL | 0.00 | 2 | 2.44 | 36 | 0.00 | 1.000 |
| Between Ss PT | 17.38 | 2 | 1.51 | 36 | 11.44 | 0.000 |
| Between Ss FU1 | 20.38 | 2 | 1.42 | 36 | 14.35 | 0.000 |
| Between Ss FU2 | 21.52 | 2 | 1.39 | 36 | 15.44 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the souce of the variation. Table 40 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 39 shows that these were due to a significant improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There are no corresponding changes in Groups 2 and 3.

Table 41. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 41). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 42. Summary Table of all skills rated in 'Talking to the G.P.', showing group means of rated skill and details of within subjects x between subjects interaction in a two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS | DF | Error MS | DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reception- | 1 | 2.33 | 4.07 | 3.93 | 3.80 | | 3.79; | 6 | 0.44; | 105 | 8.60 | <0.001 |
| ist/ | 2 | 2.36 | 2.18 | 2.09 | 1.82 | | | | | | | |
| Overall | 3 | 2.27 | 2.33 | 2.42 | 2.25 | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Waiting Room Beha- viour | 1 2 3 | 3.33 3.64 3.42 | 4.00 3.91 3.17 | 4.33 3.91 3.58 | 4.07 3.72 3.50 | 0.75; 6 | 0.35; 105 | 2.15 | NS |

Talking to G.P.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Gaze | 1 2 3 | 2.13 1.73 1.58 | 3.75 1.55 1.67 | 3.69 1.73 1.92 | 3.81 1.82 1.82 | 2.86; 6 | 0.47; 108 | 6.10 | <0.01 |
| Clarity | 1 2 3 | 2.00 2.00 1.58 | 3.88 1.91 1.58 | 3.94 1.55 1.25 | 4.19 1.82 1.58 | 5.75; 6 | 0.59; 108 | 9.80 | <0.001 |
| Giving Informa- tion | 1 2 3 | 2.00 1.82 1.67 | 3.69 2.09 1.83 | 4.06 1.82 1.75 | 3.94 2.00 1.67 | 4.02; 6 | 0.53; 108 | 7.54 | <0.001 |
| Volume | 1 2 3 | 2.69 2.46 1.85 | 3.25 2.36 2.17 | 3.38 2.55 1.67 | 3.25 2.46 1.50 | 0.75; 6 | 0.39; 108 | 1.91 | NS |
| Confidence | 1 2 3 | 2.19 2.09 2.00 | 3.94 1.82 1.67 | 4.31 2.09 1.58 | 4.00 1.82 1.67 | 5.76; 6 | 0.38; 108 | 15.10 | <.001 |
| Anxiety | 1 2 3 | 2.19 1.92 1.55 | 3.81 1.83 1.64 | 3.88 1.83 1.65 | 3.88 1.58 1.82 | 3.53; 6 | 0.49; 108 | 7.24 | <.001 |

Table 42 shows all the skills analysed for 'Talking to the G.P.'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results of the one-way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there is a significant interaction in all of the skill areas except 'volume'. In each conversation skill except 'volume', subsequent one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each at P <0.001). The reason for this can be seen in the rated group means for each skill in Table 42; Group 1 improved from baseline to all subsequent points in testing. The one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in scores for Group 1 are the source of the significant interactions effects seen in Table 42. For all skill areas, the Scheffe comparisons revealed no

significant diffences between the groups at baseline. With the following exceptions, Group 1 was significantly higher than Groups 2 and 3 at subsequent points of testing. For the area of 'ability to give information', Group 1 was not significantly better than Group 2 at post-training. No Scheffe comparisons were computed on the 'volume' scores. There were no significant differences between Groups 2 and 3.


5.  **PEDESTRIAN SKILLS**


(i)  **Crossing a Road**

**Analysis of ratings of overall level of skill**


Table 43. Group means of ratings of overall skill


| GROUP | BL | PT | FU1 | FU2 | FU3 |
|-------|------|------|------|------|------|
| 1 n = 25 | 2.48 | 4.48 | 4.63 | 4.83 | 4.55 |
| 2 n = 12 | 2.33 | 2.67 | 2.61 | 2.33 | |
| 3 n = 13 | 2.46 | 2.83 | 2.67 | 2.62 | |


Table 43 shows the mean scores of Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects ($F = 26.61$; $DF = 2,47$; $P <0.001$), a significant effect within subjects ($F = 11.28$; $DF = 3,141$; $P <0.001$) and a significant interaction of these two main effects ($F = 11.16$; $DF = 6,141$; $P <0.001$). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).


Table 44.  Summary of simple effects


| Source | Effect MS | DF | Error MS | DF | F | P |
|--------|------|----|------|----|------|------|
| Within Ss Gp 1 | 28.47 | 4 | 0.66 | 96 | 43.16 | 0.000 |
| Within Ss Gp 2 | 0.52 | 3 | 0.58 | 33 | 0.90 | 0.454 |
| Within Ss Gp 3 | 0.12 | 3 | 1.01 | 36 | 0.12 | 0.947 |
| Between Ss BL | 0.09 | 2 | 1.51 | 47 | 0.06 | 0.941 |
| Between Ss PT | 42.19 | 2 | 1.16 | 47 | 36.12 | 0.000 |
| Between Ss FU1 | 36.66 | 2 | 1.24 | 47 | 29.41 | 0.000 |
| Between Ss FU2 | 33.13 | 2 | 1.38 | 47 | 23.92 | 0.0000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 44 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen,there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 43 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 45.   Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 45). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 46.   Summary Table of all rated skills in 'Crossing a Road', showing group means of rated skill and details of within subjects x between subjects interaction in two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS | DF | Error MS | DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Position- ing | 1 | 1.44 | 3.34 | 3.63 | 3.82 | 3.66 | 16.8; | 6 | 0.59; | 141 | 28.61 | <0.001 |
| | 2 | 1.88 | 2.01 | 2.09 | 1.94 | | | | | | | |
| | 3 | 1.55 | 1.68 | 1.86 | 1.96 | | | | | | | |
| Looking | 1 | 1.92 | 4.52 | 4.18 | 4.26 | 4.09 | 10.31; | 6 | 0.78; | 141 | 13.16 | <0.001 |
| | 2 | 1.76 | 2.11 | 2.22 | 2.31 | | | | | | | |
| | 3 | 1.69 | 1.96 | 1.85 | 2.05 | | | | | | | |
| Behaviour | 1 | 2.44 | 4.72 | 4.82 | 4.61 | 4.64 | 12.30; | 6 | 0.69; | 141 | 17.84 | <0.001 |
| | 2 | 2.57 | 2.66 | 2.38 | 2.38 | | | | | | | |
| | 3 | 2.53 | 2.53 | 2.61 | 2.54 | | | | | | | |

| Walking | 1 | 1.48 | 4.60 | 4.61 | 4.49 | 4.39 | 8.75; 6 | 0.72; 141 | 12.16 | <0.001 |
|---------|---|------|------|------|------|------|---------|-----------|-------|--------|
|         | 2 | 1.76 | 2.17 | 2.60 | 2.67 |      |         |           |       |        |
|         | 3 | 1.96 | 2.35 | 2.58 | 2.15 |      |         |           |       |        |

| Looking | 1 | 0.83 | 4.31 | 4.48 | 4.27 | 4.37 | 12.08; 6 | 0.51; 141 | 23.72 | <0.001 |
|---------|---|------|------|------|------|------|----------|-----------|-------|--------|
| and     | 2 | 0.92 | 0.85 | 1.66 | 1.16 |      |          |           |       |        |
| Crossing | 3 | 0.77 | 0.73 | 0.61 | 0.76 |     |          |           |       |        |

Table 46 shows all the skills analysed for 'Crossing a Road'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results of the one-way ANOVAs and the Scheffe comparisons are reported in the text below. As can be seen, there is a significant interaction in each of the skill areas. In each skill, one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each one was significant at P <0.001). The reason for this can be seen in the rated groups means for each skill in Table 46 where Group 1 improved from baseline to all subsequent points in testing. The one-way ANOVAs within subjects, conducted on scores for Groups 2 and 3, were not significant, indicating no significant change across times of testing on any rated skill except for 'walking' which was significant for Group 2 (P <0.05). This would indicate that the members of Group 2 improved somewhat in their ability to walk appropriately across the road. However, for the most part, the changes in the scores of Group 1 are the source of the significant interaction effects seen in Table 46.

For all skill areas, Scheffe comparisons revealed no significant differences between the groups at baseline and Group 1 scores were significantly higher than Groups 2 and 3 at all subsequent points of testing. There were no significant differences between Groups 2 and 3.

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## (ii) Using a Pedestrian Crossing

### Analysis of ratings of overall skill

Table 47. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n = 25 | 1.84 | 4.44 | 4.36 | 4.28 | 4.52 |
| 2 n = 12 | 2.08 | 1.66 | 2.16 | 1.83 | |
| 3 n = 13 | 2.00 | 1.38 | 1.76 | 1.69 | |

Table 47 shows the mean scores of groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and for, Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 39.44; DF = 2,47; P <0.001), a significant effect within subjects (F = 10.90; DF = 3,141; P <0.001) and a significant interaction of these two main effects (F = 26.43; DF = 6,141; P <0.001). (Full details of this two way ANOVA of main effects can be seen in Appendix A).

Table 48. Summary of simple effects

| Source | Effect | | Error | | | |
|---|---|---|---|---|---|---|
| | MS | DF | MS | DF | F | P |
| Within Ss Gp 1 | 32.97 | 4 | 0.48 | 96 | 68.61 | 0.000 |
| Within Ss Gp 2 | 0.63 | 3 | 0.37 | 33 | 1.69 | 0.189 |
| Within Ss Gp 3 | 0.84 | 3 | 0.49 | 36 | 1.70 | 0.183 |
| Between Ss BL | 0.27 | 2 | 1.19 | 47 | 0.22 | 0.797 |
| Between Ss PT | 53.53 | 2 | 0.84 | 47 | 63.05 | 0.000 |
| Between Ss FU1 | 36.49 | 2 | 0.97 | 47 | 37.50 | 0.000 |
| Between Ss FU2 | 39.75 | 2 | 0.75 | 47 | 52.66 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 48 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only and all effects between subjects were significant except at baseline. Table 47 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three

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months and one year follow-up.  There were no corresponding changes
in Groups 2 and 3.


<u>Table</u> <u>49</u>.  <u>Scheffe</u> <u>comparisons</u> <u>between</u> <u>Groups</u>

| BL | No significant differences |
|---|---|
| PT | 1 > 2 & 3 (P >0.01) |
| FU1 | 1 > 2 & 3 (P >0.01) |
| FU2 | 1 > 2 & 3 (P >0.01) |


Following from apparent trends seen in the two-way and one-way
ANOVAs, Scheffe comparisons were conducted between groups at each
point in testing (Table 49).  There was no significant difference
between the groups at baseline, and at all subsequent points of
testing, Group 1 showed significantly higher scores than Groups 2
and 3.  There were no significant differences between Groups 2 and
3 at any point in testing.


<u>Table</u> <u>50</u>.  <u>Summary</u> <u>Table</u> <u>of</u> <u>all</u> <u>skills</u> <u>rated</u> <u>in</u> <u>'Using</u> <u>a</u> <u>Pedestrian</u>
<u>Crossing'</u> <u>showing</u> <u>group</u> <u>means</u> <u>of</u> <u>rated</u> <u>skill</u> <u>and</u> <u>details</u> <u>of</u> <u>within</u>
<u>subjects</u> <u>x</u> <u>between</u> <u>subjects</u> <u>interaction</u> <u>in</u> <u>a</u> <u>two-way</u> <u>ANOVA</u> <u>of</u> <u>main</u>
<u>effects,</u> <u>MS</u> <u>and</u> <u>DF</u> <u>of</u> <u>effect,</u> <u>Ms</u> <u>and</u> <u>Df</u> <u>of</u> <u>error,</u> <u>F</u> <u>ratio</u> <u>and</u> <u>P</u>

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|
| Activates | 1 | 2.13 | 4.32 | 4.69 | 4.21 | 4.31 | 10.86;6 | 0.72; 141 | 15.02 | <0.001 |
| Crossing | 2 | 2.41 | 2.27 | 2.31 | 2.33 | | | | | |
| | 3 | 2.09 | 1.89 | 1.97 | 2.14 | | | | | |
| Waits on | 1 | 2.04 | 4.52 | 4.68 | 4.80 | 3.00 | 13.79;6 | 0.69; 141 | 20.03 | <0.001 |
| Pavement | 2 | 2.25 | 2.08 | 1.92 | 2.33 | | | | | |
| | 3 | 1.92 | 0.92 | 1.62 | 1.69 | | | | | |
| Attention | 1 | 1.52 | 4.40 | 4.24 | 4.44 | 4.72 | 19.95;6 | 0.56; 141 | 35.48 | <0.001 |
| to lights | 2 | 1.92 | 1.50 | 1.50 | 1.42 | | | | | |
| | 3 | 1.62 | 0.77 | 0.46 | 0.77 | | | | | |
| Crosses | 1 | 1.44 | 4.52 | 4.28 | 4.16 | 4.44 | 14.66;6 | 0.76; 141 | 19.37 | <0.001 |
| When Green | 2 | 1.75 | 1.67 | 1.83 | 2.08 | | | | | |
| | 3 | 1.92 | 1.54 | 1.62 | 1.61 | | | | | |
| Walking | 1 | 1.80 | 4.40 | 4.16 | 3.39 | 4.08 | 8.55; 6 | 0.77; 141 | 11.16 | <0.001 |
| | 2 | 1.67 | 2.17 | 2.00 | 1.90 | 2.00 | | | | |
| | 3 | 1.69 | 1.54 | 1.53 | 1.46 | | | | | |


Table 50 shows all the skills analysed for 'Using a Pedestrian
Crossing'.  Each skill was analysed in the same way as for overall
level of skill, i.e. a two-way ANOVA of main effects, subsequent


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one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results of the one-way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there was a significant interaction in each of the skill areas. In each skill, one-way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each one was significant at $P < 0.001$). The reason for this can be seen in the rated group means for each skill in Table 50, which shows that Group 1 improved from baseline to all subsequent points in testing. One-way ANOVAs within subjects, conducted on scores for Groups 2 and 3, were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in scores of Group 1 are the source of significant interaction effects seen in Table 50.

For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline; Group 1 had significantly higher scores than Groups 2 and 3 at subsequent points in testing. There were no significant differences between Groups 2 and 3.

## 6. PUBLIC TRANSPORT SKILLS

Analysis of ratings of overall level of skill

Table 51. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 |
|---|---|---|---|---|
| 1 n = 26 | 1.84 | 4.19 | 3.90 | 3.99 |
| 2 n = 12 | 1.50 | 1.70 | 1.20 | 1.50 |
| 3 n = 13 | 1.84 | 1.61 | 1.60 | 1.46 |

Table 51 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 19.12; DF = 2,48; $P < 0.001$), a

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significant effect within subjects (F = 14.08; DF = 3,144; P <0.001) and a significant interaction of these main effects (F = 24.54; Df = 6,144; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 52. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 31.55 | 3 | 0.41 | 75 | 76.07 | 0.000 |
| Within Ss Gp 2 | 0.50 | 3 | 0.23 | 33 | 2.20 | 0.107 |
| Within Ss Gp 3 | 0.33 | 3 | 0.38 | 36 | 0.85 | 0.473 |
| Between Ss BL | 0.54 | 2 | 1.83 | 48 | 0.29 | 0.742 |
| Between Ss PT | 40.27 | 2 | 1.40 | 48 | 28.69 | 0.000 |
| Between Ss FU1 | 40.93 | 2 | 1.38 | 48 | 29.64 | 0.000 |
| Between Ss FU2 | 39.24 | 2 | 1.39 | 48 | 28.03 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 52 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except for baseline. Table 51 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 53. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 53). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and

3 at any point in testing.

Table 54.   Summary Table of all skills rated in 'Using Public Transport', showing group means of rated skill and details of within subjects x between subjects interaction in a two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS | DF | Error MS | DF | RATIO | P |
|-------|----|-----|-----|-----|-----|-----|-----------|----|----------|-----|-------|---|
| Appropri- | 1 | 1.62 | 1.72 | 2.19 | 2.31 | | 0.49; | 6 | 0.19; | 144 | 2.36 | NS |
| ate | 2 | 1.71 | 1.81 | 1.92 | 1.89 | | | | | | | |
| Waiting | 3 | 1.59 | 1.72 | 1.49 | 1.80 | | | | | | | |
| Signalling | 1 | 0.23 | 1.92 | 1.84 | 1.72 | | 2.98; | 6 | 0.15; | 144 | 19.91 | <0.001 |
| | 2 | 0.25 | 0.58 | 0.67 | 0.42 | | | | | | | |
| | 3 | 0.31 | 0.31 | 0.62 | 0.61 | | | | | | | |
| Boarding | 1 | 1.30 | 1.96 | 1.87 | 1.91 | | 0.48; | 6 | 0.11; | 144 | 4.21 | <0.001 |
| | 2 | 1.67 | 1.08 | 1.17 | 1.25 | | | | | | | |
| | 3 | 1.08 | 1.23 | 1.15 | 1.39 | | | | | | | |
| Bus Pass/ | 1 | 1.17 | 1.91 | 1.96 | 1.95 | | 1.01; | 6 | 0.14; | 144 | 7.32 | <0.001 |
| Money | 2 | 0.83 | 0.75 | 0.67 | 0.83 | | | | | | | |
| Ready | 3 | 0.92 | 0.92 | 0.91 | 0.93 | | | | | | | |
| Shows Pass | 1 | 0.69 | 1.85 | 1.91 | 1.96 | | 2.39; | 6 | 0.16; | 144 | 14.78 | <0.001 |
| | 2 | 0.75 | 0.92 | 0.67 | 0.58 | | | | | | | |
| | 3 | 0.92 | 0.92 | 0.93 | 0.92 | | | | | | | |
| Walks to | 1 | 1.02 | 1.98 | 2.17 | 1.89 | | 1.72; | 6 | 0.16; | 144 | 10.72 | <0.001 |
| seat | 2 | 1.13 | 1.09 | 1.18 | 1.23 | | | | | | | |
| | 3 | 1.42 | 1.31 | 1.19 | 1.21 | | | | | | | |
| Takes seat | 1 | 1.52 | 1.99 | 1.88 | 1.94 | | 0.65; | 6 | 0.15; | 144 | 4.32 | <0.001 |
| | 2 | 1.31 | 1.23 | 1.54 | 1.49 | | | | | | | |
| | 3 | 1.62 | 1.62 | 1.56 | 1.46 | | | | | | | |
| Behaviour | 1 | 1.45 | 2.07 | 2.31 | 2.11 | | 1.24; | 6 | 0.19; | 144 | 6.51 | <.001 |
| on bus | 2 | 1.30 | 1.42 | 1.51 | 1.47 | | | | | | | |
| | 3 | 1.21 | 1.08 | 1.21 | 1.36 | | | | | | | |
| Looks for | 1 | 0.34 | 2.12 | 2.32 | 2.08 | | 2.41; | 6 | 0.16; | 144 | 15.08 | <.001 |
| stop | 2 | 0.21 | 0.84 | 0.31 | 0.37 | | | | | | | |
| | 3 | 0.52 | 0.45 | 0.21 | 0.50 | | | | | | | |
| Walks on | 1 | 1.05 | 2.31 | 2.62 | 2.46 | | 1.92; | 6 | 0.14; | 144 | 13.50 | <0.001 |
| bus | 2 | 1.16 | 1.21 | 1.30 | 1.27 | | | | | | | |
| | 3 | 1.32 | 1.27 | 1.32 | 1.33 | | | | | | | |
| Presses | 1 | 0.80 | 2.42 | 2.57 | 2.18 | | 3.23;6 | | 0.12; | 144 | 27.09 | <0.001 |
| bell | 2 | 0.62 | 1.08 | 0.88 | 0.81 | | | | | | | |
| | 3 | 0.47 | 0.52 | 0.57 | 0.49 | | | | | | | |
| Waits at | 1 | 1.21 | 2.47 | 2.52 | 2.18 | | 2.89;6 | | 0.17; | 144 | 17.23 | <0.001 |
| exit | 2 | 1.16 | 1.32 | 1.33 | 1.20 | | | | | | | |
| | 3 | 1.44 | 1.30 | 1.35 | 1.44 | | | | | | | |
| Exits bus | 1 | 1.62 | 2.52 | 2.47 | 2.45 | | 0.77; | 6 | 0.13; | 144 | 5.80 | <0.001 |
| | 2 | 1.51 | 1.71 | 1.73 | 1.50 | | | | | | | |
| | 3 | 1.43 | 1.55 | 1.49 | 1.52 | | | | | | | |

Table 54 shows all the skills analysed for 'Public Transport Skills'. Each skill was analysed in the same way as for overall

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level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results of the one-way ANOVAS and the Scheffe comparisons are reported in the text below.

As can be seen, there is a significant interaction in every skill area except 'Appropriate Waiting'. In each skill area, subsequent one-way ANOVAs were computed within subjects and only those for Group 1 with the exception of 'Appropriate Waiting' were consistently significant (each at $P < 0.001$). The reason for this can be seen in Table 54 in the rated group means for each skill, which shows that Group 1 improved from baseline to all subsequent points in testing. The one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in scores for Group 1 are the source of the significant interaction effects seen in Table 54.

For all skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline. For the skill of 'takes seat', Group 1 scores were significantly higher than Group 2 at post-training but there was no significant difference between the groups at any other point in testing. In the area of 'boarding', Group 1 was significantly better than Groups 2 and 3 at post-training and first follow-up. At second follow-up, Group 1 was significantly better than Group 2 only. In the remaining areas, Group 1 was significantly better than Groups 2 and 3 at all subsequent points of testing. There were no significant differences between Groups 2 and 3.

7. TELEPHONE USE

As noted previously, the assessment of telephone use was conducted with checklists for 'making' and 'receiving' calls rather than with rated assessments of individual skills. In addition, a rating of overall level of skill was conducted for making and receiving calls.

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**(i) Making Calls - Analysis of ratings of overall level of skill**

Table 55. Group means of rating of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n = 20 | 1.20 | 3.75 | 3.68 | 3.68 | 3.70 |
| 2 n = 10 | 1.60 | 1.90 | 1.80 | 1.70 | |
| 3 n = 13 | 1.46 | 1.69 | 1.46 | 1.46 | |

Table 55 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 10.47; DF = 2,40; P <0.001), a significant effect within subjects (F = 26.98; DF = 3,120; P <0.001) and a significant interaction of these two main effects (F = 23.87; DF = 6,120; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 56. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 24.78 | 4 | 0.40 | 76 | 62.66 | 0.000 |
| Within Ss Gp 2 | 0.17 | 3 | 0.24 | 27 | 0.69 | 0.565 |
| Within Ss Gp 3 | 0.23 | 3 | 0.13 | 36 | 1.73 | 0.179 |
| Between Ss BL | 0.60 | 2 | 1.37 | 40 | 0.44 | 0.645 |
| Between Ss PT | 20.82 | 2 | 1.43 | 40 | 14.60 | 0.000 |
| Between Ss FU1 | 22.61 | 2 | 1.33 | 40 | 16.94 | 0.000 |
| Between Ss FU2 | 24.50 | 2 | 1.19 | 40 | 20.54 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 56 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 55 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 57.  Scheffe comparisons between Groups

| BL | No significant differences |
|---|---|
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way
ANOVAs, Scheffe comparisons were conducted between Groups at each
point in testing (Table 57).  There was no significant difference
between the Groups at baseline and, at all subsequent points of
testing, Group 1 showed significantly higher scores than Groups 2
and 3.  There were no significant differences between Groups 2 and
3 at any point in testing.

## (ii)  Making Calls - Analysis of Checklist Assessment
### Table 58.  Group means of checklist assessment

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n = 20 | 2.95 | 5.90 | 5.80 | 5.75 | 5.70 |
| 2 n = 10 | 2.00 | 2.20 | 2.50 | 2.60 | |
| 3 n = 13 | 2.65 | 1.82 | 2.15 | 2.15 | |

Table 58 shows the mean scores for Groups 1, 2 and 3 at baseline,
post-training, three months and one year follow-up and, for Group 1
only, at two years follow-up.  A two-way (3 x 4) ANOVA conducted on
this table of scores found a significant effect between subjects (F
= 64.58; DF = 2,40; P <0.001), a significant effect within subjects
(F = 14.39; DF = 3,120; P <0.001) and a significant interaction of
these two main effects (F = 42.71; DF = 6,120 P <0.001).  (Full
details of this two-way ANOVA of main effects can be seen in
Appendix A).

Table 59.  Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 54.47 | 4 | 0.52 | 76 | 104.3 | 0.000 |
| Within Ss Gp 2 | 0.09 | 3 | 0.15 | 27 | 0.62 | 0.610 |
| Within Ss Gp 3 | 0.02 | 3 | 0.06 | 36 | 0.32 | 0.810 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Between Ss BL | 0.03 | 2 | 0.38 | 40 | 0.07 | 0.890 |
| Between Ss PT | 8.73 | 2 | 0.19 | 40 | 43.78 | 0.000 |
| Between Ss FU1 | 7.75 | 2 | 0.36 | 40 | 21.16 | 0.000 |
| Between Ss FU2 | 6.63 | 2 | 0.32 | 40 | 20.54 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 59 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 58 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were are no corresponding changes in Groups 2 and 3.

Table 60. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 60). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

(iii) Receiving Calls - Analysis of ratings of overall level of skill

Table 61. Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n = 20 | 1.45 | 3.90 | 3.80 | 3.75 | 4.10 |
| 2 n = 10 | 1.70 | 1.80 | 2.10 | 2.20 | |
| 3 n = 13 | 1.85 | 1.62 | 1.92 | 1.64 | |

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Table 61 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 14.08; DF = 2,40; P <0.001), a significant effect within subjects (F = 18.25; DF = 3,120; P <0.001) and a significant interaction of these two main effects (F = 14.07; DF = 6,120; P <0.001). (Full details of this two way ANOVA of main effects can be seen in Appendix A).

Table 62. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 24.12 | 4 | 0.47 | 76 | 51.07 | 0.000 |
| Within Ss Gp 2 | 0.49 | 3 | 0.75 | 27 | 0.65 | 0.587 |
| Within Ss Gp 3 | 0.05 | 3 | 0.11 | 36 | 0.48 | 0.698 |
| Between Ss BL | 0.20 | 2 | 1.35 | 40 | 0.15 | 0.858 |
| Between Ss PT | 26.08 | 2 | 0.96 | 40 | 27.11 | 0.000 |
| Between Ss FU1 | 21.10 | 2 | 1.49 | 40 | 14.07 | 0.000 |
| Between Ss FU2 | 19.87 | 2 | 0.96 | 40 | 20.69 | 0.000 |

Given the significant interaction in the ANOVA of main effects, futher one-way ANOVAs were conducted to determine the source of the variation. Table 62 summarises the ANOVAs of simple effects conducted within subjects for each Group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except for baseline. Table 61 shows that these were due to an improvement in Group 1 scores following baseline which maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 63. Scheffe comparisons between Groups.

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way

ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 63). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

(iv) Receiving Calls:  Analysis of Checklist Assessments

Table 64.  Group means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n = 20 | 1.40 | 5.70 | 5.65 | 5.80 | 5.65 |
| 2 n = 10 | 1.70 | 1.70 | 1.80 | 1.70 | |
| 3 n = 13 | 1.53 | 1.58 | 2.58 | 1.65 | |

Table 64 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 45.72; Df = 2,40; P <0.001), a significant effect within subjects (F = 5.04; DF = 3,120; P <0.01) and a significant interaction of these two main effects (F = 33.48; DF = 6,120; P <0.001).  (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 65.  Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 43.67 | 4 | 0.52 | 76 | 84.34 | 0.000 |
| Within Ss Gp 2 | 0.61 | 3 | 0.51 | 27 | 1.21 | 0.321 |
| Within Ss Gp 3 | 3.20 | 3 | 0.67 | 36 | 4.77 | 0.007 |
| Between Ss BL | 0.64 | 2 | 1.36 | 40 | 0.47 | 0.627 |
| Between Ss PT | 68.90 | 2 | 1.43 | 40 | 48.11 | 0.000 |
| Between Ss FU1 | 70.60 | 2 | 1.03 | 40 | 68.01 | 0.000 |
| Between Ss FU2 | 71.86 | 2 | 1.17 | 40 | 60.98 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one way ANOVAs were conducted to determine the source of the variation.  Table 65 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for

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each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 and for Group 2. All effects between subjects were significant except at baseline. Table 64 shows that these were due to improvements in Group 1 scores following baseline which were maintained until three months and one year follow-up and to changes in Group 3 at three month follow-up. There were no corresponding changes in Group 2.

Table 66. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 ( p < 0.01 ) |
| FU1 | 1 > 2 & 3 ( p < 0.01 ) |
| FU2 | 1 > 2 & 3 ( P < 0.01 ) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 66). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

## 8. LEISURE SKILLS

### (i) Cafeterias
### Analysis of ratings of overall skill

Table 67. Groups means of ratings of overall skill

| GROUP | BL | PT | FU1 | FU2 |
|---|---|---|---|---|
| 1 n = 20 | 2.33 | 4.27 | 4.15 | 4.42 |
| 2 n = 12 | 2.51 | 2.82 | 3.35 | 2.88 |
| 3 n = 12 | 2.15 | 2.15 | 2.63 | 2.09 |

Table 67 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 3.34; Df 2,41; P < 0.05), a non-

significant effect within subjects (F = 1.58; DF = 3,123; P <0.20), and a significant interaction of these two main effects (F = 10.36; Df = 6,123; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 68. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 4.28 | 3 | 0.28 | 57 | 15.12 | 0.000 |
| Within Ss Gp 2 | 0.63 | 3 | 0.16 | 33 | 3.89 | 0.017 |
| Within Ss Gp 3 | 0.08 | 3 | 0.06 | 33 | 1.25 | 0.308 |
| Between Ss BL | 0.93 | 2 | 0.74 | 41 | 1.25 | 0.294 |
| Between Ss PT | 2.71 | 2 | 0.67 | 41 | 4.03 | 0.025 |
| Between Ss FU1 | 4.33 | 2 | 0.63 | 41 | 6.81 | 0.002 |
| Between Ss FU2 | 5.20 | 2 | 0.69 | 41 | 7.52 | 0.001 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 68 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. Full details are in Appendix A). As can be seen, there was a significant effect between subjects for Group 1 and Group 2 and all effects between subjects were significant except at baseline. Table 67 shows that these changes were due to significant improvements in Group 1 scores following baseline, which were maintained until three months and one year follow-up and to some improvements in Group 2 scores at three month follow-up. There were no corresponding changes in Group 3.

Table 69. Scheffe comparisons between Groups

| BL | No significant differences |
|---|---|
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point of testing (Table 69). There was no significant difference between groups at baseline and, at all subsequent points of

testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 70. Summary Table of all skills rated in 'Cafeterias', showing group means of rated skill and details of within subjects x between subjects interaction in a two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|
| Collects | 1 | 2.72 | 3.81 | 4.09 | 4.52 | | 4.80; 6 | 0.59; 123 | 8.13 | <0.001 |
| Tray | 2 | 2.62 | 2.47 | 2.55 | 2.59 | | | | | |
| | 3 | 2.48 | 2.81 | 2.32 | 2.61 | | | | | |
| Choosing | 1 | 2.13 | 3.84 | 4.09 | 3.77 | | 4.27; 6 | 0.48; 123 | 8.92 | <0.001 |
| | 2 | 2.11 | 2.41 | 2.43 | 2.43 | | | | | |
| | 3 | 2.37 | 2.41 | 2.31 | 2.29 | | | | | |
| Asking | 1 | 2.72 | 3.91 | 3.84 | 3.89 | | 3.05; 6 | 0.53; 123 | 5.76 | <0.001 |
| | 2 | 2.58 | 2.31 | 2.29 | 2.33 | | | | | |
| | 3 | 2.45 | 2.71 | 2.18 | 2.19 | | | | | |
| Gaze | 1 | 2.61 | 3.42 | 3.46 | 3.64 | | 5.17; 6 | 0.56; 123 | 9.23 | <0.001 |
| | 2 | 2.47 | 2.27 | 2.25 | 2.35 | | | | | |
| | 3 | 2.31 | 2.48 | 2.238 | 2.17 | | | | | |
| Clarity | 1 | 2.40 | 3.32 | 3.72 | 3.08 | | 3.45; 6 | 0.49; 123 | 7.03 | <0.001 |
| | 2 | 2.34 | 2.71 | 2.37 | 2.42 | | | | | |
| | 3 | 2.26 | 2.46 | 2.30 | 2.24 | | | | | |
| Confid- | 1 | 1.72 | 3.64 | 3.74 | 3.82 | | 4.98; 6 | 0.38; 123 | 13.13 | <0.001 |
| ence | 2 | 1.99 | 2.42 | 2.31 | 2.27 | | | | | |
| | 3 | 1.72 | 1.77 | 1.98 | 2.07 | | | | | |
| Use of | 1 | 2.46 | 3.76 | 3.36 | 3.43 | | 2.75; 6 | 0.42; 123 | 6.52 | <0.001 |
| Please & | 2 | 2.72 | 2.47 | 2.64 | 2.42 | | | | | |
| Thank You | 3 | 2.33 | 2.61 | 2.27 | 2.29 | | | | | |
| Money | 1 | 2.84 | 3.36 | 3.34 | 3.58 | | 0.46; 6 | 0.38; 123 | 1.19 | NS |
| | 2 | 2.77 | 2.82 | 2.71 | 2.62 | | | | | |
| | 3 | 2.85 | 2.45 | 2.71 | 2.80 | | | | | |
| Cutlery | 1 | 2.46 | 3.36 | 3.41 | 3.71 | | 1.92; 6 | 0.58; 123 | 3.31 | <.05 |
| | 2 | 2.98 | 2.85 | 3.08 | 2.72 | | | | | |
| | 3 | 2.66 | 2.90 | 2.77 | 2.97 | | | | | |
| Carries | 1 | 3.41 | 3.61 | 3.72 | 3.72 | | 0.76; 6 | 0.41; 123 | 1.82 | NS |
| Tray | 2 | 2.38 | 3.46 | 3.44 | 3.36 | | | | | |
| | 3 | 3.66 | 3.88 | 3.91 | 3.68 | | | | | |
| Empties | 1 | 3.33 | 3.38 | 3.27 | 3.41 | | 0.46; 6 | 0.35; 123 | 1.31 | NS |
| Tray | 2 | 3.46 | 3.52 | 3.63 | 3.41 | | | | | |
| | 3 | 3.72 | 3.64 | 3.33 | 3.57 | | | | | |

Table 70 shows all the skills analysed for 'Cafeterias'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the

between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results on the one-way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there was a significant interaction in every skill area except 'use of money', 'carrying a tray' and 'empties tray'. In each skill where there was a significant two-way ANOVA, one-way ANOVAs were computed within subjects. Only those computed for Group 1 scores were consistently significant ($P < 0.001$, $P < 0.01$). The reason for this can be seen in the rated group means for each skill in Table 70, which shows that Group 1 improved from baseline to all subsequent points in testing. One-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across times of testing on any rated skill. Therefore, the changes in scores for Group 1 are the source of the significant interaction effects seen in Table 70.

For all relevant skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline and Group 1 scores were significantly higher than Groups 2 and 3 at subsequent points of testing, with the following exception. For the area 'use of cutlery', Group 1 was significantly better than Groups 2 and 3 at second follow-up only. There were no significant differences between Groups 2 and 3 at any point of testing.

(ii) <u>Public</u> <u>House</u> <u>Skills</u>
<u>Analysis</u> <u>of</u> <u>ratings</u> <u>of</u> <u>overall</u> <u>level</u> <u>of</u> <u>skill</u>

Table <u>71</u>. <u>Group</u> <u>means</u> <u>of</u> <u>ratings</u> <u>of</u> <u>overall</u> <u>skill</u>

| GROUP | BL | PT | FU1 | FU2 | FU3 |
|---|---|---|---|---|---|
| 1 n = 22 | 3.55 | 4.23 | 4.36 | 4.23 | 4.41 |
| 2 n = 12 | 2.50 | 2.50 | 2.50 | 2.33 | |
| 3 n = 12 | 2.42 | 2.17 | 2.42 | 2.42 | |

Table 71 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months, one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F

= 10.71; DF = 2,43; P <0.001), a non-significant interaction within subjects (F = 1.36; DF = 3,129; P <0.26) and a significant interaction of these two main effects (F = 3.05; DF = 6,129; P <0.01). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 72. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 2.70 | 4 | 0.28 | 84 | 9.59 | 0.000 |
| Within Ss Gp 2 | 0.17 | 3 | 0.26 | 33 | 0.65 | 0.632 |
| Within Ss Gp 3 | 0.15 | 3 | 0.45 | 33 | 0.33 | 0.854 |
| Between Ss BL | 6.80 | 2 | 2.17 | 43 | 3.13 | 0.054 |
| Between Ss PT | 20.91 | 2 | 1.73 | 43 | 12.06 | 0.000 |
| Between Ss FU1 | 20.85 | 2 | 1.83 | 43 | 11.35 | 0.000 |
| Between Ss FU2 | 19.71 | 2 | 1.89 | 43 | 10.40 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 72 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 71 shows that these were due to an improvement in Group 1 scores following baseline which has maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 73. Scheffe comparisons between Groups

| BL | No significant differences |
|---|---|
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 73). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2

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and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 74. Summary Table of all skills rated in 'Public House Skills', showing groups means of rated skill and details of within subjects x bwetween subjects interaction in a two-way ANOVA of main effects, MS and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|
| Gaze | 1 | 3.14 | 3.91 | 3.91 | 3.82 | 4.05 | 1.21; 6 | 0.29; 129 | 4.15 | <0.001 |
| | 2 | 1.92 | 1.58 | 1.67 | 1.67 | | | | | |
| | 3 | 1.83 | 1.75 | 1.75 | 1.75 | | | | | |
| Clarity | 1 | 3.73 | 4.50 | 4.27 | 4.41 | 4.32 | 0.84; 6 | 0.29; 129 | 2.89 | <0.01 |
| | 2 | 2.58 | 2.42 | 2.25 | 2.25 | | | | | |
| | 3 | 1.67 | 1.83 | 1.91 | 1.58 | | | | | |
| Approaches Bar | 1 | 3.68 | 3.96 | 3.86 | 3.86 | 3.91 | 0.38; 6 | 0.38; 129 | 0.98 | NS |
| | 2 | 3.00 | 2.58 | 2.67 | 2.82 | | | | | |
| | 3 | 2.00 | 2.08 | 2.00 | 1.91 | | | | | |
| Attention of barman | 1 | 2.81 | 3.74 | 3.86 | 3.87 | 3.91 | 1.56; 6 | 0.38; 129 | 4.11 | <0.001 |
| | 2 | 2.67 | 2.42 | 2.50 | 2.67 | | | | | |
| | 3 | 1.92 | 1.92 | 1.25 | 1.91 | | | | | |
| Asking for drink | 1 | 3.59 | 4.27 | 4.41 | 4.23 | 4.36 | 1.39; 6 | 0.32; 129 | 4.40 | <0.001 |
| | 2 | 3.33 | 2.83 | 3.17 | 3.33 | | | | | |
| | 3 | 2.83 | 2.67 | 2.42 | 2.58 | | | | | |
| Money | 1 | 3.41 | 4.23 | 4.59 | 4.36 | 4.36 | 3.06; 6 | 0.23; 129 | 13.08 | <0.001 |
| | 2 | 2.91 | 2.09 | 2.19 | 2.18 | | | | | |
| | 3 | 2.67 | 2.08 | 2.33 | 2.58 | | | | | |
| Please / Thank You | 1 | 3.27 | 4.41 | 4.32 | 4.31 | 4.27 | 2.55; 6 | 0.56; 129 | 4.55 | <0.001 |
| | 2 | 2.67 | 2.58 | 2.67 | 2.33 | | | | | |
| | 3 | 2.50 | 1.75 | 2.33 | 2.00 | | | | | |
| Confidence | 1 | 3.41 | 4.23 | 4.22 | 4.14 | 4.31 | 1.25; 6 | 0.35; 129 | 3.60 | <.001 |
| | 2 | 2.55 | 2.45 | 2.09 | 2.46 | | | | | |
| | 3 | 2.50 | 2.42 | 2.25 | 2.50 | | | | | |

Table 74 shows all skills analysed for 'Public House Skills'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results of the one-way ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there is a significant interaction in all of the

skill areas except 'approach to the bar'. (Each significant at P < 0.001). The reason for this can be seen in the rated group means for each skill in Table 74; Group 1 improved from baseline to all subsequent points in testing. Except for that noted below, the one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across times of testing. Therefore, the changes in scores for Group 1 are the source of most significant interaction effects seen in Table 74. The exception was 'use of money', with which F-ratios were significant in ANOVAs computed on Group 2 scores (P < 0.001) and Group 3 scores (P < 0.05). This was due to a reduction in scores for Group 2 subjects and a reduction in scores at post-training for Group 3 subjects. Therefore, there are a number of sources of significant variation in the skill area 'use of money'.

For all but one of the relevant skill areas, the Scheffe comparisons revealed no significant differences between the groups at baseline and Group 1 scores were significantly higher than Groups 2 and 3 at subsequent points of testing. For the area of 'clarity', Group 1 was significantly better than Group 3 at baseline. For the area of 'asking', Group 1 was not significantly better than Group 2 at first and second follow-up. There were no significant differences between Groups 2 and 3 at any point in testing.

(iii) **Libraries**
**Analysis of ratings of overall level of skill**

Table 75. **Group means of ratings of overall skill**

| GROUP | BL | PT | FU1 | FU2 |
|---|---|---|---|---|
| 1 n = 10 | 0.80 | 5.10 | 5.00 | 5.00 |
| 2 n = 8 | 0.75 | 1.38 | 1.25 | 1.38 |
| 3 n = 9 | 0.77 | 0.66 | 0.22 | 0.77 |

Table 75 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 23.45; DF = 2,24; P <0.001); a

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significant effect within subjects (F = 34.13; DF = 3,72; P <0.001) and a significant interaction of these two main effects (F = 23.91; DF = 6,72; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 76. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 44.82 | 3 | 0.55 | 27 | 81.91 | 0.000 |
| Within Ss Gp 2 | 0.71 | 3 | 0.40 | 21 | 1.78 | 0.183 |
| Within Ss Gp 3 | 0.63 | 3 | 0.44 | 24 | 1.42 | 0.260 |
| Between Ss BL | 0.01 | 2 | 1.69 | 24 | 0.00 | 0.996 |
| Between Ss PT | 53.98 | 2 | 1.61 | 24 | 33.41 | 0.000 |
| Between Ss FU1 | 60.28 | 2 | 1.29 | 24 | 46.59 | 0.000 |
| Between Ss FU2 | 49.65 | 2 | 2.05 | 24 | 24.10 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 76 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 75 shows that these were due to an improvement in Group 1 scores following baseline which was maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 77. Scheffe comparisons between Groups

| BL | No significant differences |
|---|---|
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 77). There was no significant difference between the groups at baseline and, at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 78. Summary Table of all skills rated in 'Library Skills'
showing group means of rated skill and details of within subjects x
between subjects interaction in a two-way ANOVA of main effects, MS
and DF of effect, MS and DF of error, F ratio and P

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|-------|----|------|------|------|------|-----|--------------|-------------|-------|---|
| Check in | 1 | 0.50 | 5.10 | 5.20 | 5.30 | | 13.95;6 | 0.42; 72 | 33.03 | <0.001 |
| Book | 2 | 1.00 | 2.00 | 2.13 | 2.13 | | | | | |
| | 3 | 0.67 | 0.78 | 0.78 | 0.78 | | | | | |
| Check out | 1 | 0.45 | 5.40 | 5.20 | 5.30 | | 16.71;6 | 0.39; 72 | 43.02 | <0.001 |
| Book | 2 | 0.44 | 1.22 | 1.22 | 1.22 | | | | | |
| | 3 | 0.56 | 0.56 | 0.56 | 0.56 | | | | | |
| Asks for | 1 | 0.50 | 5.20 | 5.10 | 5.20 | | 15.11;6 | 0.65; 72 | 23.26 | <0.001 |
| Assistance | 2 | 0.13 | 1.38 | 1.13 | 1.13 | | | | | |
| | 3 | 0.56 | 0.67 | 0.00 | 0.56 | | | | | |
| Looks for | 1 | 1.50 | 4.90 | 4.80 | 4.90 | | 14.41;6 | 0.55; 72 | 26.20 | <0.001 |
| Book | 2 | 1.75 | 1.88 | 2.13 | 2.13 | | | | | |
| | 3 | 1.00 | 0.89 | 1.00 | 0.89 | | | | | |

Table 78 shows all the skills analysed for 'library skills'. Each
skill was analysed in the same way as for overall level of skill,
i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of
simple effects between subjects and within subjects, and Scheffe
comparisons between groups at each point in testing. Only the
between subjects x within subjects interaction result from the two-
way ANOVA of main effects is shown. Other results on the one-way
ANOVAs and the Scheffe comparisons are reported in the text below.

As can be seen, there is a significant interaction in all of the
skill areas. In each skill, one-way ANOVAs were computed within
subjects and only those for Group 1 were consistently significant.
(P <0.001). The reason for this can be seen in the rated group
means for each skill in Table 78, which shows that Group 1 improved
from baseline to all subsequent points in testing. The one-way
ANOVAs within subjects conducted on Group 2 scores were not
significant, except in the areas of 'checking a book in' (P <0.01)
and 'asking for assistance' (P <0.05). In both areas, there were
improvements from baseline to all other points in testing. One-way
ANOVAs computed on Group 3 scores were non-significant. Therefore,
the changes for Group 1 scores are a source of significant

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interaction effects seen in Table 78, and changes in Group 2 scores are a source of the interaction in 'checking a book in' and 'asking for assistance'.

In no skill area did the Scheffe comparisons reveal a significant difference between the groups at baseline. Group 1 scores were significantly higher than Groups 2 and 3 at subsequent points of testing. For the skill 'systematic looking for a book' Group 1 was not significantly better than Group 2 at first follow-up. There were no significant differences between Groups 2 and 3.

## 9. SHOPPING SKILLS

Shopping skills were assessed at the time using a checklist rather than being videotaped and rated later. 'Knowledge of the shop' was used as a general measure of shopping ability rather than overall level of skill.

### Analysis of "knowledge of the shop" scores

Table 79. Group means of scores on knowledge of the shop

| GROUP | BL | PT | FU1 | FU2 |
|-------|------|-------|-------|-------|
| 1 n = 14 | 5.00 | 10.80 | 10.70 | 10.60 |
| 2 n = 10 | 5.00 | 5.20 | 4.30 | 4.90 |
| 3 n = 11 | 4.90 | 5.10 | 4.80 | 4.80 |

Table 79 shows the mean scores for Groups 1, 2 and 3 at baseline, post-training, three months and one year follow-up and, for Group 1 only, at two years follow-up. A two-way (3 x 4) ANOVA conducted on this table of scores found a significant effect between subjects (F = 15.45; DF = 2,32; P <0.001), a significant effect within subjects (F = 22.04; DF = 3,96; P <0.001), and a significant interaction of these two main effects (F = 41.45; DF = 6,96; P <0.001). (Full details of this two-way ANOVA of main effects can be seen in Appendix A).

Table 80. Summary of simple effects

| Source | Effect MS | DF | Error MS | DF | F | P |
|---|---|---|---|---|---|---|
| Within Ss Gp 1 | 54.69 | 3 | 0.59 | 39 | 93.02 | 0.000 |
| Within Ss Gp 2 | 0.49 | 3 | 0.42 | 27 | 1.18 | 0.337 |
| Within Ss Gp 3 | 0.55 | 3 | 0.36 | 30 | 1.51 | 0.233 |
| Between Ss BL | 3.06 | 2 | 3.63 | 32 | 0.84 | 0.439 |
| Between Ss PT | 63.87 | 2 | 2.08 | 32 | 30.65 | 0.000 |
| Between Ss FU1 | 65.95 | 2 | 2.71 | 32 | 24.30 | 0.000 |
| Between Ss FU2 | 70.01 | 2 | 2.33 | 32 | 30.00 | 0.000 |

Given the significant interaction in the ANOVA of main effects, further one-way ANOVAs were conducted to determine the source of the variation. Table 80 summarises the ANOVAs of simple effects conducted within subjects for each group and between subjects for each time of testing. (Full details are in Appendix A). As can be seen, there was a significant effect within subjects for Group 1 only, and all effects between subjects were significant except at baseline. Table 79 shows that these were due to an improvement in Group 1 scores following baseline which was maintained until three months and one year follow-up. There were no corresponding changes in Groups 2 and 3.

Table 81. Scheffe comparisons between Groups

| | |
|---|---|
| BL | No significant differences |
| PT | 1 > 2 & 3 (P <0.01) |
| FU1 | 1 > 2 & 3 (P <0.01) |
| FU2 | 1 > 2 & 3 (P <0.01) |

Following from apparent trends seen in the two-way and one-way ANOVAs, Scheffe comparisons were conducted between groups at each point in testing (Table 81). There was no significant difference between the groups at baseline, and at all subsequent points of testing, Group 1 showed significantly higher scores than Groups 2 and 3. There were no significant differences between Groups 2 and 3 at any point in testing.

Table 82. Summary Table of 'Shopping Skills', showing groups means of rated skill and details of within subjects x between subjects interaction in a two way ANOVA of main effects, MS and DF of

| Skill | GP | BL | PT | FU1 | FU2 | FU3 | Effect MS DF | Error MS DF | RATIO | P |
|---|---|---|---|---|---|---|---|---|---|---|
| Chooses | 1 | 2.93 | 6.93 | 6.86 | 6.85 | | 19.46;6 | 0.47; 96 | 41.45 | <0.001 |
| Groceries | 2 | 3.80 | 3.30 | 3.40 | 3.40 | | | | | |
| | 3 | 2.82 | 2.81 | 2.55 | 2.36 | | | | | |
| Social | 1 | 5.54 | 5.77 | 5.76 | 5.54 | | 17.04;6 | 0.56; 96 | 30.21 | <0.001 |
| Inter- | 2 | 1.80 | 2.40 | 2.50 | 2.10 | | | | | |
| action | 3 | 1.50 | 1.08 | 1.50 | 1.33 | | | | | |
| Money | 1 | 1.71 | 3.79 | 3.86 | 3.71 | | 4.80; 6 | 0.39; 96 | 12.18 | <0.001 |
| | 2 | 1.90 | 2.40 | 2.30 | 1.90 | | | | | |
| | 3 | 1.75 | 1.58 | 1.58 | 1.42 | | | | | |
| Time | 1 | 12.15 | 5.07 | 5.14 | 4.69 | | 53.44;6 | 6.53; 96 | 8.18 | <0.001 |
| | 2 | 12.77 | 12.89 | 11.80 | 14.75 | | | | | |
| | 3 | 12.25 | 13.27 | 13.50 | 13.91 | | | | | |

Table 82 shows all the skills analysed for 'shopping'. Each skill was analysed in the same way as for overall level of skill, i.e. a two-way ANOVA of main effects, subsequent one-way ANOVAs of simple effects between subjects and within subjects, and Scheffe comparisons between groups at each point in testing. Only the between subjects x within subjects interaction result from the two-way ANOVA of main effects is shown. Other results of the one-way ANOVAs and the Scheffe comparisons are reported in the text below. As can be seen, there is a significant intereaction in all of the skill areas. In each shopping skill; one- way ANOVAs were computed within subjects and only those for Group 1 were consistently significant (each one at P <0.001). The reason for this can be seen in the rated group means for each skill in Table 82; Group 1 improved for baseline to all subsequent points in testing. The one-way ANOVAs within subjects conducted on scores for Groups 2 and 3 were not significant, indicating no significant change across time of testing on any rated skill. Therefore, the changes in the scores for Group 1 are the source of the significant interaction effects seen in Table 82. For all skill areas the Scheffe comparisons revealed no significant differences between the groups at baseline and Group 1 scores were significantly higher than Groups 2 and 3 at subsequent points of testing. There were no significant differences between Groups 2 and 3.

# MEASURES OF GENERAL FUNCTIONING

This project was designed not only to assess and train community living skills but also to assess the effect of this sequence of skills development on more general functioning. The following assessments were conducted before the project started (at baseline), 15 months into the training programme and at the end of the training programme. These time intervals were considered to be sufficient since general functioning is unlikely to change quickly in this client group.

## 1. Zung Self-Rating Anxiety Scale

Table 83. Mean scores at each point in testing for Zung Self-Rating Anxiety Scale

| GROUP | ONE | TWO | THREE |
|-------|-----|-----|-------|
| 1 n = 19 | 34.00 | 36.47 | 39.15 |
| 2 n = 12 | 31.58 | 31.25 | 30.08 |
| 3 n = 13 | 35.84 | 35.93 | 35.15 |

Table 83 shows the mean scores on the Zung Self-Rating Anxiety Scale of all three groups at each time of testing. The ANOVA carried out on the matrix of scores reveals a significant group x times of testing interaction (F = 2.99; DF = 4,82; P <0.05). Scheffe comparisons found no significant differences between groups at baseline and at the second phase of testing. There was a significant difference between Groups 1 and 2 (P < 0.05) at the final assessment, with Group 1 reporting greater levels of generalised anxiety than Group 2. This indicates a small but significant trend towards greater generalised anxiety levels for Group 1.

## 2. Zung Self-Rating Depression Scale

Table 84. Mean scores at each point in testing for the Zung Self-Rating Depression Scale

| GROUP | ONE | TWO | THREE |
|---|---|---|---|
| 1 n = 19 | 39.29 | 37.29 | 38.58 |
| 2 n = 12 | 36.83 | 34.83 | 36.42 |
| 3 n = 13 | 42.31 | 41.85 | 41.46 |

Table 84 shows the mean scores on the Zung Self Rating Depression Inventory for all three groups at each time of testing. An ANOVA computed on the matrix of scores revealed no significant variation among the groups (F = 1.35; DF = 4,82; P = 0.26).

## 3. Eysenck-Withers Personality Inventory

### (i) Neuroticism Scale

Table 85. Mean scores on the Neuroticism Scale

| GROUP | ONE | TWO | THREE |
|---|---|---|---|
| 1 n = 24 | 7.5 | 7.32 | 7.57 |
| 2 n = 12 | 5.33 | 6.31 | 6.51 |
| 3 n = 13 | 9.54 | 8.04 | 8.91 |

Table 85 shows the mean scores on the EWPI Neuroticism Scale of all three groups at each point in testing. An ANOVA computed on the matrix of scores revealed no significant variation among the groups (F = 2.01; DF = 4,92; P = 0.14).

### (ii) Extraversion Scale

Table 86. Mean scores on the Extraversion Scale

| GROUP | ONE | TWO | THREE |
|---|---|---|---|
| 1 n = 24 | 14.63 | 15.21 | 14.51 |
| 2 n = 12 | 15.25 | 15.33 | 15.10 |
| 3 n = 13 | 13.62 | 14.26 | 14.07 |

Table 86 shows the mean scores on the EWPI Extraversion Scale of all three groups at time of testing. An ANOVA computed on the matrix of scores revealed no significant variation (F = 0.54; DF =

4,92; P = 0.59).


4. General Health Questionnaire


(i) Depression

Table 87.  Mean scores on the Depression Scale

| GROUP | ONE | TWO | THREE |
| --- | --- | --- | --- |
| 1 n = 23 | 0.87 | 0.74 | 0.89 |
| 2 n = 12 | 0.33 | 0.75 | 0.17 |
| 3 n = 13 | 0.15 | 1.08 | 1.00 |

Table 87 shows the mean scores on the GHQ Depression Scale of all three groups at each time of testing.  An ANOVA computed on the matrix of scores revealed no significant variation among the groups (F = 1.56; DF = 4,90; P = 0.19).


(ii) Social Skills Deficit

Table 88.  Mean scores on the Social Skills Deficits Scale

| GROUP | ONE | TWO | THREE |
| --- | --- | --- | --- |
| 1 n = 23 | 0.35 | 0.35 | 0.53 |
| 2 n = 12 | 0.75 | 0.58 | 0.42 |
| 3 n = 13 | 0.46 | 0.62 | 0.62 |

Table 88 shows the mean scores on the GHQ Social Skills Deficits Scale of all three groups at each time of testing.  An ANOVA computed on the matrix of scores revealed no significant variation among the groups (F = 1.59; DF = 4,90; P = 0.19).


(iii) Anxiety

Table 89.  Mean scores on the Anxiety Scale

| GROUP | ONE | TWO | THREE |
| --- | --- | --- | --- |
| 1 n = 23 | 0.74 | 1.78 | 1.68 |
| 2 n = 12 | 0.58 | 1.08 | 1.25 |
| 3 n = 13 | 0.72 | 1.42 | 0.83 |

Table 89 shows the mean scores on the GHQ Anxiety Scale of all three groups at each time of testing.  The ANOVA carried out on the matrix of scores reveals a significant group x times of testing

interaction (F = 2.81; DF = 4,90; P <0.05). Scheffe comparisons found no significant differences between the groups at baseline, the second or third time of testing.

(iv) General Health

Table 90. Mean scores on the General Health Scale

| GROUP | ONE | TWO | THREE |
|---|---|---|---|
| 1 n = 23 | 0.83 | 0.78 | 1.00 |
| 2 n = 12 | 0.25 | 0.42 | 0.42 |
| 3 n = 13 | 0.92 | 0.85 | 0.92 |

Table 90 shows the mean scores on the GHQ General Health Scale of all three groups at each time of testing. An ANOVA computed on the matrix of scores revealed no significant variation among the groups (F = 1.38; DF = 4,82; P = 0.25).

5. Adaptive Behaviour Scale

Part 1

Table 91. Mean scores on each subsection of the ABS (Part 1) at each assessment phase

| ASSESS. PHASE | IF* | PD* | EA* | LD* | N&T* | DA* | VA* | SD* | R* | S* |
|---|---|---|---|---|---|---|---|---|---|---|
| *EXPERIMENTAL GROUP* | | | | | | | | | | |
| ONE | 84.92 | 7.38 | 9.08 | 27.50 | 8.36 | 15.17 | 7.50 | 14.42 | 4.38 | 17.87 |
| TWO | 89.67 | 7.42 | 12.04 | 28.21 | 8.76 | 15.83 | 8.71 | 15.92 | 4.58 | 21.67 |
| THREE | 90.12 | 7.00 | 11.68 | 27.89 | 8.52 | 15.84 | 9.16 | 15.63 | 4.58 | 21.53 |
| *TEACHING GROUP* | | | | | | | | | | |
| ONE | 85.55 | 5.75 | 7.92 | 27.92 | 9.92 | 11.42 | 8.75 | 19.92 | 4.42 | 19.92 |
| TWO | 83.46 | 5.58 | 8.08 | 28.25 | 9.92 | 11.58 | 9.25 | 14.92 | 4.42 | 19.42 |
| THREE | 85.09 | 5.92 | 8.00 | 27.17 | 10.08 | 12.83 | 9.00 | 15.42 | 4.500 | 19.62 |
| *NO-TREATMENT CONTROL GROUP* | | | | | | | | | | |
| ONE | 85.57 | 4.13 | 8.08 | 24.54 | 6.92 | 11.62 | 8.77 | 14.46 | 4.00 | 17.00 |
| TWO | 80.86 | 4.92 | 8.16 | 24.23 | 7.38 | 12.23 | 8.76 | 14.00 | 4.07 | 17.69 |
| THREE | 82.50 | 5.30 | 8.00 | 24.76 | 7.15 | 11.00 | 8.46 | 13.61 | 3.92 | 16.38 |

* IF = Independent Functioning
  PD = Physical Development

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EA  = Economic Activity
LD  = Language Development
N&T = Numbers and Time
DA  = Domestic Activity
VA  = Vocational Activity
SD  = Self Direction
R   = Responsibility
S   = Socialisation
```

Table 91 shows the mean scores of each group at each assessment phase on the ten sub-sections of the Adaptive Behaviour Scale Part 1. ANOVAs computed on each matrix of scores revealed that five of the 10 showed significant variation. These were: 'independent function' ($F = 3.35$; $DF = 4,82$; $P <0.05$); 'economic activity' ($F = 16.98$; $DF = 4,82$; $P = <0.001$); 'vocational activity' ($F = 2.53$; $DF = 4,82$; $P <0.05$); 'self-direction' ($F = 3.35$; $DF = 4,82$; $P <0.05$); 'socialisation' ($F = 4.84$; $DF = 4,82$; $P <0.001$). Scheffe comparisons revealed no significant differences between groups at any point in testing for 'vocational activity', 'self-direction' and 'economic activity'. Of the two remaining sub-sections, 'independent function' showed no significant differences between groups at baseline and at the final assessment phase. In the second phase, Group 1 scores were significantly better than Group 3 scores. Indeed, improvements seen in Group 1 maintained to the final assessment phase. For 'socialisation', there were no significant differences between groups at baseline. At the second and third assessment phases, Group 1 was significantly better than Group 3. There were no significant differences between Groups 2 and 3 at any point in testing on any sub-scale.

## Part 2

Table 92. Mean scores on each subsection of the ABS (Part 2) at each assessment phase

|  | | | | | | EXPERIMENTAL GROUP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASST PHASE | VB* | AB* | RB* | UB* | W* | SM* | IM* | UV* | UH* | SA* | HT* | SB* | PD* | UM* |
| ONE | 1.44 | 6.00 | 4.68 | 1.79 | 1.91 | 0.29 | 0.50 | 0.37 | 0.79 | 0.29 | 0.21 | 1.04 | 23.13 | 0.96 |
| TWO | 1.00 | 5.29 | 5.33 | 1.46 | 1.25 | 0.25 | 0.42 | 0.29 | 0.58 | 0.35 | 0.08 | 0.83 | 23.08 | 0.96 |
| THREE | 0.65 | 4.32 | 5.00 | 1.00 | 1.20 | 0.37 | 0.37 | 0.21 | 0.26 | 0.05 | 0.05 | 0.52 | 22.84 | 0.96 |
|  | | | | | | TEACHING GROUP | | | | | | | | |
| ONE | 1.25 | 7.66 | 3.75 | 2.50 | 2.00 | 1.67 | 0.33 | 0.33 | 1.00 | 0.33 | 0.75 | 0.33 | 21.67 | 0.50 |
| TWO | 0.92 | 6.42 | 4.50 | 2.41 | 2.25 | 0.08 | 0.42 | 0.25 | 0.83 | 0.33 | 0.92 | 0.33 | 21.67 | 0.50 |
| THREE | 1.00 | 6.50 | 4.92 | 2.50 | 2.50 | 0.08 | 0.33 | 0.25 | 0.83 | 0.33 | 0.92 | 0.33 | 21.67 | 0.50 |

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| | VB | AB | RB | UB | W | SM | IM | UV | UH | SA | HT | SB | PD | UM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ONE | 1.54 | 4.62 | 4.92 | 1.15 | 4.92 | 0.62 | 0.85 | 1.00 | 2.15 | 0.62 | 0.46 | 0.30 | 22.54 | 1.54 |
| TWO | 1.30 | 4.46 | 4.76 | 0.69 | 6.00 | 0.62 | 1.15 | 1.07 | 2.00 | 0.69 | 0.76 | 0.30 | 22.54 | 1.46 |
| THREE | 1.39 | 4.38 | 4.54 | 0.92 | 5.92 | 0.62 | 0.92 | 0.76 | 2.15 | 0.38 | 0.62 | 0.15 | 22.46 | 1.53 |

```
* VB = Violent and Destructive Behaviour
  AB = Antisocial Behaviour
  RB = Rebellious Behaviour
  UB = Untrustworthy Behaviour
  W  = Withdrawal
  SM = Stereotyped Behaviour and odd Mannerisms
  IM = Inappropriate Interpersonal Manners
  UV = Unacceptable Vocal Habits
  UH = Unacceptable or Eccentric Habits
  SA = Self-Abusive Behaviour
  HT = Hyperactive Tendencies
  SB = Sexually Aberrant Behaviour
  PD = Psychological Disturbance
  UM = Use of Medication
```

Table 92 shows the mean scores for each group at each point in testing for all sub-scales of the Adaptive Behaviour Scale Part 2. ANOVAs computed on each matrix of scores revealed only one significant result - 'hyperactive tendencies' ($F = 3.05$; $DF = 4,82$, $P = <0.05$). However, Scheffe Comparisons revealed no significant differences between groups at any point in testing.

# SUMMARY OF RESULTS

## 1. SOCIAL SKILLS

Several areas of social skill were assessed and trained in this study, including conversation skills, interrupting a conversation and social interaction. In all assessment areas, there were no significant differences between Groups on any skill at baseline. At post-training and follow-up assessments of almost all skills assessed, those subjects who received skills training (Experimental Group) showed significantly improved scores over those who received teaching (Teaching Control Group) and those subjects who received no training (No-Treatment Control Group). There were few differences between the Teaching Control Group and the No-Treatment Control Group.

Apart from a few comparisons, e.g., 'pace of speech' at post-training, three months and one year follow-up assessments and 'question asking' at post-training, the overwhelming trend for the analysis of conversation skills was that the Experimental Group showed significant improvement over baseline scores and over the Teaching and No-Treatment Control Groups at all points in testing. These improvements in performance were maintained at three months, one year and two years.

The same trend was seen in the assessments of interrupting a conversation. There were no differences between the Groups at baseline and the overwhelming trend was for scores in the Experimental Group to improve significantly when compared with their baseline scores and when compared with scores of the Teaching and No-Treatment Control Groups at any other point in testing. There were few exceptions to this trend, e.g., 'volume' at post-training, 'acceptance by the group' at one year follow-up assessment.

There were few differences between the Teaching and No-Treatment Control Groups. Of those differences that did exist, the Teaching Group showed significantly improved scores over the No-Treatment

Control Group. The improvements in performance of the Experimental Group were maintained at three months, one year and two years.

In the area of social interaction, the same trend was evident. There were significant, sustained improvements in ability in the Experimental Group which were not found in the Teaching and No-Treatment Control Groups. This was true for all but one comparison (self-disclosure at post-training). Once again, there were no differences between the Teaching and No-Treatment Control Groups.

## 2. ASSERTION SKILLS

The assertion skills assessed and trained in this study were: saying "no" to strangers, returning faulty goods to shops and the positive assertion skills of paying compliments to people. In each of these areas, several skills were assessed, leading to 23 sets of comparisons between groups. In none of these comparisons was there differences between the groups at baseline.

In the area of saying "no" to stangers, there were considerable improvements in the scores of subjects in the Experimental Group, when compared to their own baseline scores and to the other Groups at all points in testing following baseline. There were few exceptions (eye contact at three months and one year follow-up assessment) and the overwhelming trend was for the Experimental Group's scores to improve significantly, with few improvements in the Teaching and No-Treatment Control Groups. There were no significant differences between the Teaching and No-Treatment Control Groups at any point in testing.

The same trends were seen in returning faulty goods to shops. There were substantial improvements in the scores of subjects of the Experimental Group following training, which were found to be significant when compared with baseline scores and with scores for subjects in the Teaching and No-Treatment Control Groups, at every point in testing following baseline. There were no differences between the Teaching and No-Treatment Control Groups. Skills training proved effective, not only in helping subjects to gain skills but also in maintaining these improvements for three months,

one year and two years. Once again, the assertiveness of the shop
assistant was assessed to ensure that any variation in assistant
assertiveness had no bearing on the subject's skill. There were no
differences in the assertiveness of the assistant across Groups or
times of testing.

Similarly, in the area of paying compliments, the subjects in the
Experimental Group improved their skills over their own baseline
levels and over levels for subjects in the Teaching and No-
Treatment Control Groups at each point in testing. There were no
significant differences between the Teaching and No-Treatment
Control Groups. Once again these improvements maintain over three
months, one year and two years.

## 3. DEALING WITH AUTHORITY FIGURES

The authority figures employed in this study were policemen and
women and G.P's. These were selected as being among the most
appropriate and common figures that clients would meet.
Assessments were conducted in reporting a loss to the police and
asking directions of the police. These were chosen because they
involved, on the one hand, giving information to the police, and on
the other, receiving information from the police. Also assessed
were: dealing with G.P's receptionist; waiting in the waiting
room; and talking to the G.P. In total, 23 assessments of skill
were conducted. There were no differences between the Groups at
baseline and the trend was for improvements to take place in the
Experimental Group following training, with few changes in the
Teaching or No-Treatment Control Groups.

The improvements in the scores of the subjects of the Experimental
Group were significant when compared with their own baselines and,
with scores of subjects in the Teaching and No-Treatment Groups, at
all points of testing. The package of skills training helped
subjects in the Experimental Group to develop skills which were
maintained at three months and one year. There were a few
exceptions to this trend, e.g. in reporting a loss to the police,
'confidence' and 'clarity of information' at post-training (no
significant difference between the Experimental and Teaching

Control Groups); in 'waiting room behaviour' in the G.P. surgery, 'volume' and 'ability to give information to the G.P.' (no significant differences between the Experimental Group and the Teaching Control Group at post-training). The noteable trend is for the Experimental Group to show maintained improvements in performance, while the Teaching and No-Treatment Control Groups do not. Therefore, subjects in the Experimental Group were able to develop competent skills for relating to authority figures which were maintained for three months and one year.

## 4. LEISURE SKILLS

The leisure skills used in this study were the ability to use a cafe, a public house and a library. Cafes and public houses were chosen as settings which have a high value and a high frequency of use by the general public.

Once again, a large number of between-Group comparisons were conducted on the assessments in all three areas. There were no differences between Groups at baseline. The trend was for subjects in the Experimental Group to show significant improvements in scores following training, when compared with their own baseline and with subjects in Teaching and No-Treatment Control Groups at all points in testing. These improvements maintained at three months and one year. There were no differences between the Teaching and No-Treatment Control Groups. There were few exceptions to this trend. In using a cafeteria, the ANOVAS on 'emptying a tray', 'carrying a tray' and 'use of money' were not significant, while in 'choosing cutlery' there were no significant differences between Groups until the end of training. This was caused by the Teaching and No-Treatment Control Groups being reasonably competent in the areas of 'carrying a tray', 'emptying a tray' and 'choosing cutlery' before training. Therefore, any improvements in the Experimental Group were marginal.

In the area of pubs, the only exception to the pattern of improved scores in the Experimental Group and few changes in the Teaching and No-Treatment Control Groups was 'approaching the bar'. In the area of libraries, the only exception was 'systematic looking for a

book', in which there were no significant differences between the Groups.

5. GENERAL COMMUNITY LIVING SKILLS

This part of the discussion will focus on skills which do not easily fall into the above categories. These include shopping, pedestrian skills, using buses and telephones. Two aspects of pedestrian skills were assessed and trained: crossing roads and using a pedestrian crossing. In both of these, there were no significant differences between Groups. Once again, the Experimental Group showed significant, sustained improvement in ability following a skills training programme while the Teaching Group showed some minimal improvements and the No-Treatment Control Group showed no significant improvements. In all areas, the Experimental Group performed significantly better than the Teaching and No-Treatment Control Groups. The Teaching Group showed significantly greater improvement in ability than the No-Treatment Control Group in 'waiting on the pavement' and 'paying attention to the lights' at three months follow-up assessment. The Teaching Group showed minimal, non-significant improvements over the No-Treatment Control Group fairly consistently across assessment measures. It is once again of concern that classroom based teaching does not produce significant improvements in an area of such vital (and indeed life threatening) importance.

In the area of buses, of the many comparisons made, there were no significant differences between Groups at baseline. The Experimental Group showed significant improvements over baseline levels and these improvements maintained over three months and one year. The only exceptions were in 'waiting for a bus' (non-significant ANOVA), and 'taking your seat' (the Experimental Group was not signficiantly improved over the No-Treatment Control Group at any time, or over the Teaching Group at three months and one year follow-up assessment).

In the skill of using the telephone, there were no significant differences between Groups at baseline. There were significantly improved scores in the Experimental Group which were maintained at

three months, one year and two years. There were no improvements in the Teaching and No-Treatment Control Groups. The improvements in performance in the Experimental Group were significant when compared to the Teaching and No-Treatment Control Groups at all points in testing and there were no significant differences between the Teaching and No-Treatment Control Groups. Therefore, although subjects in the Teaching Control Group appeared to learn how to use a telephone during the classroom based teaching, they were unable to use a telephone in actual situations.

In the area of shopping, the same trend was evident, with no significant differences between Groups at baseline and the Experimental Group showing significant improvements over baseline levels of skill on every assessment at post-training, three months and one year. There were no corresponding improvements in the Teaching and No-Treatment Control Groups. The improvements in performance in the Experimental Group were significant when compared to the Teaching and No-Treatment Control Groups and there were no significant differences between the Teaching and No-Treatment Control Groups. There were not even any marginal improvements for subjects in the Teaching Control Group.

**DISCUSSION OF THE RESULTS OF GLOBAL FUNCTIONING**

A second group of assessments was conducted in this study. These were aimed at assessing more general aspects of functioning rather than specific increases in level of skill related to training. The assessments were conducted less frequently: before the skills training programme began, halfway through the programme at 15 months and at the end of the programme. Since more general functioning is less likely to change in direct response to the acquisition of specific skills, it was thought that these time intervals were adequate.

**1. American Association of Mental Deficiency - Adaptive Behavior Scale**

In two areas, Independent Functioning and Socialisation, the Experimental Group showed significant improved performance over the

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No-Treatment Control Group at assessment phases 2 and 3 (i.e. 15 months into the training programme and at the end of the training programme). In fact, the Experimental Group was the only Group which showed consistent improvements in Independent Functioning and Socialisation while the Teaching and No-Treatment Control Groups remained constant across all three assessment phases. There were no significant differences on the Adaptive Behaviour Scale (Part 2).

## 2. General Health Questionnaire

The G.H.Q. gives information on four factors - general health, anxiety, depression and social skills deficit (this is more akin to feelings of social effectiveness, as opposed to social skills as defined in this thesis). Only the anxiety factor revealed a significant ANOVA. The data indicated that there were slight increases in the mean levels of anxiety in all three Groups. Although the greatest trend was evident in the Experimental Group, there were no significant differences between the Groups.

## 3. Zung Anxiety and Depression Scales

Only the Zung Anxiety Scales revealed a significant ANOVA. There were no significant differences at baseline, with the Experimental Group showing slight increases in average reported anxiety at the second and third assessment phase. At the third assessment phase, there was a significant difference between the Experimental and the Teaching Groups, with the Experimental Group reporting increases in anxiety. It is of interest that increases in anxiety are reported by the Experimental Group in both the GHQ and Zung assessments. It may be that as subjects began to better understand the demands of community life, their apprehension towards living in the community increased, resulting in raised anxiety scores.

## 4. Eysenck-Withers Personality Inventory

There were no significant changes on this measure.

# DISCUSSION

## THE STUDY

### 1.Procedure

It is clear from the Method Section that this is a major treatment study, training 11 aspects of community living skills over a period of two years. Follow-up assessments continued for a further two years. Given the extensiveness of the programme, it is gratifying that the author was able to carry it through to completion with most of the original cohort of subjects, as planned. It was possible to complete all planned assessments at all assessment phases and adequate data sets were available for all analyses.

However, it should be noted that subjects moved on from the establishments used in the study towards the end of the project. This is inevitable in a study which was based in a service setting over a long period of time. Towards the end of the programme, several subjects had moved into more independent community homes, as a result of the success of the training programme. (Success of subsequent community placement will be discussed later in this chapter). Because of the demands of experimental control, these subjects no longer participated in the project. Any further gains or reductions in the skills of these individuals may have been due to changes in living circumstances rather than to the training programme. No subjects were dropped from the programme because they refused or were unwilling to participate.

There were 29 subjects in the Experimental Group for the first nine skills listed on pp.75-77 of the Method Section. However, for those skills that were trained towards the end of the project, i.e. using libraries and shopping, the numbers in the Experimental Group had fallen to 14. This was due to changes in their living circumstances. (Only complete sets of data were included in each analysis and the actual numbers in each may vary from those given above.) At all times there were sufficient numbers of subjects to complete the analyses.

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This reduction in numbers affected only the Experimental Group. Subjects in the Teaching and No-Treatment Control Groups were not considered to have made the same gains in competence as the Experimental Group and, therefore, they did not move to other placements.

## 2. Control

Of the 142 baseline comparisons of skill levels between the Experimental and Control Groups, not one was significant. Therefore, there is considerable evidence that, all Groups were equivalent in their measured levels of skill.

In terms of more general assessments, comparisons between Groups were reported in the Method Section and it was noted that: "There were .... very few differences between the Groups at baseline and, where there were differences, there was no consistent pattern. There were no differences in the major assessments" (p.75).

The Teaching Control Group was employed for two reasons, Firstly, to ascertain whether or not a viable, currently used alternative teaching method would be as effective in helping subjects to acquire social and community living skills. Secondly, to determine whether an equivalent amount of extra staff attention per se would help clients to acquire skills. Since the Teaching Control Group did not improve in a significant or systematic way, it can be concluded that staff attention alone is insufficient to encourage the acquisition of community living skills. In addition, classroom teaching alone is an inadequate method of teaching these skills. (The Teaching Control Group will be discussed later).

Another possible confounding variable is that staff in the establishments where the Experimental Group lived might have been more enthusiastic because of the ongoing training programme. While this might have been true towards the end of the study, it was certainly not the case at the beginning or middle of the two year programme. Although staff in each establishment were aware that training was being conducted in other areas of the Service, they were unaware of any diferences in procedure between groups. All

staff were cooperative and were supportive of the part of the study conducted in their area. This was true even of the staff supervising the No-Treatment Control Group, since, because subjects were involved in all the _in vivo_ assessments, it appeared to be a fairly active programme. Therefore, any differences in enthusiasism between staff groups would arise only as a result of subjects in the Experimental Group moving to more independent community placements towards the end of the programme.

However, it should also be noted that the opposite might have been the case. Indeed, it seems to the author that the following effect might be more pertinent. As subjects in the Experimental Group were discharged to more independent placements, staff became aware of the success of the project and began to worry that there might be no further function for the units, if the residents were all discharged. Therefore, if anything, there was a mood of uncertainty about the future of the units which might have adversely affected the progress of the Experimental Group. In the end, results suggested that this was not the case, since the Experimental Group achieved and maintained treatment gains. (The function of one of the units did indeed change because of the success of the programme and relocation of most subjects. It became a service for people with mild learning disabilities and challenging behaviour or forensic problems).

Therefore, there is very strong evidence that improvements seen in the Experimental Group were due to the training programme rather than to any of the non-specific effects listed above.

## 3. Assessments

### (i) General Measures
These were chosen by the author because they were well known and reliable scales used extensively in clinical work. Where adjustments and revisions were necessary, they have been reported in the Method Section.

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## (ii) Reliability of Rating Scales

It is a strength of the present study that all of the assessments were made by people "blind" to the conditions of the study. However, the rating scales themselves varied in their reliability. In particular, the scales for general conversation, assertion skills, talking to the police and using public houses showed lower reliability than the other scales. It should be noted that in no case was reliability as low as that reported in studies referred to earlier in the Method Section (Storey et al., 1987; Matson et al., 1988). However, absolute agreement in the area of pubs and general conversation was below 50%. It may be that the rating scale allowed too great a degree of personal interpretation in making a judgement. Therefore, it might be an area for future research to revise and refine these scales to ensure more accurate ratings of abilities.

It might be thought that such relatively low agreement might affect results. However, this is highly unlikely for two reasons. Firstly, the magnitude and consistency of changes in the group receiving skills training suggests that these improvements are highly reliable. Likewise, the consistent results of the Teaching and No-Treatment Control Groups suggest that the effects are extremely reliable. Secondly, consideration of the convergent perception of raters suggests a very high level of reliability. The rating scale used was a seven point scale and so a disagreement of one point would account for around 14% of the scale. Triandis (1960), in a study of convergent perception and views in college students, found that, where disagreements were less than 25%, there was a fairly consistent view between subjects on the matter at hand. It was only when disagreements moved to greater than 25% that misunderstandings began to occur. Therefore, an agreement within one scale point is a reasonably conservative position to take concerning consistent judgements between raters. Where this was computed, percentage agreement was consistently over 85% and often nearer to 100%, which is extremely good inter-rater reliability. However, there remains some room for adjustment and improvement of the scales.

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## THE RESULTS

The evidence strongly suggests that the skills training methods
used in this study were extremely effective in enabling people to
develop their social abilities in the short and long term. These
methods were more effective than no treatment and than what was
considered to be a viable, commonly used treatment alternative. It
is significant that improvements in all areas can be achieved and
sustained by using these methods. It is of equal significance that
classroom based teaching methods, which are a convenient and
frequently used option in training people with learning
disabilities, did not prove to be particularly effective in the
development of practical social skills.

The Summary of Results Section clearly identifies the superiority
of skills training and details the few variations to this trend.
However, it is interesting to note some other aspects of the
results not mentioned earlier.

### 1. Assertion Skills

In the area of assertion skills the persuasiveness of the stranger
was also assessed, since any improvements in the subjects'
performance might simply have reflected decreased assertion in
the stranger. However, the opposite appeared to be the case, as
the stranger was rated as more persuasive for the Experimental
Group at post-training and follow-up assessments. This can
probably be explained by the stranger responding to, and indeed
matching, the increased assertion of subjects in the Experimental
Group at these points in testing. Therefore, any improvements in
the Experimental Group cannot be explained by reduction in
assertiveness of the stranger. There were some marginal
improvements in this area for subjects in the Teaching Control
Group.

The lack of assertiveness of many subjects at baseline is a
significant issue. Although every subject agreed that s/he should
not comply with a stranger's request to accompany him/her, at least
80% in each Group walked away, or climbed into a car, with the

stranger. Despite classroom based teaching on the seriousness of going away with a stranger, over 60% of subjects remained compliant following training for the Teaching Control Group.

It is gratifying that there was a huge increase in assertiveness and non-compliance in this area following skills training. However, it remains of considerable concern that 12% of subjects in the Experimental Group continued to go with a stranger following training in assertiveness. This serves to underline the importance of continuing active training in assertiveness in this client group. The concern is compounded when it is considered that all subjects, when questioned, would immediately reply that they should not go away with a stranger. Indeed, after classroom based training, they said this with apparent resolve. However, their verbal responses and actual behaviour were at complete odds. Therefore, although subjects might appear to have been safe when judged by their verbal response, they were in fact at risk.

In the area of returning goods to shops, it remains of some concern that subjects in the classroom based Teaching Group did not improve and thus remained open to exploitation. Subjects in this Group appeared knowledgeable after the teaching course; they knew what they should do when returning goods to a shop and were able to describe how to attract the attention of the assistant, what to say and that they should not leave without satisfaction. However, when it came to carrying out these skills, subjects remained severely deficient and seemed easily brushed aside by the shop assistant.

While this phenomenon has appeared in all of the skills discussed so far, it is particularly serious in the area of assertion skills. After a classroom based teaching course, therapists might consider trainees to be quite safe in areas of potential exploitation. However, without adequate realistic assessment involving practice of these skills, an accurate evaluation of trainees' assertion might not be gained.

2. **Dealing With Authority Figures**

It is clearly important for individuals living more independent

lives in the community to be able to relate to statutory authority figures such as police and G.P's. If they are lacking in the relevant skills, then, at best, they may not be able to take advantage of services available to the rest of the community. At worst, clients may be in a position of danger or serious illness, through lack of ability to relate to statutory authorities. Therefore, it is important to establish that there is a means whereby clients are able to relate appropriately to these various authorities.

It remains of concern that classroom based teaching methods appear to be much less effective in enabling clients to deal with authority figures and do not increase independence in this essential area of community life. This is especially significant since most of the teaching on how to deal with D.S.S. offices, how to go to the G.P. or how to use the services of your local police station, might be done through classroom teaching. In the experience of the author, it is certainly a standard set of topics for adult education services. The findings of the current project suggest that, while these methods may increase knowledge in the area, the knowledge is unlikely to translate into relevant skills or changes in behaviour.

## 3. Use of Money

The use of money is noteworthy since a conscious decision was made by the author, early in this study, to exclude the understanding of money as an area for teaching. It was clear that this would have been extremely time consuming and very difficult, perhaps impossible, for some clients to attain. Therefore, during the time available, training concentrated on the actual use of shops, pubs and cafes. Subjects were taught rudimentary financial skills. If the shop assistant or waitress asked for a certain number of pounds and pence, the subject would give the assistant the next number of pounds. Therefore, if the shop assistant asked for £2.42, the subject would hand over at least £3.00. It was considered more important to concentrate on helping subjects to use community facilities confidently and regularly than to worry too much about the occasional incident in which they might be short changed by a

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few pence.

## 4. Leisure Skills

The Teaching Group demonstrated some non-significant improvement in the areas of using a library and cafes. However, once again, it is evident that the methods of skills training are far superior to the methods of classroom teaching in helping people to develop leisure skills. Regarding the use of a pub, although the scores are not significant, it is interesting that, for several skills, the Teaching Group demonstrated decreased ability in the sequence of assessment. In 'approaching the bar', 'clarity' of voice, 'asking for a drink', 'use of please and thank-you' and 'general confidence', the abilities of the Teaching Group subjects are poorer at some points in the assessment following baseline. There could be several reasons for this. It may be that going out to the pub for the first time was an exciting experience and subjects in the Teaching Group were trying harder. On subsequent occasions, going to the pub may have been less of a novelty. Another possible explanation is that subjects in the Teaching Group were given a theoretical knowledge of, e.g., how to order a drink in a pub, and this knowledge actually interfered with their ability by making them somewhat more anxious of the need to function adequately.

In the area of using libraries, the Teaching Group showed some modest improvements in their scores. This occurred because two people in the Teaching Group managed to take books out with some degree of skill following a period of classroom teaching. This would suggest that, for some individuals with moderate or mild mental handicap, a classroom based programme might be appropriate for some skills.

## FOLLOW-UP

## Eventual Placement

This study was an attempt to prepare subjects for a more independent life in their local communities. Therefore, it is of some interest to review records of all subjects to find their

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placement at various stages since the study ended. It should be noted that some subjects in the Teaching and No-Treatment Control Groups went on to complete a far less rigorous and less comprehensive training than subjects in the Experimental Group. By ranking placements in decreasing order of independence - from independent home, group home, community hostel to a hospital for people with learning disabilities - the following results were obtained.

Two years following completion of the study, 48.3% of subjects in the Experimental Group, 23.1% of subjects in the Teaching Group and 14.3% of those in the No-Treatment Control Group were living independently. The next level of independent community placement was a group home and in this category there were 24.1% of subjects in the Experimental Group, 23.1% in the Teaching Group and 21.4% in the No-Treatment Control Group. The next level of independence was living in a community hostel. Here there is a higher level of staffing and support and 24.1% of subjects in the Experimental Group fell into this category, 53.9% of subjects in the Teaching Group and 57.5% of subjects in the No-Treatment Control Group. Finally, one subject in the Experimental Group (3.5%) and one subject in the No-Treatment Control Group (7.1%) remained in hospital. Therefore, there is a far higher percentage of subjects from the Experimental Group living more independently in the community. There is little difference between the Teaching and No-Treatment Control Groups.

It is also of interest to look at the subjects who slipped through the net of community living skills training and for whom placement was made or attempted before they had a chance to go through any programme of training. Twelve subjects fell into this category. The placement which they were in was not necessarily the placement which had been made originally. Indeed, seven of the individuals in the highest dependency placement (staffed hostel and hospital) had moved from their more independent living circumstances. One subject had returned to hospital and 75% (9 subjects) were living in a staffed hostel. One subject was living in a group home and one subject was living independently. Therefore, there was a strong tendency for those subjects to be living in more supported

environments.

These results were based only on case records, with no attempt to control subjects across categories or to compare other characteristics. However, like the more formal results, they tend to indicate the superiority of skills training methods, not only in the immediate acquisition and maintenance of community living skills, but also in the long term maintenance and eventual successful community integration of subjects who have gone through such a programme. Therefore, there is a tendency for subjects who received skills training to maintain placements in more independent circumstances than subjects who received teaching or no training.

**THE TRAINEES**

## 1. Generalisibility of Results

The subjects employed in this study were functioning in the mild and moderate ranges of mental handicap. It is of interest to consider the extent to which individuals with a greater degree of mental handicap would respond to these methods of skills training. While subjects with a severe mental handicap might not be expected to live fully independent lives, they should be given access to methods and services which will develop their independence as far as is feasible.

Certainly, several of the present subjects fell into the category of moderate mental handicap (IQ 40-55) which is a significant degree of impairment. Although no attempt was made to correlate IQ with improvement, uncontrolled observation by the author suggested that they improved their level of skill significantly following training and were placed in a more independent community house or hostel. Therefore, individuals with a moderate mental handicap appear to respond to training. A study related to the present project was reported by Michie et al. (1990). In this, pedestrian skills were taught to two women with a severe mental handicap. Both responded readily to training and became completely independent in road crossing ability. Baty et al. (1989) also found that the methods of skills training helped three individuals with a severe

mental handicap to acquire the skills necessary to use cafes and cafeterias. This seems to suggest that the skills training methods described are applicable to individuals with a severe mental handicap.

However, there remains a dearth of experimental investigations into the acquisition of community living skills by people with a severe mental handicap. This is certainly an important area of study for future research.

Intuitively, although it seems that people with profound, multiple handicaps would not have the capacity to acquire the community living skills taught in this project, it should not be assumed that the methods would be inapplicable. Certain skills such as, road crossing, independent shopping, using public transport or going to the G.P., may be unachievable. However, it might be possible to simplify some skill areas so that training can help these individuals to become more independent. It might be that, with appropriate simplification and targeted training, a programme could be developed to enable such individuals to use a local cafe or other leisure facility. Certainly, the possibility of increasing an individual's independence in this way should be considered seriously and, if effectiveness could be demonstrated experimentally, it would be of enormous benefit to their lives.

## 2. **Predictors** **of** **Success**

Because of the constraints of time and space in this thesis, it has not been possible to look at predictive indicators of acquisition of community living skills or successful community placements. It is certainly possible to correlate baseline scores on the various assessments reported with eventual acquisition of skills in each area of community living. In this way, we might be able to predict successful outcome before embarking on a programme of training. We might also predict who would need longer and more extensive programmes and who might manage adequately with short focussed programmes. There is no doubt that this information would be of benefit to service planners and those who organise therapeutic regimes.

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However, such an analysis of the data would be so extensive that it might require a seperate study. The present thesis is concerned with more basic, and indeed, the more essential questions of: "Can we train a comprehensive and integrated set of community living skills?"; and "What are the most successful and efficient methods of conducting this training?". If the answer to the first question is "No", then there is little point in investigating factors to predict success or failure. It is only because the work of this thesis has established that we can train such a series of skills that issues of prediction of success become pertinent. Therefore, it will be an interesting area for future research to investigate the relationship between scores on adaptive behaviour, maladaptive behaviour, IQ, emotional state and general health with eventual acquisition of community skills and community placement.

A related issue, not dealt with in this study, but which might increase the effectiveness of relocation programmes, is the relationship between the development of community living skills and the success of the community placement. It would be interesting to see if subjects who achieved a higher level of skill had a more successful, better integrated community placement than those who achieved a lower level of community living skill. If this proved to be the case, it might be possible to develop predictive scales so that placement organisers would know which clients had to be followed up more closely than others. On the other hand, it might be the case that there is a threshold in effective community living skills for successful community integration above which it is pointless to train. In any event, investigation of this issue might allow people to be placed in various community living situations with a greater degree of confidence and knowledge of the amount of support they might need.

**IMPLICATIONS FOR TRAINING**

**1. Superiority of Skills Training**

The results of this study show clear superiority for the methods of skills training, including role-play, didactic teaching, modelling, coaching, behavioural rehearsal and cognitive techniques. In every

area, on most assessments, these methods produced a superior level of improvement when compared to classroom based teaching methods and a no-treatment control condition. There were some marginal improvements in some of the skill areas for the Teaching Control Group but these were not consistent and, in other skill areas, there were reductions in skill for this Group. Therefore, the results allow the conclusion to be drawn with some conviction that skills training methods provide the most effective approach of these alternatives to the training of community living skills.

## 2. Generalisation

It has been a problem in studies involving skills training that abilities do not generalize from one situation to others that have not been included in training. From the point of view of successful community placement, there is little point in spending significant amounts of therapeutic time and effort in teaching skills in a training situation, if they will not transfer to the community in which the subject is eventually placed. Therefore, it is essential that a project such as this should demonstrate the generalisation of skills from the training setting to other settings. A strength of the present project is that generalisation was inbuilt into training and was measured at follow-up assessments. Training was done across a number of situations, so that subjects would learn flexible responses to situations that were trained. In the vast majority of assessments, newly learned behaviour generalized to new assessment situations. The data on follow-up and eventual placement also provide some _in vivo_ evidence that generalisation of skills has taken place, in that subjects of the Experimental Group have settled into more independent placements more successfully, than subjects in the other conditions. However, generalisation was not examined in sufficient detail to assess its specific influences.

## 3. Maintenance of Skills

An issue related to generalisation is whether subjects also retain their skills across time. There have been very few studies in the skills training literature which address the question of long term

maintenance of skills. It is perhaps a more crucial issue than any other since, if subjects are relocated to a new community, it is of paramount importance that they maintain any new abilities taught. If they do not, they will undoubtedly become increasingly isolated, which might lead to eventual breakdown in placement. Therefore, the issue of maintenance of skills is one of the most crucial in the area.

Storey (1987) and Shepherd (1980) both recommended that social and community living skills should be trained within a larger sequence of community integration and participation within a social network. These authors suggest that skills training should be embedded in sequences of skills which will become part of the client's everyday life, as opposed to skills being taught in isolation from the person's normal routines. In this way, the natural contingencies governing improved ability would continue beyond the cessation of training. In this study, individuals were seen in groups comprising people with whom they lived and who were also being considered for more independent living in the community. Therefore, although intervention was conducted with groups of individuals, the clinical impact was created within each social network. Furthermore, when subjects move on to more independent living, they did so in similar small groups with whom they have already been living and learning to use community facilities and social skills. Therefore, this study provided an ideal opportunity for skills to be continually reinforced and encouraged. It seems that this has indeed been the case for most individuals in the Experimental Group, for whom the post-training gains were maintained at three months, one year and two years. Therefore, in every respect, the skills training programme for the Experimental Group has proved superior to classroom based teaching for the Teaching Control Group and no training for the No-Treatment Control Group.

These results are consistent with a recently published study by Foxx and Faw (1992). They conducted an eight-year follow-up of subjects from three social skills studies. Previously, Foxx and McMorrow (1985) had reported a six-to 18-months follow-up of the same subjects, with over half the subjects performing at, or above,

their post-treatment levels. They found similar results in the more recent study, with subjects who learned general and vocational social skills demonstrating better maintenance of ability than those learning socio-sexual skills. The authors thought that this was due to those learning the vocational social skills having had more opportunity to use them. This is a similar argument to that outlined above in relation to teaching skills maintained by natural contingencies beyond the cessation of training.

## 4. Social Validation

One important methodological issue not dealt with formally in this study is that of social validation. Although subjects in the Experimental Group improved their skills from baseline to post-training and maintained them to follow-up assessments, it is not clear how these improvements relate to the ways in which individuals without learning disabilities use various social, leisure and community facilities. It may be that, despite the improvements, subjects in this study still remain inadequate when compared to the general public. On the other hand, they may now possess a level of skill superior to the general public in these areas. Without a social validation assessment, the level of skill possessed by subjects in this study, relative to the general population, is not known.

Perhaps the case here is being over-stated because raters of level of skill on the video taped assessments of community living skills obviously have an idea of how people in general would use buses, pubs, libraries, talk to each other or cross roads. The rating scales, as defined, are certainly well anchored to normal functioning (see Appendix B) and raters were trained in the use of the scale before they rated any assessments of subjects. However, it would be a strength of future research in the area if normative goals could be identified as targets for training.

It would also be a strength if improvements were socially validated by relevant individuals. Therefore, policemen might rate subjects' ability in using the police station, bus drivers in using the bus, etc. In this way, future research would strengthen this aspect of

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skills assessment.

A second issue relevant to social validation is the frequency with which facilities are used by the general population. It may be that people with learning disabilities use facilities at a far lower frequency. There is some evidence to suggest this (Katz and Yekutiel, 1974). If any discrepancy in frequency causes isolation, or other problems in clients, it may be necessary to consider remediation. As has been mentioned, such isolation may be a cause of breakdown in placement. This study certainly suggests that clients can use community facilities in a skilled and effective way. Therefore, there is a need for greater knowledge of the patterns of use of community facilities, so that Health Service, Social Work and Voluntary Service staff can move towards their adequate use.

## 5. Classroom Teaching

It is a methodological shortcoming of the present study that the effects of classroom teaching were not directly measured. Subjects did not complete assessments of knowledge of what to do in various community living situations. We do not know the extent of gains in knowledge relating to social skills, using leisure facilities, or other aspects of community life trained in this study. Therefore, the following statements concerning the relationships between knowledge and skill acquisition are not based on formal data. There was an overwhelming impression, on the part of the group leaders following classroom training sessions, that subjects learned a great deal of knowledge of how to use facilities. They were aware, e.g. of locations, opening times, appropriate behaviour and problems concerning each aspect of a sequence of skill in a community living situation. It would have been interesting to compare this level of knowledge with that achieved by the Group receiving skills training.

The teaching sessions were well organised and subjects obviously enjoyed the variety of methods and material. The instructors remarked spontaneously that sessions were as, or more enjoyable, than sessions for the Experimental Group. This was especially true

for areas such as teaching pedestrian skills where individuals in the Experimental Group might have to spend an hour or two on a cold, windy day on a bleak, busy road. The Teaching Group subjects could do this from the comfort of their classroom. At the end of teaching sessions in each skill group, subjects knew all the answers to all the questions posed by the group leader. Therefore, they appeared very knowledgeable in relation to each community living situation.

However, for the most part, this knowledge did not appear to translate into behaviour. Following classroom based teaching, subjects were, in general, not as skilled in each situation as their counterparts in the Experimental Group. However, classroom teaching may be beguiling. It is a comfortable way to conduct training, trainees enjoy it and, in the end trainees know all the answers to the questions relating to each community living situation. However, although it appears very effective in terms of improvements in knowledge, it falls far short of the effectiveness for the Experimental Group as evidenced by all of the results analysed. While, there was some evidence of improvements in the Teaching Control Group when compared to the the No-Treatment Group, these gains were minimal and presumably would not justify the time spent on the teaching groups.

## 6. INTEGRATING AND PLANNING COMMUNITY LIVING SKILLS

Throughout this thesis, it has been argued that it is important to establish the possibility of training a comprehensive series of skills so that trainees can integrate into a range of options in their new life in the community. Therefore, it is pointless teaching somebody how to shop if they cannot cross the road or catch the bus to and from the shops. It is pointless teaching someone to use the G.P. surgery if they are unable to phone for an appointment, or to use buses to travel there. Similarly, for leisure skills, people have to be able to make appointments by telephone, to be able to confirm opening and closing times and to make their way to and from the facility. This study has incorporated an integrated series of abilities, so that subjects can sequence together skills for various areas to enhance their

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more independent life in the community.

## FUTURE RESEARCH

Future research might include more detailed work on the integration of skills. It has already been mentioned (under Social Validation) that frequency of use of facilities is an area which could fruitfully be investigated. In this way, it might be possible to gain a better idea of how best clients could organise their day, in terms of community facilities, balanced against the need for privacy and solitude. Indeed, one issue suggested by this study and one where research might continue, is the assessment of the amount of privacy and solitude that people require and the way in which this can be integrated into adequate community contact. There is little point in overloading clients with an excess in community contact which they do not wish. This in itself may cause stress and agitation through lack of relaxation. On the other hand, isolation is a common reason why community placements break down and a more accurate knowledge of the acceptable balance of these various factors is required for successful independent placement in the community.

Private leisure is not an area which has been addressed in this study. In the Introduction, it was mentioned that, using a record player, craftwork, etc., are areas which have been studied in the past. Again, it would be interesting to ascertain the way in which clients might view the integration of private leisure into their lives.

# REFERENCES

Adkins, J. and Matson, J. (1980). Teaching institutionalised mentally retarded adults socially appropriate leisure skills. Mental Retardation, 18, 249-252.

Aescheleman, S.R. and Schlademhauffen, J. (1984). Acquisition, generalisation and maintenance of grocery shopping skills by severely mentally retarded adolescents. Applied Research in Mental Retardation, 5, 245-258.

Aeschleman, S.R. and Gedig, K.S. (1985). Teaching banking skills to mildly mentally retarded adolescents. Applied Research in Mental Retardation, 6, 449-464.

Anderson, S. and Allen, L. (1982). Effects of a leisure counselling programme on activity involvement and social interaction of mentally retarded persons. Paper presented at the Symposium on Leisure Research, National Recreation and Parks Association Congress, Louisville, Kentucky.

Argyle, M. (1969). Social Interaction. London; Methuen.

Argyle, M. (1971). The Psychology of Interpersonal Behaviour. Harmondsworth, Middlesex; Penguin.

Argyle, M., Trower, P. and Bryant, B. (1974). Explorations in the treatment of personality disorders and neurosis by social skills training. British Journal of Medical Psychology, 47, 63-72.Argyle,

Argyle,M. and Cook, M. (1975). Gaze and Mutual Gaze. Cambridge: Cambridge University Press.

Atkinson, D. and Ward, L.C. (1986). Friends and neighbours: relationships and opportunities in the community for people with a mental handicap. In: Malin, M. (Ed), Reassessing Community Care.

Azrin, N.H. and Armstrong, P.M. (1973). The mini-meal method for teaching eating skills to the profoundly retarded. Mental Retardation , 11, 9-13.

Baer, D.M., Wolf, M.N. and Risley, T.R. (1968). Some current dimensions of applied behavioural analysis. Journal of Applied Behavior Analysis, 1, 91-97.

Baer, D.M. and Stokes, T.F. (1977). Discriminating a generalisation technology: recommendations for research in mental retardation. In: Mittler, P. (Ed), Research to Practice in Mental Retardation: Education and Training, II, I.A.S.S.M.D.

Baker, N. and Urquart, J. (1987). The Balance of Care for Adults with a Mental Handicap in Scotland. Edinburgh; Information Services Division Publications.

Balla, D.A. and Zigler, E. (1971). The therapeutic role of visits and vacations for institutionalised retarded children. Mental

Retardation, 9, 7-9.

Balla, D.A., Butterfield, E.C. and Zigler, E. (1974). Effects of institutionalization on retarded children: a longitudinal cross-sectional investigation. American Journal of Mental Deficiency, 78, 350-549.

Bank-Mikkelsen, N.E. (1969). A metropolitan area in Denmark: Copenhagen. In: Kugel, R. and Wolfensberger, W. (Eds), Changing Patterns in Residential Services for the Mentally Retarded. Washington; President's Committed on Mental Retardation.

Barton, R. (1959). Institutional Neurosis. Bristol: Wright.

Bates, P. (1980). The effectiveness of interpersonal skills training on the skill acquisition of moderately and mildly retarded adults. Journal of Applied Behavior Analysis, 13, 237-248.

Baty, F.J., Michie, A.M., and Lindsay, W.R. (1989). Teaching mental handicapped adults how to use a cafeteria. Journal of Mental Deficiency Research, 33, 137-148.

Beck-Ford, V. and Smith, N. (1979). Leisure training with developmental handicapped adults. In: Brown, R.I. and Bayer, M.D. (Eds), Research Demonstration and Practice: 10 years of progress. Calgary, Alberta: The Vocational and Rehabilitation Institute.

Belknap, I. (1956). Human Problems of a State Mental Hospital. New York; McGraw Hill.

Bell, G.M. (1955). A mental hospital with open doors. International Journal of Psychiatry, 1, 42.

Bellack, A.S. (1979). Behavioral assessment of social skills. In: Bellack, A.S. and Hersen, M (Eds), Research and Practice in Social Skills Training. New York and London; Plenum Press.

Bellack, A.S. (1983). Recurrent problems in the behavioural assessment of social skills. Behaviour Research and Therapy, 21, 29-41.

Bellamy, G. and Butters, K. (1975). Teaching trainable level retarded students to count money: towards personal independence through academic instruction. Education & Training of the Mentally Retarded, 10, 18-26.

Bennet, D.H. and Wing, J.K. (1963). Sheltered workshops for the psychiatrically handicapped. In: Freeman, H. and Farndale, Y. (Eds), Trends in the Mental Health Services. Oxford: Pergamon Press.

Berkson, G. and Landesman-Dwyer, S. (1977). Behavioural research on severe and profound mental retardation. American Journal of Mental Deficiency, 81(5), 428-454.

Bjannes, A. and Butler, E.W. (1974). Environmental variation in community care facilities for mentally retarded persons. American Journal of Mental Deficiency, 78, 429-439.

Board of Control, (1954). Memorandum of evidence before the Royal Commission on the law relating to mental illness and mental deficiency. Day 1. London; H.M.S.O.

Borakove, L. S. and Cuvo, A.J. (1976). Facilitative effects of coin displacement on teaching coin summation to mentally retarded adolescents. American Journal of Mental Deficiency, 81, 350-356.

Bornstein, P.H., Bach, P.J., McFall, M.E., Friman, P. and Lyons, P.D. (1980). Application of a social skills training programme in the modification of interpersonal deficits among retarded adults. Journal of Applied Behavior Analysis, 13, 171-176.

Bradlyn, A.S., Himadi, W.G., Crimmins, D.B., Christoff, K.A., Graves, K.G. and Kelly, J.A. (1983). Conversational skills training for retarded adolescents. Behavior Therapy, 14, 314-325.

Brickey, M. (1978). A behavioural procedure for teaching self-medication. Mental Retardation, 16, 29-32.

British Medical Association and Magistrates Association (1947). Interpretations and definitions in the Mental Deficiency Act, 1927. London; B.M.A.

Brown, L., Nisbet, J., Ford, A., Sweet, M., Shiraga, B., York, J. and Loomis, R. (1983). The critical need for nonschool instruction in education programmes for severely handicapped students. The Journal of the Association for the Severely Handicapped, 8, 71-78.

Butler, E.W. and Bjannes, A.T. (1977). A typology of common case facilities and differential normalisation outcomes. In: Mittler, P. (Ed), Research and Practice in Mental Retardation (Vol. 1). Baltimore; University Park Press.

Butler, E.W. and Bjannes, A.T. (1978). Activities and the use of time by retarded persons in community care facilities. In Sackett, G.B. (Ed): Observing Behaviour (Volume 1). London; University Park Press.

Carse, J., Panton, N.E. and Watt, A. (1958). The Worthing experiment. Lancet, 1, 39.

Chadsey-Ruch, J., Gonzales, P., Tines, J. and Johnson, J.R. (1989). Social ecology of the workplace: an examination of contextual variables affecting the social interactions of employees with and without mental retardation. American Journal of Mental Retardation, 9, 141-151.

Chadsey-Ruch, J. (1992). Toward defining and measuring social skills in employment settings. American Journal on Mental Retardation, 96(4), 405-418.

Cheseldine, S. and Jeffree, D. (1981). Mentally handicapped adolescents: their use of leisure. Journal of Mental Deficiency Research, 25, 49-51.

Clarke, A.D. and Clarke, A.M. (1954). Cognitive changes in the feebleminded. British Journal of Psychology, 45, 173-179.

Clarke, A.M. and Clarke, A.D.B. (1985). Readings from Mental Deficiency: the Changing Outlook. Methuen.

Cohen, J. (1960). A coefficient of agreement for nominal scales. Education and Psychological Measurement, **20**, 37-46.

Conroy, J., Ethimiou, J. and Lemanowicz, J. (1982). A matched comparison of the developmental growth of institutionalized and deinstitutionalized mentally retarded clients. American Journal of Mental Deficiency, **86 (6)**, 581-587.

Conroy, J.W., and Bradley, V.T. (1985). The Penhurst Longitudinal Study: A Report of Five Years of Research and Analysis. Philadelphia and Boston: Temple University Developmental Disabilities Centre and Human Services Research Institute.

Corrigan, P.W. (1991). Social skills training in adult psychiatric patients: A meta-analysis. Journal of Behavior Therapy and Experimental Psychiatry, **22**, 203-210.

Cronin, K.A. and Cuvo A.J. (1979). Teaching mending skills to mentally retarded adolescents. Journal of Applied Behavior Analysis, **12**, 401-406.

Cullen, C. and Whoriskey, M. (1991). An evaluation of changes in some aspects of life and skill level brought about by the relocation of mentally handicapped hospital residents to community residential establishments. Final Report to the S.H.H.D. Chief Scientists Office.

Cuvo, A. J., Veitch, V.D., Trace, M.W. and Conkey, J.L. (1978). Teaching change computation to the mentally retarded. Behavior Modification, **2**, 531-548.

D.H.S.S. (1959). Mental Health Act, London; H.M.S.O.

D.H.S.S. (1966). Mental Health Act, London, H.M.S.O.

D.H.S.S. and Welsh Office (1969). Report of the committee of enquiry into allegations of ill-treatment of patients and other irregularities at the Ely Hospital, Cardiff. (C.M.N.D. 3975). London; H.M.S.O.

D.H.S.S. and Welsh Office (1971). Better Services for the Mentally Handicapped. (C.M.M.D. 4683). London; H.M.S.O.

D.H.S.S. (1972-1982). The Facilities and Services of Mental Illness and Mental Handicap Hospitals in England. London; H.M.S.O.

D.H.S.S. (1978). Helping Mentally Handicapped People in Hospital. London; H.M.S.O.

D.H.H.S. (1980). Progress, Problems and Priorities: A Review of Mental Handicap Services in England and Wales since the 1971 White Paper. London; H.M.S.O.

D.H.S.S. (1980). Personal Social Services: Local Authority Statistics. London; H.M.S.O.

D.H.S.S. (1989). Caring for People: Community Care in the Next Decade and Beyond. London; H.M.S.O.

D.H.S.S. (1990). National Health Service and Community Care Act. London; H.M.S.O.

Desai, A.B. (1983). Systematic training of bus, shopping and cafeteria skills with a group of mentally handicapped adults. Mental Handicap, 11, 19-21.

Diagnostic and Statistical Manual of Mental Disorders (Third Edition - Revised). American Psychiatric Association. Washington, DC, (1987).

Donegan, C. and Potts, M. (1986). People with mental handicap living alone in the community: pilot study of their quality of life. British Journal of Subnormality, 34, 10-22.

Downing, J. (1988). Conversational skills training: teaching adolescents with mental retardation to be verbally assertive. Mental Retardation, 25, 147-155.

Dunham, H.W. and Weinberg, S.K. (1960). Culture of the State Mental Hospital. Detroit: Wayne State University Press.

Edgerton, R.B. (1967). The Cloak of Competence. Los Angeles; University of California Press.

Edgerton, R.B. (1975). Issues relating to the quality of life among retarded persons. In: Bagab, M.J. and Richardson, S.A. (Eds), The Mentally Retarded and Society: A Social Perspective. Baltimore; University Park Press.

Eisler, R.M., Mittler, P.M. and Hersen, M. (1973). Components of assertive behaviour. Journal of Clinical Psychology,29, 295-299.

Eisler, R., Hersen, M. and Miller, P. (1973). Effects of modelling on components of assertive behaviour. Journal of Behavior Therapy and Experimental Psychiatry, 4, 1-6.

Eisler, R., Miller, P., Hersen, M. and Alford, P. (1974). Effects of assertive training on marital interaction. Archives of General Psychiatry, 30, 643.

Ellis, M. (1975). Why People Play. Englewood Cliffs; Prentice-Hall.

Eysenck, H. and Withers, A. (1965). Eysenck-Withers Personality Inventory. London; Hodder and Stoughton.

Facilities and Services of Mental Illness and Mental Handicap Hospitals in England, (1975). London; H.M.S.O.

Farber, B. (1968). Mental Retardation: Its Social Context and social consequences. Boston; Houghton Miffin.

Felce, D., de Kock, U., Thomas, M. and Saxby, H. (1986). Changes in adaptive behaviour of severely and profoundly mentally handicapped adults in different residential settings. British Journal of

Psychology, 77, 489-501.

Fine, A. and Fine, M (1982). Let me in, I want to play: therapeutic recreation for exceptional children. Unpublished manuscript, California State Polytechnic University, Ponoma.

Flavell, J. (1973). Production of stereotypics of toy play. Mental Retardation, 11, 21-23.

Flavell, J. and Cannon, P. (1976). Evaluation of entertainment materials for severely retarded persons. American Journal of Mental Deficiency, 81, 357-361.

Foxx, R.M. and Azrin, N.H. (1973). Toilet Training the Retarded: A Rapid Programme for Day and Night Time Independent Toileting. Illinois: Research Press.

Foxx, R.M., McMorrow, M.J and Schloss, C.N. (1983). Stacking the decks: teaching social skills to retarded adults with modified table game. Journal of Applied Behavior Analysis, 16, 157-170.

Foxx, R.M., McMorrow, M.J., Bittle, R.G., Fenlon, S.J. (1985). Teaching social skills to psychiatric-inpatients. Behaviour Research and Therapy, 23(5), 531-537.

Foxx, R.M. and Faw, G.D. (1992). An eight year follow-up of three social skills training studies. Mental Retardation 30, 63-66.

Gibson, F.W., Lawrence, P.S. and Nelson, R.D. (1976). Comparison of three training procedures for teaching social responses to developmentally disabled adults. American Journal of Mental Deficiency, 81, 379-387.

Goffman, E. (1961). Essays on the Social Situations of Mental Patients and Other Inmates. New York; Domblday.

Goffman, E. (1970). Asylums. Harmondsworth; Penguin.

Goldberg (1978). General Health Questionnaire. N.F.E.R. Nelson Publishing Company Ltd.

Goldsmith, J.B. and McFall, R.M. (1975). Development and evaluation of an interpersonal skill training programme for psychiatric in-patients. Journal of Abnormal Psychology, 84, 51-58.

Greenspan, S. and Granfield, J.M. (1992). Reconsidering the construct of mental retardation: implications of a model of social competence. American Journal of Mental Retardation, 96, 442-453.

Groake, A.D. (1985). Community integration: a comparative study of past pupils of a special school and an ordinary school. Woodlands Centre, Renmore, Galway, Ireland.

Grossmark, R. (1983). Independence skills: learning how to use the bus. Mental Handicap, 11, 113-114.

Haney, J.I. (1988). Empirical support for deinstitutionalisation. In Heal, L.W., Haney, J.I. and Amado, A.R.N. (Eds), Integration of

developmentally disabled individuals in the communiity. Baltimore : Paul H. Brookes.

Hasaltine, B. and Miltenberger, R.G. (1990). Teaching self-protection skills to persons with mental retardation. American Journal on Mental Retardation, 95(2), 188-197.

Healey, K.M. and Masterpasqua, F. (1992). Interpersonal cognitive problem solving with children with mild mental retardation. American Journal on Mental Retardation, 96(4), 367-372.

Hemming, H. (1986). Follow-up of adults with mental retardation transfer from large institutions to small units. Mental Retardation, 24(4), 229-235.

Hemming, H., Lavendar, T. and Pill, R. (1981). Quality of life of mentally retarded adults transferred from large institutions to new small units. American Journal of Mental Deficiency, 86(2), 157-169.

Hendrix, E. (1981). The fallacies of the concept of normalisation. Mental Retardation, 19, 295-296.

Hersen, M., Eisler, R. and Miller, P. (1973). Development of assertive responses: clinical measurement and research considerations. Behaviour Research and Therapy, 11, 505-521.

Hersen, M., Eisler, R. and Miller, P. (1974). An experimental analysis of generalisation in assertive training. Behaviour Research and Therapy, 12, 311-318.

Hill, B., Rotegarde, L. and Bruininks, R. (1984). The quality of life of mentally retarded people in residential care. Social Work, 29, 275-289.

Hood, E., Lindsay, W.R. and Brookes, N. (1982). Interview training with adolescents. Behaviour Research and Therapy, 20, 581-592.

Hopper, C. and Womble, D.C. (1978). Improving the independent play of severely mentally retarded children. Education and Training of the Mentally Retarded, 13, 4-7.

Horner, R.H., Williams, A and Stevely, J. (1987). Acquisition of generalised telephone use by students with moderate and severe mental retardation. Research in Developmental Disabilities, 8, 229-247.

In-patient Statistics from the Mental Health Enquiry for England, (1976). Statistical and Research Report, 22, H.M.S.O.

Information Services Division. Scottish Mental Health In-Patient Statistics. Edinburgh; I.S.D.

Jay, P. (1979). Report of the Committee on Enquiry into Mental Handicap Nursing and Care. (Cmnd 7468). London; H.M.S.O.

Jones Owen, P.M. (1977). An investigation of the quality of life of ex-patients inthe community in the terms of interest and leisure activities. REAP, 3, 147-152.

199

Katz, S. and Yekutiel, E. (1974). Leisure time problems of mentally retarded graduates of training programmes. Mental Retardation, 4, 224-232.

Kazdin, A.E. (1977). Assessing the clinical or applied importance of behavior change through social validation. Behavior Modification, 1, 427-452.

Kazdin, A.E. and Matson, J.L. (1982). Social validation in mental retardation. Applied Research in Mental Retardation, 2, 39-53.

Kelly, J.A., Wildman, B.G. and Berler, E.S. (1980). Small group behavior training to improve the job interview skills repertoire of mildly retarded adolescents. Journal of Applied Behavior Analysis, 13, 461-471.

Kelly, J.A. (1982) Social Skills Training: A Practical Guide for Interventions. New York; Springer.

Kleinberg, J. and Galligan, B. (1983). Effects of deinstitutionalisation on adaptive behavior of mentally retarded adults. American Journal of Mental Deficiency, 88(1), 21-27.

Kopp, C.B., Baker, B.L. and Brown, K.W. (1992). Social skills and their correlates: preschoolers with developmental delays. American Journal on Mental Retardation, 96(4), 357-366.

LaCampagne, J. and Cipani, E. (1987). Training adults with mental retardation to pay bills. Mental Retardation, 25(5), 293-303.

La Grow, S., Weiner, W. and La Duke, R. (1990). Independent travel for developmentally disabled persons: a comprehensive model of instruction. Research and Developmental Disabilities, 11, 289-301.

Landesman-Dwyer, S. (1981). Living in the community. American Journal of Mental Deficiency, 86, 223-234.

Lazarus, A. (1966). Behaviour rehersal vs. non-directive therapy vs. advice in in effecting behaviour change. Behaviour Research and Therapy, 4, 209.

Leff, R.B. (1974). Teaching the trainable mentally retarded to dial the telephone. Mental Retardation, 12, 12-13.

Leff, R.B. (1975). Teaching trainable mentally retarded children and adults to dial the telephone. Mental Retardation, 13, 19-21.

Li, C. (1981). Play and the mentally retarded child. Mental Retardation, 19, 121-126.

Lindsay, W.R., Symons, R. and Sweet, T. (1979). A programme for teaching social skills to socially inept adolescents. Journal of Adolescence, 12, 215-228.

Lindsay, W.R. (1980). The training and generalisation of conversation behaviours in psychiatric in-patients. British Journal of Social and Clinical Psychology, 19, 85-98.

200

Lindsay W.R. and Stoffelmayer B. (1982). The concept of generalisation in behaviour therapy. Behavioural Psychotherapy, 10, 346-355.

Lindsay W.R. (1982b). The effects of labelling: blind and non-blind ratings of social skills. American Journal of Psychiatry, 139, 216-219.

Longin, H.E. and Rooney, W.M. (1975). Teaching denial assertion to chronic hospitalized patients. Journal of Behavior Therapy and Experimental Psychiatry, 6, 219-222.

Lowe, M.L. and Cuvo, A.G. (1976). Teaching coin summation to the mentally retarded. Journal of Applied Behavior Analysis, 9, 483-489.

Luckey, R.E. and Shapiro, I.F. (1974). Recreation: an essential aspect of abilitative programming. Mental Retardation, 12(5), 33-35.

McCarver, E.R.B. and Craig, E.M. (1974). Placement of the retarded in the community: prognosis and outcome. In: Ellis, N.R. (Ed), International Review of Research in Mental Retardation (Volume 7). New York; Academic.

McDonnell, J.J., Horner, R.H. and Williams, J.A. (1984). A comparison of three strategies for teaching generalized grocery purchasing to high school students with severe handicaps. Journal of the Association for Persons with Severe Handicaps, 9, 123-134.

McFall, R. and Marston, A. (1970). An experimental investigation of behavioural rehersal in assertive training. Journal of Abnormal Psychology, 76, 295-304.

McFall, R. and Lillesand, D. (1971). Behaviour rehersal with modelling and coaching a session training. Journal of Abnormal Psychology, 77, 313-323.

McFall, R. and Twentyman, C.T. (1973). Four experiments on the relative contributions of rehersals, modelling and coaching to assertion training. Journal of Abnormal Psychology, 31(3), 199-218.

McFarlane,J. and Hames,C. (1973). Children with diabetes: learning self care in camp. American Journal of Nursing, 73, 1362-1365.

MacMillan, D. (1958a). Mental Health Services of Nottingham. International Journal of Social Psychiatry, 4, 5.

MacMilllan, D. (1958b). Community treatment of mental illness. Lancet, 2, 201.

Marchetti, A.G., McCartney, J.R., Drain, S., Hooper, M. and Dix, J. (1983). Pedestrian skills training for mentally retarded adults - comparison of training in 2 settings. Mental Retardation, 21, 107-110.

Marchetti, A.G., Cecil, C., Graves, J. and Marchetti, B. (1984).

Public transportation instruction. Mental Retardation, 22, 128-136.

Marholin, D., O'Toole, K., Touchette, E.B., Berger, P. and Doyle, D. (1979). I'll have a big Mac, large fries, large coke and apple pie - or teaching adaptive community skills. Behavior Therapy, 10, 236-248.

Marks, I.M. (1969). Fear and Phobias. London; Heineman.

Matson, J.L. (1980). A controlled group study of pedestrian skills training for the mentally retarded. Behaviour Research and Therapy, 18, 99-106.

Matson, J.L. and Marchetti, A. (1980). A comparison of leisure skills training procedures for the mentally retarded. Applied Research in Mental Retardation, 1, 113-122.

Matson, J.L., Zeiss, R.A., Zeiss, T. and Bousman, N.A. (1980). A comparison of social skills training and contingent attention to improve behavioural deficits of chronic psychiatric patients. British Journal of Social and Clinical Psychology, 9, 57-64.

Matson, J.L. (1981). Use of independence training to teach shopping skills to mildly mentally retarded adults. American Journal of Mental Deficiency, 86, 178-183.

Matson, J.L. and Senatore, V. (1981). A comparison of traditional psychotherapy and social skills training for improving impersonal functioning of mentally retarded adults. Behavior Therapy, 12, 369-382.

Matson, J.L. and Long, S. (1986). Teaching computations/shopping skills to mentally retarded adults. American Journal of Mental Deficiency, 91(1), 98-101.

Matson, J.L., Marikam, R., Coe, D., Raymond, K., Taras, M. and Long, M. (1988). Training social skills to severely mentally retarded multiply handicapped adolescents. Research and Developmental Disabilities, 9, 195-208.

Meichenbaum, D. (1974). Therapist Manual for Cognitive Behavior Modification. University of Waterloo.

Meichenbaum, D. (1977). Cognitive Behavioral Modification: An Integrative Approach. New York; Plenum Press.

Michie, A.M. (1988). Issues in the assessment of emotion and cognition in people with a mental handicap. British Psychological Society Absracts, 33.

Michie, A.M., Lindsay, W.R., Baty, F.J. and Smith, A.H.W. (1990). Teaching pedestrian skills to adults with severe mental handicaps. Mental Handicap, 18, 74-77.

Mental Deficiency Act (1913). London; H.M.S.O.

Miller, M.A., Cuvo, A.J. and Borakove, L.S. (1977). Teaching naming of coin values: comprehension before production vs. production

alone. Journal of Applied Behavior Analysis, 10, 735-736.

Minkin, F., Braukmann, C.J., Minkin, B.L., Timbers, G.D., Timbers, B.J., Fixsen, D.L., Phillips, E.L. and Wolf, M.M. (1976). The social validation of training of conversational skills. Journal of Applied Behavior Analysis, 9, 127-139.

Morris, P. (1969). Put Away: A Sociological Study of Institutions for the Mentally Retarded. London; Routledge and Kegan Paul.

Neef, N.A., Iwata, B.A. and Page, T.J. (1978). Public transportation training: in vivo versus classroom instruction. Journal of Applied Behavior Analysis, 11, 331-344.

Nettlebeck, T. and Kirby, M. (1976). Training the mentally handicapped to sew. Education and Training of the Mentally Retarded, 11, 31-36.

Nezu, C.M., Nezu, A.M. and Arean, P. (1991). Assertiveness and problem solving training for mildly mentally retarded persons with dual diagnoses. Research in Developmental Disabilities, 12, 371-386.

Nietupski, J.A., Hamre-Nietupski, S. and Ayers, B. (1987). Review of task analytic leisure skill training efforts: practitioner implications and future reserach needs. The Journal of the Association for Persons with Severe Handicaps, 9, 88-97.

Nihira, K., Foster, R., Shellhaas, M. and Leland, H. (1974). A.A.M.D. Adaptive Behaviour Scale. Washington D.C.; American Association of Mental Deficiency.

Nihira, K. (1976). Dimensions of adaptive behavior in institutionalised mentally retarded children and adults: developmental perspective. American Journal of Mental Deficiency, 81, 215-226.

Nirje, B. (1969). The normalisation principle and its human management implications. In: Kugel, R. and Wolfensberger, W. (Eds), Changing Patterns in Residential Services for the Mentally Retarded.

O'Connor, N. and Tizard, J. (1954). A survey of patients in twelve mental deficiency institutions. British Medical Journal, 1, 16-18.

O'Connor, G. (1983). Social support of mentally retarded persons. Mental Retardation, 5, 187-196.

O'Leary, K. and Drabman, D. (1971). Token reinforcement programs in the classroom. Psychological Bulletin, 75(6), 379.

Odum, P. (1981). The relationship of play to developmental level in mentally retarded pre-school children. Education and Training of the Mentally Retarded, 15, 136-142.

Oetting, J.B. and Rice M.L. (1992). Influence of the social context on pragmatic skills of adults with mental retardation. American Journal of Mental Retardation, 95(4), 435-443.

Page, T.J., Iwata, B.A. and Neef, N.A. (1976). Teaching pedestrian skills to retarded persons: generalisation from the classroom to the natural environment. Journal of Applied Behavior Analysis, 9, 433-444.

Patterson, G.R. (1974). Interventions for boys with conduct problems: multiple settings, treatments and criteria. Journal of Consulting and Clinical Psychology, 42, 471-481.

Patterson, R.L., Tiegen, J., Liberman, R.P. and Austin, P. (1975). Increased speech intensity of chronic patients ("mumblers") by shaping technique. Journal of Nervous and Mental Diseases, 6, 65-70.

Rathus, S. (1973). Investigation of assertive behaviour through videotape - mediated assertive models and directed practice. Behaviour Research and Therapy, 11, 57-65.

Reiter, S. and Levi, A. (1981). Leisure activities of mentally retarded adults. American Journal of Mental Deficiency, 86, 201-203.

Risley, R. and Cuvo, A.J. (1980). Training mentally retarded adults to make emergency telephone calls. Behavior Modification, 4(4), 513-525.

Robinson, D., Griffith, J., McComish, K. and Swasbrook, K. (1984). Bus training for developmentally adults. American Journal of Mental Deficiency, 89, 37-43.

Rosen, M., Clarke, G.R. and Kivitz, M.S. (1977). Habituation of the Handicapped: New Dimensions in Programms for the Developmentally Delayed. Baltimore; University Park Press.

Royal Medico-Psychological Association (1954). Memorandum of evidence before the Royal Commission on the Law relating to mental illness and mental deficiency. Day 8. London; H.M.S.O.

Saxby, H., Thomas, M., Felce, D. and De Kock, U. (1986). The use of shops, cafes and pub houses by severely and profoundly handicapped adults. British Journal of Mental Subnormality, 69-91.

Saunders,R. (1978). Presentability as a goal for work activities clients. Vocational Evaluation and Work Adjustment Bulletin, 9, 15-19.

Schloss, P.J. and Wood, C.E. (1990). Effect of self-monitoring on maintenance and generalisation of conversational skills of persons with mental retardation. Mental Retardation, 28(2), 105-113.

Shepherd, G. (1977). Social skills training: the generalisation problem. Behavior Therapy, 8, 1008-1009.

Shepherd, G.W. (1980). The treatment of social difficulties in special environments. In: Feldman, P. and Oxford, J. (Eds), Psychological Problems: the Social Context. New York; Wyllie.

Sherman, J.A., Sheldon, J.B., Harchik, A.E., Edwards, K. and Quinn, J. M. (1992). Social evaluation of behaviors comprising three social skills and a comparison of the performance of people with and without mental retardation. Journal on Mental Retardation, 96(4), 419-431.

S.H.H.D. and S.E.D. (1979). A Better Life: Report on Services for the Mentally Handicapped in Scotland. ("The Peter's Report"). Edinburgh; H.M.S.O.

Siperstein, G.N. (1992). Social competence: an important construct in mental retardation. American Journal on Mental Retardation, 96, 3-5.

Smeets, P.M. (1978). Teaching retarded adults monetary skills using an experimental calculator. Behavioural Engineering, 5, 51-59.

Spradlin, J.E., Cotter, J.W., Stevens, C. and Friedman, M. Performance of mentally retarded children in pre-arithmetic tasks. American Journal of Mental Deficiency, 78, 397-403.

Storey, K. (1987). Teaching social skill to persons with severe handicaps in community settings: a review. Australian and New Zealand Journal of Developmental Disabilities, 13, 143-150.

Stokes, T.F., Baer, D. and Jackson,R. (1974). Programming the generalization of a greeting response in four retarded children. Journal of Applied Behavior Analysis, 10, 349-368.

Stokes, T.F. and Baer, D.M. (1978). An implicit technology of generalisation. Journal of Applied Behavior Analysis, 10, 349-367.

Storey, K., Bates, P. and Hanson, H. (1984). Acquisition and generalisation of coffee purchasing skills by adults with severe disabilities. Journal of the Association for Persons with Severe Mental Handicap, 9(3), 178-185.

Storey, K. and Gaylord-Ross, R. (1987). Increasing positive interactions by handicapped individuals during a recreational activity using a mulicomponent treatment package. Research in Developmental Disabilities, 8, 627-649.

Tizard, B. (1975). Varieties of residential nursery experience. In: Tizard, J., Sinclair, I. and Clarke, R.V.G. (Eds), Varieties of Residential Experience. Boston; Routeledge & Kegan Paul.

Townsend, P. (1962). The Last Refuge. London; Routledge.

Trace, N.W., Cuvo, A,J. and Criswell, Y.L. (1977). Teaching coin equivalence to the mentally retarded. Journal of Applied Behavior Analysis, 10, 85-92.

Tredgold, A.F. (1949). A Textbook of Mental Deficiency (7th edition reprinted: 8th edition). London; Bailliere, Tindall and Cox.

Triandis, H.C. (1960). Cognitive similarity and communication in a dyad. Human Relations, 13, 175-183.

Trower, P., Bryant, B. and Argyle, M. (1978). Social skills and Mental Health. London; Metheun.

Trower, P. (1980). Situational analysis of the components and processes of behaviour of socially skilled and unskilled patients. Journal of Consulting and Clinical Psychology, 48, 327-339.

Trower, P. (1982). Toward a genetive model of social skills: a critique and synthesis. In: Curran, J.P. and Monti, P.M. (Eds), Social Skills Training. New York; Guildford Press.

Trower, P. (1984). A radical critique and reformulation: from organism to agent. In: Trower, P. (Ed), Radical Approach to Social Skill Training. London; Croom Helm.

Turner, S.M., Hersen, M. and Bellack, A.S. (1978). Social skills training to teach pro-social behaviours in an organically impaired and retarded patient. Journal of Behavior Therapy and Experimental Psychiatry, 9, 253-258.

Twentyman, C. and Zimmering, R. (1979). Behavioral training of social skills: a critical review. In: Hersen, M., Eisler, R.M., and Miller, P. (Eds), Progress in Behavior Modification. Vol.7. Academic Press: New York.

Tyne, A. and Wertheimer, A. (1980). Even Better Services? A Critical Review of the Mental Handicap Services in the 1970's. London; C.M.H.

Van den Pol, R., Iwata, B., Ivanic, M., Page, T., Neef, N. and Whitley, F. (1981). Teaching the handicapped to eat in public places; acquisition, generalisation and maintenance of restaurant skills. Journal of Applied Behavior Analysis, 14, 61-69.

Van Houten, R. (1979). Social validation: the evolution of standards of competency for target behaviors. Journal of Applied Behavior Analysis, 12, 581-591.

Walker, H.M., Hops, H. and Greenwood, C.R, (1976). Competency-based behavior management packages for teachers of mainstreamed behaviourally disordered children. Behavioural Disorders, 1(2), 112-122.

Wehman, P. (1975). Establishing play behaviours in mentally retarded youths. Rehabilitation Literature, 38, 98-105.

Wehman, P., Karan, O. and Rettie, C. (1976). Developing independent play in three severely retarded women. Psychological Reports, 39, 995-998.

Wehman, P. (1977). Research and leisure time and the severely developmentally disabled. Rehabilitation Literature, 38, 98-105.

Wehman, P. (1978). Leisure skill programming for severely and profoundly handicapped persons: state of the art. British Journal of Social and Clinical Psychology, 17, 343-353.

Wehman, P. and Marchant, J. (1978). Improving free play skills of

severely retarded children. The American Journal of Occupational Therapy, 32, 100-104.

Welsh, S.J. and Pear, J.P. (1980). Generalisation of naming responses to objects in the natural environment as a function of training stimulus modality with retarded children. Journal of Applied Behavior Analysis, 13, 629-643.

Welsh Office (1986). Mental Health Statistics for Wales, No. 5. Cardiff; Welsh Office.

Werner, J.S., Minkin, M., Minkin, B., Fixsen, D., Phillips, E. and Wolf, M. (1975). Intervention packages: an analysis to prepare juvenile delinquents for encounters with police officers. Criminal Justice and Behaviour, 2, 55-83.

Westling, D.L. (1988). The effect of single setting vs. multiple setting training on learning to shop in a department store. Paper presented at the I.A.S.S.M.D. 8th International Congress, Trinity College, Dublin, Ireland, August 21-25.

Whitman, T.L., Spence, B.H. and Maxwell, S. (1987). A comparison of external and self-instructional teaching formats with mentally-retarded adults in a vocational-training seting. Research in Developmental Disabilities, 8(3), 371-388.

Wildman, B.G., Wildman, H.E. and Kelly, W.J. (1986). Group conversational skills training and social validation with mentally retarded adults. Applied Research in Mental Retardation, 7, 443-458.

Williams, G.A. and Asher, S.R. (1992). Assessment of loneliness at school among children with mild mental retardation. American Journal on Mental Retardation, 96(4), 373-385.

Wing, J.K. (1960). A pilot experiment in the rehabilitation of long hospitalised schizophrenic patients. British Journal of Preventative and Social Medicine, 14, 173-180.

Wing, J.K. (1961). A simple and reliable subclassification of chronic schizophrenia. Journal of Mental Science, 107, 862.

Wing J.K. and Brown G.W. (1970). Institutionalism and Schizophrenia. Cambridge; Cambridge University Press.

Wolfensberger, W. (1972). The principle of normalisation in human services. Toronto; National Institute on Mental Retardation.

Wolfensberger, W. (1980). The definition of normalization - update, problems. In: Flynn, R. and Nitsch, K. (Eds), Normalization, Social Integration and Community Services. Baltimore; Baltimore University Press.

Wolfensberger, W. (1983). Social role valorisation: a proposed new term for the principle of normalisation. Mental Retardation, 21, 234-239.

Wolpe, J. and Lazarus, A.A. (1966). Behaviour Therapy Techniques.

New York; Pergeman Press.

Wolpe, J. (1969). The practice of behaviour therapy. New York; Pergamon Press.

World Health Organisation (1967). Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death, 1965 revision. Geneva.

World Health Organisation (1977). Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death. Geneva.

Yando, R. and Zigler, E. (1971). Outer directedness in the problem solving of institutionalised and non-institutionalised normal and retarded children. Developmental Psychology, 4, 277-288.

Zigler, E., Balla, D. and Butterfield, E. (1968). A longitudinal investigation of the relationship between pre-institutional social deprivation and social motivation in institutionalised retardates. Journal of Personality and Social Psychology, 10, 437-445.

Zigler, E. and Balla, O. (1977). Impact of institutional experience on behaviour and development of retarded persons. American Journal of Mental Deficiency, 82(1), 1-11.

Zung, W.W.K. (1965). A self-rating depression scale. Archives of General Psychiatry, 12, 63-70.

Zung, W.W.K. (1971). A rating instrument for anxiety disorders. Psychosomatics, 6, 371-379.

Appendix A

## Appendix  A1

The following tables show the analysis of variance on

overall skills in all areas.    Each table shows a 2 way

(3 x 4) ANOVA.

The first factor is variation between groups, the second

factor is variation over time within subjects and the

third factor is the interaction between the two effects.

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## 1. CONVERSATION SKILLS : Overall

Table 93    ANOVA of main effects – 2 way (3 x 4 ) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| **Betweens Ss** | | | | | |
| Groups | 95.49 | 2 | 47.75 | 8.98 | <0.001 |
| Ss within Grps (error between) | 233.99 | 44 | 5.32 | | |
| **Within Ss** | | | | | |
| Time | 17.9 | 3 | 5.97 | 13.97 | 0.000 |
| Grps x Time | 45.42 | 6 | 7.57 | 17.72 | 0.000 |
| Time x Ss within Grps (error within) | 56.38 | 132 | 0.43 | | |

CONVERSATION SKILLS

Interrupting a Conversation

Table 93 a) <u>ANOVA of main effects</u>  —  2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Betweens Ss</u> | | | | | |
| Groups | 87.58 | 2 | 43.79 | 12.96 | <0.001 |
| Ss within Grps (error between) | 155.45 | 46 | 3.38 | | |
| <u>Within Ss</u> | | | | | |
| Time | 9.78 | 3 | 3.26 | 12.14 | <0.001 |
| Grps x Time | 38.28 | 6 | 6.38 | 23.76 | <0.001 |
| Time x Ss within Grps (error within) | 37.05 | 138 | 0.27 | | |

## 2. SOCIAL INTERACTION SKILLS
### Overall

Table 94    ANOVA of main effects – 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 69.48 | 2 | 34.74 | 7.78 | <0.001 |
| Ss within Grps (error between) | 196.39 | 44 | 4.46 | | |
| Within Ss | | | | | |
| Time | 9.89 | 3 | 3.30 | 6.90 | 0.000 |
| Grps x Time | 43.74 | 6 | 7.29 | 15.26 | 0.000 |
| Time x Ss within Grps (error within) | 63.06 | 132 | 0.48 | | |

3. ASSERTION SKILLS
(i) Saying 'No' to strangers
    Overall


Table 95    ANOVA of main effects —  2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| **Betweens Ss** | | | | | |
| Groups | 172.25 | 2 | 86.13 | 32.28 | 0.000 |
| Ss within Grps (error between) | 122.75 | 46 | 2.67 | | |
| **Within Ss** | | | | | |
| Time | 46.34 | 3 | 15.45 | 27.15 | 0.000 |
| Grps x Time | 47.60 | 6 | 7.93 | 13.94 | 0.000 |
| Time x Ss within Grps (error within) | 78.51 | 138 | 0.57 | | |

(ii)   Returning Goods to Shops

Table 96   ANOVA of main effects - 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 166.19 | 2 | 83.10 | 23.41 | 0.000 |
| Ss within Grps (error between) | 166.81 | 47 | 3.55 | | |
| Within Ss | | | | | |
| Time | 17.65 | 3 | 5.88 | 23.35 | 0.000 |
| Grps x Time | 50.51 | 6 | 8.42 | 33.42 | 0.000 |
| Time x Ss within Grps (error within) | 35.53 | 141 | 0.25 | | |

(iii) <u>Compliments</u>

Table 97    <u>ANOVA of main effects - 2 way (3 x 4) ANOVA</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Betweens Ss</u> | | | | | |
| Groups | 83.12 | 2 | 41.56 | 8.25 | 0.001 |
| Ss within Grps (error between) | 221.70 | 44 | 5.04 | | |
| <u>Within Ss</u> | | | | | |
| Time | 18.01 | 3 | 6.00 | 10.21 | 0.000 |
| Grps x Time | 51.75 | 6 | 8.63 | 14.67 | 0.000 |
| Time x Ss within Grps (error within) | 77.60 | 132 | 0.59 | | |

## .4.   DEALING WITH AUTHORITY FIGURES

### (i)  Police - Reporting a loss
Overall

Table 98    ANOVA of main effects - 2 way (3x4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 112.30 | 2 | 56.15 | 23.14 | 0.000 |
| Ss within Grps (error between) | 101.90 | 42 | 2.43 | | |
| Within Ss | | | | | |
| Time | 7.29 | 3 | 2.43 | 7.23 | 0.000 |
| Grps x Time | 37.11 | 6 | 6.18 | 18.39 | 0.000 |
| Time x Ss within Grps (error within) | 42.38 | 126 | 0.34 | | |

(ii)  Police - Asking directions
        Overall


Table 99    ANOVA of main effects - 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 82.04 | 2 | 41.02 | 9.25 | 0.000 |
| Ss within Grps (error between) | 186.27 | 42 | 4.43 | | |
| Within Ss | | | | | |
| Time | 3.56 | 3 | 1.19 | 3.74 | 0.013 |
| Grps x Time | 18.25 | 6 | 3.04 | 9.56 | 0.000 |
| Time x Ss within Grps (error within) | 40.07 | 126 | 0.32 | | |

(iii)   G.P.  -  Talking to Receptionist
        Overall

Table 100   ANOVA of main effects- 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 62.16 | 2 | 31.08 | 6.01 | 0.006 |
| Ss within Grps (error between) | 180.84 | 35 | 5.17 | | |
| Within Ss | | | | | |
| Time | 5.55 | 3 | 1.85 | 4.20 | 0.000 |
| Grps x Time | 22.71 | 6 | 3.79 | 8.60 | 0.000 |
| Time x Ss within Grps (error within) | 46.23 | 105 | 0.44 | | |

G.P. - Waiting Room Behaviour - Overall

Table 100(a)  ANOVA of main effects - 2 way (3x4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| **Between Ss** | | | | | |
| Groups | 7.38 | 2 | 3.69 | 0.55 | 0.584 |
| Ss within groups (error between) | 236.31 | 35 | 6.75 | | |
| **Within Ss** | | | | | |
| Time | 4.42 | 3 | 1.47 | 4.26 | 0.007 |
| Grps x Time | 4.47 | 6 | 0.75 | 2.15 | 0.053 |
| Time x Ss within grps (error within) | 36.34 | 105 | 0.35 | | |

(iv) G.P.  -  Talking to G.P.

   Overall

Table 101   ANOVA of main effects - 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| **Betweens Ss** | | | | | |
| Groups | 88.48 | 2 | 44.24 | 8.22 | 0.001 |
| Ss within Grps (error between) | 193.71 | 36 | 5.38 | | |
| **Within Ss** | | | | | |
| Time | 8.57 | 3 | 2.86 | 6.14 | 0.001 |
| Grps x Time | 30.11 | 6 | 5.02 | 10.78 | 0.000 |
| Time x Ss within Grps (error within) | 50.26 | 108 | 0.47 | | |

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5.  PEDESTRIAN SKILLS

(i)  Crossing a road

Table 102. ANOVA of main effects  - 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 172.88 | 2 | 86.44 | 26.61 | 0.000 |
| Ss within Grps (error between) | 142.00 | 47 | 3.02 | | |
| Within.Ss | | | | | |
| Time | 25.92 | 3 | 8.64 | 11.28 | 0.000 |
| Grps x Time | 51.29 | 6 | 8.55 | 11.16 | 0.000 |
| Time x Ss within Grps (error within) | 108.03 | 141 | 0.77 | | |

5.  PEDESTRIAN  SKILLS

(i i) Pedestrian Crossing
      Overall

Table 103  ANOVA of main effects - 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 183.68 | 2 | 91.84 | 39.44 | 0.000 |
| Ss within Grps (error between) | 109.45 | 47 | 2.33 | | |
| Within Ss | | | | | |
| Time | 15.75 | 3 | 5.25 | 10.90 | 0.000 |
| Grps x Time | 76.43 | 6 | 12.74 | 26.43 | 0.000 |
| Time x Ss within Grps (error within) | 67.94 | 141 | 0.48 | | |

## 6. PUBLIC TRANSPORT SKILLS
### Overall

Table 104    ANOVA of main effects – 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 188.46 | 2 | 94.23 | 19.12 | 0.000 |
| Ss within Grps (error between) | 236.55 | 48 | 4.93 | | |
| Within Ss | | | | | |
| Time | 15.36 | 3 | 5.12 | 14.08 | 0.000 |
| Grps x Time | 53.56 | 6 | 8.93 | 24.54 | 0.000 |
| Time x Ss within Grps (error within) | 52.37 | 144 | 0.36 | | |

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7.  TELEPHONE USE
(i)  Making Calls

Table 105  ANOVA of main effects - 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 91.85 | 2 | 45.93 | 10.47 | 0.000 |
| Ss within Grps (error between) | 175.44 | 40 | 4.39 | | |
| Within Ss | | | | | |
| Time | 25.58 | 3 | 8.53 | 26.98 | 0.000 |
| Grps x Time | 45.25 | 6 | 7.54 | 23.87 | 0.000 |
| Time x Ss within Grps (error within) | 37.92 | 120 | 0.32 | | |

(ii)  Making Calls-Checklist


Table 106   ANOVA of main effects - 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 280.13 | 2 | 140.16 | 64.58 | 0.000 |
| Ss within Grps (error between) | 102.76 | 40 | 2.18 | | |
| Within.Ss | | | | | |
| Time | 73.66 | 3 | 4.75 | 14.39 | 0.000 |
| Grps x Time | 90.66 | 6 | 14.11 | 42.71 | 0.000 |
| Time x Ss within Grps (error within) | 46.78 | 120 | 0.33 | | |

(iii) <u>Receiving Calls</u>
      <u>Overall</u>


Table 107  <u>ANOVA of main effects – 2 way (3 x 4) ANOVA</u>


| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Betweens Ss</u> | | | | | |
| Groups | 95.26 | 2 | 47.63 | 14.08 | 0.000 |
| Ss within Grps (error between) | 135.28 | 40. | 3.38 | | |
| <u>Within Ss</u> | | | | | |
| Time | 25.49 | 3 | 8.50 | 18.25 | 0.000 |
| Grps x Time | 39.30 | 6 | 6.55 | 14.07 | 0.000 |
| Time x Ss within Grps (error within) | 55.87 | 120 | 0.47 | | |

(iv) <u>Receiving calls</u>  - checklist

Table 108   <u>ANOVA of main effects - 2 way (3 x 4) ANOVA</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Betweens Ss</u> | | | | | |
| Groups | 304.34 | 2 | 152.17 | 45.72 | 0.000 |
| Ss within Grps (error between) | 156.44 | 40 | 3.33 | | |
| <u>Within Ss</u> | | | | | |
| Time | 8.51 | 3 | 2.84 | 5.04 | 0.002 |
| Grps x Time | 119.70 | 6 | 19.95 | 33.48 | 0.000 |
| Time x Ss within Grps (error within) | 79.28 | 120 | 0.56 | | |

## 8. CAFETERIA SKILLS

Table 109  **ANOVA of main effects - 2 way (3 x 4) ANOVA**

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| **Betweens Ss** | | | | | |
| Groups | 14.50 | 2 | 7.25 | 3.34 | 0.045 |
| Ss within Grps (error between) | 88.91 | 41 | 2.17 | | |
| **Within Ss** | | | | | |
| Time | 0.91 | 3 | 0.30 | 1.58 | 0.197 |
| Grps x Time | 11.88 | 6 | 1.98 | 10.36 | 0.000 |
| Time x Ss within Grps (error within) | 23.52 | 123 | 0.19 | | |

9. <u>PUBLIC HOUSE SKILLS</u>

Table 110    <u>ANOVA  of main effects – 2 way (3 x 4) ANOVA</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Betweens Ss</u> | | | | | |
| Groups | 178.43 | 2 | 89.22 | 10.71 | 0.000 |
| Ss within Grps (error between) | 358.09 | 43 | 8.33 | | |
| <u>Within Ss</u> | | | | | |
| Time | 1.73 | 3 | 0.43 | 1.36 | 0.251 |
| Grps x Time | 7.77 | 6 | 0.97 | 3.05 | 0.003 |
| Time x Ss within Grps (error within) | 54.75 | 129 | 0.32 | | |

## 10. LIBRARY SKILLS
Overall

Table 111  ANOVA of main effects - 2 way (3 x 4) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| **Betweens Ss** | | | | | |
| Groups | 246.51 | 2 | 123.26 | 23.45 | 0.000 |
| Ss within Grps (error between) | 126.16 | 24 | 5.26 | | |
| **Within.Ss** | | | | | |
| Time | 48.01 | 3 | 16.00 | 34.13 | 0.000 |
| Grps x Time | 81.35 | 6 | 13.56 | 23.91 | 0.000 |
| Time x Ss within Grps (error within) | 33.76 | 72 | 0.47 | | |

11.  SHOPPING SKILLS

Table 112    ANOVA of main effects – 2 way (3 x 4 ) ANOVA

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Betweens Ss | | | | | |
| Groups | 289.02 | 2 | 144.51 | 15.45 | 0.000 |
| Ss within Grps (error between) | 299.26 | 32 | 9.35 | | |
| Within Ss | | | | | |
| Time | 31.04 | 3 | 10.35 | 22.04 | 0.000 |
| Grps x Time | 116.76 | 6 | 19.46 | 41.45 | 0.000 |
| Time x Ss within Grps (error within) | 45.07 | 96 | 0.47 | | |

<u>Appendix  A2</u>

The following tables show the simple effects within
each group and between groups at each time of testing
for all skill areas.

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Appendix A2

## 1. CONVERSATION SKILLS
Overall

Simple Effects 1 – within Ss (groups) ANOVA – 1 way repeated measure:

Table 113   Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 36.18 | 22 | 4.02 | | |
| Within Ss | | | | | |
| Time | 45.88 | 4 | 11.47 | 18.02 | 0.000 |
| Ss x Time (error) | 22.92 | 88 | 0.64 | | |

Table 114   Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 78.42 | 11 | 7.13 | | |
| Within Ss | | | | | |
| Time | 0.75 | 3 | 0.25 | 1.74 | 0.179 |
| Ss x Time (error) | 4.75 | 33 | 0.14 | | |

Table 115   Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 76.42 | 11 | 6.95 | | |
| Within Ss | | | | | |
| Time | 1.42 | 3 | 0.47 | 1.29 | 0.294 |
| Ss x Time (error) | 12.08 | 33 | 0.37 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 116   Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 1.74 | 2 | 0.87 | 0.566 | 0.57 |
| Ss within Grps (error) | 72.05 | 44 | 1.53 | | |

Table 117   Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 42.36 | 2 | 21.18 | 12.07 | 0.000 |
| Ss within Grps (error) | 80.74 | 44 | 1.76 | | |

Table 118   Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 34.86 | 2 | 17.43 | 8.94 | 0.000 |
| Ss within Grps (error) | 89.67 | 44 | 1.95 | | |

Table 119   Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 59.19 | 2 | 29.59 | 21.90 | 0.000 |
| Ss within Grps (error) | 60.79 | 44 | 1.35 | | |

## 1. CONVERSATION SKILLS :
### Interrupting a Conversation

**Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures**

Table 113    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 74.77 | 24 | 3.11 | | |
| Within Ss | | | | | |
| Time | 73.71 | 4 | 18.43 | 61.67 | <0.001 |
| Ss x Time (error) | 28.69 | 96 | 0.30 | | |

Table 114    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 35.64 | 10 | 3.56 | | |
| Within Ss | | | | | |
| Time | 0.18 | 3 | 0.06 | 0.31 | 0.816 |
| Ss x Time (error) | 5.82 | 30 | 0.19 | | |

Table 115    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 62.08 | 12 | 5.17 | | |
| Within Ss | | | | | |
| Time | 0.38 | 3 | 0.13 | 0.82 | 0.419 |
| Ss x Time (error) | 5.62 | 36 | 0.16 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 116  Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.89 | 2 | 0.45 | 0.36 | 0.70 |
| Ss within Grps (error) | 57.92 | 46 | 1.26 | | |

Table 117  Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 46.32 | 2 | 23.16 | 24.39 | 0.000 |
| Ss within Grps (error) | 43.68 | 46 | 0.95 | | |

Table 118  Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 36.75 | 2 | 18.38 | 20.97 | 0.000 |
| Ss within Grps (error) | 40.31 | 46 | 0.88 | | |

Table 119  Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 41.88 | 2 | 20.94 | 19.04 | 0.000 |
| Ss within Grps (error) | 50.60 | 46 | 1.10 | | |

## 2.  SOCIAL  INTERACTION SKILLS

Simple Effects 1 – within Ss (groups) ANOVA – 1 way repeated measures

Table 120    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 16.02 | 23 | 1.78 | | |
| Within Ss | | | | | |
| Time | 23.72 | 4 | 5.93 | 10.13 | 0.000 |
| Ss x Time (error) | 21.08 | 92 | 0.59 | | |

Table 121    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 69.06 | 10 | 6.28 | | |
| Within Ss | | | | | |
| Time | 1.23 | 3 | 0.41 | 1.93 | 0.15 |
| Ss x Time (error) | 7.02 | 30 | 0.21 | | |

Table 122    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 79.50 | 11 | 7.23 | | |
| Within Ss | | | | | |
| Time | 0.50 | 3 | 0.17 | 0.42 | 0.74 |
| Ss x Time (error) | 13.00 | 33 | 0.39 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 123    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 5.84 | 2 | 2.92 | 1.90 | 0.161 |
| Ss within Grps (error) | 72.18 | 44 | 1.54 | | |

Table 124    Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 28.33 | 2 | 14.17 | 9.93 | 0.000 |
| Ss within Grps (error) | 65.67 | 44 | 1.42 | | |

Table 125    Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 34.04 | 2 | 17.02 | 11.53 | 0.000 |
| Ss within Grps (error) | 67.92 | 44 | 1.48 | | |

Table 126    Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 44.85 | 2 | 22.43 | 15.99 | 0.000 |
| Ss within Grps (error) | 63.13 | 44 | 1.40 | | |

3.  ASSERTION SKILLS

 (i) Saying 'No' to strangers
     Overall
Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures


Table 127   Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 80.00 | 24 | 3.33 | | |
| Within Ss | | | | | |
| Time | 140.72 | 4 | 35.18 | 68.53 | 0.000 |
| Ss x Time (error) | 49.28 | 96 | 0.51 | | |


Table 128   Group 2

| . Source . | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 27.50 | 10 | 2.75 | | |
| Within Ss | | | | | |
| Time | 4.73 | 3 | 1.58 | 3.43 | 0.029 |
| Ss x Time (error) | 13.77 | 30 | 0.46 | | |


Table 129   Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 25.31 | 12 | 2.11 | | |
| Within Ss | | | | | |
| Time | 1.60 | 3 | 0.53 | 0.91 | 0.448 |
| Ss x Time (error) | 21.15 | 36 | 0.59 | | |

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Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOV.

Table 130   Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.43 | 2 | 0.21 | 0.14 | 0.8651 |
| Ss within Grps (error) | 69.39 | 46 | 1.50 | | |

Table 131   Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 60.58 | 2 | 30.29 | 33.65 | 0.0000 |
| Ss within Grps (error) | 41.41 | 46 | 0.90 | | |

Table 132   Follow-up  1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 79.30 | 2 | 39.65 | 39.05 | 0.0000 |
| Ss within Grps (error) | 46.69 | 46 | 1.01 | | |

Table 133   Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 79.51 | 2 | 39.75 | 41.80 | 0.0000 |
| Ss within Grps (error) | 43.74 | 46 | 0.95 | | |

(ii)  Returning Goods to Shops

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 134    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 118.31 | 25 | 4.73 | | |
| Within Ss | | | | | |
| Time | 107.18 | 4 | 26.80 | 123.97 | 0.000 |
| Ss x Time (error) | 21.62 | 100 | 0.22 | | |

Table 135   Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 11.18 | 10 | 1.12 | | |
| Within Ss | | | | | |
| Time | 0.27 | 3 | 0.09 | 0.48 | 0.701 |
| Ss x Time (error) | 5.73 | 30 | 0.19 | | |

Table 136   Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 65.00 | 12 | 5.42 | | |
| Within Ss | | | | | |
| Time | 0.21 | 3 | 0.07 | 0.24 | 0.867 |
| Ss x Time (error) | 10.54 | 36 | 0.29 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANC

Table 137    Baseline

| Source | SS | DF | MS | F | P |
|--------|-----|-----|------|------|--------|
| Between Grps | 0.10 | 2 | 0.05 | 0.05 | 0.9444 |
| Ss within Grps (error) | 43.17 | 47 | 0.91 | | |

Table 138    Post-training

| Source | SS | DF | MS | F | P |
|--------|-----|-----|------|------|--------|
| Between Grps | 76.89 | 2 | 38.44 | 35.41 | 0.0000 |
| Ss within Grps (error) | 51.02 | 47 | 1.08 | | |

Table 139    Follow-up

| Source | SS | DF | MS | F | P |
|--------|-----|-----|------|------|--------|
| Between Grps | 67.76 | 2 | 33.88 | 29.40 | 0.0000 |
| Ss within Grps (error) | 54.15 | 47 | 1.15 | | |

Table 140    Follow-up 2

| Source | SS | DF | MS | F | P |
|--------|-----|-----|------|------|--------|
| Between Grps | 71.93 | 2 | 35.96 | 31.31 | 0.0000 |
| Ss within Grps (error) | 53.98 | 47 | 1.14 | | |

(iii) Compliments

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measure:

Table 141   Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 36.11 | 22 | 3.61 | | |
| Within Ss | | | | | |
| Time | 34.80 | 4 | 8.70 | 9.46 | 0.000 |
| Ss x Time (error) | 36.80 | 88 | 0.92 | | |

Table 142   Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 51.00 | 11 | 5.10 | | |
| Within Ss | | | | | |
| Time | 0.43 | 3 | 0.14 | 0.40 | 0.755 |
| Ss x Time (error) | 10.82 | 33 | 0.36 | | |

Table 143   Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 88.77 | 11 | 7.40 | | |
| Within Ss | | | | | |
| Time | 0.15 | 3 | 0.05 | 0.24 | 0.871 |
| Ss x Time (error) | 7.85 | 33 | 0.22 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 144    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 3.67 | 2 | 1.83 | 1.18 | 0.3134 |
| Ss within Grps (error) | 72.64 | 44 | 1.54 | | |

Table 145 · Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 27.02 | 2 | 13.51 | 7.03 | 0.0022 |
| Ss within Grps (error) | 88.36 | 44 | 1.92 | | |

Table 146    Follow-up    1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 43.75 | 2 | 21.87 | 12.85 | 0.0000 |
| Ss within Grps (error) | 78.24 | 44 | 1.70 | | |

Table 147    Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 52.34 | 2 | 26.17 | 14.80 | 0.0000 |
| Ss within Grps (error) | 79.57 | 44 | 1.76 | | |

## 4. DEALING WITH AUTHORITY FIGURES

(i) Police - Reporting a loss - Overall

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 148    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 27.07 | 20 | 1.35 | | |
| Within Ss | | | | | |
| Time | 54.70 | 3 | 18.23 | 48.52 | 0.000 |
| Ss x Time (error) | 22.55 | 60 | 0.38 | | |

Table 149    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 47.67 | 11 | 4.33 | | |
| Within Ss | | | | | |
| Time | 0.17 | 3 | 0.06 | 0.27 | 0.848 |
| Ss x Time (error) | 6.83 | 33 | 0.21 | | |

Table 150    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 27.17 | 11 | 2.47 | | |
| Within Ss | | | | | |
| Time | 1.50 | 3 | 0.50 | 1.27 | 0.301 |
| Ss x Time (error) | 13.00 | 33 | 0.39 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 151    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.37 | 2 | 0.18 | 0.23 | 0.7878 |
| Ss within Grps (error) | 32.86 | 42 | 0.78 | | |

Table 152    Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 43.88 | 2 | 21.94 | 27.00 | 0.0000 |
| Ss within Grps (error) | 34.11 | 42 | 0.81 | | |

Table 153    Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 54.09 | 2 | 27.04 | 28.46 | 0.0000 |
| Ss within Grps (error) | 39.90 | 42 | 0.95 | | |

Table 154    Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 51.05 | 2 | 25.52 | 28.67 | 0.0000 |
| Ss within Grps (error) | 37.39 | 42 | 0.89 | | |

(ii) <u>Police - asking directions</u>

<u>Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures</u>

Table 155   <u>Group 1</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Between Ss</u> | 72.31 | 20 | 3.62 | | |
| <u>Within Ss</u> | | | | | |
| Time | 26.89 | 3 | 8.96 | 24.06 | 0.000 |
| Ss x Time (error) | 22.36 | 60 | 0.37 | | |

Table 156   <u>Group 2</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Between Ss</u> | 44.23 | 11 | 4.02 | | |
| <u>Within Ss</u> | | | | | |
| Time | 0.06 | 3 | 0.02 | 0.09 | 0.965 |
| Ss x Time (error) | 7.69 | 33 | 0.23 | | |

Table 157   <u>Group 3</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Between Ss</u> | 69.73 | 11 | 6.34 | | |
| <u>Within Ss</u> | | | | | |
| Time | 0.73 | 3 | 0.24 | 0.80 | 0.503 |
| Ss x Time (error) | 10.02 | 33 | 0.30 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 158    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 1.36 | 2 | 0.68 | 0.35 | 0.7002 |
| Ss within Grps (error) | 79.83 | 42 | 1.90 | | |

Table 159    Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 41.91 | 2 | 20.95 | 19.25 | 0.0000 |
| Ss within Grps (error) | 45.72 | 42 | 1.08 | | |

Table 160    Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 25.07 | 2 | 12.53 | 11.47 | 0.00001 |
| Ss within Grps (error) | 45.90 | 42 | 1.09 | | |

Table 161    Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 31.93 | 2 | 15.96 | 12.22 | 0.0001 |
| Ss within Grps (error) | 54.86 | 42 | 1.30 | | |

. (iii). Talking to Receptionist - Overall

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 162    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 61.43 | 14 | 4.39 | | |
| Within Ss | | | | | |
| Time | 29.33 | 3 | 9.78 | 15.69 | 0.000 |
| Ss x Time (error) | 26.17 | 42 | 0.62 | | |

Table 163    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 33.18 | 10 | 3.32 | | |
| Within Ss | | | | | |
| Time | 1.70 | 3 | 0.57 | 1.26 | 0.306 |
| Ss x Time (error) | 13.55 | 30 | 0.45 | | |

Table 164    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 86.23 | 11 | 7.84 | | |
| Within Ss | | | | | |
| Time | 0.23 | 3 | 0.08 | 0.39 | 0.763 |
| Ss x Time (error) | 6.52 | 33 | 0.20 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 165     Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.04 | 2 | 0.02 | 0.009 | 0.9904 |
| Ss within Grps (error) | 84.79 | 35 | 2.42 | | |

Table 166     Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 29.73 | 2 | 14.86 | 13.26 | 0.0001 |
| Ss within Grps (error) | 39.23 | 35 | 1.12 | | |

Table 167     Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 26.00 | 2 | 13.00 | 8.31 | 0.0011 |
| Ss within Grps (error) | 54.75 | 35 | 1.56 | | |

Table 168     Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 29.08 | 2 | 14.54 | 10.54 | 0.0003 |
| Ss within Grps (error) | 48.28 | 35 | 1.37 | | |

(iv)  Talking to G.P.  - Overall

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 169      Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 99.36 | 15 | 6.62 | | |
| Within Ss | | | | | |
| Time | 43.17 | 3 | 14.39 | 33.94 | 0.000 |
| Ss x Time (error) | 19.08 | 45 | 0.42 | | |

Table 170    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 34.68 | 10 | 3.47 | | |
| Within Ss | | | | | |
| Time | 0.82 | 3 | 0.27 | 0.52 | 0.671 |
| Ss x Time (error) | 15.68 | 30 | 0.52 | | |

Table 171    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 59.67 | 11 | 5.42 | | |
| Within Ss | | | | | |
| Time | 0.50 | 3 | 0.17 | 0.35 | 0.786 |
| Ss x Time (error) | 15.50 | 33 | 0.47 | | |

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Simple Effects 2 – between Ss (at each time of testing) – 1 way ANOVA

Table 172    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.00 | 2 | 0.00 | 0.00 | 1.0000 |
| Ss within Grps (error) | 88.00 | 36 | 2.44 | | |

Table 173    Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 34.76 | 2 | 17.38 | 11.44 | 0.0001 |
| Ss within Grps (error) | 54.66 | 36 | 1.51 | | |

Table 174  Follow-up  1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 40.77 | 2 | 20.38 | 14.35 | 0.0000 |
| Ss within Grps (error) | 51.11 | 36 | 1.42 | | |

Table 175    Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 43.04 | 2 | 21.52 | 15.44 | 0.0000 |
| Ss within Grps (error) | 50.18 | 36 | 1.39 | | |

## 5. PEDESTRIAN SKILLS

(i) Crossing a road

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 176   Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 16.73 | 24 | 2.82 | | |
| Within Ss | | | | | |
| Time | 113.87 | 4 | 28.47 | 43.16 | 0.000 |
| Ss x Time (error) | 63.33 | 96 | 0.66 | | |

Table 177   Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 36.06 | 11 | 3.28 | | |
| Within Ss | | | | | |
| Time | 1.56 | 3 | 0.52 | 0.90 | 0.454 |
| Ss x Time (error) | 19.19 | 33 | 0.58 | | |

Table 178   Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 46.08 | 12 | 3.84 | | |
| Within Ss | | | | | |
| Time | 0.37 | 3 | 0.12 | 0.12 | 0.947 |
| Ss x Time (error) | 36.38 | 36 | 1.01 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 179    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.18 | 2 | 0.09 | 0.06 | 0.9413 |
| Ss within Grps (error) | 71.43 | 47 | 1.51 | | |

Table 180   Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 84.38 | 2 | 42.19 | 36.12 | 0.0000 |
| Ss within Grps (error) | 54.89 | 47 | 1.16 | | |

Table 181    Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 73.32 | 2 | 36.66 | 29.41 | 0.0000 |
| Ss within Grps (error) | 58.59 | 47 | 1.24 | | |

Table 182   Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 66.27 | 2 | 33.13 | 23.92 | 0.0000 |
| Ss within Grps (error) | 65.10 | 47 | 1.38 | | |

(ii) <u>Pedestrian crossing</u>

<u>Simple Effects 1 – within Ss (groups) ANOVA – 1 way repeated measures</u>

Table 183     <u>Group 1</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Between Ss</u> | 36.43 | 24 | 1.52 | | |
| <u>Within Ss</u> | | | | | |
| Time | 131.87 | 4 | 32.97 | 68.61 | 0.000 |
| Ss x Time (error) | 46.13 | 96 | 0.48 | | |

Table 184     <u>Group 2</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Between Ss</u> | 28.56 | 11 | 2.60 | | |
| <u>Within Ss</u> | | | | | |
| Time | 1.90 | 3 | 0.63 | 1.69 | 0.189 |
| Ss x Time (error) | 12.35 | 33 | 0.37 | | |

Table 185     <u>Group 3</u>

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| <u>Between Ss</u> | 48.42 | 12 | 4.04 | | |
| <u>Within Ss</u> | | | | | |
| Time | 2.52 | 3 | 0.84 | 1.70 | 0.183 |
| Ss x Time (error) | 17.73 | 36 | 0.49 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 186   Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.54 | 2 | 0.27 | 0.22 | 0.7979 |
| Ss within Grps (error) | 56.27 | 47 | 1.19 | | |

Table 187   Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 107.07 | 2 | 53.53 | 63.05 | 0.0000 |
| Ss within Grps (error) | 39.90 | 47 | 0.84 | | |

Table 188   Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 72.98 | 2 | 36.49 | 37.50 | 0.0000 |
| Ss within Grps (error) | 45.73 | 47 | 0.97 | | |

Table 189   Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 79.50 | 2 | 39.75 | 52.66 | 0.0000 |
| Ss within Grps (error) | 35.47 | 47 | 0.75 | | |

6. PUBLIC TRANSPORT SKILLS – Overall

Simple Effects 1 – within Ss (groups) ANOVA – 1 way repeated measures

Table 190    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 78.24 | 25 | 3.13 | | |
| Within Ss | | | | | |
| Time | 94.64 | 3 | 31.55 | 76.07 | 0.000 |
| Ss x Time (error) | 31.11 | 75 | 0.41 | | |

Table 191    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 51.00 | 11 | 4.64 | | |
| Within Ss | | | | | |
| Time | 1.50 | 3 | 0.50 | 2.20 | 0.107 |
| Ss x Time (error) | 7.50 | 33 | 0.23 | | |

Table 192    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 107.31 | 12 | 8.94 | | |
| Within Ss | | | | | |
| Time | 0.98 | 3 | 0.33 | 0.85 | 0.473 |
| Ss x Time (error) | 13.77 | 36 | 0.38 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 193    Baseline

| Source | SS | DF | MS | F | P |
|--------|-----|-----|------|------|--------|
| Between Grps | 1.09 | 2 | 0.54 | 0.29 | 0.7425 |
| Ss within Grps (error) | 88.07 | 48 | 1.83 | | |

Table 194    Post-training

| Source | SS | DF | MS | F | P |
|--------|-----|-----|------|-------|--------|
| Between Grps | 80.55 | 2 | 40.27 | 28.69 | 0.0000 |
| Ss within Grps (error) | 67.36 | 48 | 1.40 | | |

Table 195    Follow-up 1

| Source | SS | DF | MS | F | P |
|--------|-----|-----|------|-------|--------|
| Between Grps | 81.86 | 2 | 40.93 | 29.64 | 0.0000 |
| Ss within Grps (error) | 66.28 | 48 | 1.38 | | |

Table 196    Follow-up 2

| Source | SS | DF | MS | F | P |
|--------|-----|-----|------|-------|--------|
| Between Grps | 78.49 | 2 | 39.24 | 28.03 | 0.0000 |
| Ss within Grps (error) | 67.19 | 48 | 1.39 | | |

# 7. TELEPHONE USE

## (i) Making calls - overall

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 197    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 40.19 | 19 | 2.12 | | |
| Within Ss | | | | | |
| Time | 99.14 | 4 | 24.78 | 62.66 | 0.000 |
| Ss x Time (error) | 30.06 | 76 | 0.40 | | |

Table 198    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 68.50 | 9 | 7.61 | | |
| Within Ss | | | | | |
| Time | 0.50 | 3 | 0.17 | 0.69 | 0.565 |
| Ss x Time (error) | 6.50 | 27 | 0.24 | | |

Table 199    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 73.50 | 12 | 6.12 | | |
| Within Ss | | | | | |
| Time | 0.69 | 3 | 0.23 | 1.73 | 0.179 |
| Ss x Time (error) | 4.81 | 36 | 0.13 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 200    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 1.21 | 2 | 0.60 | 0.44 | 0.6449 |
| Ss within Grps (error) | 54.83 | 40 | 1.37 | | |

Table 201    Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 41.65 | 2 | 20.82 | 14.60 | 0.0000 |
| Ss within Grps (error) | 57.41 | 40 | 1.43 | | |

Table 202    Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 45.22 | 2 | 22.61 | 16.94 | 0.0000 |
| Ss within Grps (error) | 53.38 | 40 | 1.33 | | |

Table 203    Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 49.01 | 2 | 24.50 | 20.54 | 0.0000 |
| Ss within Grps (error) | 47.72 | 40 | 1.19 | | |

(ii) Making calls-checklist

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 204    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 24.50 | 19 | 2.72 | | |
| Within Ss | | | | | |
| Time | 163.40 | 4 | 54.47 | 104.3 | 0.000 |
| Ss x Time (error) | 14.10 | 76 | 0.52 | | |

Table 205    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 10.78 | 9 | 1.19 | | |
| Within Ss | | | | | |
| Time | 0.27 | 3 | 0.09 | 0.62 | 0.61 |
| Ss x Time (error) | 83.97 | 27 | 0.15 | | |

Table 206    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 25.19 | 12 | 2.10 | | |
| Within Ss | | | | | |
| Time | 0.06 | 3 | 0.02 | 0.32 | 0.81 |
| Ss x Time (error) | 2.19 | 36 | 0.06 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 207   Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 1.01 | 2 | 0.03 | 0.07 | 0.89 |
| Ss within Grps (error) | 15.06 | 40 | 0.38 | | |

Table 208   Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 17.46 | 2 | 8.73 | 43.78 | 0.000 |
| Ss within Grps (error) | 7.97 | 40 | 0.19 | | |

Table 209   Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 15.52 | 2 | 7.75 | 21.16 | 0.000 |
| Ss within Grps (error) | 14.66 | 40 | 0.36 | | |

Table 210   Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 13.26 | 2 | 6.63 | 20.54 | 0.000 |
| Ss within Grps (error) | 12.92 | 40 | 0.32 | | |

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 211    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 33.60 | 19 | 1.77 | | |
| Within Ss | | | | | |
| Time | 96.50 | 4 | 24.12 | 51.07 | 0.000 |
| Ss x Time (error) | 35.90 | 76 | 0.47 | | |

Table 212    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 27.02 | 9 | 3.00 | | |
| Within Ss | | | | | |
| Time | 1.48 | 3 | 0.49 | 0.65 | 0.587 |
| Ss x Time (error) | 20.27 | 27 | 0.75 | | |

Table 213    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 80.31 | 12 | 6.69 | | |
| Within Ss | | | | | |
| Time | 0.15 | 3 | 0.05 | 0.48 | 0.698 |
| Ss x Time (error) | 3.85 | 36 | 0.11 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 214   Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.41 | 2 | 0.20 | 0.15 | 0.8581 |
| Ss within Grps (error) | 54.28 | 40 | 1.35 | | |

Table 215   Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 52.17 | 2 | 26.08 | 27.11 | 0.0000 |
| Ss within Grps (error) | 38.47 | 40 | 0.96 | | |

Table 216   Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 42.21 | 2 | 21.10 | 14.07 | 0.0000 |
| Ss within Grps (error) | 59.96 | 40 | 1.49 | | |

Table 217   Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 39.75 | 2 | 19.87 | 20.69 | 0.0000 |
| Ss within Grps (error) | 38.42 | 40 | 0.96 | | |

(iv)  Telephones - receiving calls-checklist

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 218    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 78.29 | 19 | 3.26 | | |
| Within Ss | | | | | |
| Time | 174.69 | 4 | 43.67 | 84.34 | 0.000 |
| Ss x Time (error) | 49.71 | 76 | 0.52 | | |

Table 219    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 37.17 | 9 | 3.38 | | |
| Within Ss | | | | | |
| Time | 1.83 | 3 | 0.61 | 1.21 | 0.321 |
| Ss x Time (error) | 16.67 | 27 | 0.51 | | |

Table 220    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 50.77 | 12 | 4.23 | | |
| Within Ss | | | | | |
| Time | 9.60 | 3 | 3.20 | 4.77 | 0.007 |
| Ss x Time (error) | 24.15 | 36 | 0.67 | | |

Table 221    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 1.28 | 2 | 0.64 | 0.47 | 0.6275 |
| Ss within Grps (error) | 64.23 | 40 | 1.36 | | |

Table 222    Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 137.81 | 2 | 68.90 | 48.11 | 0.0000 |
| Ss within Grps (error) | 67.30 | 40 | 1.43 | | |

Table 223    Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 141.20 | 2 | 70.60 | 68.01 | 0.0000 |
| Ss within Grps (error) | 48.79 | 40 | 1.03 | | |

Table 224    Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 143.73 | 2 | 71.86 | 60.98 | 0.0000 |
| Ss within Grps (error) | 55.38 | 40 | 1.17 | | |

## 8. CAFETERIA SKILLS

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 225     Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 18.95 | 19 | 1.00 | | |
| Within Ss | | | | | |
| Time | 12.85 | 3 | 4.28 | 15.12 | 0.000 |
| Ss x Time (error) | 16.15 | 57 | 0.28 | | |

Table 226  Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 32.73 | 11 | 2.98 | | |
| Within Ss | | | | | |
| Time | 1.90 | 3 | 0.63 | 3.89 | 0.017 |
| Ss x Time (error) | 5.35 | 33 | 0.16 | | |

Table 227     Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 37.23 | 11 | 3.38 | | |
| Within Ss | | | | | |
| Time | 0.23 | 3 | 0.08 | 1.25 | 0.308 |
| Ss x Time (error) | 2.02 | 33 | 0.06 | | |

Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 228   Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 1.86 | 2 | 0.93 | 1.25 | 0.29 |
| Ss within Grps (error) | 30.38 | 41 | 0.74 | | |

Table 229   Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 5.42 | 2 | 2.71 | 4.03 | 0.0251 |
| Ss within Grps (error) | 27.55 | 41 | 0.67 | | |

Table 230   Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 8.67 | 2 | 4.33 | 6.81 | 0.0028 |
| Ss within Grps (error) | 26.11 | 41 | 0.63 | | |

Table 231   Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 10.41 | 2 | 5.20 | 7.52 | 0.0017 |
| Ss within Grps (error) | 28.38 | 41 | 0.69 | | |

## 9. PUBLIC HOUSE SKILLS

Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 232     Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 155.97 | 21 | 7.43 | | |
| Within Ss | | | | | |
| Time | 10.78 | 4 | 2.70 | 9.59 | 0.000 |
| Ss x Time (error) | 23.62 | 84 | 0.28 | | |

Table 233     Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 86.58 | 11 | 7.87 | | |
| Within Ss | | | | | |
| Time | 0.67 | 3 | 0.17 | 0.65 | 0.632 |
| Ss x Time (error) | 11.33 | 33 | 0.26 | | |

Table 234     Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 115.53 | 11 | 10.50 | | |
| Within Ss | | | | | |
| Time | 0.60 | 3 | 0.15 | 0.33 | 0.854 |
| Ss x Time (error) | 19.80 | 33 | 0.45 | | |

Table 235    Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 13.06 | 2 | 6.80 | 3.13 | 0.0537 |
| Ss within Grps (error) | 93.37 | 43 | 2.17 | | |

Table 236    Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 41.83 | 2 | 20.91 | 12.06 | 0.0001 |
| Ss within Grps (error) | 74.55 | 43 | 1.73 | | |

Table 237    Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 41.70 | 2 | 20.85 | 11.35 | 0.0001 |
| Ss within Grps (error) | 79.00 | 43 | 1.83 | | |

Table 238    Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 39.42 | 2 | 19.71 | 10.40 | 0.0002 |
| Ss within Grps (error) | 81.44 | 43 | 1.89 | | |

## Simple Effects 1 – within Ss (groups) ANOVA – 1 way repeated measures

Table 239  Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 17.73 | 9 | 1.97 | | |
| Within Ss | | | | | |
| Time | 134.47 | 3 | 44.82 | 81.91 | 0.000 |
| Ss x Time (error) | 14.77 | 27 | 0.55 | | |

Table 240  Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 78.37 | 7 | 11.20 | | |
| Within Ss | | | | | |
| Time | 2.12 | 3 | 0.71 | 1.78 | 0.183 |
| Ss x Time (error) | 8.37 | 21 | 0.40 | | |

Table 241  Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 30.06 | 8 | 3.76 | | |
| Within Ss | | | | | |
| Time | 1.89 | 3 | 0.63 | 1.42 | 0.260 |
| Ss x Time (error) | 10.61 | 24 | 0.44 | | |

Table 242  Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 0.01 | 2 | 0.005 | 0.003 | 0.9967 |
| Ss within Grps (error) | 40.65 | 24 | 1.69 | | |

Table 243  Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 107.96 | 2 | 53.98 | 33.41 | 0.0000 |
| Ss within Grps (error) | 38.77 | 24 | 1.61 | | |

Table 244  Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 120.57 | 2 | 60.28 | 46.59 | 0.0000 |
| Ss within Grps (error) | 31.05 | 24 | 1.29 | | |

Table 245  Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 99.31 | 2 | 49.65 | 24.10 | 0.0000 |
| Ss within Grps (error) | 49.43 | 24 | 2.05 | | |

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## 11.  SHOPPING SKILLS

### Simple Effects 1 - within Ss (groups) ANOVA - 1 way repeated measures

Table 246    Group 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 22.36 | 13 | 1.72 | | |
| Within Ss | | | | | |
| Time | 164.07 | 3 | 54.69 | 93.02 | 0.000 |
| Ss x Time (error) | 22.93 | 39 | 0.59 | | |

Table 247    Group 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 85.22 | 9 | 9.47 | | |
| Within Ss | | | | | |
| Time | 1.47 | 3 | 0.49 | 1.18 | 0.337 |
| Ss x Time (error) | 11.27 | 27 | 0.42 | | |

Table 248    Group 3

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Ss | 191.68 | 10 | 19.17 | | |
| Within Ss | | | | | |
| Time | 1.64 | 3 | 0.55 | 1.51 | 0.233 |
| Ss x Time (error) | 10.86 | 30 | 0.36 | | |

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Simple Effects 2 - between Ss (at each time of testing) - 1 way ANOVA

Table 249  Baseline

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 6.1208 | 2 | 3.0604 | 0.8430 | 0.4397 |
| Ss within Grps (error) | 116.1649 | 32 | 3.6302 | | |

Table 250  Post-training

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 127.7351 | 2 | 63.8675 | 30.6572 | 0.0000 |
| Ss within Grps (error) | 66.6649 | 32 | 2.0833 | | |

Table 251  Follow-up 1

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 131.9013 | 2 | 65.9506 | 24.3020 | 0.0000 |
| Ss within Grps (error) | 86.8416 | 32 | 2.7138 | | |

Table 252  Follow-up 2

| Source | SS | DF | MS | F | P |
|---|---|---|---|---|---|
| Between Grps | 140.0260 | 2 | 70.0130 | 30.0083 | 0.0000 |
| Ss within Grps (error) | 74.6597 | 32 | 2.3331 | | |

# Appendix B

## Assessments for Social and Community Living Skills

All skills were rated on a scale of 0 - 6.

A rating of 0 - to give this rating the person has to be so poor in this skil:
that it probably disrupts the whole conversation. Therefore in gaze
direction, the client would look intensely at the other person or never look
at him. Either way the effect would be to make the other person so
uncomfortable that a conversation would be extremely difficult. With volume
of speech the client would be either speaking inaudibly so that conversation
was impossible or so loudly that the other person was intimidated and unable
to continue the conversation. A rating of 0 would indicate that the
conversation was so difficult that it was intensely uncomfortable or
impossible to continue.

A rating of 1 - this rating indicates that the conversation might be able to
continue at some level but is extremely difficult from the point of view of
the other person. Therefore with gaze direction, the person's ability to use
eye contact might be extremely poor but not to the extent that it completely
disrupts the conversation. A person's pace of speech might be very fast or
very slow but not so fast or slow that it is impossible to continue the
conversation. With question asking it may be that the individual asks a
tremendous number of questions but not so many that the other person is unable
to continue the conversation. It may be that the other person is
embarrassed by the number of questions but not so embarrassed that they are
unable to continue with the conversation. Therefore a rating of 1 would
indicate a very low level of skill but not so low that it precludes social
interaction.

A rating of 2 - quite poor/some moderate aspects - a rating of 2 would be
similar to a rating of 1 in that the person has a low level of skill, but on
this occasion there would be some aspect of the performance which indicate
that the client occasionally improves on a low level of skill. If the
client is always disclosing information about themself and not allowing the
other person to get a word in the conversation then they would be given a
rating of 0 or 1 depending on whether or not the other person was able to
continue the conversation. If, however, there were occasional lapses in the
constant self-disclosure when the client allowed the other person to come into
the conversation or asked them a question about themselves, then they would be
given a rating of 2. If the client kept up constant eye contact with the
other person in an intimidating fashion they would be given a rating of 0. If
they occasionally averted their eyes so that the conversation was able to
continue they would be given a rating of 1. If, however, they occasionally
meshed their eye contact with the other person, i.e. looking away while they
were talking and looking at the other person while he or she was talking then
although the level of skill was low, there would be some moderate aspects
about the performance and it would be given a rating of 2.

A rating of 3 - moderate level of skills - a moderate level of skill would
indicate that the person is able to continue a short conversation in a
reasonable manner. The skills may not be particularly good and there may be
a great deal of room for improvement but they do not disrupt the conversation
to any great extent. Therefore a person does not need to have good skills to
be given a rating of 3. Rather their level of skill is not so poor or
disruptive that it makes the conversation uncomfortable. A moderate level
of skill would indicate the beginnings of some skilled conversation. It does
not indicate an average, normal level of ability but rather a level of ability
which is not disruptive and can maintain a short social interaction.

A rating of 4 - quite good skills   -  here the client has developed some skills which make the social interaction enjoyable for the other person. Their gaze direction may be normal apart from some lapses into poorer levels of skill.   Clarity of speech may be quite normal apart from again some periods of becoming indistinct or slurred.   The area of quite good skills would be considered within the normal levels of social skills.

A rating of 5 - good skills - this is the level of skill which would be expected in normal conversation.   The person does not have to be superbly socially skilled but does have to maintain a comfortable level of skill throughout the interaction.   A rating of 5 might be a yardstick against which the other ratings are judged.   The extent to which a client is poorer than what the rater considers to be a normal, acceptable level of skill would indicate the extent to which the rating is lower than 5.

A rating of 6 - excellent/could not be better -  this rating is reserved for individuals who are extremely skilled in this particular ability.   The client would not need any training in this particular skill and indeed would be an excellent model for other people to follow.   They would put others at their ease, encourage other people in the social interaction and make the interaction extremely enjoyable for other people because of their high degree of ability.   If a particular skill is performed as well as the rater could imagine it being performed then the client would receive a rating of 6.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Gaze direction | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Posture | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Gesturing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Smiling | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Volume of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Pace of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Speech errors | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Question asking | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Question answering | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Self disclosure | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Interest in the other person | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| General presentation (clothing and appearance) | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall level of skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

<u>Interrupting a Conversation</u> - When devising a programme on conversation training, there are specific skills in interrupting a conversation group or joining two people when they are talking to each other.  The following items would be rated in addition to the above items:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Confidence of the interruption | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Effectiveness of the interruption | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Acceptance by other people in the group | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Ability to join the conversation once the interruption has been completed | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall level of skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellent could not be better |

Across from each item there are a series of ratings from 0 - 6.  Circle the rating which is appropriate for the person whom you are rating.

### 1.   Asking someone out

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Clothing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Interest in the other person | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| General interest | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Self-disclosure | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Gesturing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Speech errors | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Pace of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Smiling | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Length of request | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Ability to complete task without prompting | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall level of skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

### 2.   Response to being asked out

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Clothing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Interest in the other person | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| General interest | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Gesturing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Speech errors | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Pace of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Smiling | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Self-disclosure | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Length of response | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Completion of task without prompting | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall level of skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level skill. | Quite good skills. | Good skills. | Excellent/ could not be better. |

Across from each item there are a series of ratings from 0 - 6.  Circle
the rating which is appropriate for the person whom you are rating.

# ASSERTIVENESS

Assertiveness is anextremely important area of training for people with a mental handicap. Because they have often lived in protected and "safe" environments they are often extremely trusting of strangers and others and so assertiveness training is essential in various different situations. Because of this the assessment forms have been tailored to dfferent settings and the assessments below reflect this.

In all cases ratings have been done on a seven point scale as follows:

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill | Quite poor/ some moderate aspects | Moderate level skill. | Quite good skills. | Good skills. | Excell- ent could not be better. |

The assessments were organised in the form of role plays with friends or role plays with strangers. In the latter case it is far more effective to employ the services of a stranger and do the assessments outside. It can also be helpful if the stranger has a car into which he is inviting the group members.

A rating of 0 - Could not be worse - This rating would indicate that the person is extremely poor in all aspects of the skill. Their reply to the stranger would be completely without any confidence that they did not want to comply. Their voice quality and eye contact would be hope less in conveying an assertive response. The outcome would be that they complied with the request of the friend or stranger. This rating would indicate that the person's response could hardly be more unassertive.

A rating of 1 - Low level of skill - this once again indicates that the person has a extremely poor range and level of ability to assert themselves and would almost certainly comply with the friend or stranger who was asking them to do something. In effect there would be little difference between a rating of 0 and a rating of 1. It may simply be that the rater feels the performance is not so bad that the person would be judged to perform as bad as they possibly could. All of the items would still show extremely poor assertiveness and the outcome would be that the person complies with the request. The individual may try to say "no" but says it in such an unconvincing fashion that they are showing no assertiveness. When the individual is given a rating of 0 they would not even

try to say "no" or might in fact immediately comply with the request to go into the stranger's car, etc.

A rating of 2 - Quite poor/some moderate aspects - Here the person is beginning to show some aspects of an assertive response. It may be that they look more often at the stranger or they are trying to refuse the request with some convinction. However, a response given this rating would be unlikely to convince the other person that the individual did not wish to comply with the request and it might simply serve to increase their persuasiveness. Therefore the outcome in this case would still be that the person complied with the request of the stranger.

If the person did not comply it could still be that they would be given a rating of 0, 1, or 2 for certain skills. It may be that the individual is very determined not to go with the stranger or comply with the request but a lack of voice quality or loudness does not convey this message with sufficient confidence and the stranger is encouraged to become more persuasive, thinking that there is a chance that the person may comply. In this case these particular skills would be rated low and work could be done on these aspects to bring them up to the level of other elements in the person's presentation. There is no obvious reason why all the skills should be rated at the same level. Therefore the person may have fairly high ratings in seriousness of reply, appropriate body movements, eye contact and gesturing but have very low ratings in clarity of voice, loudness of voice, confidence of reply, etc. It is important to realise that this is entirely possible when rating individuals.

A rating of 3 - Moderate level of skill - In this case the person is starting to show some more reasonable aspects of assertive behaviour. This rating would show a low but acceptable level of assertion skills. It may be that a moderate level of assertion would be sufficient to refuse the request of friends but would not be sufficient to refuse the attentions of a persuasive stranger. A rating of 3 would certainly indicate some clarity and loudness of voice and the beginnings of a serious reply refusing the request. The person would certainly say no to the request but might in the end comply with the persuasive interviewer.

A rating of 4 - Quite good skills - Here the individual is certainly developing assertive responses. It is unlikely with a series of ratings of quite good skills that the person would comply with the request to go with the stranger. Indeed if someone was showing quite good skills the stanger

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would be discouraged from inviting the individual to go away with them. Similarly a friend would be discouraged if the person was showing quite good skills. Therefore eye contact, clarity of voice, loudness of voice, gesturing, confidence of reply and the seriousness of the content of the reply would all be appropriate and assertive.

A rating of 5 - Good skills - Here the person would show competent assertive responses. They would stand their ground even with the most persuasive strangers, looking at them, saying that they did not wish to comply with their request in a serious, competent and clearly audible fashion. They may have the odd lapse in certain aspects but this would not affect the overall performance which would be one of confident assertion.

A rating of 6 - Excellent - A rating of 6 would indicate that the person has no need for training in that particular skill. They would be so good that there was little point in putting them in a training programme except as a model to others on how to go about asserting yourself in certain situations.

## RETURNING GOODS TO SHOPS

As has already been mentioned, there are several situations in which individuals have to be assertive. These would include saying "no" to friends and strangers, returning faulty goods to shops, getting rid of people who call at the door, etc. The range of situations is fairly large and this assessment on assertion does not attempt to be exhaustive. Rather it provides two examples of assessment for assertive responses.

A seven point rating scale was used to assess assertiveness as follows:

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ Could not be worse. | Low level of skill. | Quite poor. some moder- ate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellent /could not be better. |

<u>A rating of 0 - Could not be worse</u> - Here the individual may be totally unable to take the item back to the shop assistant. They might simply stand at the counter and look down or look away, laughing nervously. They would be unable to look at the shop assistant. If they talked to the assistant it would be unclear and inaudible and the assistant would have no trouble in denying the request and might even have difficulty understanding why the person was at the counter at all. Under these circumstances the client's performance could not be worse.

There would be an alternative response which would give a rating of low skills or exceptionally poor skills. This would be one of over-assertion, where the client became so angry and annoyed and shouted so much that a fight started. These incidences of over-assertion would be less common than under-assertion in clients with a mental handicap. Indeed in assessments of well over 100 individuals we have never come across a case of over-assertion.

<u>A rating of 1 - Low level of skill</u> - Here the client might make some attempt at giving the faulty item back to the shop assistant but would do so in such a poor manner that there was no chance of the goods being returned or exchanged. The client would have a poor quality of voice, in that it would be indistinct and soft. There would be very little eye contact and their posture might be supine or turned away, indicating the tremendous lack of confidence which the client has in his or her own ability in this situation. Once again the shop assistant would have

no trouble in denying the request.

A rating of 2 - Quite poor skills - Here the client
might start to show some indications of an assertive
response. They might look at the shop assistant and
talk audibly so that the assistant understood what the
request was. However, the shop assistant would have
no trouble once again in denying the request and the
client's verbal and non-verbal skills would indicate
the lack of confidence they have in themselves.

A rating of 3 - Moderate level of skill - Although
this is still a a fairly low level of assertion
skills, the rating of 3 would indicate that they were
just acceptable. Therefore the client would look
towards the shop assistant, they would speak in an
audible and clear voice, they would appear to have
some confidence. However, the level of assertion
indicated by each skill may not be adequate to
convince an average shop assistant. The client would
still indicate some lack of confidence and would be
quite easily put off from the request to return the
goods. Therefore they may not persist for
particularly long in their complaint about the goods,
although there would be more persistence than in
ratings of 1 or 2.

A rating of 4 - Quite good skills - A rating of 4 is
beginning to come within the range of normal assertion
skills. Here the person would show reasonable eye
contact, would speak clearly and would speak with some
resolve and conviction in their voice. The person's
posture would be reasonable in that they would stand
in front of the shop assistant and look at him or her.
These verbal and non-verbal skills would indicate that
the person was fairly confident that the goods were
faulty and that they wanted to get their money back.
However, with an assertive shop assistant quite good
skills might not be sufficient to complain
successfully about a faulty article.

A rating of 5 - Good skills - Here the person is very
competent in assertiveness and all of the skills
involved would be at a good level. The person would
look at the shop assistant and stand clearly in front
of them without turning away. Their eye contact,
clarity of voice and loudness of voice would indicate
a great deal of confidence and resolve in the person's
presentation. They would also be persistent in that
they would not allow the shop assisant to refuse the
return of goods or, if they wished their money back,
would not allow the shop assistant to exchange the
goods. In almost all cases good skills would result
in the successful return of the faulty item.

<u>A rating of 6 - Excellent</u> - Here the client's skills
would be so good that they could not be improved upon.
They would not require any training.

## ASSESSMENT OF ASSERTION - SCORING FORM

### Saying "no" to friends and strangers

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| General presentation | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Appropriate use of gesturing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Posture | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence of the reply | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Seriousness of the reply (content of speech) | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Body movements | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Loudness of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Speech errors (indications of anxiety) | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Pace of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Smiling/giggling | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Complies/does not comply | Yes/No | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Persuasiveness of Interviewer (it is important to ensure during an assessment that the interviewer is sufficiently persuasive, both before and after training). | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

### Returning Goods to Shops

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Physical presentation | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Loudness of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Posture | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence of the request | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Seriousness of the request (content of speech) | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Returning Goods to Shops cont'd.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Compliance to assistant's suggestions | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Appropriate gestures | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Speech errors | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Smiling/giggling | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Pace of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Ability to get money back | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Persistence | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall ability | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Assertiveness of shop assistant (it
is important to ensure that the shop
assistant is sufficiently assertive
both before and after training)      0   1   2   3   4   5   6

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level skill. | Quite good skills. | Good skills. | Excellent could not be better. |

Across from each item there are a series of ratings from 0 - 6. Circle
the rating which is appropriate for the person whom you are rating.

POSITIVE ASSERTION - SCORING FORM

Giving Compliments

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| General presentation | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Loudness of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Gesturing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence in ability to give compliment | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Speech errors | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Pace of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Smiling/giggling | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall level of skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Receiving Compliments

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Physical presentation | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Loudness of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence in ability to receive compliment | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Speech errors | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Pace of speech | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Smiling/giggling | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level skill. | Quite good skills. | Good skills. | Excellent/ could not be better. |

Across from each item there are a series of ratings from 0 - 6. Circle the rating which is appropriate for the person whom you are rating.

## Police

Two situations were assessed to judge trainees' skills for dealing with
policemen. The first was a situation in which they were giving information
and in this they simply reported a loss to a policeman in the station.
The second was a situation where they were receiving information and here
they asked directions to a place in the city centre. All assessments
for reporting a loss were carried out in the Police Station and assessments
for asking directions were carried out in the street.

Reporting a Loss - The individual had to go to the desk and report the
information to the policeman. Skills assessed were the person's ability
to give the information to the policeman on duty, the clarity and coherence
of that information, the quality of their social behaviour - voice clarity,
voice volume, gaze direction and posture while giving the information;
the confidence of the individual while giving the information to the policeman
and a rating of overall skill.

Asking Directions - Here the individual had to approach the policeman
and ask directions to a point in the city centre. Assessments were made
of the clarity of the request for information. Here the rater is interested
in how well able will the policeman be to understand when the trainee
is asking, i.e. the coherence of the request. Also.assessed were gaze
direction on making the request, the posture of the person in relation
to the policeman, the clarity of their voice, overall confidence and overall
level of skill.

## Doctor's Surgery

Two aspects of general behaviour in the doctor's surgery were assessed
and trained. The main aspect we were interested in was the ability of
the person to go into the interview with the G.P. and give coherent clear
information. However, it is important to report at the reception and
the trainees' ability to do this is assessed on a general 6 point scale.
A second important aspect is waiting room behaviour. In a doctor's surgery
it is usual to remain fairly reserved, quiet and simply wait your turn.
Again trainees' ability to do this was assessed on a general 6 point scale.

Following these specific aspects of talking to a G.P. were also assessed.
The most important skill is ability to give clear information about the
problem. The various related social skills were also assessed, volume
of voice, clarity of voice and gaze direction. Clearly these are not
as important as ability to give information to the G.P. about the problem.
Confidence of the person and their anxiety in relation to the situation
was also assessed. Finally, an assessment was made of their overall skill
in the G.P. interview.

A rating of 0 - to receive this rating the person is so poor that it really
could not be worse. The G.P. or policeman would have no idea why the
person was there. They would be totally incoherent in their ability to
put over their information to the G.P. or policeman, they may never look
at the authority figure, the volume of speech would be either inaudible

or so loud that the other person was intimidated. A rating of 0 would indicate that the whole interaction was extremely difficult and incomprehensible to the authority figure.

A rating of 1 - here the authority figure might be able to understand that the person was there for some problem but would have difficulty in understanding what the person was there for. Therefore the person's pace of speech might be very fast or very slow and the information would be fairly incomprehensible. The authority figure may understand that there was a problem in some area of the body or with some reported loss but would be unable to get any details. The person may be very lacking in confidence or quite anxious about the interaction. Their posture would be poor in that they would always be orientated away from the authority figure, if they are asking for information they may not indicate that they are listening by facing away from the policeman.

A rating of 2 - quite poor/some moderate aspects. A rating of 2 would be similar to a rating of 1 in that the person has a low level of skill but here there would be some aspects of the performance which would indicate that the client occasionally improves on a low level of skill. There may be some aspects of the problem that are reasonably well explained to the authority figure. Here the authority figure would understand that there was e.g. a loss being reported or that the person wanted directions to some place in town or that the person had a pain or problem with their health. It may be, however, that the person in authority would not understand the details about the problem. Here the person's posture might be more reasonable or the person may have periods of looking up and being attentive to the information that the authority figure was giving. However, the performance would still be fairly poor.

A rating of 3 - moderate level of skills. With a rating of 3 the person would be able to give the information across at some level. The G.P. would clearly understand that there was a pain or a problem and would be orientated towards the area of the body where the problem occurred. The policeman would understand the person is wanting directions and would be able to give directions to a place in town. In reporting a loss the policeman would understand, after some time, about the item which was missing and perhaps understand some of the details such as when it went missing, where it was before it went missing, etc. Moderate level of skill would indicate that the person had some ability to function in this setting. It would not indicate an average normal level of ability but rather a level of ability which would be basically sufficient in alerting the authority figure that there was a problem and giving them some details on what the problem was.

A rating of 4 - quite good skills. Here the client has developed some skills which make the interaction clearer for the authority figure. Their gaze direction may be normal, apart from some lapses into poorer skills, and they would be able to give the information clearly to the authority figure. The policeman or doctor would be in no doubt about what the problem was, where it had occurred and how long it had been a problem, where the loss had been from and how long the item had been missing. Here the skills would be within normal limits of social ability and the person would be quite able to deal with authority figures. They would not be particularly anxious and would be quite confident in giving the information.

A rating of 5 - good skills.  At this level or skill the person would have no problems.  He or she would not necessarily be superbly socially skilled but the authority figure would be quite comfortable in getting the information or giving information and would be quite confident that the information was reliable.

A rating of 6 - excellent/could not be better.  Here the trainee is completely comfortable about giving the information to the G.P. or policeman.  In receiving directions they would obviously be listening and obviously understand the information given to them.  They would remember all the information without any hesitation or problem.  It would not be necessary for trainees to achieve this level of skill, indeed it would be unusual for individuals to attain this level of skill.

DEALING WITH AUTHORITY FIGURES

ASSESSMENT AND SCORING FORM

Police

1. Asking directions

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Posture | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Voice clarity | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Asking for the information | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

2. Reporting a loss

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Gaze | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Voice clarity | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Volume | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Posture | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of information | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Giving information | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Doctors

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Overall skill with receptionist | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Waiting room behaviour | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Talking to the G.P.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Gaze direction | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Giving information | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Voice volume | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Anxiety | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

The skills have all been rated in the same way by using a seven point scale, graded from abilities which could not be worse to excellent skills which could not be better, as follows:

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellent could not be better |

With many pedestrian skills we have found that the above rating scale is somewhat over-sensitive for people's abilities. In practice it is very difficult to differentiate between a rating of 1 and a rating of 2 on a person's ability to push the button which activates the pelican crossing. It is difficult to differentiate .between a rating of 4 and a rating of 5 on the individual's ability to pay attention to the light signals while waiting for them to change. Similarly it is difficult to differentiate between adjacent racing points on other aspects of pedestrian skill. Therefore we can expect some discreet disagreement between even experienced raters on their judgement of a person's pedestrian ability. Normally differences should be in the order of one rated point. Therefore where one therapist has rated the individual's skills with a score of 1 and another has rated them with a score of 2 we should not be unduly worried about disagreements. Where the disagreement reaches 2 scaled points it becomes more problematic. Here we may have one rater judging the individual to have a low level of skill while the other rater judges the person to have a moderate level of skill. Clearly there is a difference in basic assessment of ability which requires further attention. In general we have kept the seven point rating scale because raters feel fairly comfortable wih it. In addition to this it allows for problems in individual performance where raters feel quite strongly that a person falls between, for example, a low level of skill and a moderate level of skill. In general the ratings can be used as follows:

A rating of 0 or 1 - here the person would be completely unable to carry out the task or make some vague but unsuccessful attempt. Therefore they would not be able to press the button at the pelican crossing. They may not even recognise the button or realise that it has to be pressed before the crossing is activated. In relation to waiting on the pavement such a rating would indicate that the person is nowhere near the kerb and is in a place from which it is totally inappropriate to cross the road. In terms of walking across the road the person would either refuse to walk across, be totally undecided on when the appropriate time was to cross the road, cross in such a way that it endangered their life or be so anxious or eager to cross that they ran as fast as they could. A rating of 0 would indicate that the performance was so appalling that it could not be worse. While a rating of 1 might indicate that bad as the performance was, it could still have deteriorated.

A rating of 2 - Here the person is still showing very poor skills and is still doing things which might endanger their safety in a pedestrian situation. However, with some pedestrian skills it may be difficult to differentiate between a rating of 2 and' a rating of 3. If the person pushes the button at the pelican crossing in a hesitant way it may be reasonable to rate it as a moderate level of performance or a poor level of performance with some moderate aspects.

...../2

Once again some overlap between a rating of 2 and 3 is acceptable.

A rating of 3 - This would indicate that the person is functioning at the level where in general they are not in danger. They have a moderate level of skill that can cope with the various pedestrian situations which you are assessing. They do not show good skills but at the same time are fairly safe. This may be true of a person who is over-cautious in traffic situation and waits for an inordinately long time before crossing the road. They would cross the road at a reasonable speed. If they crossed too slowly or too fast this would automatically be rated as a 1 or 2. Often people will cross somewhat slowly and the instructor will feel anxious that a car may come round the corner while the individual is walking across the road. This would not justify a rating of 3, but rather would be rated 2. A rating of 0 or 1 would indicate that they could hardly get started crossing the road or went across far too fast.

A rating of 4 and 5 - If the individual is being rated 4 or 5 they are crossing the road with knowledge and safety. Once again there is likely to be some overlap between these two ratings because the differentiation between quite good skills and good skills in relation to, for example, looking both ways for traffic, will be a fine judge-ment. However, with both ratings the person will have no trouble in the various aspects of the sequences in using a pedestrian crossing or crossing a road.

A rating of 6 - Here the person is so competent in this aspect of skill that it could not be any better. If there is any room for improvement at all then the rating would be 5.

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Using a pedestrian crossing (green man)

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Pushes button to activate crossing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Waits on pavement | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Pays attention to light signals while waiting | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Starts crossing once green man is on and it is safe to do so | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Walks briskly over the crossing | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall rating | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Crossing a road (no pedestrian crossing)

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Positions self to see clearly | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Looks both ways for traffic | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Acts appropriately for the traffic situation (remains in position to see clearly and keeps observing traffic if road is busy or if road is clear crosses promptly). | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Walks briskly across the road | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Continues to look around while crossing the road | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall rating | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellent/ could not be better. |

Across from each item there are a series of ratings from 0 - 6.  Circle the rating which is appropriate for the person whom you are rating.

In the section on assessing pedestrian skills it was noted that a
seven point scale was somewhat over-sensitive for assessment of some
aspects of the sequence of ability.  This is true to an even greater
degree when assessing bus travel.  The skills are so discrete that
the person can do them; makes an unsuccessful attempt to complete
the task; makes a successful attempt but is not particularly good
at it; does the task competently.  This gave  rise to a rating scale
as follows:

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| Unable to complete the task/ does not have the skill. | Makes an unsuccess- ful attempt to complete the task/ very poor skills. | Manages to complete the task but not particu- larly well/ moderate level of skill. | Completes the task/ has competency. |

A rating of 0 - A rating of 0 is quite clear.  The person does not
complete any of the tasks.  They are not able to indicate for the
bus to stop, they do not stand in an appropriate place to allow the
driver to see them so that he will stop the bus; they do not have
their money ready or show the bus pass to the driver; they may be
too anxious to board appropriately or take a seat; they do not press
the bell when they want off; they do not remain aware of their
surroundings so that they can get up to get off, etc.

A rating of 1 - A rating of 1 would indicate that the individual makes
some attempt to complete these tasks but is unsuccessful in doing
so.  Therefore they make hesitant attempt to stop the driver but they
are standing in such a poor position that they are unsuccessful.
They may try to get their money ready but are unable to do it:
the person may try to get up to stop the bus but is far too late,
etc.

A rating of 2 - Even with a truncated scale as above, there can be
some overlap between a rating of 1 and a rating of 2.  This would
indicate that the person is successful in their attempt at the
particular skill on the bus but it may be that the reason why they
are successful  has little to do with their abilities.  For example,
if two people make a hesitant attempt to stop the bus, in one case
the driver may see them and in the other case he may not.  Although
both individuals have a similar level of skill, one would receive
a rating of 2 and another receive a rating of 1.  It is difficult
to allow for instances such as these in a summary rating scale but
it is possible to insert a note beside  the rating to indicate why
such a judgement has occurred.

In other instances the reasons for a rating of 2 will be clearer
and it will be distinct from a rating of 1.  For example, if a
person makes an unsuccessful attempt to stand up and press the
bell they would receive a rating of 1.  If they make a poor attempt
to stand up and press the bell but in the end it is successful and
the bus stops in the appropriate place, then they would receive a

rating of 2. If they make something of a nuisance of themselves by pointing or saying some strange things to the other passengers they would receive a rating of 1. While, if they were simply a little annoying by talking too much this would receive a rating of 2. (If the individual was shouting and making a spectacle of themselves through verbal outbursts or anxiety, etc. this would receive a rating of 0. While if the person acted appropriately, talking to the other passengers or sitting by themselves, this would receive a rating of 3).

A rating of 3 - In all cases this would indicate the person is competent in this particular skill. It does not necessarily mean that they are so good they could not do any better. It simply means that they can reliably stop the bus, get on it, show a bus pass or give money to the driver, take a seat, pay attention so that they can get up and press the bell appropriately, stand in an appropriate position and eventually get off the bus.

TRAVELLING ON BUSES - SCORING FORM

Signalling/Boarding

| | | | | |
|---|---|---|---|---|
| Stands in appropriate position until the bus stops and the door opens. | 0 | 1 | 2 | 3 |
| Gives a clear indication (e.g. raises arm) for the bus to stop | 0 | 1 | 2 | 3 |
| Boards appropriately | 0 | 1 | 2 | 3 |
| Has bus pass/money ready | 0 | 1 | 2 | 3 |
| Shows pass to the driver/pays driver | 0 | 1 | 2 | 3 |
| Walks to seat | 0 | 1 | 2 | 3 |
| Takes seat | 0 | 1 | 2 | 3 |

On board/Exiting bus

| | | | | |
|---|---|---|---|---|
| Acts appropriately while on the bus (does not disturb other passengers by shouting, pointing, sitting too close, being overly familiar, making inapproriate remarks, etc.) | 0 | 1 | 2 | 3 |
| Pays attention to surroundings so that he/she is in plenty of time to get up from seat | 0 | 1 | 2 | 3 |
| Walks along the bus | 0 | 1 | 2 | 3 |
| Presses the bell in time | 0 | 1 | 2 | 3 |
| Stands in appropriate position until the bus stops and the door opens | 0 | 1 | 2 | 3 |
| Exits bus | 0 | 1 | 2 | 3 |

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| Unable to complete the task/ does not have the skill. | Makes an unsuccessful attempt to complete the task/ very poor skills. | Manages to complete the task but not particularly well/ moderate level of skill. | Completes the task/ has competency. |

Across from each item there are a series of ratings from 0 - 3. Circle the rating which is appropriate for the person whom you are rating.

While the above items have been on a four point scale, it may be possible for the rater to make an overall judgement on the person's ability on a more sensitive scale. Therefore the rater should attempt to assess overall level of skill in relation to bus travel on the following seven point scale:

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill | Quite poor/ some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellent could not be better. |

## Making Calls

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Lifting and dialling | 0 | 1 | | | | | |
| Saying who is calling | 0 | 1 | | | | | |
| Saying who they would like to speak to | 0 | 1 | | | | | |
| Clarity of message | 0 | 1 | | | | | |
| Clarity of speech | 0 | 1 | | | | | |
| Loudness of speech | 0 | 1 | | | | | |
| Speech errors | 0 | 1 | | | | | |
| Pace of speech | 0 | 1 | | | | | |
| Confidence | 0 | 1 | | | | | |
| Giggling | 0 | 1 | | | | | |
| Overall ability | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

## Receiving Calls

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Responds to telephone ringing | 0 | 1 | | | | | |
| Picks up phone | 0 | 1 | | | | | |
| Appropriate greeting | 0 | 1 | | | | | |
| Saying who they are | 0 | 1 | | | | | |
| Takes message | 0 | 1 | | | | | |
| Remembers message | 0 | 1 | | | | | |
| Says 'goodbye' | 0 | 1 | | | | | |
| Puts phone down at right time | 0 | 1 | | | | | |
| Acts on message | 0 | 1 | | | | | |
| Clarity of speech | 0 | 1 | | | | | |
| Loudness of voice | 0 | 1 | | | | | |
| Pace of speech | 0 | 1 | | | | | |
| Speech errors | 0 | 1 | | | | | |
| Giggling | 0 | 1 | | | | | |
| Listening ability | 0 | 1 | | | | | |
| Overall skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

0 - Not able to do the task.
1 - Able to do the task.

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellent/ could not be better. |

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Almost every cafeteria or cafe has a different routine from the others
and therefore it is important to assess individuals in new cafeteria
situations rather than a cafeteria which they have been using and
are used to. It is very easy to settle into the routine of one system
and when the person is moved from an establishment into a group home
or community home the local cafes are so different that the individual
becomes too anxious to use them. Therefore initial assessments should
be carried out in unfamiliar surroundings. Once the individual has
been through a treatment programme it is important to go to a new
situation so that they can be assessed once again in similarly
unfamiliar surroundings. Although the two situations will not be
equivalent, it is essential to assess people in new situations.

The rating scale we have used is as follows:

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ Could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level of skill | Quite good skills. | Good skills. | Excellent could not be better. |

As with other scales for other community living skills there has been
some overlap between adjacent ratings. This is not too much of a
problem. However, if raters are disagreeing by two scale points this
could be for two reasons. Firstly, it may be that one of the raters
is unreliable and is not making a realistic judgement of the person's
skills. The second reason is that there may be something in the person's
skill performance which is causing the raters to disagree. In either
case the assessment should be discussed so that the source of unreliability
can be found. In the case of unreliability the unreliable rater simply
needs more practice. In the latter case, where the client's performance
gives rise to disagreements this should be considered in terms of
the training programme.

A rating of 0 - Here the person shows a complete lack of understanding
of the cafeteria or cafe and how it works. They may simply make no
attempt at starting the sequence of ordering food and collecting trays
etc. or it may be that they simply wander aimlessly about the cafe
in complete ignorance of the routine.

A rating of 1 - Here the person may make some attempt to go for a
tray and try to order food but in the end cannot even begin the skill
because they are so lacking in confidence, so lacking in ability or
so anxious. Therefore they might go over to collect a tray but simply
stand beside the trays or look at other customers for help. They
may go up to the assistant to order some food but be unable to speak.

A rating of 2 - Here the individual may make some attempt at beginning
the sequence of ability but be unsuccessful in doing so. Therefore
they may start to ask the assistant for what they want but be
unsuccessful in their attempt. They may collect a tray and start
moving up but be unaware of what to do with it. They may realise
that you have to choose what you want from the cafeteria shelves or
from the menu but be so indecisive that they are unsuccessful in
ordering. Here the performance would be quite poor but there would
be some indication that the person has some skills in this area.

.../2

A rating of 3 - Here the person is beginning to move into average levels of skill where they can eventually perform the task but not particularly well. Therefore after some difficulty they may manage to talk to the waitress or assistant to tell them what they want, they manage to hold the individual's eye contact long enough to tell them what they want, they will have sufficient confidence to express their wishes, although not particularly well.

A rating of 4 - This would indicate that the person can function at a reasonable level in a cafe or cafeteria. The person's performance would be within normal limits and they would function adequately. They would certainly manage to make their wishes known to the waitress or assistant and would be able to pay for the items, carry the tray back to the table, etc. Once again the extent to which a client is poorer than what the rater considers to be a normal acceptable level of skills would indicate the extent to which the rating is lower than

A rating of 5 - This level of skill would be quite acceptable under any circumstances. The person knows where to order and has competence in their ability to show items, uses appropriate eye contact, and handles money competently. The person does have to be so skilled that they would be unable to improve on their performance but there is no doubt that they fall well within normal limits.

A rating of 6 - This would indicate that the person is so good there would never be any need for a training programme. They are absolutely superb at every aspect of the skill and it would be pointless trying to improve their abilities.

## CAFETERIA SKILLS - SCORING FORM

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Knows where to go to begin ordering/ collect the tray to start moving along the cafeteria system | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Collects tray | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Ability to choose items | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Ability to ask for what they want | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Appropriate use of please and thank you | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Ability to handle money | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Collects sugar, cutlery, etc. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Ability to carry tray to vacant seat | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Successfully takes things from the tray on to the table | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Disposes of tray | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Takes seat | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall level of skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor/ could not be worse. | Low level of skill. | Quite poor/ some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellent could not be better. |

Across from each item there are a series of ratings from 0 - 6. Circle
the rating which is appropriate for the person whom you are rating.

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## USING PUBLIC HOUSES

Every pub or lounge bar has a different routine, layout, and setting from others and therefore it was important to assess individuals in new pubs and new situations rather than in pubs which they have been using and are used to. The initial assessments were carried out in unfamiliar surroundings. Once the individual has completed the treatment programme it was important to go to a new situation so that they were assessed once again in similarly unfamiliar surroundings. Although the two situations were not necessarily equivalent, it was considered essential to assess people in new situations (for generalisation). The following scale was used:

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|

| Very poor/ could not be worse. | Low level of skill. | Quite poor. Some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excell- ent. Could not be better. |

As with the other scales used for assessing ability in leisure skills there will be some overlap between adjacent ratings. This is not too much of a problem and will be evident from the data on reliability. However, if raters are disagreeing by two scale points or more this could be for two reasons. Firstly, it may be that one of the raters is unreliable and is not making a realistic judgement of the person's skills. The second reason is that there may be something in the person's skill performance that is causing the raters to disagree. In either case the assessment should be discussed so that the source of unreliability can be found. In the case of unreliability the unreliable rater simply needs more practice. In the latter case where the client's performance gives rise to disagreements this should be considered in terms of the training programme. The rating scales used in this assessment include ability to use money, confidence in pubs, clarity of voice, eye contact, the ability to use please and thank you, the ability to ask for a drink, the ability to get the attention of the barman, the person's approach to the bar and their overall level of skill.

A rating of 0 - Here the person shows a complete lack of understanding of pubs, bars, and how the system works. They may simply make no attempt at starting the sequence of ordering at the bar or it may be that they simply wander aimlessly about the pub in complete ignorance of the routine.

.../2

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A rating of 1 - Here the person may make some attempt
to go towards the bar to oder a drink but in the end
cannot even begin the sequence of skills because they
are so lacking in confidence, so lacking in ability
and so anxious. Therefore they might stand in the
region of the bar and look towards the optics or beer
pumps but not make any attempt to attract the barman's
attention, order a drink, etc. Therefore they may
just stand at the bar and look at the other customers
for help.

A rating of 2 - Here the individual might make some
attempt at beginning the sequence of skill but will be
unsuccessful in doing so. Therefore they may try to
attract the barman's attention in an unassertive
manner but be unsuccessful in their attempt. They may
stand at the bar but be unaware of what to do once
they get there. They may realise that you have to
tell the barman what you want once you are standing at
the bar but be in so indecisive that they are
unsuccessful in ordering. Here the performance would
be quite poor but there may be some indication that
the person has some skills in the area of ordering.

A rating of 3 - Here the person is beginning to move
into average levels of skill where they can eventually
perform the task but not particularly well. Therefore
after some difficulty they may manage to attract the
attention of the barman and tell him what they want,
they may manage to hold the individual's eye contact
long enough to attract his attention and to begin
ordering, they may have sufficient confidence to tell
him their order although without any great level of
confidence or ability. There would be only
intermittent use of please and thank you, or "excuse
me", directed at the barman.

A rating of 4 - This would indicate that the person
can function at a reasonable level in a pub or lounge
bar. The person's performance would be within normal
limits and they would function adequately. They would
certainly manage to attract the attention of the
barman and would be able to make their order clear.
They would be able to pay for the items, use please
and thank you to some extent and carry their drink
back to the table. The extent to which a client is
poorer than what the rater would consider to be normal
acceptable level of skill would indicate the extent to
which the rating is lower than 5. Therefore there
might be a slight tendency to avoid eye contact, some
hesitancy in an approach to the bar or some hesitancy
in asking what they want. The person's voice would be
reasonably clear and they would use please, thank you
and excuse me much of the time.

.../3

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<u>A rating of 5</u> - This level of skill would be quite acceptable under any circumstances. The person knows how to get the attention of the barman, knows where to order, can approach the bar, is clearly aware of what they want and uses please and thank you with appropriate volume and clarity of voice. The person would handle money competently. A rating of 5 would not indicate that the person is so skilled they would be unable to improve on their performance but there is no doubt that they fall within formal limits and this is a totally acceptable level of ability.

<u>A rating of 6</u> - This would indicate that the person was so good there would never be any need for a training programme. They are absolutely superb at every aspect of the skill and it would be pointless trying to improve their abilities.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Approach to the bar | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Gets the attention of the barman | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Asks for what they want | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Clarity of voice | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Eye contact | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Appropriate use of please and thank you | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Confidence | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Ability to handle money | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Overall level of skill | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor. Could not be worse. | Low level of skill. | Quite poor. Some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellent. Could not be better. |

Across from each item there are a series of ratings from 0 - 6.
Circle the rating which is appropriate for the person whom you are
rating.

## USING A LIBRARY

There are a large number of abilities which could be assessed in a library, e.g. social skills in asking the librarian for help, detailed assessment of ability to approach the counter and exchange books, etc.  In the present assessments only fairly global measures were taken of overall ability to ask for assistance, overall ability to check a book out, overall ability to return a book, systematic looking for and finding a book and overall level of skill.  It was considered that in this area the main reason for using a library was to successfully borrow a book.  Therefore the social and other aspects were considerably de-emphasised.  The assessments concentrated on checking books in, finding another book and checking them out again.

A rating of 0 - Here the individual is totally unable to use the library system.  He may simply stand at the counter and look down and look away, laughing nervously or confused by the situation.  They would be unable to look at the librarian and have no idea of how to check books in or ask for a library ticket.  They would have no notion that the assistant was there to help borrowers and have no idea that the books are categorised.

A rating of 2 - Here the client might make some attempt at approaching the librarian but would do so in such a hesitating and poor manner that they would be unable to explain that they wished to take books out.  Obviously they would get no further than this initial failure and remain ignorant of the classification system and the notion that librarians are there to assist borrowers.

A rating of 3 - Although this is still a fairly low level of ability within the library, a rating of 3 would indicate that there may be some acceptable aspects.  Therefore the client may look at the books in a reasonably systematic way and they would have a vague idea that you had to take them to the counter in order to borrow them.  Therefore in some cases a rating of 3 may be successful since the assistant may then take over and do everything for the client.  However, it would still be a very low level of skill and the client would appear hesitant and lacking in knowledge of the system.

A rating of 4 - A rating of 4 is beginning to come within the range of normal library skills.  Here the person would show a reasonable knowledge that here is a systematic classificatory system to a library, that books must be returned and checked out.  They would also know that the librarian was there to help them.  There may be a good deal of hesitancy and some

uncertainty in the performance but they would still be able to return books and borrow them.

A rating of 5 - Here the person is very competent in the library skills and all of their abilities would be at a good level. The person would be able to return their books, be able to ask fo help, go to sections in which they are interested and look through the shelves in a systematic manner. They would be able then to collect a book, take it to the desk and have it stamped for borrowing.

A rating of 6 - Here the client's skills would be so good that they could not be improved upon. They would not require any training. The person would be able to use the library system quickly, knowledgeably and efficiently.

| | | | | | | |
|---|---|---|---|---|---|---|
| Returning books | 0 | 1 | 2 | 3 | 4 | 5 |
| Asking for assistance | 0 | 1 | 2 | 3 | 4 | 5 |
| Checking books out | 0 | 1 | 2 | 3 | 4 | 5 |
| Systematic looking for books | 0 | 1 | 2 | 3 | 4 | 5 |
| Overall Skill | Q | 1 | 2 | 3 | 4 | 5 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Very poor. Could not be worse. | Low level of skill. | Quite poor. Some moderate aspects. | Moderate level of skill. | Quite good skills. | Good skills. | Excellen Could no be bette |

## ASSESSMENT OF SHOPPING ABILITY

<u>Name:</u>                                  <u>Condition:</u>

The rater should put a tick or a cross after each item according to
whether or not the subject is able to carry out the skill.

<u>Knowledge about the shop</u>

1. Enters through correct door.
2. Can use the turnstile/self-operating door.
3. Collects basket/trolley.
4. Looks around shop and finds correct section (e.g. food) within
   five minutes of entering store.
5. Looks around food area for the specific items.
6. Goes to the checkout counter within five minutes of selecting
   the last item.
7. Waits at checkout counter.
8. Removes items from basket and places them on counter.
9. Remains within three feet of counter during purchasing period.
10. Places groceries in shopping bag.
11. Exits with groceries within one minute of completing monetary
    transaction.

<u>Total score:</u>

<u>Groceries</u>

1. Has grocery list.
2. Can read list either by recognising pictures or reading the items.

| 3. | Item | Recognises Item | Passes | Collects |
|---|---|---|---|---|
| (i) | | | | |
| (ii) | | | | |
| (iii) | | | | |
| (iv) | | | | |
| (v) | | | | |
| (vi) | | | | |
| (vii) | | | | |
| (viii) | | | | |
| (ix) | | | | |
| (x) | | | | |

The above should be scored as follows:

If the client recognises the item on the shelf it is scored positively.
Each time the subject passes the item without recognising it or
collecting it a mark should be made in the next column. If the
client collects the item a mark should be made in the final column.

<u>Social Interaction</u>

1. Recognises shop assistants.
2. Can ask for help to find correct section/item when necessary.
3. Says "thanks" when help is provided to find correct section.
4. Makes appropriate response (within 5 seconds) if spoken to by cashier.
5. Says "thank you".
6. Requests other information or assistance (e.g. asks for bag).
7. Does not initiate inappropriate social interaction with other
   customers or employees.

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ASSESSMENT OF SHOPPING ABILITY (cont'd.)

Use of Money

1.  Takes out money appropriately at the checkout.
2.  Gives money to cashier within ten seconds of request for payment.
3.  Gives cashier pound notes equalling total cost rounded up to the nearest pound.
4.  Places returned change in pocket/purse.

Total time taken from entering the shop to joining checkout.