COGNITIVE REPRESENTATION OF CHALLENGING BEHAVIOUR AMONG STAFF WORKING WITH ADULTS WITH LEARNING DISABILITIES : AN EVALUATION OF THE IMPACT OF AN OPEN LEARNING TRAINING COURSE

Martin Campbell

A Thesis Submitted for the Degree of PhD
at the
University of St Andrews

2004

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities – An Evaluation of the Impact of an Open Learning Training Course

Martin Campbell

PhD Thesis

Date of submission: May 2004

Declarations

I, Martin Campbell, hereby certify that this thesis, which is approximately 80,000 words in length, has been written by me, that it is a record of work carried out by me and that it has not been submitted in any previous application for a higher degree.

Date12/8/04..... **Signature of candidate..**

I was admitted as a research student in September 1998 and a candidate for the degree of PhD (Psychology) in September 1998; the higher study for which this is a record was carried out in the University of St Andrews between 1998 and 2004.

Date12/8/04..... **Signature of candidate...**

I hereby certify that the candidate has fulfilled the conditions of the Resolutions and regulations appropriate for the degree of PhD in the University of St. Andrews and that the candidate is qualified to submit this thesis in application for that degree.

Date8 August '04 **Signature of supervisor..**

In submitting this thesis to the University of St Andrews I understand that I am giving permission for it to be made available for use in accordance with the regulations of the University Library for the time being in force, subject to any copyright vested in the work not being affected thereby. I also understand that the title and abstract will be published, and that a copy of the work may be made and supplied to any *bona fide* library or research worker.

Date12/8/04..... **Signature of candidate..**

Preface

This report has been composed by Martin Campbell. The work of which it is a record has been done by the candidate alone and has not been accepted in any previous application for a degree.

Contents **Page**

Abstract

This was an investigation into the relationship between quality of care and staff views of, and responses to, challenging behaviour in adults with learning disabilities. Cognitive representations have been identified as a determinant of therapeutic outcomes in a variety of health care settings.

There were two main aims of this study. First, to describe and measure the cognitive representations of challenging behaviour among staff working with adults with learning disabilities and second, to evaluate the effects of training on these views held by staff. Existing literature was reviewed.

A Likert type questionnaire, the Challenging Behaviour Representation Questionnaire (CBRQ) was developed to record staff views. The CBRQ draws on two existing measures: the Illness Perception Questionnaire (IPQ) and the Challenging Behaviour Attributions Scale (CHABA). The CBRQ will give a new method of evaluating the staff views most often associated with evidence-based practice, helping behaviours and positive outcomes.

Questionnaire items were generated from responses by 300 staff, to assess the applicability of Leventhal's Self Regulatory model in the context of challenging behaviour. The rating scales in the questionnaire were theoretically derived, based on the dimensions of Leventhal's model (identity, cause, consequences, treatment/control, time-line). An 'emotional-reaction' dimension was added, suggested by more recent research. The use of the Leventhal model was supported, with the exception of the 'time line' component. The questionnaire was tested for reliability and validity then administered before and after training to staff in three different groups.

Targeted training changed cognitive representation of challenging behaviour overall, as measured by the CBRQ, and this change was statistically significantly in two of the five dimensions for the experimental group. Other results suggest that dimensions of cognitive representation are affected in different and complex ways by training. The statistical and the practical significance of the results are discussed in relation to staff training and therapeutic outcomes for people with learning disabilities. A 'staff-regulatory' model of cognitive representation is proposed linking cognitive representation and challenging behaviour.

List of Figures and Tables

Tables **Page**

List of abbreviations used

OL	*Open Learning*
APCB	*Approaches to People with Challenging Behaviour*
IPQ	*Illness Perception Questionnaire*
CBRQ	*Challenging Behaviour Representation Questionnaire*

General Introduction

Professional care staff have been employed in hospitals but increasingly their work is in community settings and in day care provision for people with learning disabilities and challenging behaviours: aggression towards others, self-injury and stereotype behaviours are commonly reported by these staff. For example, 87% of nursing staff working with people with learning disabilities report threats of or actual physical assault (Reeves 1994). Staff continue to be trained by their employers to reduce and prevent such behaviours and to improve the quality of life for people with disabilities. While such training is generally well evaluated by care staff, there is debate about whether and how it changes the way staff think about the challenging behaviours, and how they subsequently perform in their job.

By 2005, all learning disability hospitals in Scotland will have closed. These hospitals have been the home of many of the people with learning disabilities who have the most serious challenging behaviour. Health services, social services and other voluntary sector organisations working in community settings are being asked to provide therapeutic services to an increasing number of the people to be resettled. Careful recruitment and the adequate, effective training of staff are essential elements of good services in this demanding area.

For ten years Campbell (1992-2002) has been running training courses for staff from health services, local authorities and the voluntary sector around Britain and Ireland. The University of St Andrews has offered a range of both accredited and non-credit bearing courses on the subject of challenging behaviour during this time (see Campbell and Cullen 1994, 1996, 1997, 2000; Campbell et al 1998; Campbell and McConkey 2000 and courses listed in Appendix 7). To date, more than 1000 staff have undertaken short course or accredited open learning training. The courses have been positively evaluated in terms of their usefulness and popularity with staff, and the courses have been consistently oversubscribed, serving to emphasise the importance given to this topic by both services and staff, and the need for research-based help in this area. Further, employers and staff report high levels of satisfaction with the format and content of courses. It is now important to evaluate the impact of such training courses on staff, both in terms of enhancing their knowledge and in altering beliefs relevant to service users with learning disabilities and challenging behaviour. In order to conduct such an evaluation, a methodology for assessing these interpersonal views was necessary, and the first aim of this thesis was to develop a questionnaire to do this. The second aim was to use this questionnaire to assess changes in cognitive representation due to training.

There is a body of research and practice evidence indicating that cognitive representation of challenging behaviour in staff is a crucial factor in determining the level of good professional practice in staff-client interactions, and in the long-term therapeutic outcomes. Staff responses to challenging behaviour are governed by a combination of behavioural and cognitive factors: the influence of behavioural antecedents and

consequences; and an individual's own beliefs about what challenging behaviour is, what causes it, and how it can best be treated. Until recently, behavioural components alone have been used to try to explain staff responses to challenging behaviour, and to design staff training in this area. There is now an acknowledgement however that cognitive factors will also need to be included in any comprehensive model that explains staff performance (Stanley and Standen 2000; Wanless and Jahoda 2002).

The theoretical basis of the present study was work done by Leventhal and others to investigate the mechanisms underlying illness representation and perceptions, and later work by Hastings on staff beliefs about challenging behaviour and its causes (Leventhal et al 1984; Leventhal and Nerenz 1985; Leventhal and Diefenbach 1991; Hastings 1996, 1997a, 1997c). The study combined elements of health psychology, a cognitive-emotional model of attributions and evidence-based behavioural analysis.

The research was in two parts: the development of a questionnaire to investigate how challenging behaviour is cognitively represented in care staff, and an evaluation of the impact of an open learning training course on these cognitive representations. Chapters 1, 2 and 3 review the literature and the context for this thesis and give the justification for developing the CBRQ. The first part of the research therefore was to develop and test an effective questionnaire to measure cognitive representation of challenging behaviour in staff. This was done by combining findings from three areas of previously unrelated applied research, namely:

(a) self regulatory processes;
(b) cognitive representations of challenging behaviour amongst staff; and
(c) the study of staff-client interactions in services to people with learning disabilities

This was an attempt to assess how the concept of challenging behaviour is cognitively represented in care staff working with people with learning disabilities, and whether this cognitive representation follows a consistent, multi-dimensional pattern evidenced in other health psychology studies.

The second part of the study was an evaluation of whether specific training can change the cognitive representation overall, or change particular components of that cognitive representation in particular ways. In this part of the study, the Challenging Behaviour Representation Questionnaire (CBRQ) was used to evaluate the impact of an open learning course and to further check the construct validity of the questionnaire. Staff scores on the CBRQ were the dependent variable in this part of this study. The independent variable in the research was a university accredited, open learning course, developed for this research and undertaken by participants in the experimental group. It was hypothesised that targeted training would significantly change the cognitive representations of challenging behaviour, as measured by the CBRQ.

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities –

An Evaluation of the Impact of an Open Learning Training Course

CHAPTER 1

Challenging Behaviour

CHAPTER 1

Challenging Behaviour

Background

This chapter will review the theoretical background of challenging behaviour and national trends to explain the rationale for the present study.

Challenging behaviour can be defined as:

> *"culturally abnormal behaviour of such intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour that is likely to seriously limit or delay access to and use of ordinary community facilities"* (Emerson et al 1987).

Other criteria have been used to define challenging behaviour generally (e.g. Quereshi 1994) or specific types of challenging behaviour (e.g. Borthwick-Duffy 1994, Kiernan and Quereshi1993) but Emerson's description is the most widely accepted, functional definition in services to people with challenging behaviour. It describes behaviour in terms of its frequency, duration and intensity but also identifies the context of the behaviour as a defining factor. The term 'challenging behaviour' has been adopted in services to people with learning disabilities and in the research literature as an improvement on older, more judgemental terms, which describe behaviour as 'problem', 'difficult', 'aberrant', or even 'rebellious' or 'untrustworthy' (Nihira et al 1975). In a study looking at some of the labels used with people with learning disabilities Hastings and Remington (1993a) found that the term 'challenging behaviour' had fewer negative connotations when compared with other terms in use.

One advantage of the term 'challenging' is that the behaviour is seen as a response to the individual's environment, or the context, rather than as a characteristic of the *person* (Jones and Eayrs 1993; Emerson 1995). Even so, caution is needed to avoid 'learning disabilities' becoming the perceived context, as in the phrase 'a person with learning disabilities and challenging behaviour' (Hastings and Remington 1993a).
In practical terms, challenging behaviour is ultimately defined by its *effects* on an individual and those around him or her (Emerson 1995, 1999; O'Reilly 1997). In its original definition, it is a 'challenge' to the services and people that support the person and organisations that provide services (Blunden and Allen 1987). Any explanation of challenging behaviour must include reference to the physical and social environment where it occurs, and care staff make up an important part of this environment in most cases.
Descriptions of challenging behaviour for the purpose of diagnosis have been made using a variety of tools. Among the most common of these are the Aberrant Behavior Checklist (ABC) (Aman et al 1985; Aman and Singh 1986), Psychopathology Inventory for Mentally Retarded Adults (PIMRA) (Matson 1988) and the

Disability Assessment Schedule (of functional disability) (DAS) (Holmes et al 1982). Overall diagnosis is usually made with reference to the ICD 10 Classification of Mental and Behavioural Disorders (WHO 1992) (Chung et al 1996). The WHO defines challenging behaviour in behavioural terms, usually as a consequence of 'disease'. This gives a clear but rather limited definition to cover the many types of challenging behaviour. To try to explain some of the additional variations of disability, a number of psychological and emotional factors – *"control cognitions"* – have been posited (e.g. Johnston 1996, 1997). These control cognitions may help to provide a more precise international definition of more complex disabilities, including challenging behaviour. A more recent definition of challenging behaviour comes from the Royal College of Psychiatrists (2001). They propose four *"mandatory criteria"* to be met in the diagnostic classification of *"problem behaviour"* in adults with learning disabilities, the behaviour

1. is of sufficient frequency, severity or chronicity as to require clinical assessment/special intervention.
2. has significant negative impact on the person's quality of life or quality of life of others.
3. is not a direct result of psychiatric disorder or drugs.
4. is present across a range of social and personal settings.

Challenging behaviour is a social or a management problem. It is 'challenging' to family carers, relatives, staff or services (Lowe and Felce 1995). There is a range of behaviours with varying degrees of severity identified within the term. Behaviours that have damaging effects on care staff and services are more likely to be classified as 'challenging' than behaviours that have negative effects on the people who have those behaviours (Elgie and Hastings 2002). Care staff definitions of challenging behaviour have tended to focus on the fact that the behaviour is difficult for *them* to manage, rather than on more objective or formal aspects of a definition. Hastings (1997c) reviewed staff beliefs about challenging behaviour and found a difference between staff definitions and more widely accepted definitions. Similarly, the behaviours that carers rate as the *"most severe management problems"* tend to be the ones that have most impact on others. Physical aggression to others, throwing objects, verbal abuse and screaming were rated highest by carers in one study (Lowe and Felce 1995), while repetitive, stereotyped behaviour may not be viewed by staff as "challenging" (Hastings 1997c). The frequency of these behaviours and the settings in which they occurred were also factors that influenced how they were rated by staff. Clearly this has implications for management of services and for appropriate staff training (Whitaker 2000).

The general public's view of people with learning disabilities and challenging behaviour is a mixed one, but studies have consistently found evidence of wariness and hostility, as well as patronising or pitying attitudes (Ryan and Thomas 1987; Eayrs and Ellis 1990; Hudson-Allez and Barrett 1996; Atkinson et al 1997; Myers et al 1998). Ryan and Thomas (1987) highlight the durability of public perception of people with learning disabilities as *"a social threat requiring containment"*. Some of these negative views may be explained in cognitive terms, with reference to ability ascriptions and controllability. High intellectual ability and self-control are valued attributes in society. To have *low* intellectual ability and behaviour which is *not*

well controlled and sometimes unpredictable may therefore put some people at a double disadvantage in public view. The question of whether high ability or high *effort* is more closely associated with positive regard by others has not been investigated in people with learning disabilities and serious challenging behaviour.

The main factors influencing public (and care professional) representation can be summarised as:

- Characteristics of the person perceived, that is, the nature of the disability or the behaviour
- Characteristics of the 'perceivers', for example, background and experience
- Cultural images and representations of people with disabilities, including people with challenging behaviour (Scottish Executive 1999)

The present study will focus primarily on the first and second of these factors, looking at perception, or cognitive representation, of challenging behaviour by different staff. Interactions between all three factors have been investigated elsewhere (Sharrock et al 1990). (See section on "Helping Behaviour" in Chapter 2 also for more discussion on this issue).

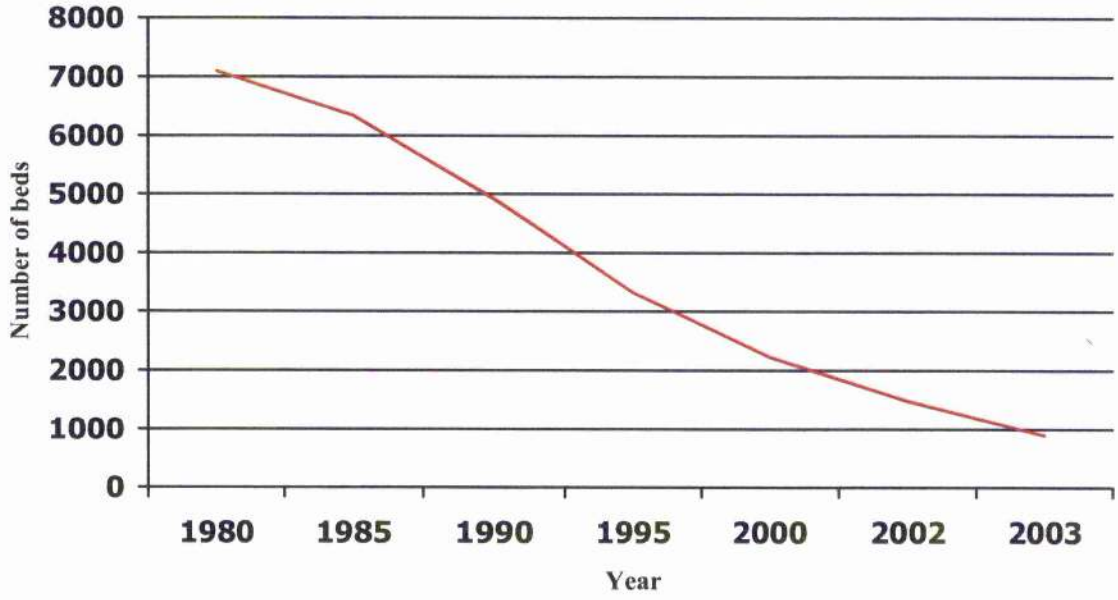
In Victorian times the views of people with learning disabilities and challenging behaviour were well intentioned but lacking in understanding. For example, the stated aim of the superintendent of the Royal Albert Asylum in Lancaster in 1895 was *"to remove the mark of the brute from the forehead of the idiot"* (Ryan and Thomas 1987). Thankfully there had been a change in the views of the *"gatekeepers"* when Felce (1995) wrote, one hundred years later, of the need for *"evidenced based"* services (Felce et al 1995). There is still considerable debate however, over what 'evidence' should be considered when planning services and training staff to work in them.

The case for non-institutional care has been made strongly in a number of studies and government commissioned reports (Beardshaw 1981; Emerson et al 1987; Dept. of Health 1992, 1992a, 1995; Rowley 1993; McGrother et al 1999; Hester Adrian Centre 1999; Felce et al 1998a, 1998b; Scottish Executive 2000). The eventual implementation of the National Health and Community Care Act (1990) in 1993 was a legislative change that marked the final rejection of two long-held attitudes about people with learning disabilities, dating back to Victorian times – *'They are all alike'* and *'They should all live in institutions.'* A System 3 poll commissioned by the Scottish Office in 1999 found that 76% of the 1021 adults questioned disagreed with the statement, *"People with learning disabilities should be looked after in hospitals"*. Under the new Act people with learning disabilities, including those with challenging behaviours, were to be appropriately assessed and then supported to live in local communities, rather than in segregated services. The legacy of generations of people with learning disabilities living in hospitals is not easily forgotten however, and, despite the changes in law and in policy there is evidence that some of these views still persist in Scotland and elsewhere (e.g. see Stalker and Hunter 1999; Kordoutis et al 1995; Chan and Yau 2002).

National Trends

The number of people with a recognised learning disability in the UK increased by 53% over the 35 year period 1960-1995, with a further projected increase of 11% by 2008 (McGrother et al 2001). Although most people with learning disabilities in Scotland and in the UK as a whole have lived in family homes, until recently the specialist resources, including staff, have been based at old style 'mental handicap'/learning disability hospitals. In Scotland, most adults and all children have now moved out of hospitals and into smaller, community-based provision with varying degrees of support; see Figure 1.1, adapted from Scottish Executive 2004. The adults who remain in hospital care are being prepared for a similar move to the community. The majority of this group are people with serious challenging behaviour and other complex needs. Despite the resettlement of a large number of people from hospitals to a *variety* of providers, challenging behaviour is still seen as an NHS issue in many areas because of historical associations with specialist hospital care. This has caused some friction between agencies because of a difference of views on whether challenging behaviour is a health need or a social need. In Scotland all long stay hospitals for people with learning disabilities will close by 2005 (Stalker and Hunter 1999, 1999a; Scottish Executive 2000; NHS Scotland 2004).

Figure 1.1 Number of staffed learning disability beds in Scotland 1980-2003

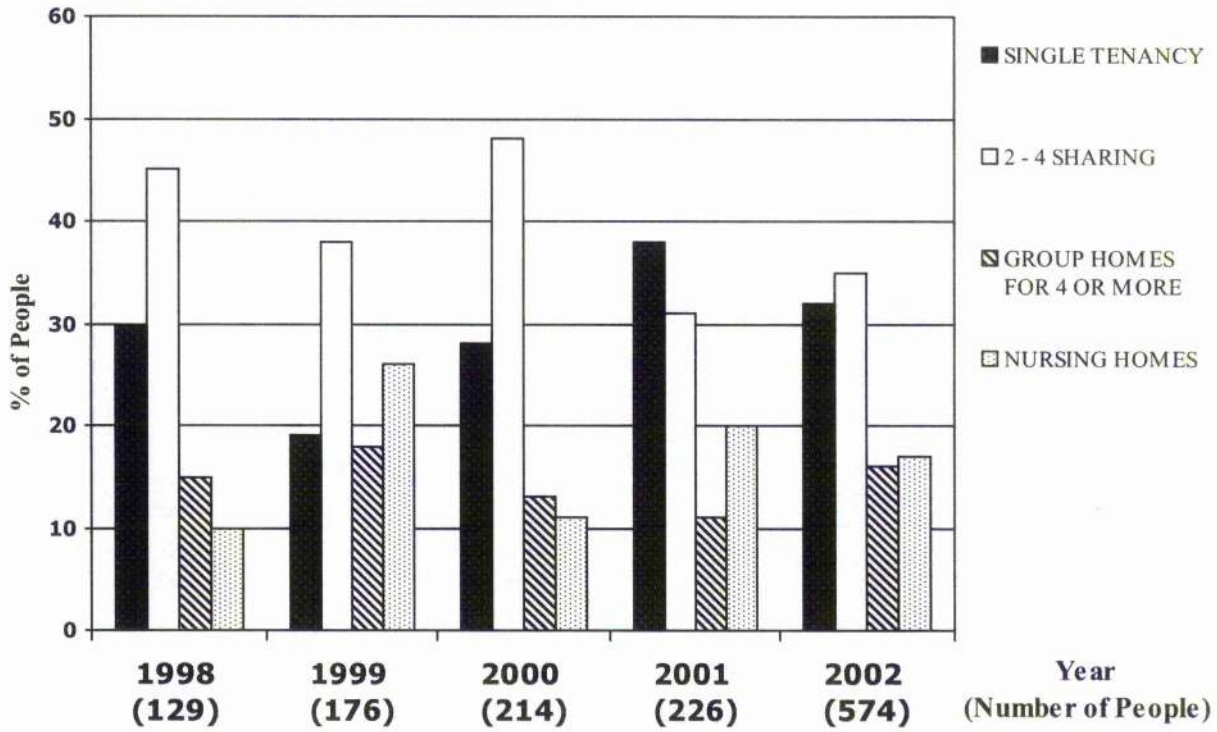


Note that the number of people with learning disabilities in long stay care differs slightly from the number of *"staffed learning disability beds"*. This disparity arises from the different definitions used by health authorities for 'assessment/treatment' beds, 'longer stay' beds vs. 'long stay' beds, 'forensic' beds and NHS 'continuing care' beds. The most recent figures (2003) show 652 people in Scotland still in long term hospital care, for whom:

- 268 have already had new services commissioned
- 109 are in the process of having new services commissioned
- 275 are still awaiting new services to be commissioned

The numbers given above do not include learning disabled patients classified as 'mentally disordered offenders' and currently cared for at the State Hospital (Scottish Executive 2004).
The new services commissioned include in a remarkable diversity of residential provision for adults with learning disabilities in Scotland. Figure 1.2 relates to a total number of 1319 people discharged between 1998-2002. A wide range of agencies, including the NHS, local authorities and private and voluntary sectors now manage these community-based services (Scottish Executive 2004).

Figure 1.2 Percentage of people resettled into types of accommodation 1998-2002



There has been a growth in the number of small group homes for people with learning disabilities in Scotland, with the average size of care homes being halved to nine places over a ten-year period, between 1986-1996. In 1996 over 70 per cent of residential care homes for people with learning disabilities had fewer than ten beds compared with just 57 per cent in 1991.

Whilst these patterns and the move to community have had many positive aspects, there is a concern among professionals and the general public that existing services will have difficulty supporting adults with the most serious challenging behaviours in social care, community settings (Department of Health 1992; Emerson et al 1987; Emerson and Hatton 1994; Emerson et al 2000; Kiernan 1993; Allen 1999; Emerson et al 1992, 1998; Stalker and Hunter 1999). For example, the belief that relocation *in itself* would lead to a significant reduction in challenging behaviour and a significant increase in community participation for most people has not generally been supported (Emerson and Hatton 1994). In a study of 100 people with learning disabilities and challenging behaviour in Scotland, done over a period of 26 years between 1975-2001, Thompson and Reid (2002) found that, *"Behavioural symptomology is remarkably persistent"*. Most of the behaviours measured, using psychiatrist and carer ratings, changed little and stereotypy, overactivity and *"emotional abnormalities"* were especially persistent. Similarly, empirical studies of people moving from hospital to community services in England and Wales report little change in the severity of challenging behaviour (Donnelly et al 1994; Knapp et al 1992; Wing 1989). This has implications for the success of the policy of community care and the integration of people back into their local communities.

The proportion of people with learning disabilities in Scotland is estimated at 2% for those with mild or moderate learning disabilities and 0.3–0.4% for people with severe or profound disabilities. (Scottish Executive 2000). These figures are based on other regional and national studies of prevalence, rather than any specific demographic study of the Scottish population. For example, in a review of 43 papers looking at the prevalence of learning disabilities across the world, figures varied from 0.2- 8.5%. This review produced an average prevalence of 3.4% for mild learning disabilities and 0.38% for more severe learning disabilities. (Roeleveld et al 1997).

The prevalence of challenging behaviour in people with learning disabilities has been estimated at somewhere between 12-20% in different international studies, with more challenging behaviour in men and boys, (DiTerlizzi et al 1999) and in people with more severe disabilities, including sensory and communication difficulties. Challenging behaviour decreases with age, although it does present a major challenge to services when it results from dementia. The figures are partly dependent on the definition of challenging behaviour used (Emerson et al 1997; Emerson 1998), with higher prevalence reported when broader definitions are used (O'Brien 2003). Three UK studies in single districts with clearly defined populations of people with learning disabilities between 1988-1995 gave figures of 5.7%, 7.8% and 15.2% for

the percentage of people with learning disabilities who also had challenging behaviour (Qureshi and Alborz 1992; Emerson and Bromley 1995; Emerson et al 2001). In Scotland, as in the rest of the UK, the number of people with the most severe disabilities and challenging behaviour is increasing (McGrother et al 2001).

Taking the overall prevalence of learning disability at 0.45-0.5%, (Emerson 1998; Emerson et al 1997; Health Evidence Bulletins Wales 2001; National Electronic Library for Health 2003) this research would suggest that there are between 450-650 people per 1,000,000 population with learning disabilities who are likely to display challenging behaviour of some kind. Of this number, between 40-60% (i.e. between 150 and 350 people) are likely to show severe behavioural problems, including offending behaviours. (Emerson 1995, 1999, 2001; Emerson and Bromley 1995; Emerson et al 1997; Borthwick-Duffy 1994; Department of Health 1992; Jacobson 1982; Chung et al 1996; Kiernan 1993; Simpson and Hogg, 2001, 2001a). A defining characteristic of *"offending behaviour"* here is that the perpetrator is *aware* that what he or she is doing is illegal or socially sanctioned (Clare and Murphy 1998). One of the first major reports in this area, by Professor Jim Mansell estimated 200 adults with a learning disability per 1,000,000 of the whole population would *"present a significant challenge"* (Department of Health 1992).

Studies of learning disabled populations have sought to identify the most common forms of challenging behaviour. Kicking, pinching, scratching, pulling hair, biting, head butting, use of weapons, choking and throttling have all been reported as challenging behaviours in a single health authority (Harris 1993; Emerson 1995). Physical aggression, self-injury and stereotypy feature in most studies, and are the most common 'categories' or topographies of challenging behaviour (Hastings et al 1997). The most frequently reported behaviours are not premeditated or sophisticated; for example "grab, punch and pull" and "hit with open hand" are reported in one recent study of referrals to a community team (McDonnell 2002). More unusual behaviours have also been reported. For example, Chung et al 1996 listed *"hyperactivity and irritability"* as the most common challenging behaviours in a survey of one health district. The most common functions (as opposed to forms) of challenging behaviour, identified in a study of 70 people with learning disabilities, (Emerson and Bromley 1995) were self stimulation (for self injurious behaviours, destructive behaviours and *"other"* challenging behaviours), and getting the attention of carers (by aggressive behaviours). It was not possible however, to establish consistent relationships in the data between the form of behaviours (aggression, destructive behaviours for example) and their respective functions. Such form/function relationships would give important clues in proactive treatment of behaviour and in studying what staff *perceive* to be the function of behaviours, i.e. cognitive representations of cause and treatment/control. One study by Hastings (1996a) noted that relatively few staff had as an immediate concern an understanding of the functions of challenging behaviour in practice settings. Clearly this has implications for the quality of care and treatment provided.

For the majority of challenging behaviours the behaviours of other people are the main antecedents and consequences. The role of the main professional caregivers for people with serious challenging behaviour is therefore a crucial determinant in the overall success of services in reducing and preventing challenging behaviour. Consequently, the cognitive processes and professional practice of those staff have been investigated, with a view to targeted training interventions to improve success. The different approaches and interventions taken by services and by individual staff can reveal much about how challenging behaviour is cognitively represented. The next section will briefly review some of these approaches.

Theories and approaches

> *"It should be our job as ethical and evidence-based practitioners to ensure that vulnerable people and their carers are guaranteed access to things we know work"* (Emerson 2000).

There is a large range of approaches to the management and treatment of challenging behaviours. Any claims of efficacy have to be judged by an evidence base of research as well as ethical and practical considerations (Emerson 1995, 2001). What follows is a brief review only, looking at the growing influence of cognitive approaches and cognitive representations in particular in therapeutic approaches.

It is increasingly acknowledged that a *combination* of behavioural and cognitive factors are needed to explain fully staff performance in relation to the treatment of people with learning disabilities and challenging behaviour (Stanley and Standen 2000; Wanless and Jahoda 2002). A comprehensive model is still some way off, but there have been some successes in practical applications of theory. Application of social cognition theories to clinical settings, including the study of people with challenging behaviour and the staff who work with them, is a relatively recent development, although the study of how cognitive representations may predict some emotional reactions and behaviour has a long history (Jones et al 1972; Weiner 1980, 1985; Skelton and Croyle 1991; Petty et al 1997; Jones et al 1987a). There has been some integration of different approaches to challenging behaviour over the past 30 years, but some basic divisions still remain.

A 'pathological' view of challenging behaviour is given more space and discussed in more depth than other approaches in the brief review that follows for two reasons. First, use of medication remains the most widespread approach to people with serious challenging behaviour in Scotland and elsewhere. Second, a pathological approach exemplifies how cognitive representation and quality of outcomes may be closely related.

A pathological view of challenging behaviour?

Measures to prevent challenging behaviour and interventions to manage and treat it are varied in range and in effect. Approaches based on Applied Behavioural Analysis (ABA) have the strongest evidence base in the research to date (e.g. Journal of Applied Behavior Analysis 1968-present, Journal of the Experimental Analysis of Behavior 1958- present). This evidence-based practice is not universally accepted or practised in services however, and a 'pathological' view of challenging behaviour persists in many places. 'Pathological' approaches to the treatment of challenging behaviour see the behaviour as something to be removed:

> *"focusing on the elimination of [behaviour] through a variety of means ... Such approaches often consider the problem in terms of a pathology which, regardless of how it was established, or developed, or is maintained, is to be eliminated"* (Goldiamond, 1974).

As long ago as 1957 B.F.Skinner emphasised that behaviours must be subject to a *"historical and contextual analysis"* in order to understand them fully (Skinner 1957). This differed fundamentally from earlier approaches, and indeed some modern day approaches, which attempt to 'treat' the behaviour on limited information. An analogy here might be what happens if you turn up at the Accident and Emergency Department of your local hospital with a broken arm. You have it treated and repaired, but it is not strictly necessary for the doctor to know *how* you broke it. The assumption here is that the conditions under which you broke your arm will not regularly recur. It is very difficult, if not impossible, to treat challenging behaviour in this way, partly because it is rarely a 'pathological' condition, like a broken arm, and partly because the more information that is available, the more chance there is of finding out *why* the behaviour is happening. Ball and Bush (1998) have formalised the Clinical Practice Guidelines for interventions and Cullen (1999) identifies the factors that must be taken into account:

> *"Challenging behaviour is a function of the interaction between the person (involving their physiological, emotional and cognitive state as well as their public behaviour) and their current environment (which includes the physical setting and other persons). This means that successful and enduring therapeutic interventions will be those that avoid addressing only the specific problem behaviour"* (Cullen 1999).

There is also limited and decreasing research support for pathological approaches. Cullen et al (1981) reviewed all the articles published during 1978 in the two main journals of behavioural research over one year: the Journal of the Experimental Analysis of Behavior (JEAB) and the Journal of Applied Behavior Analysis (JABA). Cullen (1991a) repeated the exercise for 1989. They found very little supporting evidence for the effectiveness of purely pathological approaches. In the two years reviewed, 75% and 93% of the papers in JEAB, and 80%and 91% of the papers in JABA respectively, focussed on *constructional* approaches, aiming to increase rather than decrease the behavioural repertoires of people with learning disabilities and challenging

behaviour. The constructional approach is the basis of many non-aversive procedures for working with people with challenging behaviour (e.g. Meyer and Evans 1989; Axelrod 1987; Donnellan et al 1988). It is not a set of procedures but a framework for looking at how specific procedures can be used singly or together to teach new or alternative skills and improve the person's life. A simple example is *"functional equivalence training"* . Typically, this is teaching an alternative behaviour which results in the same reinforcer for the person and has been used to replace challenging behaviours with more socially acceptable ones (LaVigna and Donnellan 1986).

It is generally accepted among psychologists and other behavioural specialists working in an evidence-based framework that challenging behaviour must be viewed and treated with regard to the interactions between staff, service users and their environment (SHAS 1998, 2003; Emerson et al 1987; Dept. of Health 1998; Cullen 1992) and include elements of programme design, teaching skills, building social support and effective staff training. However there is limited evidence that non-pathological, constructional approaches such as these are accepted or practised by the majority of direct care staff (Foxx 1996; Cullen 1987; Mansell 1995; Reid and Whitman 1983; Hogg and Mittler 1987; Stoltz 1981; Edelstein and Glenwick 2001; Whitaker 2000a).

A pathological view of challenging behaviour still persists in many care settings. This is evidenced by the never-ending search for instant or 'magic bullet' training solutions amongst services, the use of medication as a first-line treatment and the demand for reactive training by staff (Hogg and Mittler 1987; Foxx 1996; Cullen 1996, 1988). Only occasionally are trainers asked to provide an intervention that will change staff attitudes. Further evidence comes from the increased numbers of cases of abuse in managed services that have come to light in the past 20 years. Obviously not all abuse is related to challenging behaviours, but staff have used a frightening range of abusive methods in attempting to stop challenging behaviour and to coerce people with learning disabilities to behave in what they see as more 'appropriate' ways (e.g. see Beardshaw 1981; L'Institut Roeher 1995; Williams 1993, 1995; Harris and Craft 1994; Sobsey 1994; Ridout 1993; Furey 1989). The author has been involved in reviewing health services for people with learning disabilities in Scotland between 1994-2004 (Scottish Health Advisory Service 1998, 2003). During that time a number of cases of inappropriate, ill-advised and unlawful approaches to challenging behaviour have been investigated.

The important point here is that if many direct care staff *do* have a pathological view of challenging behaviour, then the cognitive representations associated with this view are likely to differ from those of an evidence based, constructional approach. Similarly, it should be possible to detect these differences, using empirical tools.

Use of medication

The introduction of 'non-pathological' models is made more difficult by the premise of the *pathology* of learning disability. Many services, including those now in the community, are psychiatry-led, both in management and in ethos. For people with serious challenging behaviour, psychopharmacology is the main treatment option in most services (Branford 1994; Kiernan et al 1995; Anderson and Reeves 1991; Singh et al 1992). A distinction is made here between treatment and management of challenging behaviour, although this distinction is often blurred in the use of interventions (Emerson et al 2000). In a study of residential settings antipsychotic medication was used with 49% of residents who had challenging behaviour; physical restraint was used with 44%, and sedation with 35% (Emerson et al 2000).

Most reviews of the learning disability literature on interventions to treat challenging behaviour and reduce it in the long term suggest that use of medication is among the *least* effective interventions (Baumeister et al 1998; Brylewski and Duggan 1999; Didden et al 1997; May et al. 1995; Ahmed et al 2000; Branford 1994, 1996). An early review of 180 studies by Sprague and Werry (1971) concluded that no real conclusion could be drawn about whether challenging behaviour had been reduced by psychotropic drugs. More recently, one systematic review by Brylewski and Allen (1999) did not find any reliable research evidence to support the use of antipsychotic drugs in the treatment of challenging behaviour (Emerson 2000). Similarly Brylewski and Duggan (1999) found no good evidence that antipsychotic medication helped in the management of challenging behaviour, and Verhoeven and Tunier (1999) have gone so far as to say of antipsychotics:

"Most probably, their presumed efficacy is restricted to suppressing behaviour in general"

Large scale studies of prescribing typically report between 20-45% across hospitals, hostels and group homes (Branford 1994; Harlow et al 1990). It has been estimated that between 20-50% of people with learning disabilities are prescribed psychotropic medication (Robertson et al 2000). The reason for its use is often unclear and often it is used in the management of problems for which there is little reliable evidence of effectiveness (Stolker et al 2001, Stolker et al 2002).

It is important here to differentiate clearly between people with learning disabilities who also have an identifiable physical or mental illness (e.g. gastro-oesophageal reflux, depression, bipolar disorders, schizophrenia or Attention Deficit and Hyperactivity Disorder) and people who have learning disabilities and challenging behaviours with no known organic cause. This distinction is not always an easy one, since some mental health problems and physical difficulties may manifest themselves as serious challenging behaviours (Young and Hawkins 2002). For example, this difficulty was recognised in a major survey of psychotropic drug use in over 1100 people with learning disabilities living in group homes:

"In the main medication use was consistent with known or presumptive indications for the respective drug groups, although unestablished applications were also observed" (Aman 1995).

It is the *"unestablished applications"* that are the main issue here. There is an *absence* of a strong evidence base, rather than conclusive evidence on the ineffectiveness of drug regimes to treat and manage challenging behaviour. In defence of psychopharmacology there is *some* evidence that antipsychotic medication helps to manage general or specific challenging behaviour. For example Aman (1991) and Lewis et al (1995) give support for drug use to reduce stereotypical behaviours, Natarajan et al (1997) present some evidence for the efficacy of psychotropic medication to reduce challenging behaviours generally. There is specific support for use of fenfluramine to *"enhance social relatedness, lessen overactivity and improve attention span"* in children with autistic spectrum disorder (Aman and Kern 1989) and other challenging behaviour in children and adults with autistic spectrum disorder (Hellings et al 1996; Perry et al 1996; McDougle et al 1996; Cohen et al 1998). Thompson et al (1994), Sandman and Matrick (1995, 1997) and Crews et al (1999) all report on studies to reduce self-injury by psychotropic medication. Controlled trials with risperidone have shown that it can be used to successfully reduce aggression (Buitelaar et al 2001) *"disruptive"* (Aman et al 2002) and *"aberrant"* (Zarcone et al 2001) behaviour. Aman (1993) comprehensively reviews the empirical literature in this area and reports on the success of some drugs (e.g. thioridazine, lithium carbonate and opiate antagonists). However Aman does strike a note of caution and emphasises the need for further research in this area. (Thioridazine use has now largely been banned in the UK). In summary, there are not enough convincing studies to justify the current level of medication usage in services, but neither is there *enough* evidence at present that a service dependency on psychopharmacology does widespread and consistent *harm* to people with learning disabilities and challenging behaviours.

Cullen (1991) reported that one reason that medication continues to be commonly prescribed, in the absence of other, more constructional strategies may be because staff can be seen to be responding to challenging behaviour *"in a professionally unique way"*. Administering medication, and especially emergency medication, leads medical staff, including nurses, to feel that they are putting their professional training to good use. Cullen supports this assertion with reference to the fact that it is *"outward directed"* challenging behaviour- for example aggression - which is usually the subject of medication, rather than other forms of challenging behaviour, such as extreme withdrawal (Kiernan et al 1995).

So what are the implications of this evidence for the present study? It is well established that the way in which staff cognitively represent challenging behaviour is a major determinant of their reactions to it (e.g. Hastings 1994, 1996a, 1997b, 1997c; Hastings and Brown 2002). In the context of the present study, staff *perception* of the efficacy of psychopharmacology, rather than evidence on effectiveness, may be a factor in the continuing popularity of medication as a main or first course of action in services. Most nursing staff

(85%) in one study into the *"caregivers' perceptions of psychotropic medication"* expressed dissatisfaction with their training in the use of drugs in residential settings for people with learning disabilities and challenging behaviour. However they continued to use the medication. The principal conclusion of the same study (Aman et al 1987) was that there was a need for more education on the use of a variety of social, pharmacological and behavioural issues, as they relate to medication use.

The main concerns of those opposed to the popularity of drug regimes include the relatively high rates of prescribing, polypharmacy (combinations of drugs, which may have been built up over a number of years), and the inconsistency of medication reviews. These concerns, combined with the absence of data showing the long-term effectiveness of drugs already in use in changing behaviours, have led to some professional tensions between psychiatrists and other professionals, questioning the quality of healthcare received by people with learning disabilities (e.g. Lewis et al 2002). The pattern of prescribing nationally also shows some geographical variations. These differences may be as a result of different psychiatrists having different views on the efficacy of certain medication (Kiernan et al 1995). Regarding the amount of drugs prescribed, there is more drug usage in hospitals, less in community based accommodation, and least in family homes (Clarke et al 1990; Kiernan et al 1995; Cullen 1999). The debate about the use of drugs to control and treat challenging behaviour is on-going and a full review is beyond the scope of this study. Until such time as sufficient empirical evidence exists there have been calls not to throw the baby out with the bathwater (Aman and Singh 1986a). The establishment of international bodies to agree on the best practices and clinical effectiveness may bring some resolution (Reiss and Aman 1997).

In the context of the present study 'pathological' approaches provide an example of how staff cognitive representation of challenging behaviour and therapeutic outcomes may be related. The dimensions of cognitive representation proposed in this thesis are based on a model by Leventhal, later developed by Weinman – identity, cause, consequences, time line/duration, treatment/control and possibly emotional reaction (Leventhal et al 1984; Leventhal et al 1992. Weinman et al 1996). It is possible to see how these dimensions may operate individually or in combination. To take just a few possible examples, the 'identity' component is how staff define or classify challenging behaviour, and in a pathological approach the behaviours would be defined in terms of what needs to be eliminated; causes of behaviours might be seen as those that are clearly attributable, such as biochemical or "onset controllable" reasons ; treatment/control would be viewed in terms of various eliminative strategies. This analysis is intended to illustrate the critical importance of the role of cognitive representation in the interpretation of behaviours and the links between cognitive representations and outcomes for people with learning disabilities and challenging behaviour. There is also a discussion point here about whether behaviour follows attitude or *vice versa*: do staff cognitively represent challenging behaviour in a way that leads to a pathological approach to treatment, or does the use of medication and other pathological approaches change existing cognitive representations to help staff

rationalise their behaviour? This may be dependent on other factors; such as how much influence individual staff have over which approaches are adopted and other factors in the working environment. Conflicts between service ideologies, personal beliefs and therapeutic approaches have been identified as one reason for the failure of services to provide appropriate or adequate behaviour support to people with learning disabilities (Albin et al 1996; Hastings and Remington 1995b; Emerson et al 1994; McBrien and Candy 1998; Morgan and Hastings 1998).

Constructional approaches

Do staff show characteristic cognitive representations associated with constructional approaches that can be measured? This is a key research question for the present study and will be looked at in some depth in Chapter 2. A brief review of some constructional approaches is presented here as an introduction to the topic.

Some of the more constructional approaches have yet to make an impact on learning disability services. For example, Stone (1991) points out that health psychology will *"flourish"* only where health research and services are not dominated by medicine and psychiatry. There are a number of other approaches which can be described as 'constructional', although they lack a strong evidence base to support their claims for effectiveness as yet, e.g. Gentle Teaching, Intensive Interaction and use of Snoezelen (Emerson 2001). One set of treatment strategies that *has* been increasingly influential is collectively termed 'Cognitive-Behavioural' approaches. A few examples of these will be presented.

Distorted cognitions may play a significant role in offending behaviour in people with intellectual disability and others (Broxholme and Lindsay 2003; Holland et al 2002). A range of Cognitive-Behavioural approaches, including forms of anger management, have been shown to be very effective in reducing both chronic and acute stress associated with challenging behaviours (Lindsay 1991, 1997, 2002; Ager 1991; Pert et al 1999; Jahoda et al 1998) including sexually offending behaviours (Lindsay et al 1998a, 1998b, 1999). These approaches focus on the content of thoughts and try to guide individuals to test how rational or valid these thoughts may be, changing how they think and behave with a resultant change in how they feel (Dept. of Health 20002). Cognitive Therapy (Beck 1976) and Rational-Emotive Therapy (Ellis 1973) are two early examples of this approach. Cognitive Behavioural Therapy (CBT) for people with learning disabilities who also have challenging and offending behaviour has been favourably evaluated (Stenfert-Kroese et al 1997; Emerson and McGill 1993; Holland 1991; Whitaker 2002). Success and lasting effects have been reported in use of this approach more generally with people with learning disabilities (e.g. Trower et al 1988) and their carers (Kushlick et al 1997). These approaches have proved most successful to date when used with people with *"sufficient linguistic or cognitive ability"* (Whitaker 2002) although more recently they have been adapted for use with people with more severe intellectual disabilities (Lindsay and Morrison 1996; Morrison

and Lindsay 1997; Rossiter et al 1998; Jahoda et al 2001). Treatment methods adopting a cognitive framework have also been gradually incorporated into more established behavioural methods of intervention to good effect (Jahoda and Espie 2003; Taylor 2002). Jones et al (1997) have suggested that cognitive approaches and strictly behavioural approaches are not necessarily contradictory or mutually exclusive. Dagnan and Chadwick (1997) have described several methods for assessing suitability for Cognitive Behaviour Therapy and screening tools are available.

Despite reported successes and a growing demand for CBT, it is not widely available in mainstream challenging behaviour services, tending to be restricted to use in services to people with mental health and forensic/offending behaviour. Kroese (1997) has speculated that the reasons for this include a therapeutic view that people with learning disabilities may not be able to report reliably on their own cognitions or overcome any deficits that they have in self-regulation. Bender (1993) has called this resistance to using cognitive approaches *"therapeutic disdain"*. In this view, people with learning disabilities are valued less than other potential recipients of treatment. How this 'disdain' behaviour of therapists may arise from a cognitive representation of learning disability is also of interest here.

The influence of so-called *"therapeutic disdain"* has also been implicated in the psychotherapeutic approaches (Waitman and Conboy-Hill 1992; Bender 1993). Very few studies have investigated the efficacy of psychotherapeutic counselling with people with learning disabilities who also have challenging behaviour. Prout and Nowak-Drabik (2003) reviewed research over a 30-year period and asked an expert consensus panel to judge outcomes and effectiveness. Their evaluation concluded that *"moderate"* effectiveness and a *"moderate"* degree of outcome change had been achieved, and that psychotherapeutic interventions should be considered as part of overall treatment plans. The studies evaluated were not specific to challenging behaviour, but included a wide range of psychological and behavioural difficulties. Therapeutic disdain may deny some people with learning disabilities access to services. In a similar way diagnostic 'overshadowing' can lead to other health needs, including challenging behaviour, being put down to a person's learning disability and not treated (Patel et al 1993; NHS Scotland 2004).

In this brief review of constructional approaches to challenging behaviour, the setting up of specialist assessment and treatment units, specialist community houses and the deployment of specialist teams in the community should be mentioned. The clinical effectiveness of models of inpatient services has been well evaluated in some studies (Xenitidis et al 1999; Allen et al 1997) but it is difficult to generalise such success and transfer such models to community settings (NHS Scotland 2004). Community services typically employ models of provision rather than specific 'approaches' such as psychopharmacology or cognitive behavioural therapy. These models of care have been used in Scotland and in the rest of the UK as replacement for the old style institutional provision (Smiley et al 2002; Lowe et al 1998; Toogood 2000; NHS Scotland 2004).

Because of the diversity of units and of teams it is difficult to make any valid comment on their effectiveness, relative to each other or in general.

> *"Service quality would be assured with greater certainty if what was special about specialist services could be distilled"* (Felce al 1998b).

Emerson et al (1993) and Lowe et al (1996) have looked at the differences made by specialist teams, compared with services without specialist input. They concluded that specialist provision *per se "did not make a significant impact on behaviour or quality of life"*(Lowe et al 1996). However other organisational and individual staff factors *did* have an influence on how effective specialist teams were.

The most effective, evidence-based approaches to working with people with challenging behaviour remain those that are based on applied behavioural analysis, and this is supported by a large and consistent body of research literature (e.g. Stoltz 1981; Page et al 1982; Foxx 1996; Allen et al 1997; Cullen 1999; Whitaker 2000, 2002). These approaches are ethically and practically acceptable and result in a measurable decrease in the challenging behaviour (Emerson 2001). The evidence base for applied behaviour analysis has a 40-year history and interventions are rigorously tested for effectiveness in peer-reviewed journals. Translating the research and evidence base into practice is a complex process however. Jahoda et al (2001) strikes a note of caution, reviewing the literature and noting that behavioural approaches using functional analysis show more success in group and institutional settings but less when applied in community and family settings. A few examples of the applied behavioural analysis approach will be given here, to give an idea of how it has been used.

Challenging behaviour often has a communicative function; that is, the person engages in challenging behaviour as a way of communicating their needs or wants to others. Self-injury or running out of a room might be two ways for someone to communicate that they want to stop or leave a particular activity. Functional analysis of behaviour has been used to investigate what a person may be trying to communicate by their behaviour, and to devise a communication based intervention (Carr et al 1994). A second example, the approach know as *"active support training"* (Jones et al 1999, 2001a) for direct care staff has been shown to increase the likelihood that staff will support resident activities in community housing (Jones et al 2001; Smith et al 2002) for all but those with the most severe challenging behaviour (Adaptive Behavior Scale scores over 180). The results of the Smith et al study on over 100 adults with learning disabilities supports previous work on the effectiveness of active support training (Jones et al 2001, Felce et al 2000; Jones et al 2001a; Felce et al 2002; Mansell et al 2002). Finally LaVigna et al (2002) have made similar claims for the efficacy of their own person-centred, analytic support services. A number of behavioural training packages for children with challenging behaviour in schools, have also shown positive results when evaluated for effectiveness; for example, Educating the Developmentally Young (EDY) (McBrien and Edmonds 1985) and Attention Control

Training (ACT) (Stevens et al 1999), BATPAC (Wheldall and Merrett 1987), functional communication training (Derby et al 1997). Some of these approaches will be discussed again in Chapter 3, in the context of staff training.

Summary

In summary, there are a variety of approaches used in learning disability services. For the purposes of this study these approaches have been divided into two types; pathological and constructional.

Treatments that concentrate only on control or elimination of the problem may be valid and effective in the case of some physical illnesses, but for challenging behaviour a *purely* pathological or 'eliminative' approach is neither appropriate nor effective in the long term. One additional problem with this approach is that focussing only on removing a behaviour often leaves a behavioural 'vacuum', particularly in cases where that behaviour has been occurring frequently, over a long period of time. This vacuum is then often filled by an alternative or displacement behaviour, which can be just as challenging as the behaviours which have been eliminated, rather than more useful, adaptive behaviours (Goldiamond 1974; Delprato 1981). Although the research focus may have moved away from a pathological view of challenging behaviour, it remains to be seen whether this change of emphasis has been reflected in the professional practice of staff in direct care.

Constructional approaches or alternatives put more emphasis on staff responses to the challenging behaviour, rather than the behaviour itself, and this is relevant in the present study. Challenging behaviour is most often a function of the settings in which the person finds themselves, and the interactions with others and their reaction to challenging behaviour. One notable exception to this may be some very specific forms of self-injurious behaviour, which may be established through a variety of means and maintained by physiological (or internal) events (Oliver et al 1996; Kahng et al 2002).

Definitions and different approaches to the treatment of challenging behaviour may both be functions of the cognitive representations held by staff. It is essential that staff working with people who have challenging behaviour in learning disability services are appropriately aware, and appropriately and effectively trained. National trends suggest that working with people with challenging behaviour will become an expected role for increasing numbers of care staff who have no qualifications or training in this area. How staff respond to challenging behaviours is determined by a combination of the direct behavioural contingencies of the behaviours they face and the *"indirect contingencies"* (Wanless and Jahoda 2002). These *"indirect contingencies"* include the organisational culture (Hatton et al 1999) and, crucially, the staff members' own cognitive representation of challenging behaviour. Chapter 2 will explore this further.

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities – An Evaluation of the Impact of an Open Learning Training Course

CHAPTER 2

Cognitive Representations

CHAPTER 2

Cognitive Representations

Background

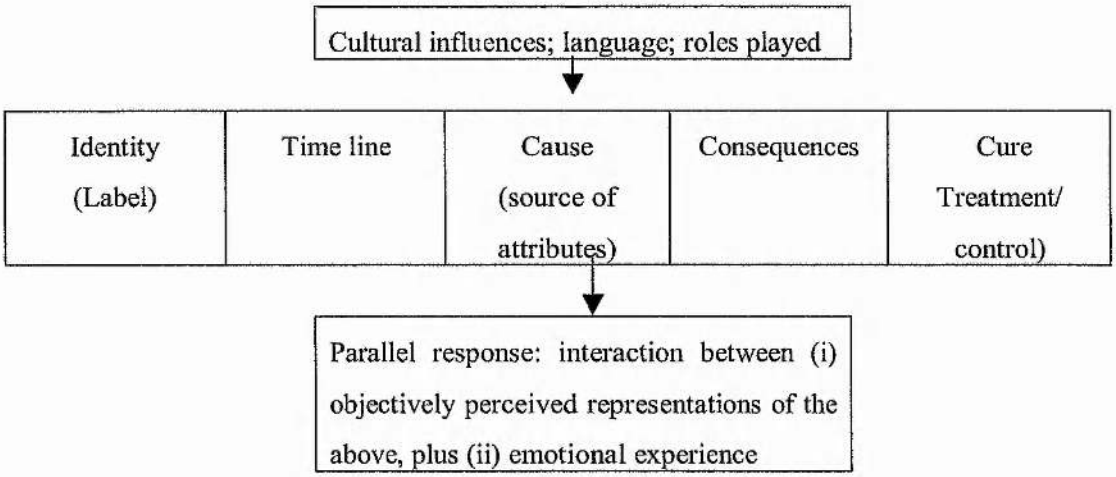
This chapter will explain how attribution theory and cognitive representation relate to the quality of care experienced by people with learning disabilities and challenging behaviour. To do this it is necessary to look first at some of the research in health psychology. The chapter begins by reviewing the research on how people cognitively represent their illness and then moves onto what is known about the cognitive representation of illness by others, including family carers and staff. Leventhal and his colleagues have proposed and tested a number of hypotheses about the nature of illness representation and its role in self regulatory behaviour. In simple terms, they have studied how people view their illness, why they view the illness the way they do; and how their views may influence their behaviour and illness prevention and recovery (Maes et al 1996; Abraham and Sheeran 1997; Diefenbach and Leventhal 1996; Leventhal and Diefenbach 1996; Leventhal et al 1997; Brownlee et al 2000). The influence of cognitive representations on the prognosis of illness and, by extension, challenging behaviour is of special interest to the present study.

A number of models and explanations have also been suggested for how people conceptualise their illness and the value of their treatment. For example, a medical model, a health belief model, the theory of reasoned action, the theory of planned action and a *"common sense"* model have all been proposed (Leventhal 1992; Diefenbach and Leventhal 1996; Horne et al 1998). The idea of *"self-regulation"* is central to most of these models, with the person's goals for coping set according to how they see their illness and treatment. The *"common sense"* model is the one proposed by Leventhal and his colleagues to explain self-regulation (see Figures 2.1 and 2.2 which follow). In this model an individual makes a decision about their state of health or illness based on a personal analysis of the (often complex) information they have. This may include, for example, the person's cognitive representation of the disease and treatment they are offered, the person's cognitive representation of their current quality of life, and the person's emotional reactions to these (Leventhal and Colman 1997).

Research in health psychology has produced evidence of five underlying components in the cognitive representation of illness. Lau and Hartman (1983) investigated the *"common sense"* representations of common illnesses in 320 undergraduates. They found that the components of a label (identity), a cause, consequences, a time line, and a cure (treatment/control) were common in subjects' 'schemata' of illness. In a later study Lau et al (1989) found that the same five components were stable over time and across different

illnesses. Leventhal and Diefenbach (1991) have described these five components further, incorporating them in a model of self-regulation (see Figure 2.1, adapted from Brownlee et al 2000).

Figure 2.1 Leventhal's Self-Regulation Model



This model has been applied to the care of a number of conditions, including diabetes, high blood pressure, hypertension and respiratory illness (Brownlee et al 2000). A practical example may be useful here to illustrate how the model works. For a person diagnosed with cancer their ideas about the label 'cancer' and the perceived symptoms would be the *identity* component in the model. The person will have a view on how long cancer lasts, or the amount of time left until their death (*time line/duration* component). Diet, smoking and other lifestyle choices may be considered as possible *causes* by that person, and the *consequences* of pain and deterioration in health will almost certainly be a consideration. The person will have their own views of chemotherapy, radiotherapy and the chances of *control* of the cancer generally. He or she will also have an emotional reaction to each of these individual components and to the components collectively. All of these factors will make up a cognitive representation of the cancer and will influence how a person will plan and act, and their prognosis for recovery. This is a simplified application of the model and does not take into account a number of contextual factors which may affect each of the five dimensions; family circumstances, religious or cultural influences, for example.

The influence of the five underlying components, individually and collectively, has been evidenced in a number of studies. For example, ability to cope with the illness as well as levels of distress and disability in patients has been studied (Jones et al 1987; Leventhal and Diefenbach 1991; Petrie et al 1997; Scharloo et al

1997; Horne 1997). Differences in the representation of illness, disability and perceived prognosis have been found to be reliably predictive of outcomes in a diverse range of health issues. For example, recovery from two types of physical disability – stroke recovery and wrist fracture – was faster for patients with more "*perceived personal control*" (Partridge and Johnston 1989; Johnston et al 1999). In contrast, "*low mood*" predicted a poorer survival rate for patients with amyotrophic lateral sclerosis/motor neurone disease (Johnston et al 1999). In a study of 107 patients following joint replacement surgery, Orbell et al (1998) found that illness cognitions had predictive value in explaining outcomes. The perceived consequences and perceived control were correlated with functional activity and depression. For example the level of functional activity nine months after surgery was higher amongst those who did not attribute their condition to growing older and who perceived more control over their symptoms. Evidence that perceived control in recovery can be manipulated to good effect was well demonstrated in a study by Johnston et al (1992). In an experimental design, one group of patients with a physical disability invited to a physiotherapy appointment received a letter that included some information designed to increase their perceived control in rehabilitation. Other patients received a standard appointment letter. In post appointment interviews the experimental group had significantly higher levels of perceived control and reported more satisfaction with information than did the control group.

Based on Leventhal's work (Leventhal et al 1984; Leventhal and Diefenbach 1991; Leventhal et al 1992) Weinman has investigated how variation in health outcomes may be related to psychological determinants, rather than medical factors such as severity of illness (Petrie and Weinman 1997). Weinman et al (1996) developed a questionnaire to assess how patients thought about their illness, using five sub scales corresponding to the five components underlying the cognitive representation of illness. These were Identity, Cause, Time-line, Consequences and Treatment/Control. Based on Leventhal's theory underlying illness representations and self-regulation processes, Weinman proposed the use of his theoretically derived Illness Perception Questionnaire (IPQ) to measure cognitive representation of illness on these five sub scales. In developing the IPQ, Weinman collected data from seven different illness groups and evaluated the psychometric properties of the five IPQ scales. He reported good levels of internal consistency and test, retest reliability, and concurrent, discriminative and predictive validity. The scales provide reliable and robust information on the cognitive representation of illness. Individuals are asked to strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with 56 statements about their illness, and give 14 Yes/No responses about having experienced certain symptoms. For example, items from each of the five subscales are: "*Experienced symptoms of nausea?* Yes/No (Identity); *Hereditary – it runs in the family* (Cause); *My illness does not have much effect on my life* (Consequences); *My treatment will be effective in curing my illness* (Treatment/Control); *My illness will last a long time* (Time line)".

The IPQ has been used in a number of studies since 1996 and is generally reported as a valid, theoretically derived measure. At least one study however, has questioned the theoretical basis of the IPQ.

One assumption of the self-regulation theory is that coping is a *mediating* factor between illness representation and (health) outcome for individuals. Scharloo et al (1998) used a cross-sectional study of patients with a variety of physical illnesses to analyse the extent to which illness perceptions and coping strategies (as measured by the Illness Perception Questionnaire) were associated with levels of daily functioning. Results indicated that a strong illness identity, belief in a long illness duration, belief in more severe consequences – all components of the IPQ – were associated with worse outcomes on disease-specific measures of functioning and on general role and social functioning. Coping by seeking social support and beliefs in the controllability/curability of the disease were significantly related to better functioning. Scharloo et al concluded that the assumption that coping is a mediating factor was not supported. The relationship between controllability and positive outcomes may be relevant to the study of staff in this thesis and this will be discussed further in later Chapters. It is worth noting here however that there is some evidence that having positive perceptions of children with learning disabilities may function as strategies that help families to cope or adapt to the stresses of having a child with a disability (Hastings and Taunt 2002, Hasting et al 2002).

There are some crucial differences between how patients think about their illness and how other people may view that same illness. Similarly, patient views and 'other' views will impact differently on prospects for improvement, depending on how much influence 'others' may have on patient care. Although there are basic differences, the cognitive representation of illness in patients and in others shares many features, as we shall see.

Family and staff representations

The Illness Perception Questionnaire has been adapted for use with spouses and carers of people with major health problems (Heijmans 1999; Weinman et al 2000; McClenahan and Weinman 1998; Weinman et al 2002). Some studies have also been carried out on the links between attribution and outcomes in other care settings. Barrowclough, Johnston and Tarrier (1994) looked at how causal beliefs of family members about schizophrenia might mediate relapse in patients. Relatives with higher levels of *"hostility or critical expressed emotion"* tended to attribute the schizophrenia more to causes internal to the patient and saw causes to be more controllable by their relative. This causal attribution variable showed some value as a predictor of patient relapse at nine-month follow-up. This study is significant in the context of the present investigation as it is evidence of the influence of the cognitive representations of *others* as a predictor of outcomes – the studies described earlier in this section have focussed on how the cognitive representation held by the *individual* themselves affects his or her condition.

Some studies have looked specifically at the cognitive representations of staff as a factor in patient outcomes. For example, differences in staff views on the abilities/disabilities of rehabilitation inpatients (identity component) and the influence of this on prognosis was investigated by Johnston et al (1987). They measured the degree of consensus about level of patient recovery amongst therapists working with people with physical disabilities and found that amount of agreement among physiotherapists and among occupational therapists varied considerably. The range of agreement on likely level of recovery among physiotherapists was between 29%-86%, and between 35%-88% among occupational therapists. In this study physiotherapists and occupational therapists both saw patients as less disabled than did nurses, whose views were also measured. Therapists also expected significantly more improvement in patients than did nurses. The significant variations in staff expectations is of interest here as it has implications for the quality of care. For example, in a busy work setting and a climate of scarce resources, is a therapist, nurse or other care staff likely to expend more time and energy on patients whom they expect to make a fuller recovery?

In summary, there is evidence that disability representations have been predictive of the outcomes of the disability, both for the cognitive representations of individuals with a disability and the representations of relatives and staff. *Staff,* as a source of variance in health outcomes, is a critical factor in the present study:

> *"it seems likely that more of the variance in the behaviour and health outcomes of patients may be found in the behaviour of the health professional"* (Marteau and Johnston 1990).

The behaviour of the health professional and other staff has been shown to have both habilitative and "*counter-habilitative*" (Hastings 1996) effects for people with learning disabilities and challenging behaviour. For example, there is good evidence to explain how "helping behaviour" (Weiner 1980) is influenced by cognitive factors.

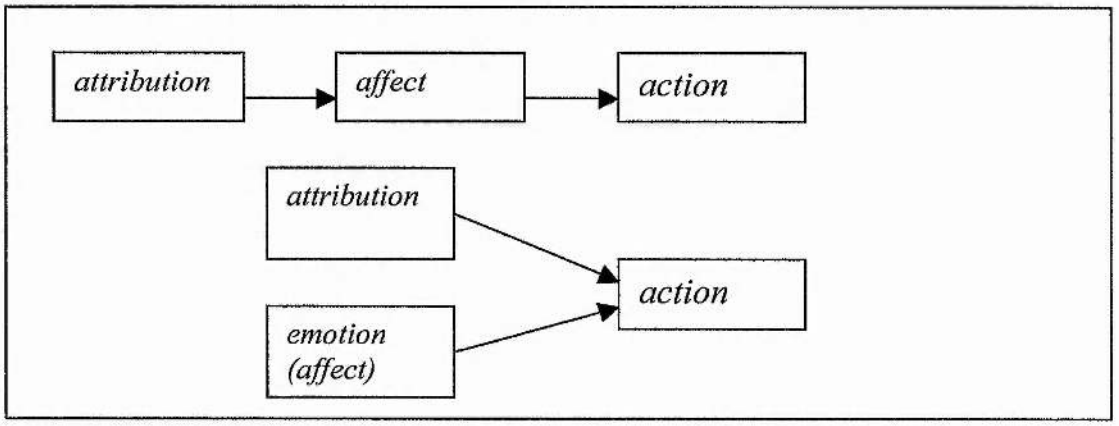
Helping behaviour

The concept of "*helping behaviour*" is relevant to the present study. There is a generally consistent pattern of research findings associating helping behaviours and specific cognitive representations. However, there is some contradictory evidence about the exact cognitive processes involved; particularly the role of negative affect. This section will summarise the evidence in relation to the cognitive representation of challenging behaviour.

In the context of working with people with severe learning disabilities and challenging behaviour, the relative influences of self-regulation and 'regulation by others' must be considered. Many individuals with serious intellectual impairment and associated sensory and physical disabilities are limited in the amount of control that they can exercise over their lives, including any influence over health outcomes (Borthwick 1990; Emerson et al 1987).

A cognitive-emotional model of *"helping behaviour"* (Weiner 1980) identified the importance of causal attribution as a determinant of the help given to others. He suggested a temporal sequence of attribution-affect-action, in which attributions are determinants of feelings, and emotional reactions then provide the *"motor and direction"* for help giving behaviour. There is some debate here about whether emotions (including the negative emotions) come first or *follow* an initial cognitive representation of the situation, i.e. is emotion primary and independent of, or secondary and dependent on, cognition? (Leventhal and Scherer 1987; Stangor and Lange 1994). It is worth noting the differences and potential conflicts between this and the Leventhal self-regulation model. In simple terms, Weiner suggests a *linear* sequence of attribution resulting in affect and then action, whereas Leventhal's model proposes a combination of perceived cause (attribution) and an emotional (affective) component, acting together, and leading to the eventual action. Figure 2.2 shows the difference between the two models.

Figure 2.2 Relation between attribution and affect: Two Models.

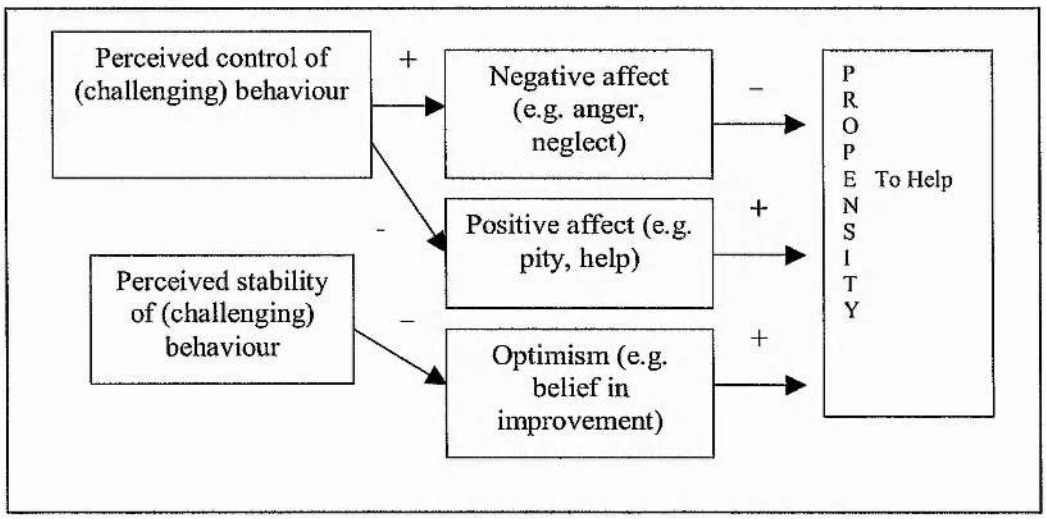


In a later study in 1988 Weiner manipulated subjects' perceived causes of an individual's difficulties by giving different information to subjects about the causes of the difficulties of others with ten different stigmas (Weiner et al 1988). The so called *"mental/behavioural stigmas"* (e.g. inability to cope, forgetfulness, temporary mental health problems) were most often viewed as *"onset-controllable and elicited little pity, much anger and judgements to neglect"*. In contrast, physical based stigmas (i.e. physical disabilities) were perceived as onset uncontrollable and elicited pity and judgements to help. The mental/behavioural stigma were also seen as unstable or reversible. Weiner's findings have been supported in a number of other studies (Sharrock et al 1990; Jones and Nisbett 1987; Dagnan et al 1998; Hill and Dagnan 2002). These findings are

relevant to the study of staff representations of challenging behaviour, especially if staff perceive challenging behaviour in terms of Weiner's *"mental/behavioural stigma"*. The Weiner model of attribution has been summarised in relation to challenging behaviour in a paper by Stanley and Standen (2000) (Figure 2.3). This describes the relationship between perceived attributions and altruistic or helping behaviour in the 'perceivers'. Stanley and Standen presented case studies to 50 care staff working in challenging behaviour day services. They found that the carers attributed more control and negative affect to challenging behaviours which were more independent and *"outer directed"*, and staff were less inclined to help. Carers' attributions of stability, positive affect and propensity to help were more probable when clients' challenging behaviours were more self-directed and dependent.

Figure 2.3

Model of attribution : From Stanley and Standen (2000) after Weiner (1980)



+ = increase; - = decrease

This highlights an important point and one that is fundamental to this study: the mediating role of affects (either positive or negative) as determinants of helping behaviour, and the role played by optimism about outcomes. However optimism and negative affectivity are not *in themselves* predictors of outcomes. According to this model *"propensity to help"*, that is helping behaviour, can be predicted by the *"cause"* and related *"controllability"* dimensions of cognitive representation. An example here would be if a behaviour was seen as 'attention seeking' it would be less likely to elicit helping behaviour by others. If an individual is suffering from a stigma seen as *"onset-uncontrollable"* (and therefore not under control of the person) they are more likely to elicit pity and offers of help. Similarly, as the perceived stability of the condition increases the level of optimism about outcomes decreases, leading to a related decrease in propensity to help. Put another way, the 'stigmas' which are seen as under the control of the person (controllable causes) and unstable

(long standing) are least likely to result in helping behaviour by others. A number of challenging behaviours may be seen in this way by staff, for example, "He only does that to wind me up...." or, "She does that every time you ask her to do anything...."or "He knows exactly what he is doing.....".

A study by Sharrock et al in 1990 generally supports Weiner's model in most respects: attributions were closely linked with qualitative aspects of the emotions experienced. However the study found that affective judgements (feelings) were *not* a determinant in helping behaviour. In the study 34 staff working with mentally disordered offenders completed a modified attributional style questionnaire. Their anticipated helping behaviour was related to levels of optimism about prognosis of patients, but *not* to affective judgement.

The relationship, mentioned in the introduction to this thesis, between cultural representation, the characteristics of the perceived and the perceivers may be important here. It is worth noting that 'mentally disordered offenders' includes people with mental health problems, those with learning disabilities as well as those with personality disorders. This mixed group, more than any other perhaps, have the most negative cultural image and the most serious challenging behaviours. This may help explain why the results of the Sharrock study only partly supported Weiner's model – is it possible that subjects engender atypical affects and produce atypical effects? However a more recent study by Wanless and Jahoda (2002) also failed to support Weiner's model. Although associations between attributions and emotions were in line with the model, associations between staff emotions and propensity to help were in the *opposite* direction from that predicted, that is, staff experiencing anger and viewing clients as having control of their challenging behaviour were nevertheless *more* willing to help.

The 1990 Sharrock study was replicated by Dagnan et al (1998). This again supported the cognitive-emotional model of helping behaviour in care staff. Twenty residential care staff who worked with people with challenging behaviour and twenty care staff who did not, were asked to rate their willingness to help change challenging behaviours in a series of hypothetical settings. Staff working with people with challenging behaviour were more likely to evaluate the person with challenging behaviour more positively, and reported they would be more likely to make an extra effort in helping. Helping behaviour in this study was best predicted by level of optimism, which was best predicted by (low level of) negative emotion, which in turn, was best predicted by the (external) attribution of controllability. That is, staff who believed that the behaviour was externally controlled and were optimistic that it could improve, were more likely to make the extra effort to help. Hill and Dagnan (2002) examined the role of attributions and staff emotions in predicting their *"helping"* behaviour. Attributions of controllability and internality were independent and significant predictors of effort in helping. That is, staff were more likely to try to help more if they saw challenging behaviour as being more controllable and caused by factors internal to the person. In a study of school staff, Hastings (2002) concluded that staff were more likely to experience negative emotional reactions to

challenging behaviour when they had low behavioural knowledge and low self-efficacy. One of the most important findings of this study was that staff's beliefs about their ability to deal with challenging behaviour reliably predicted negative emotional reactions. This supported the view that more confident and knowledgeable staff are less likely to experience fear, anxiety, depression and anger – the negative emotions most commonly experienced by staff working with people with challenging behaviour. Research with nurses caring for older people with challenging behaviour (Harbourne and Solly 1996) has shown that negative emotions were associated with an *"internal attribution style"* – nurses seeing the person as having control/responsibility for the behaviour. In the study, negative behaviour by the nurses, for example reprimands, could be reliably predicted from negative emotion. Related to this are perceptions of control in the carer.

'Helping behaviour' has also been explored in relation to people with learning disabilities and self-injurious behaviours. Hastings defined 'helping' in terms of whether the staff behaviour was more or less likely to reinforce this challenging behaviour (Jones and Hastings 2003). However in a study of 123 staff he found little evidence of associations between causal attributions and positive and negative affect.

In a survey of a single metropolitan borough (Bromley and Emerson 1995) care staff reported that a significant proportion of their colleagues displayed negative emotions such as sadness, despair, anger, annoyance, fear and disgust in response to working with people with learning disabilities and challenging behaviour. The greatest amount of stress in the same survey was attributed to difficulty in understanding the person's behaviour, the unpredictability of challenging behaviours and the lack of any clear progress in changing the behaviour. Similarly, McKenzie et al (1999) questioned 95 health and social care staff working in services in Scotland and found a general lack of knowledge and confidence about managing challenging behaviour. Reasonable evidence has been put forward for an association between challenging behaviour and staff stress, and the fact that one follows the other, in terms of causality. However, Hastings has urged caution here, due to the fact that *alternative* explanations for the link have yet to be eliminated and the evidence of a clear causal relationship between challenging behaviour and staff stress is still weak (Hastings 2002). For example, is it possible that *because* staff are stressed they perceive behaviour as 'challenging'?

The attribution of controllability in the emotional-cognitive analysis is a key factor here. Another study of staff who worked with people with challenging behaviours and had been victims of violence (Bromley and Emerson 1995) showed that staff tended to see the *behaviour* as neither controllable nor uncontrollable by the person assaulting them. Although they did attribute the *cause* of the violent assault as something *"internal"* to the client and *"external"* to themselves, that is, not their fault. Similarly, research with day care staff, working with people with challenging behaviour, has supported this finding (Heyman et al 1998). Most incidents of challenging behaviour were explained by staff as having a single (external) cause, typically service users' *"disposition, circumstances or interaction strategies"*. Staff behaviours were very

rarely seen as causal factors by the staff themselves, yet we know from social psychology that the biggest effect on our behaviour is the behaviour of others.

An early field study of social work staff responses to violence directed at them (Braithwaite 1988) highlights the scale of the problem, but also explains how attributions may play a role in the fact that comparatively few staff *report* violence. The staff in the study were from a variety of backgrounds, including learning disability.

> *"Some of the motives for not reporting are questionable. They include patronising: "Its not their fault, they can't help it"; guilt "What happens to them next?"; martyrdom: "I don't mind them hitting me if it stops them from hitting someone else"; powerlessness: "So what if I do report it, it doesn't change them."; and cultural: "Everyone puts up with it around here, that's just the way it is"* (Braithwaite 1988).

There may be a discussion point here about whether these type of attributions are simply post-hoc rationalisations by carers of their behaviour, but at time of the incident the role of negative emotions is again important. There is evidence that staff perceptions of aggressive clients with learning disabilities are linked to their cognitive and emotional responses to the aggression (Wanless and Jahoda 2002). Wanless and Jahoda also found that staff experienced more negative emotions in response to real incidents of aggression compared with responses to hypothetical or real vignettes. At a practice level, this has implications for trying to predict which practices staff will adopt when faced with aggression. For example, whether staff will use physical intervention strategies (Harris 1996; Baker and Bissmire 2000) may be influenced by whether they see it as 'necessary' in the circumstances; this judgement of necessity may depend on the degree of negative emotion experienced (anger, fear), which in turn may be determined by staff cognitive representation of the cause of the behaviour.

Perceived consequences and locus of control influence behavioural outcomes for staff, and ultimately for people with learning disabilities and challenging behaviour. People with more severe learning disabilities are more likely to be influenced by these factors because they are more dependent on staff for everyday needs, and in some cases they are totally dependent on others (Borthwick 1990; Emerson et al 1987).

In summary, using Weiner's model may help to explain staff behaviour in a cognitive-behavioural framework, and give some direction to training aimed at changing staff beliefs, emotions and behaviour in response to challenging behaviour. Helping behaviour may be influenced by cultural and contextual factors, not included in the model. Research to date suggests that helping behaviour and 'propensity to help' is more likely when staff view challenging behaviour in a certain way. From these findings, staff training should try to reduce *"negative affect"* and focus on positive staff-patient interactions as one means of doing this (e.g. Jahr 1998; Hile and Walbran 1991; Cullen 1992; Cullen et al 1983; Anderson 1987). Similarly, there is evidence

that the staff belief that behaviours are onset-controllable/onset-uncontrollable has a major influence on how staff act. This is closely related to a major issue in learning disability services and research – how much control do people have over their behaviour, and is self-regulation possible? The next section looks at this question.

Quality of Life

Both Leventhal's and Weiner's work use data from self-reports and self-regulation to evaluate cognitive representations. For people with learning disabilities and challenging behaviour however, it may be the cognitive representations of 'illness' and treatment by *others* – direct care staff – which most often has a greater impact on behavioural improvement than any *self*-regulation (or self-formulation of the problem) as described by Leventhal. This is related to the concept of "quality of life". Quality of life is an important area of study of people with learning disabilities and their care. The World Health Organisation (1993, 1995, 1997) defines quality of life as:

> *"(an) individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns"*

While "quality of life" for people with or without disabilities shares many similarities, efforts have been made to devise an operational definition specific to people with learning disabilities (Borthwick 1990; Felce and Perry 1995; Felce 1997; Schalock 1990). The Royal College of Psychiatrists have included as one of their mandatory criteria in a diagnosis of challenging behaviour *"significant negative impact on the person's quality of life or the quality of life of others"* (Royal College of Psychiatrists 2001). There is general agreement that any definition of quality of life needs to include both an objective perspective, defining quality of life generally, and a subjective perspective, looking at what things are important for a particular individual in a given setting. Evaluations of quality of life frequently include the quality of care people receive from staff (Hemming et al 1981), as support staff play a major role in contributing to, or even *determining* the lifestyles of people with learning disabilities. The amount of time a person spends engaged in social activities typical of daily living (as opposed to having nothing to do, being passive, or engaging in apparently aimless challenging behaviour) is a significant indicator of quality of life (Bellamy et al 1990; Felce and Perry 1996, 1997; Hewson and Walker 1992). Interactions with staff *should* lead to a higher quality of life for people with learning disabilities through an increase in an individual's skills, confidence and self-esteem. It is apparent

from some research that for many people with learning disabilities meaningful interaction with others is almost non-existent. (See also section on *Interactions between staff and service users* which follows).

It can be argued that many people with learning disabilities and challenging behaviour experience their challenging behaviour and any improvement in their quality of life *only* with, or through direct care staff. Adults with profound learning disabilities and severe challenging behaviours especially are totally dependent on staff for most of their needs, including almost all interactions. Quality of *services* and quality of *life* in these cases become almost impossible to separate. This being the case, a study of how challenging behaviour is represented in *staff* is more likely to produce data that can be used to improve care and quality of life for patients/service users. Encouraging people with intellectual disabilities and serious challenging behaviours to gain insight into their own condition and cognitively to represent problems differently is less likely to produce similar results. There are methodological difficulties in accessing the subjective views of people with learning disabilities and only a few studies have attempted to tackle these. There is some evidence that people with *mild* learning disabilities can make valid and reliable responses on some self-report evaluations (e.g. Prout and Strohmer 1998; Prout and Nowak-Drabik 2003) but this has not been investigated for people with more severe disabilities and challenging behaviour. Similarly some success *has* been achieved in people with learning disabilities gaining some insight into their behaviours, using Cognitive Behavioural Therapy with people with mild learning disabilities, (e.g. Trower et al 1988; Jahoda et al 2001) and their carers (Kushlick et al 1997).

Leventhal and Colman (1997) proposed that how people view their illness and their treatment influences how they evaluate their current quality of life. The (objective or measurable) quality of life for many people with serious challenging behaviours is determined by staff, as their primary carers. The (subjective) 'common sense representation' of challenging behaviour and its treatment may be a factor in this. That is, staff, rather than service users are making judgements which both define quality of life and decide how good it will be for those in care. In this analysis, it is *staff*, rather than people with learning disabilities who have most control over any 'self-regulatory' processes. In this analysis, a 'staff-regulatory' process may be more apt.

The quality of life for most people, with and without disabilities, is determined by how good their relationships are with others. For people with learning disabilities and challenging behaviour these relationships are most often with people who are paid to spend time with them. The nature of the interactions in these relationships has been studied over the past 30 years and some consistent findings have emerged.

Interactions between staff and service users

> *"The patient, though conscious that his condition is perilous, may recover his health simply through his contentment with the goodness of the physician"* (Hippocrates 400 BC / 1923).

This quote is used in support of the view that good clinician-patient relationships can have a therapeutic effect, irrespective of treatments provided (Di Blasi et al 2001). In a systematic review of the evidence for this view, the authors looked at how health professionals can be instrumental in shaping the way that patients think about their condition, and in providing what they describe as *"cognitive and emotional care"*. They found that in around half of the studies reviewed there were positive effects on patients' health after manipulation of the patient-health professional relationship. There are parallels here with the nature of interactions between care staff and people with learning disabilities and challenging behaviour, and the outcomes. In other words, certain staff behaviours are more beneficial to people with challenging behaviour than others and certain types of interactions will lead to higher levels of engagement and beneficial outcomes (e.g. Felce et al 1995, Mansell 1995).

A basic premise is that the amount of time that staff choose to spend with service users may be influenced by their views and expectations about challenging behaviour, and that behaviour can be seen as a function of the social environment (Carr and Durand 1985; McGill 1993). Indeed, Cullen et al (1999) has suggested that the term *"interactional challenges"* may be a more accurate and appropriate term than "challenging behaviour". An investigation by Cullen et al (1983) showed that people with learning disabilities, including those with challenging behaviours, received *no* attention from nursing staff for 92% of the time during a typical working day. This finding is consistent with previous and subsequent studies showing that staff generally spend very little time interacting with clients and even when they do, the quality of those interactions tends to be poor (McConkey et al 1999; Purcell et al 2000; Beail 1985; Hile and Walbran 1991; Felce et al 1991, 1995). Hile and Walbran (1991) reported that residents would be engaged in potentially interactive activities with staff for only 11.7% of their total waking time. Engagement levels as high as 80% have been reported in early Room Management studies (e.g. Porterfield and Blunden 1978; Woods and Cullen 1983) but staff did not continue with this beyond the lifetime of the studies. There have been a few reports of success in improving the communication skills of staff (e.g. Dobson et al 2002; Montegar et al 1977) and although a move to community has improved the settings, problems still remain. For example:

> *"There was some interaction and engagement in activities was improved in those community settings which were genuinely small and based on ordinary housing. However a more striking*

finding for all residents was their lack of constructive occupation and the low level of assistance given by staff to help individuals participate more" (Felce et al 1995).

There is little evidence of Weiner's *"helping"* behaviour in these examples of interaction. Felce et al (1995) suggest that a greater degree of challenging behaviour is associated with less support from staff. This is more evident and less amenable to change in older style, institutional care, but it is also seen in smaller community settings (Fleming and Stenfert-Kroese 1993; Mansell and Beasley 1993; Hastings and Remington 1994). In the early 1990s one of the driving forces behind a move to community care was the belief that moving out of hospital and into community settings would, by itself, reduce the frequency and severity of challenging behaviour, so widespread in large institutional settings (Booth et al 1990; Emerson and Hatton 1994). There is now an understanding that relocation *alone* does not impact on the most severe challenging behaviours (Felce et al 1995, 1998b). One of the reasons for this may lie in staff behaviours, rather than in the behaviours of people with learning disabilities. New settings and new managed care regimes may ostensibly improve the quality of life for people with learning disabilities generally, but they may not change the underlying cognitive representations of staff, which are retained even after relocation. It is now common practice for organisations contracted to provide residential care for those people leaving hospital to employ hospital staff in the new community homes. It seems probable that some of the *"organisational culture"* (Hatton et al 1999) may be exported from the hospital to the community setting. Indeed, as a response to this there is anecdotal evidence that some of the voluntary sector organisations may have unwritten policies of *not* employing hospital staff in resettlement projects.

More optimistically, there is some evidence that interactions can be increased and improved in quality, but only with very careful monitoring, staff support and in some cases improved staff-client ratios (e.g. Mansell and Beasley 1993; Mansell 1995). The underlying attribution-affect-action relationship is again of interest here: what aspects of staff cognitive representation of challenging behaviour make it more or less likely that they will interact more with service users or that they will show helping behaviour? (Clegg 1994). Similarly, staff views on treatment options and how these are implemented are relevant here.

There have been a number of studies investigating factors affecting *"treatment acceptability"* ratings in staff working with people with learning disabilities. These looked at the variables that influence how 'acceptable' staff see specific therapeutic interventions. For example, Miltenberger et al (1989, 1991) Kemp et al (1996) and Lindeman et al (1992) all looked at the type of intervention as a variable, using the Treatment Evaluation Inventory. There was some variability in results, but in general community based staff rated less restrictive interventions as more acceptable and more extreme interventions (e.g. electric shock) were seen as acceptable only for more severe behavioural problems. These results have been replicated elsewhere, both for staff working with people with learning disabilities and undergraduate subjects (Foxx et al 1996a, 1996b; Irvin and Lundervold 1988; Kalfus and Burk 1989).

The attitude of medical and care staff to behaviour can also have an impact on whether therapeutic interventions are actually implemented (McConkey and Truesdale 2000; Hemsley et al 2001). For example Corrigan and Williams (1998) found that staff attitudes in some clinical settings impeded the implementation of recommended behavioural treatment. Similarly, in a study by Lyall et al (1995) attitudes to offending behaviour of people with learning disabilities also varied and had an impact of the kind of service people received. Staff in only three out of 30 establishments studied said they would *"always"* report and act on a serious challenging behaviour (sexual assault). Staff at one hostel reported that they would hesitate to report rape and staff in two others would *"consider the circumstances"* before involving police. If there is a mismatch between what staff perceive as the identity and/or cause of a behaviour and the principles underlying any intervention, those staff may make a decision not to use the intervention. Bromley and Emerson (1995) give the example of failure to use *"positive programming"* (LaVigna and Donnellan 1986) in a case where staff believed that a challenging behaviour had a medical cause.

Cullen (1991) has emphasised the need to distinguish between valuing *roles* and valuing *people* in learning disability services. For some people with the most severe disabilities and serious challenging behaviours it may not be feasible to establish many new acceptable behavioural repertoires through staff interactions, even with the best programmes and ideal resources. However teaching valued behaviours through interactions should remain a specific aim of these services. How staff view challenging behaviour in these settings is critical and has implications for how staff maintain a therapeutic view of their role. For example, in a more recent study of the nature of interactions between care staff and adults with learning disabilities (Chan and Yau 2002) it is interesting to note that *"the ward for residents with challenging behaviours was excluded from the study because of the atypical staff-resident interaction patterns caused by the residents' behaviours"*. In the same institution, of some 300 residents, adults were classified as *"big boys"* or *"little boys"* on the basis of their level of dependence, for *"ease of management and provision of care"*, and the two groups had different care management plans, based on this classification.

A final example will perhaps highlight just how influential attribution theory and cognitive representations can be in the lives of this vulnerable group of people. Over half the staff interviewed in one study (Hastings 1995a) claimed that their emotional responses affected the way they "dealt with" challenging behaviour. Both Hastings (1995b) and Fenwick (1995) have suggested that some staff may reject recommended non-aversive approaches to challenging behaviour as being *"too lenient"* and use punishment based procedures instead, where they view the challenging behaviour to be *"intentional"* or within the control of the person with learning disabilities. It is difficult to establish the scale of practices such as these, but the research into the abuse of people with learning disabilities suggests that inaccurate or distorted cognitive representations have been used by staff to justify the abuse in many cases (Furey 1989; Harris and Craft 1994; L'Institut Roeher 1995).

Summary

In summary, how staff cognitively represent challenging behaviour can affect the interactions that staff are involved in, the kinds of therapeutic intervention that staff use and the effectiveness of those interventions. Given that cognitive representations are major determinants of how staff think and act in relation to challenging behaviour, efforts to manipulate those staff cognitive processes and behaviours through training are clearly of great interest. This is the subject of Chapter 3. The issue of training becomes of even greater importance in light of disturbing evidence that some of the antecedents and consequences that typically maintain many challenging behaviours in people with learning disabilities may be *staff behaviours* (Hastings 1997 c). This has serious implications for the quality of care of people with learning disabilities and challenging behaviour.

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities –
An Evaluation of the Impact of an Open Learning Training Course

CHAPTER 3

Staff Training

CHAPTER 3

Staff Training

This chapter will review the relationship between training of care staff, its impact on staff attitudes and performance, and how this has been measured. There has been some promising research into establishing and maintaining reductions in challenging behaviour through staff training, but at a services level the implementation of good practice is patchy. A review of the research literature suggests some future directions for training.

Cognitive representations of challenging behaviour and staff training

Research by Hastings (1994, 1996) and others (Berryman et al 1994; Bromley and Emerson 1995) suggests that staff attributions and beliefs about challenging behaviour can affect not only the day-to-day treatment but also the very quality of life of people with learning disabilities. The role of affect is especially important in this analysis of staff performance (Hastings 1995a). For over 30 years it has been recognised that direct care staff, rather than psychologists, psychiatrists or other specialised professionals have the greatest potential as *"agents for change"* in relation to people with learning disabilities and challenging behaviour (Ayllon and Wright 1972). There is an assumption in health and other services that direct care staff act in the best interests of those in their care, to bring about therapeutic change. It is worrying therefore to find a growing body of evidence that direct care staff's understanding of challenging behaviour – or rather their lack of understanding – is an important variable in the establishment and maintenance of a range of serious challenging behaviour, both in institutional and community settings (e.g. Carr et al 1991; Oliver et al 1996; Hastings and Remington 1994). Staff behaviour has been shown to affect the occurrence or absence of challenging behaviour (Hastings and Remington 1994; Hastings 1996a). Staff, as the main care givers and sources of positive and negative consequences and setting events, may be inadvertently providing the reinforcing consequences for challenging behaviours such as self injury (Oliver et al 1987, 1996; Emerson 2001) and the large number of behaviours maintained by seeking or avoiding social contact (Derby et al 1992). Similarly, staff may also be inappropriately and inadvertently manipulating discriminative stimuli and establishing operations (EO) (Horner et al 1997). The establishing operations are the antecedent conditions for the challenging behaviour, and some recent research has sought to explain how these can be manipulated appropriately or, in some cases, inadvertently by staff. (Adelinis et al 1997; McGill 1999; Hastings and Remington 1994a). Where staff knowledge of the causes of challenging behaviour does not include an understanding of establishing operations, staff actions may act to reinforce challenging behaviours. For example deprivation of attention, (escape from) task demands and deprivation of stimuli have all been suggested as establishing operations for the reinforcement and maintenance of self-injurious behaviours.

Typically, service settings with low levels of any social interaction have been identified as particularly conducive to challenging behaviour. In such a setting the *"deprivation of attention"* increases the likelihood that a person will use challenging behaviour to gain *some* kind of interaction, and the setting is therefore seen as the establishing operation (EO) (McGill 1999). EOs have been summarised as, "*changing how much someone wants something*" (Hogg and Campbell 2003). Thus, a motivational state is evoked by a particular establishing operation and discriminative stimuli signal the likelihood that a particular type of behaviour will be reinforced. "*If establishing operations change how much you want something, discriminative stimuli tell you what your chance of getting what you want is*" (Hogg and Campbell 2003; Michael 1982). Following on from this, behaviours which result in reinforcement, for example social contact in an environment where there is very little, will make those behaviours more likely in the future. This operant model of challenging behaviour has been described in some detail by Emerson (2001). In some services to people with learning disabilities it can be seen how residential or day care settings may be the establishing operations and in some cases the very absence, or presence of staff the discriminative stimuli.

Staff working with people with challenging behaviour have been reported as more anxious, feeling less supported and having lower job satisfaction than other staff working in learning disability settings where there are no people with challenging behaviour (Cullen 1987; Jenkins et al 1997). Staff working with this client group report high levels of stress, related to their difficulty in understanding the behaviour, the apparent unpredictability of the behaviours and staff not knowing how the behaviours can be treated or controlled (Bromley and Emerson 1995). All of these factors may contribute to the cognitive representation of challenging behaviour that staff have, especially in the dimensions of Cause, Treatment/Control and Emotional Reaction.

Previous studies on staff attribution using different dimensions to measure staff views (Hastings and Remington 1994; Stanley and Standen 2000; Oliver et al 1996) have suggested some explanation of the hypothesised relationship between cognitive representation and staff behaviour. Causal explanations have featured strongly in this research (Dunne 1994) and some patterns have emerged. The staff studied have consistently suggested a number of causes. For example, Bromley and Emerson (1995) found eleven main reasons given by care staff. These various explanations have been grouped under five main causal models in Hastings' Challenging Behaviour Attributions Scale (CHABA) (Hastings 1997a): Medical and biological factors; Learned behaviour; Aspects of the physical environment; Self stimulation; and Emotional factors. These causal models can be compared with what is known about verifiable causes of challenging behaviour. Neurobiological factors, genetic anomalies and specific syndromes associated with 'behavioural phenotypes' (e.g. Fragile-X, Lesch-Nyhan, Williams, Prader-Willi syndromes) have all been implicated as causes of specific and more general challenging behaviours (Dykens and Hodapp 1999). Establishing operations and various types of reinforcement have been shown to be responsible for the establishment and maintenance of a wide range of challenging behaviours (e.g. Emerson 2001).

Correlations reported between cause and emotional reaction, and between cause and treatment/control, point to the perceived aetiology of the challenging behaviour as an influence more powerful than written, good practice procedures. An analysis of staff explanations of self-injurious behaviour (SIB) by Oliver (1996) found that behavioural best practice in this area was not widely found in staff groups:

> *"the dissemination of a behavioural perspective to those in close contact with people who show SIB has not occurred"* (Oliver et al 1996).

In Oliver's study there was a significant *negative* correlation between the knowledge about behavioural procedures of one group of (direct contact) staff and the probability of those staff choosing a behaviourally *in*appropriate response to challenging behaviour, in this case self injurious behaviour; the greater the staff knowledge the less likely they were to inadvertently reinforce SIB. This was only the case, however, for one out of four staff groups in the study. Oliver has shown that self-injurious behaviour is typically maintained by some very complex interactions between positive, negative and automatic (or internal) reinforcement, by mechanisms which are not common to other forms of challenging behaviour.

Other studies have suggested that even when staff *do* have a working knowledge of good practice in challenging behaviour they do not always act 'appropriately'. For example, there appears to be a consistent difference in the study of best practice between what staff recognised *should* be done to reduce challenging behaviour and what they actually *do* when faced with it:

> *"Staff descriptions of long-term interventions were largely consistent with the aims of psychological interventions. However the immediate interventions strategies were similar to the counter-habilitative strategies identified in previous observational and self report research"* (Hastings 1996).

It appears that in some cases staff are well aware that their short-term actions to change behaviour are counter productive in the longer term (Watts et al 1997). Hastings' explanation here is that a training emphasis on managing, rather than understanding challenging behaviour may contribute to staff beliefs and responses that are behaviourally inappropriate or undesirable. Hastings (1994) had earlier reviewed other research evidence of care staff acting as mediators or *"sources of socially mediated reinforcement capable of developing and maintaining challenging behaviour"*. In this analysis, staff act to prevent injury and gain control, despite the potentially reinforcing properties of such interventions (Hastings 1996a). A cycle of *"mutual reinforcement"* is thus set up, in which staff behaviour is also (negatively) reinforced by the ending or escape from the challenging behaviour (Carr et al 1991; Hall and Oliver 1992; Taylor and Carr 1992; Oliver 1995). An example here would be a staff member who attends to someone who is screaming/head banging/throwing objects. The staff member moves the person to another area/distracts them/offers some constructive activity.

The person has received positive consequences (reinforcement) for their behaviour and the staff member has received negative reinforcement in the form of the screaming/head banging/throwing objects coming to an end. This is a simple example of what can be a very complex and dynamic system. A greater understanding of *how* staff act as mediating factors in the behaviour here is clearly important.

There is some evidence that more experienced staff and more qualified staff distinguish between challenging behaviours especially in term of their causes, with implications for how those staff respond to the behaviours (Hastings et al 1995b; Oliver et al 1996). Hastings et al (1997) found that compared with student nurses, a group of experienced care staff rated social and emotional variables, such as boredom and noise, among the likely causes of challenging behaviour more than did inexperienced staff. Both groups viewed the likely causes of stereotyped behaviours and aggression in similar ways. In contrast Morgan and Hastings (2002) found that experience among special school teachers had little effect on how accurately they were able to attribute correctly causes of behaviour.

The success of training interventions to improve the quality of staff interactions and attitude in this area has generally been equivocal. Some of this is due to the lack of precision in defining 'success', or indeed failure of staff training. Outcome measures used have included the subjective (what staff report), the cognitive (knowledge gain), service-users centred (effects on behaviour) and organisational (e.g. reduced turnover or burnout of staff) (Bernstein and Ziarnik 1984; Hatton and Emerson 1998;Chung et al 1996a). Evaluating training on the basis of how any learning is applied has been rare, perhaps in recognition or fear that money invested in training brings comparatively little direct return. Attempts to improve understanding, change specific staff behaviours and increase job satisfaction have had mixed, and predominantly short-term results (Iwata et al 1976; Barrowclough 1981; Cullen 1987, 1988, 1989, 1992; Cullen et al 1983, 1989; Allen et al 1997; Cullen and Dickens 1990; Demchak and Browder 1990; Edwards and Miltenberger 1991; Hogg and Mittler 1987; Lloyd 1983; Jahr 1998; Whitaker 2002). In one study, even after relevant training, staff showed an increased tendency to use a physical intervention relative to other methods (Baker and Bissmire 2000). This has implications for whether and how training affects cognitive representations.

Increases have been recorded variously in physical management skills, knowledge, self confidence, ability to use non aversive approaches and engagement skills – all in evaluations of short courses and training packages (McDonnell 1997; Smalley et al 1997; Binney 1992; Berryman et al 1994; Barrowclough 1981; Harper 1994). For example, Allen and Tynan (2000) have shown that appropriate training can have a positive impact on staff knowledge and confidence in supporting people with challenging behaviour. Similarly Berryman et al (1994) evaluated the effects of two different training programmes on the knowledge and attitudes of (untrained) direct care staff. Staff who received non-aversive training had a better understanding of the range of possible causes and possible treatments. In the majority of these studies the importance of managing, or sometimes controlling, the behaviour has been stressed.

For a number of years there has been some promising work validating various practices which have been termed *"person-centred"* or *"personal futures planning"* generally, (Mount 1992, 1994; Felce et al 2002) and sometimes *"positive behaviour support"* when applied to people with challenging behaviours (Magito-McLaughlin et al 2002; Reid and Green 2002; Koegel et al 1996). Most writers have praised the growth of services that are person-centred, but there is a need to ensure that such services 'walk the walk, and don't just talk the talk' (Lyle-O'Brien et al 1997; Holburn and Vietze 1998). Green and Reid (1991) point out the need to ensure adequate staff performance during the implementation of person-centred plans so that people with severe multiple disabilities can attain their desired outcomes. The compatibility of person-centred planning and well established applied behaviour analysis has been investigated in an attempt to achieve reliable implementation and give verifiable outcome measures. Some partial success has been reported (Holburn 2001) and Carr (2002) looks forward to further evolution of this approach which will move *"away from pathology-based to a new positive model that stresses personal competence and environmental integrity"* (Carr et al 2002).

Evidence-based approaches that are based on applied behavioural analysis have been mentioned earlier in Chapter 1 and there is convincing support for their efficacy (e.g. Stoltz 1981; Page et al 1982; Foxx 1996; Allen et al 1997; Cullen 1999; Whitaker 2000, 2002, Hieneman and Dunlap 2000). These approaches are well tested in research and in practice (Emerson 1995, 2001; Health Evidence Bulletins Wales 2001). For example, Whitaker (2000) looked at all studies that reported reducing challenging behaviour over a 10-year period in six of the leading peer reviewed journals.

In all of these well-evaluated programmes however, the danger of *"misapplication"* is emphasised by the authors. Specific issues include:

> *"ensuring adequate staff performance during the implementation of person-centred plans to effectively support people with severe multiple disabilities in attaining their desired outcomes"* (Reid and Green 2002).

Staff performance in this context, it is hypothesised, may be influenced by staff cognitive representation of challenging behaviour. The influence of cognitive representations on staff behaviour may also be underestimated in planning staff training. There are many instances of evidence based, successfully designed programmes which fail because staff are not able, or are not willing, to implement them (Foxx 1996; Cullen 1992, 1998; Hastings 1999a; Hastings and Remington 1993; Smith et al 1992; McBrien and Candy 1998; Emerson 2001). In all of these studies staff behaviours are the identified dependent variable and training interventions of one kind or another are the independent variables. Ager and O'May (2001) reviewed 42 studies which looked at the capacity of direct care staff to deliver intervention in the treatment of challenging

behaviour in people with intellectual disability and acquired brain injury. The importance of attitudinal change as an essential adjunct to staff training was one major finding. Slama and Bannerman (1983) drew attention to the difficulties of implementing proven programmes under the most difficult conditions, confirming that good programmes and staff training are not in themselves enough to affect change:

> *"it is possible to improve institutional programming when behavioral treatment and organizational principles are combined with good political and social savvy by the innovator"* (Slama and Bannerman 1983).

Previous research in learning disabilities suggest that staff knowledge and staff attitudes are major determinants of how far staff will follow recognised good practice strategies (Brown and Thompson 1997; McCabe 1993; Hogg et al 2001). Brown and Thompson (1997), for example, noted that in their study of staff responses to possible abuse, unclear definitions of some behaviours and inconsistent perception of risk hindered service responses. Attention has also focused on determining staff attitude (Brown and Thompson 1997; McCabe 1993) and staff knowledge and its relationship to practice (Brown et al 1994). Brown et al (1994) found that although members of a staff group were aware of the possibility of abusive practices in their service, they were unclear as to their specific roles and responsibilities, leading to reported high levels of anxiety. Some of this work, looking at staff responses to potential abuse may provide useful clues for the present study. Most services now have clear, written procedures for responding to abuse and similar written procedures for staff responding to challenging behaviour. The difficulty in both cases is that staff do not always follow the recognised procedures, for a variety of reasons, which include their own views on the behaviour. It is the reasons *why* they don't follow best practice that are of crucial importance in any attempt to change their behaviour through training.

A final point in this section concerns the effectiveness of staff training in working with people with learning disabilities. With the exception of a few well planned programmes (e.g. Taylor et al 1996) staff working practices do not change significantly as a result of training and the service users in their care therefore rarely benefit from the training the staff have received (Cullen 1988, 1992; Foxx 1996; McBrien and Candy 1998).

> *"Staff can be taught to behave appropriately in our training sessions but they do not necessarily behave appropriately when they return to their work settings. In fact it would not be too strong to say that they rarely do so"* (Cullen 1992).

There may be a number of reasons for this. For example, Cullen (1999) points to the fact that few organisations acknowledge the *"wealth of* [research] *evidence"* suggesting that staff training hardly ever leads to long term changes in performance. Other writers contend that the effectiveness of staff training has yet to

be demonstrated because it is often incorrectly applied (Ager and O'May 2001; Ziarnik and Bernstein 1982). There is a basic assumption that staff lack the skills to do the job properly. Organisational culture and staff sub-culture can also be barriers to effective training (Hatton et al 1999; Heath Evidence Bulletins 2001). Hieneman and Dunlap (2000, 2000a) reviewed 153 articles, chapters and books on the success of community based programmes, then interviewed family members, service providers and experienced consultants. From an analysis of these data the writers identified variables that were crucial to intervention and analysis in challenging behaviour. The knowledge and skills of support providers to implement programmes and the personal investment of those support providers were two of the main variables.

Overall poor staff performance may be due to a variety of factors. One of these factors may be staff knowledge and how this is related to cognitive representations of challenging behaviour. A lack of adequate or suitably designed training for care staff working with people with challenging behaviour mitigates against both the psychological well-being of the staff *and* the successful management, treatment and planned community integration of service users. Cullen (1992, 1999) and Foxx (1996) have suggested that for some service users it may not be possible to teach new behavioural repertoires, even with the best of programmes. Could the same be true for some staff? Would a more accurate measure of cognitive representation make a difference to how staff are trained and whether their performance improved?

Assessment of attitudes and rating scales

A key question for staff training is whether the nature and extent of training should depend on the characteristics and behaviour of people with challenging behaviour or on the characteristics and behaviour of *staff*. Methods of measuring both exist.

To improve understanding of how staff conceptualise and react to people with learning disabilities, and to challenging behaviour, a number of measures have been successfully developed. These include a number of reliable rating scales. This has allowed researchers to identify and measure some aspects of staff cognitive representations of challenging behaviour. A brief review of how these measures have evolved follows, as an introduction to the development of the Challenging Behaviour Representation Questionnaire in Chapter 4.

Early work in this area focussed on general staff views on the 'mentally retarded' or 'mentally handicapped' residents in their charge. For example, Butterfield et al (1966, 1968) looked at differences in the attitudes of staff working in eight separate institutions, using an Attendant Attitude Inventory (AAI). This inventory had six independent dimensions of job satisfaction, strictness towards residents, sociability towards residents, active engagement with residents, institutional identification and irritability with residents. The titles of these dimensions in themselves give some indication of the relationships between staff and people with learning disabilities in 1968. More recently there has been increased focus on instruments to assess

disability generally (e.g. Holmes et al 1982) and to rate challenging behaviours specifically, e.g. The Aberrant Behavior Checklist (Aman et al 1985; Aman and Singh 1986), The Developmental Behaviour Checklist, (Einfeld and Tonge 1995), Adaptive Behaviour Scale, (Nihira et al 1969, 1974, 1976, 1984, 1993), Questionnaire on cognitions related to sex offending (Broxholme and Lindsay 2003), The Behavior Problems Inventory, (Rojahn et al 2001), The Stereotyped Behavior Scale, (Rojahn et al 1997), Checklist of Challenging Behaviour, (Harris 1994); and for older people – The Challenging Behaviour Scale, (Moniz-Cook et al 2001), The Disruptive Behaviour Scale (Beck et al 1997), The Behavioural Assessment Scale of Later Life, (Brooker et al 1993) and staff views on it (Peterson et al 1982), The Attitudes to People Who Display Challenging Behaviour (Espie and Bell 2002), and the Disability Assessment Schedule (Holmes et al 1982).

Another tool, The Self Injury Behavioural Understanding Questionnaire (SIBUQ) (Oliver et al 1996) has three subscales of knowledge, action and causal attributions. The questionnaire focuses on staff responses to self-injurious behaviour, rather than challenging behaviours in a wider sense. Oliver also looked at causal explanations of self injurious behaviour given by those working with people with Cornelia de Lange syndrome (Hyman and Oliver 2001).

A Likert-type scale for measuring *"nurses expectations for accomplishment"* of people with learning disabilities was developed by Moores and Grant (1976). This 32-item scale was administered to 696 staff. To give a flavour of the study, staff were asked to agree or disagree with statements such as:

> *"It is unreasonable to expect that the quality of life of more than a few subnormals will be improved if they were housed in hostels or lodgings in the community"*
>
> *"In the patients' interests nurses and patients should have their meals separately"*

In a later paper, based on the results of the 1976 study, Moores and Grant (1977) factor analysed the responses, categorising staff as *"optimists"* or as *"pessimists"*, based on their expectations. Two main findings emerged:

> *"many nursing staff, particularly the less well qualified, still hold <u>pessimistic</u> views about what their patients can achieve"* [the emphasis is Moores and Grant's]
>
> *" the differences between institutions indicate that one hospital is apparently more successful than another in attracting optimists. Presumably the process is contagious in that once a hospital has a disproportionate number of pessimists it is more than likely that those with optimistic leanings will be less inclined to stay"*

Is it possible that staff classified as *"optimists"* or *"pessimists"* hold a particular set of cognitive representations of challenging behaviour, which predisposes them to positive or more negative interactions with people with challenging behaviour? Or would staff who are initially optimistic change their cognitive representations and become pessimistic if they moved to another work setting where pessimists predominated? Negative interactions in this context have been defined as expressions of disapproval, inappropriate volume or tone of voice and *"physical guidance, including reprimands"* (Doerner et al 1989).

These earlier studies have informed both policy in services and the development of more recent measures of staff attitudes. Given that the relationship between staff and those in their care is a crucial factor, it is worth mentioning in this section the development of a number of scales related to the influence of *"Powerful Others"* in cognitive belief systems. This work has been done in a variety of contexts, but not in learning disability; for example, recovery from traumatic brain injury (Lubusko et al 1994), chronic headache (Primavera and Kaiser 1994), crime victimization (Houts et al 1994). A number of studies have identified the relationship between *"powerful others"* as the perceived locus of control, and health outcomes, for example the Multidimensional Health Locus of Control (MHLC) scale and the Revised Internal-External Scale (RIES) have been used as measures of cognitive beliefs (Lubusko et al 1994). This is an area of possible future study, given the power differential in the typical staff-service user relationship in learning disability services.

Assessment of staff causal attributions for challenging behaviour has been done using a variety of methodologies. For example, Bromley and Emerson (1995) used a questionnaire on the behaviour of a known individual to gather reasons given for this behaviour by 70 staff. These fell into five main categories – internal mood, past environment, present environment, self stimulation, and control/ communication with others. Berryman et al (1994) administered questionnaire vignettes to staff. The most frequent attributions were social reinforcement, emotions, task/environment, communication, medical/pain, and intrinsic reinforcement. Hastings has used both vignettes (1995) and semi-structured interviews with staff (1995a). Stanley and Standen (2000) used case studies, presented to 50 care staff working in challenging behaviour day services. Wanless and Jahoda (2002) used and compared descriptive vignettes and real incidents recalled by staff.
In the context of the present study, Hastings (1994, 1996) has been the main protagonist in developing and refining scales specifically for staff working with people who have learning disabilities and challenging behaviour. Four of these scales have been used together to form the Challenging Behaviour Staff Perceptions Questionnaire (Hastings 1999). This consists of:

- the Challenging Behaviour Attributions Scale – CHABA (Hastings 1997a)
- the Emotional Responses to Challenging Behaviour Scale (Mitchell and Hastings 1998)
- the Thoughts About Challenging Behaviour Scale– TACBS (Mitchell and Hastings 1998)
- and the Difficult Behaviour Self Efficacy Scale (Hastings and Brown 1999)

This combination provides a valuable research tool, particularly for the causal attributions and emotional reactions of staff, and how these two factors may be related. It can also be used to evaluate the success of particular training. Preliminary psychometric analysis of data from the CHABA scale suggests acceptable levels of reliability and good internal consistency for the subscales (Hastings 1997a). CHABA has also been used to assess changes in staff attribution before and after a training course (Grey et al 2002). Between 1994-1996 Hastings developed the first CHABA scale to measure beliefs about different causal models in staff and others working with people with learning disabilities. Related work has focused on a cognitive-emotional analysis of the role that attributions may play in staff responses to challenging behaviour and how these impact on staff stress or on staff behaviour (Dagnan et al 1998; McGuiness and Dagnan 2001; Bromley and Emerson 1995; Hastings 1996a; Hatton 1999). The present study builds on some of this work by focussing on underlying dimensions of the cognitive representation of challenging behaviour.

Dimensions of Cognitive Representation

> *"an episodic condition with uncertain aetiology, therefore the labelling and, in turn, beliefs about the nature of the condition are less likely to be based on substantive medical knowledge and more on cognitive representations which [people] develop. As such, a reliable measure of these representations could be very useful in understanding how the condition is interpreted"* (Papadopoulos et al 2001).

This quote could be a description of challenging behaviour, but it is not. It comes instead from a study into the dermatological condition vitiligo (white patches on the skin). The quote is used here to illustrate the possible value of a cognitive framework in explaining a range of 'conditions'. The focus of the present study is on how challenging behaviour may be cognitively represented in staff, and how cognitive representation may impact on staff interactions with service users. Research to date suggests a number of specific components that have been encountered throughout this review constitute cognitive representation. In the context of people with challenging behaviour, these components or 'dimensions' can be characterised as follows:

Identity – how staff define challenging behaviour may affect which service users' behaviour are 'labelled' as a challenge, and who is more likely to receive particular therapeutic interventions as a result. Some descriptions of challenging behaviour are abstract or at odds with formal definitions, and do not lead to setting of precise behavioural goals which would benefit service users.

Cause – evidence suggests a consistent 'gap' between what staff say and what they do. Even staff who are able to identify a range of causative factors and describe good behavioural practice do not use strategies which make challenging behaviour less likely, and in many cases the probability of the behaviour actually increases.

Some perceived causes may be based on inaccurate information, personal prejudice or cultural or religious beliefs.

Consequences – the perceived consequences of challenging behaviour for service users may be decreasing interaction with staff or others, limited opportunities to learn new (functional skills) and increased social exclusion. Staff optimism or pessimism on the consequences of behaviour may also be a determining factor here.

Treatment/control – staff understanding of challenging behaviour and its causes will determine which reactive and proactive strategies they use, in attempts to reduce the frequency, the intensity and/or the duration of the behaviour. A training emphasis on managing rather than understanding behaviour may lead to attempts to control or eliminate, rather than treat, when challenging behaviour is seen in a pathological light.

Time Line/Duration – staff perception of the duration and permanency of challenging behaviours may influence the effort they expend in attempting to change those behaviours.

Emotional Reaction – a cognitive-emotional path analysis suggests that emotional reactions (and negative emotions in particular) are an important mediating factor between attribution and action in staff working with challenging behaviour. This view sees emotion as secondary and dependent on cognition, rather than independent.

Summary

Weiner's original cognitive-emotional model of *"helping behaviour"* (Weiner 1980, 1985, 1986) proposed that people's helping behaviour can be predicted from a study of their attributions and related emotions. In the context of challenging behaviour, Jones and Hastings (2003) have conceptualised 'helping behaviour' in terms of whether the behaviour of staff makes challenging behaviour more or less likely in the future. The Weiner model has been applied with some success to staff working with people with learning disabilities and challenging behaviour, for example, Sharrock (1990); Dagnan et al (1998). More work is needed in this area to establish the precise mechanisms operating, and to identify any additional moderating or mediating variables. The work by Weiner, Hastings and Dagnan in particular and other work on staff psychological well-being (e.g. Jenkins 1997) offer the best evidence that using cognitive behavioural models may be useful in planning training which focuses on staff beliefs, emotions and responses to challenging behaviour. Ziarnik and Bernstein (1982) point out that job performance of care staff is a *multiply*-determined phenomenon requiring careful analysis to select the most *appropriate* intervention. If training interventions

can target the attributions and emotions that make better quality interactions and helping behaviour more likely, (as well as establishing the Identity, Cause, Consequences, Emotional reaction and Treatment/Control components of the cognitive representation) the training will be more effective and more likely to benefit service users with learning disabilities.

Direct observation of staff and self-report measures have been the most common methods used in the study of staff interactions with clients and attempts to find underlying representations of challenging behaviour. However this largely behavioural emphasis has produced a picture that is incomplete. Kushlick et al (1997) suggested that cognitive components would also play a role in developing any comprehensive explanation of why staff behave the way they do. This view has been supported more recently:

> *"there is a recognition that cognitive factors will need to be incorporated if a full account of carer motivation and performance is to be provided"* (Stanley and Standen 2000).

The questionnaire developed as part of this research may prove a useful addition to the tools which can be used in studying staff views and subsequent responses to challenging behaviour.

There is some evidence that the way in which individuals and their carers view their illness has an effect on health and behavioural outcomes. The five components of Identity, Cause, Consequences, Time line and Treatment/control have been identified in a model of how illness may be cognitively represented. These five components form part of a more comprehensive model, originally proposed by Leventhal, which may explain and predict how cognitive representation influences recovery and prognosis. An additional Emotional Reaction component may also be important. Some of the components have been studied using other methods in relation to interactions between staff and people with challenging behaviour with whom they are working. These studies suggest that staff behaviour, including therapeutically beneficial *"helping"* behaviour, can be described using a cognitive-emotional path analysis. Staff training which takes account of these factors, research would strongly suggest, is more likely to successfully change staff behaviours in the desired direction.

Justification for instrument development strategy

The rejection of purely eliminative and control ('pathological') approaches in favour of more constructional ones in interventions for challenging behaviour poses some questions about the advisability of developing a questionnaire based on an illness (or pathology) model. These questions will be answered in more detail as the study develops, but briefly the rationale for proceeding in this way is as follows:

1. Q: Why use Weinman's Illness Perception Questionnaire (developed from Leventhal's Self-Regulation Model) as a basis to study a condition – challenging behaviour– that is *not* an illness?

   A: Clinicians and researchers have become largely convinced about the value of constructional approaches to challenging behaviour, but have direct care staff? One way of finding out if care staff view challenging behaviour pathologically, as something to be controlled or eliminated, is to look at whether challenging behaviour is cognitively represented in the same dimensions as illness. Do the underlying cognitive components show similarities?

2. Q: Why use a tool designed to measure cognitive representations in *patients* with an illness as a basis for a questionnaire to be administered to *staff* without any illness?

   A: 'Who is responsible for the challenging behaviour?', is a question that is fundamental to services to people with learning disabilities, especially those with more severe disabilities. Perceived locus of control of the behaviour influences the behaviour of staff. In the cognitive literature the role of controllability is well recognised:

   > *"responsibility judgements are a fundamental category of attribution, activated in a variety of contexts and unifying areas of helping, reactions to stigmas, appraisals of achievement and excuse giving"* (Weiner 1991).

3. Q: Why not simply use one of the existing, validated tools to evaluate the impact of the training course on staff views on challenging behaviour?

   A: Existing tools do not measure cognitive representation of challenging behaviour in people with learning disabilities across the dimensions of identity, cause, consequence, treatment/control, time line and emotional reaction. Studies have typically been focussed on the single dimensions of staff attribution, i.e. causal factors, or staff emotional reactions, or treatment/control (in the context of therapeutic benefits). It is hoped that a new tool measuring cognitive representation across several dimensions will produce data that can better inform training in this area.

Staff training on the subject of challenging behaviour has traditionally focussed on observing, recording, analysing and ultimately changing staff views and behaviours. This study aims to produce a new method of measuring changes in staff cognitive representation of client behaviours across five dimensions. This research will result in a new Challenging Behaviour Representation Questionnaire (CBRQ) which could be used as a basis for training needs analysis and training evaluations. In the future the CBRQ might also be used in conjunction with other, existing measures in the selection of staff working with people with learning disabilities and challenging behaviour.

Research questions

In summary, the key research questions being addressed in this thesis, based on the previous work described are:

(1) Can staff representations of challenging behaviour be reliably characterised in dimensions of identity, cause, consequences, treatment/control, time line and emotional reaction?
(2) Are these dimensions independently affected by training, and can this information be used to inform effective staff training and facilitate staff behaviours which are 'professionally desirable', i.e. evidence-based helping behaviours?
(3) Are there any relationships between professional background, and /or work experience and the ways in which challenging behaviour is cognitively represented across dimensions?
(4) Can a new CBRQ questionnaire, based on Leventhal's original model, help to explain the success or failure of training interventions?

The first of these questions will be addressed in Chapter 4 and questions 2-4 will be addressed in Chapters 5 and 6.

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities –

An Evaluation of the Impact of an Open Learning Training Course

CHAPTER 4

Development of the Challenging Behaviour Representation Questionnaire

CHAPTER 4

Development of the Challenging Behaviour Representation Questionnaire

This chapter explains how a questionnaire was devised and developed, in a number of stages, to investigate how challenging behaviour is cognitively represented in staff working with people with learning disabilities. The questionnaire also sets out to evaluate whether these cognitive representations are consistent with good behavioural practice. Chapter 5 goes on to evaluate whether and how a specific training course changed cognitive representation of challenging behaviour in staff.

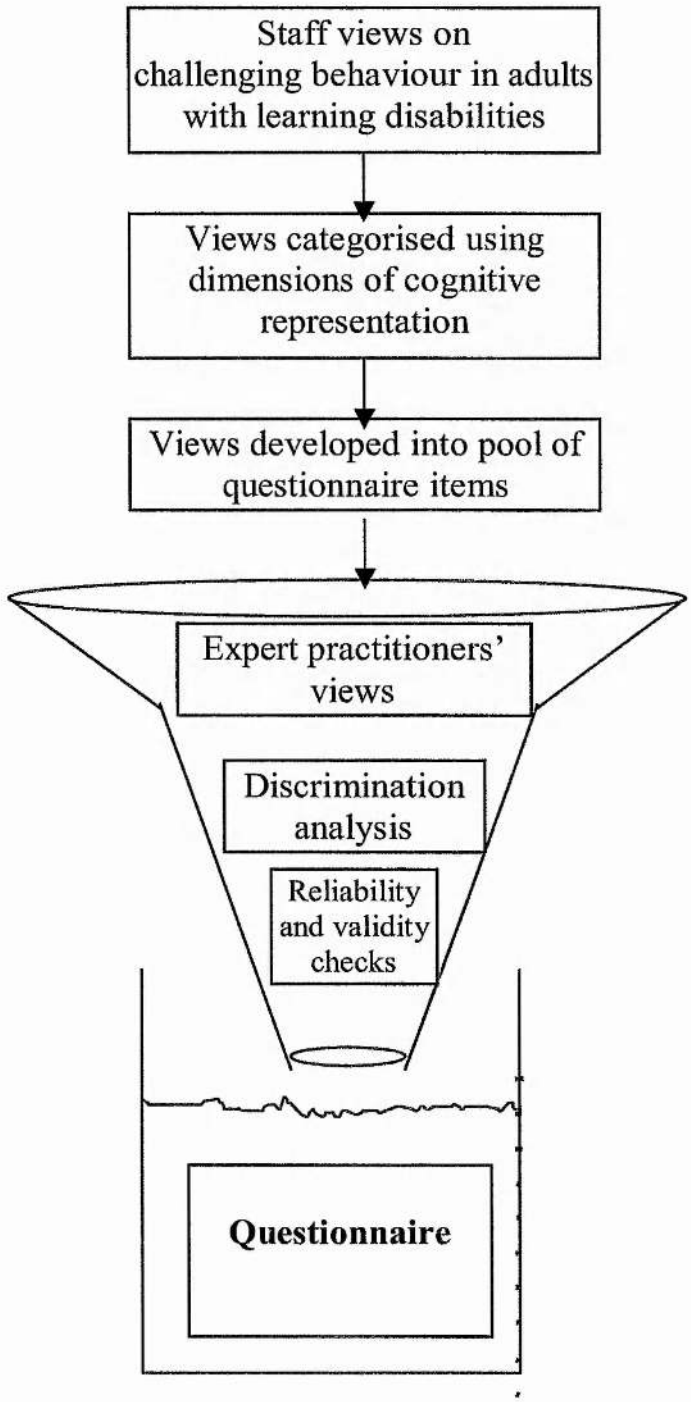
Methods

Design

A theoretically derived questionnaire, based on the Leventhal's common sense model of illness perception was developed from a pool of items generated by 300 staff. Staff were originally asked the question, *"When you think of 'challenging behaviour', what comes to mind?"* This questionnaire was tested for reliability and validity and reduced from an original 348-item to a 40-item questionnaire using a combination of discrimination analysis and panels of experts. This process can be summarised graphically as a 'refining' process (Figure 4.1).

Figure 4.1

Development of Questionnaire



The questionnaire was developed to examine how staff cognitively represented challenging behaviour in terms of the five dimensions of Leventhal's Self-Regulation Model. It was evaluated using methods similar to those used by Lau and Hartman (1983) and Lau et al (1989) to identify the dimensions of cognitive representation from open questions. Responses were categorised by independent experts then scaled for match with evidence-based practice. This 348-item questionnaire was then piloted to select discriminating items. The reliability and validity of the remaining items was assessed. Principal components analysis was then used to select items for the final questionnaire. The measures and procedures used are detailed in the nine stages of development that follow. (Results for each stage are presented in the corresponding nine stages in the Results section.)

Participants

Respondents were all care staff from health, social services and voluntary and private sector services for people with learning disabilities in Scotland, England and Ireland. From a total of 950 staff who were asked, 300 completed the Stage 1 questionnaires, either when they were attending courses at the University of St Andrews or by postal questionnaires later. Thus the raw response rate for this stage was 32%. All of the respondents were working in jobs that involved some contact with people with challenging behaviour, and for the majority of staff this was daily contact (support workers, Day Care Officers (DCO), social workers, nurses, occupational therapists). There were 202 female and 98 male staff and the ages of respondents ranged from 20-65. (See Figure 4.2 and 4.3 for information on the characteristics of staff and Appendix 3 for a breakdown of the courses attended).

It is acknowledged that the selection of participants at this stage is non-random and that those staff who chose to complete the Stage 1 questionnaire may differ in some characteristics from those who did not. However as a means of generating a bank of initial responses from a cross section of staff this methodology was considered acceptable.

Panels

Two panels of service managers (acting as judges) and one panel of care staff participated in the development of the CBRQ following the initial compilation of a pool of questionnaire items. (See Appendix 6 for details of the membership of panels).

Panel 1 consisted of the author plus five service managers, selected for their experience in the field of services to people with learning disabilities.

Panel 2 was an expert panel, consisting of nine people, chosen for the following characteristics:

- at least 20 years of experience, working with people with learning disabilities and staff
- professionally qualified
- experienced managers of mixed staff groups in learning disability services.

Panel 3 was a group of 35 care staff from three different services to people with learning disabilities and challenging behaviour.

Panel 1 was used for inter-rater reliability testing (see Stage 3 explanation which follows); Panel 2 for rating items on a scale of 'professional desirability'/good practice (see Stages 4 and 9 which follow); and Panel 3 was used to refine the CBRQ by selection of discriminating items and to check test, re-test reliability and concurrent validity (see Stages 5, 7 and 9 which follow).

Measures and Procedures

Stage 1

Between June 1998-June1999 a list of views about challenging behaviour was generated from 300 staff working in a range of services to adults with learning disabilities in Scotland, England and Ireland. They gave written replies to the open-ended question:

'When you think of 'Challenging Behaviour' what comes to mind?'

Responses were give anonymously, but respondents were asked to report gender, age and job details. No word limit was set and respondents were asked to give their views honestly and without reference to books or other written materials. Length of responses ranged from one-word answers to two pages of A4. See Appendix 2 for a copy of the original questionnaire and Appendix 3 for the full listing of the organisations involved. See Figures 4.2 and 4.3 for details of respondent characteristics.

Stage 2

All responses from Stage 1 were photocopied and one set was labelled by the author, using set criteria following the five dimensions of Leventhal's model to identify statements that referred to the following aspects of challenging behaviour:

Identity (ID)
Duration (DU)
Cause (CA)
Consequences (CO)
Treatment/Control (T/C).

An Emotional Reaction (ER) category was added, based on work by Hastings (1994, 1996), Dagnan et al (1998) and McGuinness and Dagnan (2001). This is not a separate dimension in the original Leventhal model, but *"emotional experience"* features as part of a separate, but parallel response in later adaptations of the model; see Figure 2.1 (Brownlee et al 2000). During the period of this study (1998-2003) Weinman and his colleagues published a Revised Illness Perception Questionnaire (IPQ-R), which includes an additional subscale of *"emotional representation"* (Moss-Morris et al 2002).

Stage 3

A 10% sample of the (unlabelled) written responses from the 300 participants was labelled (Identity, Cause, Consequences etc.) by a panel of five observers (Panel 1). These 30 completed forms were checked with the forms labelled by the author for level of inter-observer reliability. This was done using Kappa crosstabs on the percentage of observer consensus (Kappa at 0.01 significance level; see Tables 4.1, 4.2 and 4.3). Appendix 5 gives details of instructions given to Panel 1, and Appendix 6 gives a list of the Panel members.

Stage 4

Items were then scaled: an expert panel (Panel 2) rated the 348 labelled statements. Members of Panel 2 were experienced and well-qualified service managers. Each independent panel member was asked to consider whether the item (i.e. the statement), was expressing a view which was 'professionally desirable'/ good practice, when such a view was held by a staff member involved in direct care of adults with learning disabilities and challenging behaviour. 'Professionally desirable' was further defined as:

(i) existing good practice in a behavioural approach to challenging behaviour, i.e. *"concerned with responding in line with the interpretation of function so as to decrease the future likelihood of the behaviour"* (Oliver et al 1996).

(ii) views expressed by staff which positively influence the quality of care received by the service users, i.e. 'helping' behaviour.

(iii) ethically and practically acceptable in a service to people with learning disabilities

Each statement was rated as one of the following:

very desirable – +2

desirable – +1

neither desirable nor undesirable– 0

undesirable– -1

very undesirable– -2

The scale was scored by adding these ratings.

Stage 5

All labelled statements were used as the basis of a Likert-type questionnaire, i.e.:

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
Q1.Statement here					
Q2 Statement here					
Etc.					

There were 348 statements on the questionnaire. The number of items on the questionnaire was reduced by selecting discriminating items and subsequent removal of non-discriminating items. This was done by piloting the questionnaire, administering it to 35 staff from three different services (Panel 3) using the five-point scale from Stage 4. The total summed scores for each participant on the questionnaires were analysed. Discriminating items on the questionnaire were then defined as showing differences ($p<0.1$ significance on independent *t*-Test of Means.) between the 10 highest and the 10 lowest scoring staff. Questions that did not discriminate high scoring from low scoring individuals were then discarded; see Figure 4.4 and Tables 4.5 and 4.6.

Stage 6

Items were tested for internal reliability. The remaining (129) questionnaire items were checked for internal reliability using inter-item correlations and Cronbach's Alpha for each of the five dimensions, and overall, using data from Panel 3; see Table 4.7 in Results section.

Stage 7

Items were tested for test, retest (external) reliability. To check test-retest reliability the questionnaire was administered to 35 staff (Panel 3) on two separate occasions, four weeks apart; see Figures 4.5 and 4.6. Distribution of total scores on the test and retest is shown in Figure 4.7.

Stage 8

Principal components factor analysis was carried out on each group of questionnaire items corresponding to the five dimensions, using scores obtained by administering the questionnaire to 200 of the participants who were involved in Stage 1 (see Appendix 3). This produced component matrices for each dimension (item scores x participants). The number of items was thus reduced by identifying items which best represented each of the dimensions, i.e. items showing the highest Eigen values. This factor analysis was done in preparation for use of the questionnaire in the second part of the study, evaluating the impact of a training course on the cognitive representations of challenging behaviour in staff; see Tables 4.9, 4.10, 4.11 and 4.12.

Stage 9

The revised questionnaire was checked for concurrent validity. On completion of the questionnaire in earlier stages, participants were asked to give written responses to the question:

> *"If you had to give just one piece of advice to someone new to working with people with challenging behaviour, what would that advice be? (fewer than 50 words)".*

These responses were content analysed and compared to the same participants' scores on the 40 items in the final questionnaire; see Table 4.13.

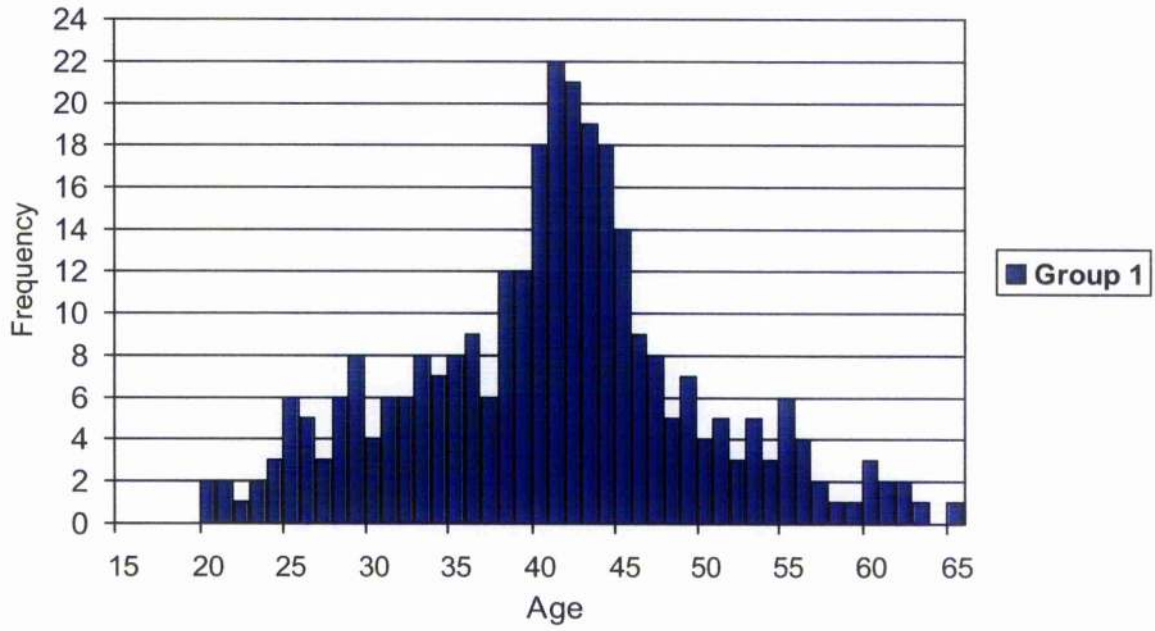
Results

Stages 1-9 in this section correspond to stages 1-9 in the previous Methods section. Results are presented for each stage, followed by separate comments on Stages 1-3, 4-5, 6-7, 8 and 9.

Participants

Stage 1
The age and job titles of Stage 1 participants are shown in Figures 4.2 and 4.3 respectively.

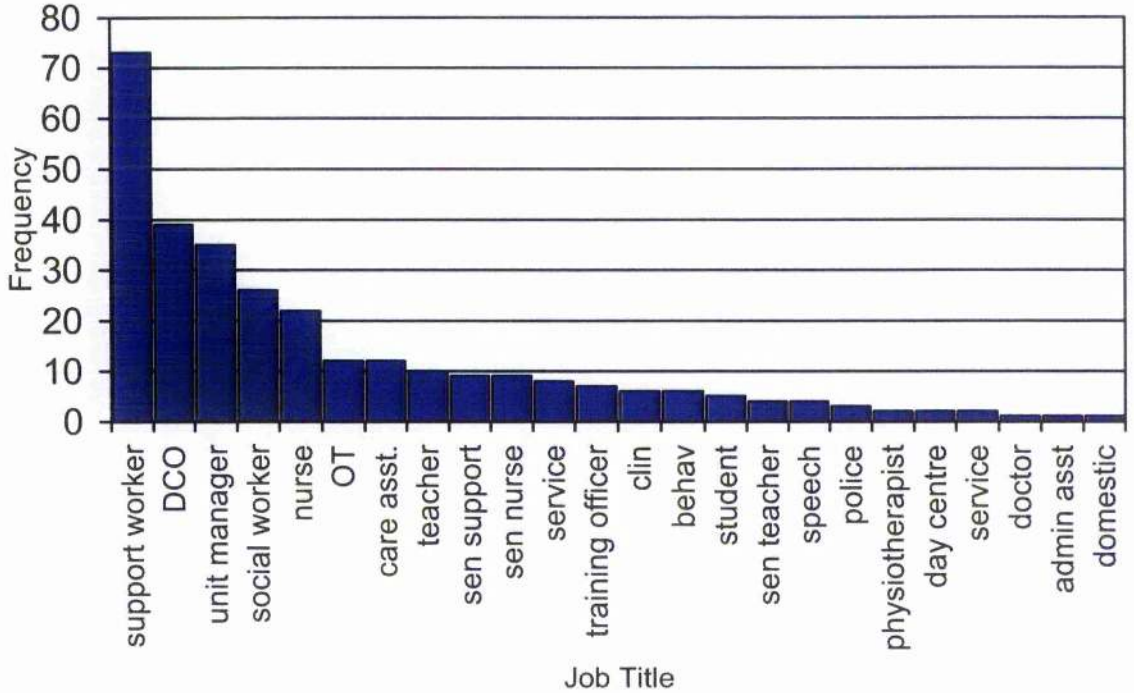
Figure 4.2 Age distribution of staff in Stage 1



N= 300 Mean age= 39 Std. Dev.= 9.62

Staff ranged in age from 20-65 years and the ages were normally distributed. The age range and distribution was consistent with studies of this population reported in other studies (e.g. Berryman et al 1994;Heyman et al 1998).

Figure 4.3 Job titles of staff in Stage 1



The category 'support worker' includes participants who gave their job titles as 'neighbourhood worker', 'community support assistant' and 'community care worker'. The category DCO (Day Centre Officer) includes 'day care officer' and 'day services officer'.

Stage 2

Responses from Stage 1 and categorisation of responses.

From the 300 completed forms, there was a total of 807 statements labelled by Panel 1 which met the set criteria, constituted as 189 Identity (ID), 163 Cause (CA), 121 Consequences (CO), 165 Emotional Reaction (ER), 167 Treatment /Control (T/C) and 2 Duration (DU).

Examples of these responses and categorisation were as follows:

ID "An adult with learning disabilities can be said to have challenging behaviour when that person……."

"eats non-food objects and substances"

"has behaviour deeply ingrained in their psyche"

"breaks fire alarms"

CA "Adults with learning disabilities engage in challenging behaviours because….."

"their behaviour gets a response from others"
"they are trying to communicate a need"
"they are in control, but pretend not to be"

CO "As a consequence of their challenging behaviour, adults with learning disabilities...."
"avoid doing any work"
"bring into questions the values of staff"
"get what they want"

ER "As a response to working with people with challenging behaviours, I experience feelings of..."
"fear of losing control"
"anger"
"disgust"

T/C "An adult with learning disabilities and challenging behaviour can be helped by..."
"building more positive interaction patterns"
"looking for underlying causes of behaviour"
"defusing the situation to stop injury"

DU "Any behaviour of such duration that it puts the person in danger"
"Any continuous behaviour that I consider as challenging"
(These were the only 2 statements which met the criteria to be categorised as DU – duration)

Stage 3

Inter-observer reliability

The levels of agreement with Observer 1 (MC – author) are shown in Table 4.1 for the five observers (Panel 1) on 10% of the Stage 1 participants. Each of the five observers was given the same 30 raw responses and asked to label the statements in these responses as referring to Identity, Cause, Consequences, Treatment/Control, Duration, Emotional Reaction, according to the criteria given in Appendix 5.

Table 4.1 Percentage of item agreement among observers (Panel 1) for each of the six dimensions, in comparison with items identified by author. (MC – Observer 1).

	Identity ID	Cause CA	Duration DU	Consequences CO	Treatment /Control T/C	Emotional Reaction ER		
Observer							*Mean*	
1	**100**	**100**	**100**	**100**	**100**	**100**	**100**	
2	80.6	85.08	50.00	91.80	96.27	94.78	*83.42 89.71(excluding DU)*	
3	89.56	92.54	50.00	93.29	98.51	94.03	*86.82 94.19(excl. DU)*	
4	83.59	88.06	50.00	88.06	96.27	86.60	*82.76 89.32(excl. DU)*	
5	95.53	91.80	100	94.78	98.51	97.02	*97.1 76.53(excl. DU)*	
6	94.78	92.54	50.00	94.03	97.02	94.78	*88.19 95.83(excl. DU)*	
							87.66 89.11*(excl. DU)*	*Mean for observers 2-6*
Average	*88.81*	*90.01*	*60.00*	*93.72*	*97.32*	*93.44*	87.2 92.66*(excl. DU)*	*Mean for the 6 dimensions*

Overall agreement between Observer 1 and each of the other five observers (Panel 1) in labelling of items is shown as percentages and as Kappa values in Tables 4.2 and 4.3

Table 4.2 Comparison of observer consensus on labelling of items (percentages). Agreement between Observer 1 (MC1) and each of the other observers 2-6.

Case processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
MC1*2	64	47.8%	70	52.2%	134	100%
MC1*3	90	67.2%	44	32.8%	134	100%
MC1*4	56	41.8%	78	58.2%	134	100%
MC1*5	104	77.6%	30	22.4%	134	100%
MC1*6	97	72.4%	37	27.6%	134	100%

Table 4.3 Kappa Crosstabs – Comparison of observer consensus on labelling of items (Kappa values). Agreement between Observer 1 (MC1) and each of the other observers 2-6.

Symmetric measures

Observer number		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Signif.	N of valid cases[c]
2	Measure of agreement Kappa	.874	.049	12.31	.000	64
3	Measure of agreement Kappa	.849	.044	14.238	.000	90
4	Measure of agreement Kappa	.776	.072	8.520	.000	56
5	Measure of agreement Kappa	.515	.060	9.992	.000	104
6	Measure of agreement Kappa	.841	.045	14.006	.000	97

[a] Not assuming the null hypothesis
[b] Using the asymptotic standard error assuming the null hypothesis
[c] N of valid cases here refers to the number of items categorised by each observer

Comments on Results for Stages 1, 2 and 3

The questionnaire was developed from a large pool of items, generated from 300 staff working with people with learning disabilities and challenging behaviour. This gave a broad range of views in five of the six dimensions initially proposed – Identity (ID), Cause (CA), Consequences (CO), Emotional Reaction (ER) and Treatment/Control (T/C). Because of the very small number of statements on Duration/Time Line (DU) this dimension was not included in subsequent analysis or in the final questionnaire. From the data, it would appear that staff do not characterise challenging behaviour in terms of its duration, (in Leventhal's original illness questionnaire Duration/Time Line was one of the dimensions) i.e. only 2 statements from the original 300 referred to the time-line aspects (chronic nature) of challenging behaviour as something which came to mind. These two statements were, *"Any behaviour of such duration that it puts the person in danger"*, and *"Any continuous behaviour that is challenging"*.

This finding is slightly puzzling, as 'duration' of challenging behaviour – either as in 'how long has it being going on?' or as in 'when it happens, how long does it last?' – is one of the key criteria which is commonly used to classify challenging behaviour in Emerson et al's (1987) widely accepted definition, introduced in Chapter 1:

"culturally abnormal behaviour of such intensity, frequency or <u>duration</u> that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour that is

likely to seriously limit or delay access to and use of ordinary community facilities." Emerson et al (1987) [emphasis added].

The items in each of the dimensions were labelled (ID, CA, CO, ER, T/C, DU) by a panel of observers using set criteria (See Appendix 5). Agreement among observers and between the author and individual observers was checked. There was good agreement amongst observers, averaging 87.66% or 89.11% when the two duration (DU) items were excluded. This indicated that the instructions given to observers were clear, that items identified were consistently labelled, and that the dimensions were meaningful. This was supported by Kappa measures of agreement between the author and individual observers 2-6, which were typically 0.75 or more.

Stage 4

Rating the items for matching to good practice

Items were scaled by professional panel (Panel 2). Items were categorised in terms of their professional desirability:

very desirable, desirable, neither desirable nor undesirable, undesirable, very undesirable

The panel's responses to each of the 807 items were checked by hand. Only items which *seven or more* of the nine panel members classified as very desirable/desirable or undesirable/very undesirable were retained for the next stage of the questionnaire development. This analysis reduced the total number of items to 348, consisting of 173 desirable/very desirable and 175 undesirable/ very undesirable; see Table 4.4. (See also Stage 4 – Measures and Procedures and Appendix 6 for Panel 2 members).

Table 4.4 Rating of items as professionally desirable or undesirable (good practice) by Panel 2

	Items rated as 'very desirable' or 'desirable'							
Number of Panel members in agreement	9	8	7	6	5	4	3	2
Number of items	58	69	46	0	1	0	0	1

	Items rated as 'very undesirable' or 'undesirable'							
Number of Panel members in agreement	9	8	7	6	5	4	3	2
Number of items	22	88	65	0	0	1	0	11

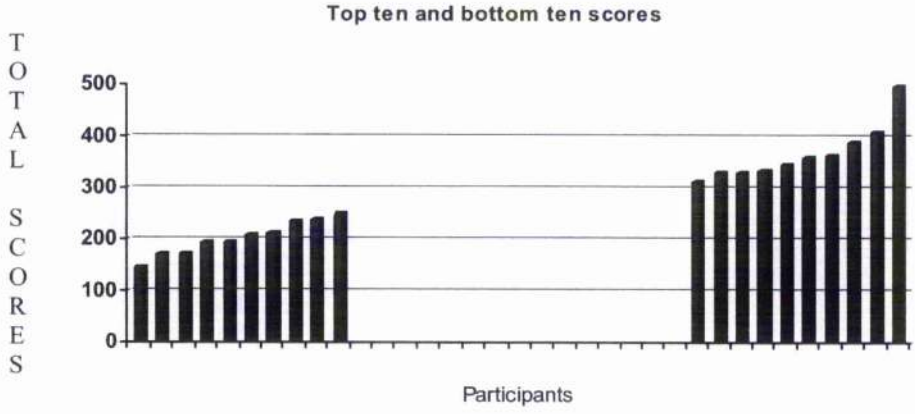
Stage 5

Selecting discriminating items.

The ten highest scoring and ten lowest scoring completed questionnaires from a group of 35 staff were used to identify items that consistently discriminated items. Total scores ranged from 145-499. The maximum possible score was 696 (348 questions, maximum score of 2 per question) and the lowest possible score was -696; see Figure 4.4 and Tables 4.5 and 4.6 below. Scoring is based on a Likert scale, ranging -2, -1, 0, 1, 2. Items that were not discriminating were discarded at this stage. This reduced the total number of items from 348 to 129, in the five dimensions. (See Appendix 1 for samples of the questionnaire items).

Figure 4.4 Top ten and bottom ten scores (used in discrimination analyses).

N=20 Mean = 294 Std. Dev.= 95.89



Scores ranged from 145 to 495.

Table 4.5 Differences between top scores and bottom scores in discrimination analyses

Dimension	Number of items	Mann Whitney U tests Significance (2-tailed) Top scores/ Bottom scores
Identity	62	.018
Cause	73	.002
Consequences	20	.011
Emotional Reaction	97	.011
Treatment /Control	96	.002
All	348	.000

Top and bottom scoring items show significant differences at $p<0.05$ level, overall and for all five dimensions.

Table 4.6 Number of items in each dimension before and after discrimination analyses

	Identity	Cause	Consequences	Emotional reaction	Treatment/ Control	TOTALS
Before discrimination analysis	62	73	20	97	96	348
After discrimination analysis	20	20	8	31	50	129

Comments on Results for Stages 4 and 5

The items on the questionnaire were scaled by a panel of experienced practitioners according to set criteria of whether the views held would be considered 'professionally desirable' or 'professionally undesirable', i.e. whether they were good, evidence-based behavioural practice. This reduced the number of items from 807 to 348. The items were further 'refined' to 129 by selecting those items that consistently differentiated high scoring from low scoring participants. These professional value judgements by the panel were the first stage in developing the questionnaire for use in assessing whether the cognitive representations held by staff are consistent with evidence based behavioural practice.

Stage 6

Reliability Analyses

Internal reliability (for inter-item correlations) was checked on each of the five dimensions in the 129 item questionnaire, using Cronbach's Alpha; see Table 4.7.

Table 4.7 Reliability Cronbach's Alpha – Summary for inter-item correlations for each of the five dimensions within the questionnaire

Inter-item Correlations	Mean	Min	Max	Range	Max/ Min	Variance	Alpha	Stnd. Alpha
IDENTITY	.2370	-.4279	.8636	1.2915	-2.018	.0818	.8587	.8614
CAUSE	.3390	-.4389	.8062	1.2450	-1.8370	.0668	.9073	.9112
CONSE QUENCES	.1255	-.6726	.6650	1.3376	-.9886	.0971	.5260	.5345
EMOTIONAL REACTION	.3578	-.1517	.8306	.9823	-5.4751	.0350	.9393	.9453
TREATMENT/ CONTROL	.4581	-.3136	.8911	1.2047	-2.8421	.0361	.9719	.9769
All 129 items	.2269	-.6726	.8911	1.5638	-1.3249	.0473	.9684	.9743

Internal consistency across the five dimensions was acceptable (at 0.9684). All five individual dimensions had an Alpha value of >0.85, with the exception of Consequences dimension at 0.5345.

Stage 7

Test, Re-test Reliability

Figure 4. 5 Distribution of total scores for 1st test (test, re-test results).
N = 25 Mean= 132.3 Std. Dev.=46.52

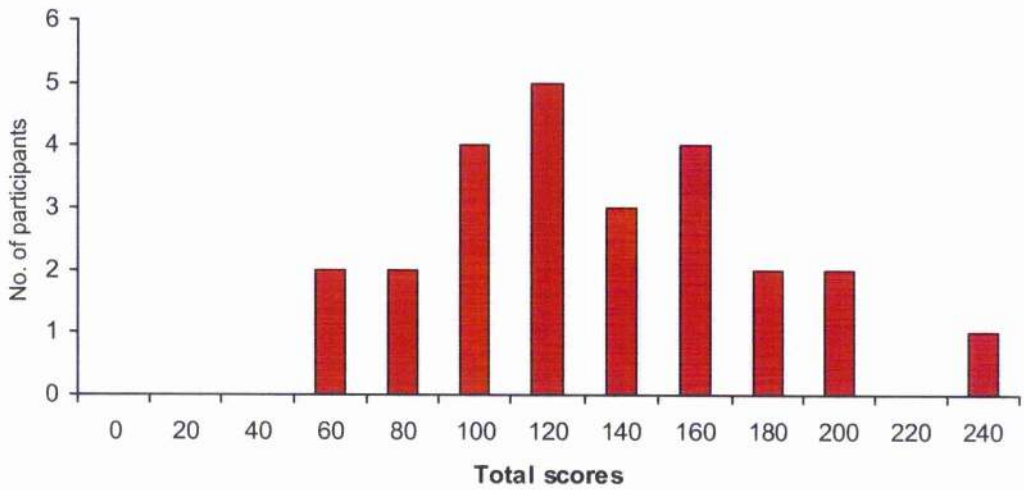


Figure 4.6 Distribution of total scores for 2nd test (test, re-test results)
N = 25 Mean= 136.5 Std. Dev.=46.05

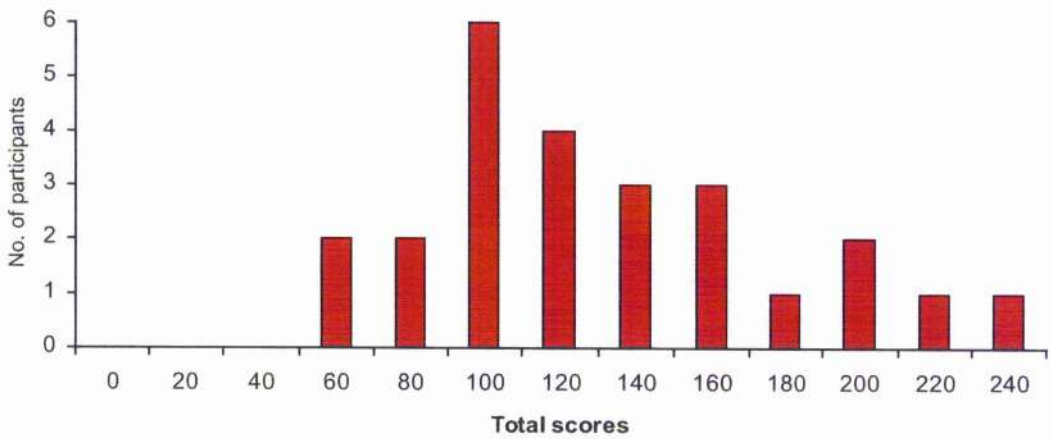
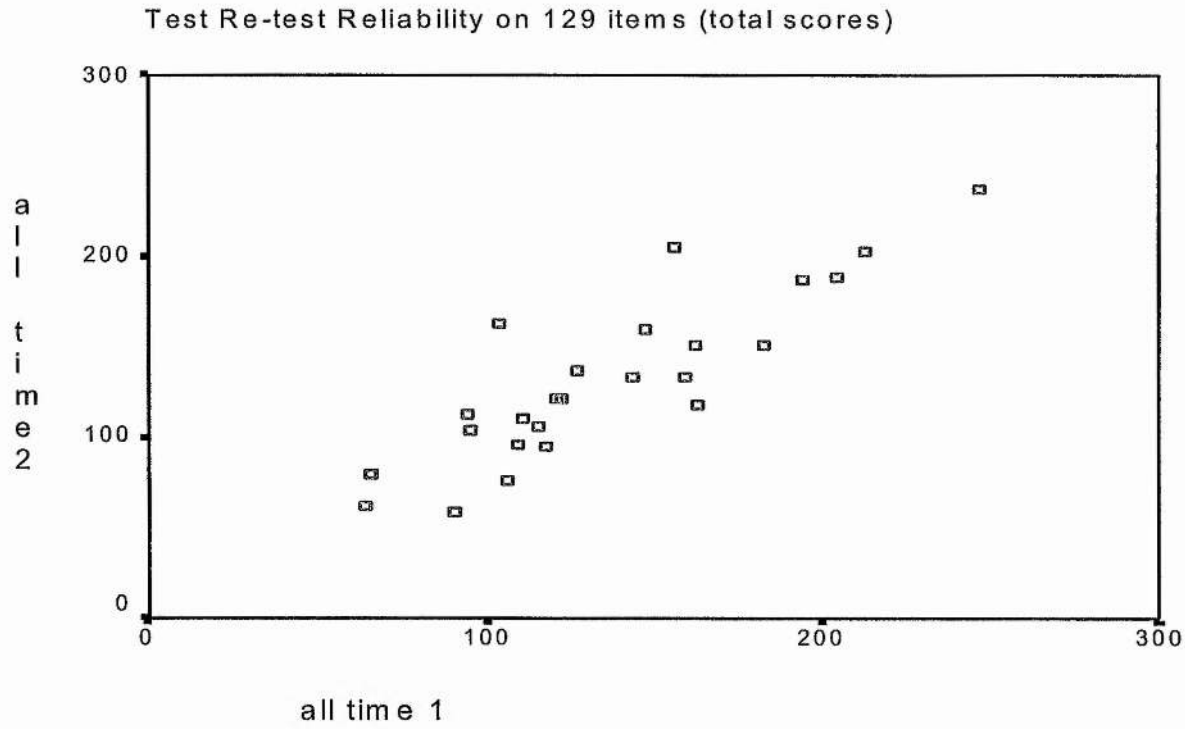


Figure 4.7 Scatterplot showing test, re-test correlations overall (on 129 questionnaire items)



The correlation between Test and Re-Test scores is significant at the 0.01 level.
Pearson's correlation coefficient =0.815.

Table 4.8 Test, Re-test Mean scores and correlations (on each of the five dimension subscales)

Dimension	Mean score TEST	Mean score RE-TEST	Correlation Co-efficient
Identity	16.72	16.76	.648*
Cause	15.44	15.92	.883*
Consequences	4.36	3.6	.663*
Emotional reaction	30.04	32.04	.542*
Treatment/ Control	61.28	62.96	.669*
All five dimensions	132.32	136.52	.815*

* The correlation between Test and Re-Test scores is significant at the $p<0.01$ level.

Comments on Results for Stages 6 and 7

The questionnaire was checked for reliability in two ways. First it was administered to 35 staff in different services to check internal consistency. The Cronbach Alpha values were acceptable for the questionnaire overall; at 0.9684 the internal consistency of the questionnaire was good. This is supported by the small differences between the Alpha and the Standardised Alpha values, indicating that the items on the questionnaire have comparable variances. The internal reliability of each of the five sub-scales within the questionnaire was acceptable. The Cronbach Alpha value was lowest for the Consequences dimension (0.53) and highest for the Treatment/Control dimension (0.97).

The comparatively low value for the Consequences dimension contrasts with the other four dimensions, which had a Mean value of 0.92. There are a number of possible explanations for this low value. The Consequences dimension in the questionnaire has the fewest number of items (8). Any *individual* differences in cognitive representations tend to be emphasised more as a result. Sampling a larger group of participants may produce a higher Cronbach Alpha value as distinctive individual differences are 'levelled out' overall. It is also possible that the 'consequences' of challenging behaviour may be seen as a function of the *services* in which staff work, rather than a function of the *behaviour* itself. This means that the same behaviour may result in a range of different consequences, depending on where and when the behaviour occurs. This factor may account for some people answering the Consequences items in a different way from how they answer items on the other dimensions, i.e. a lower Cronbach Alpha value. This could be investigated further and assessed using larger numbers and controlling for 'place of work' as a variable. Second, the questionnaire was checked for (external) test, retest reliability, with 25 participants completing the same questionnaire on two occasions four weeks apart. Participants answered the questionnaire consistently on the two occasions. Overall the correlation coefficient was 0.82, significant at 0.01 level for the 129 items. The scatterplot in Figure 4.7 illustrates this test, retest result. For individual dimensions the lowest test/retest consistency is seen for the Emotional Reaction dimension (correlation = 0.542) and the highest correlation for the 'cause' dimension (0.883).

Again, the comparatively low value for the Emotional Reaction dimension may have a number of possible explanations. Of the five dimensions, Emotional Reaction may be the one most subject to individual fluctuations over time, i.e. the emotional state of individual staff working with people with challenging behaviour may change quickly and change a lot. These changes may be dependent on the level, frequency or nature of challenging behaviour in the workplace. Also, Wanless and Jahoda (2002) have suggested that *"emotionally 'hot' cognitions arising in situations of conflict"* are essentially interpersonal and contrast with the more general beliefs that staff may hold about other aspects of Challenging Behaviour. This may account

for some of the variation in how staff cognitively represent their emotional state at the two different times when they complete the questionnaire. Put simply, it may indicate the difference between a day at work when there have been few emotionally charged incidents and a day when there have been a lot.

Stage 8

Reduction of number of questionnaire items in each dimension using principal components analysis

Principal components analysis was carried out on each of the five subscales corresponding to the five dimensions in the questionnaire (Identity, Cause, Consequences, Emotional Reaction, Treatment/Control). Component matrices for each dimension were then produced to determine which items best represented each of the dimensions (Varimax rotation used, Eigen values >0.6). For reasons of space only a sample is shown below, taken from the matrices for the dimensions of Identity and Cause; Tables 4.9 and 4.10 show part of the component matrices for the Identity and Cause dimensions.

Table 4.9 Principal Components Factor Analysis component matrix: IDENTITY

Questionnaire Item	Component			
	1	2	3	4
IS_CONFU	.750	.233	-.191	-.473
IS_NON_V	.627	.212	-.112	5.103E-03
REFUSES	.690	-3.314E-02	-.365	.281
SHOWS_A	.635	.111	-.504	.333
CAMPAIGN	.663	.259	-6.347E-02	-7.519E-02
IS_A_NON	.710	.163	5.124E-02	8.085E-02
HAS_ERRA	.677	-2.699E-02	.511	1.582E-02
FOLLOWS_	.638	-4.739E-02	.354	-9.991E-02
IS_LETHA	.654	-5.141E-02	.157	-.361
MAKES_A	.738	8.034E-03	.332	.156
QUESTION	.730	.188	.127	.288
continues				

Table 4.10 Principal Components Factor Analysis component matrix: CAUSE

Questionnaire Item	Component				
	1	2	3	4	5
THEY_HA7	.713	-9.071E-02	.311	6.670E-02	.152
THEY_A12	.614	-.154	.369	.160	-.112
THEY_A13	.607	-6.555E-02	.195	.151	-9.116E-02
THEY_CON	.613	-.100	1.008E-02	7.081E-02	.310
THEY_A15	.767	-5.622E-02	-8.094E-02	-8.553E-02	3.268E-02
THEY_MOT	.770	.103	-.123	2.328E-02	5.972E-03
THEY_A18	.721	-3.772E-02	-.225	.108	-9.371E-02
THEIR_B2	.676	.245	-9.796E-02	.253	7.758E-02
THEY_DO3	.632	.122	-.385	-.176	.203
THEY_A23	.668	9.289E-02	-.306	-.315	7.898E-02
THEY_A24	.658	-.100	.191	-.241	.261
THEY_EN1	.675	-.144	.189	-.391	-.137

continues					

From the analysis of components, questionnaire items were selected for use in the final version of the questionnaire. The sixteen items that loaded most onto each dimension were taken, with the exception of the Consequences dimension, which had only eight items in the original 129-item questionnaire.

Items from each of the five dimensions were equally allocated to one of two questionnaires, (a) and (b) thus: The most heavily loading item in the Identity dimension was allocated to Questionnaire (a), the next most heavily loaded item in the Identity dimension to Questionnaire (b), and so on for each item in each dimension, until all items had been allocated. The exception again was the Consequences dimension, where the same eight items were used in *both* Questionnaires (a) and (b). The number of items in each dimension before and after principal components analysis is shown in Table 4.11.

Table 4.11 Number of items in each dimension before and after principal components analysis and reduction by use of component matrices

	Identity	**Cause**	**Consequences**	**Emotional reaction**	**Treatment/ Control**	**TOTALS**
Number before principal components analysis	20	20	8*	31	50	129
Number after principal components analysis	8	8	8*	8	8	40*

*Two questionnaires (a) and (b) each with 40 items; each contain the same eight Consequences items, but are otherwise different; see Appendices 8(a) and 8(b).

The direction of scoring in the questionnaire varied, i.e. some items were scored 2, 1, 0, -1, -2 on the Likert type scale and some scored -2, -1, 0, 1, 2; see Table 4.12. The questionnaire was scored by summating the scores on all the individual items.

Table 4.12 Direction of scoring for questionnaire items

	Number of items scoring 2, 1, 0, -1 ,-2	Number of items scoring -2, -1, 0, 1, 2.
Questionnaire (a) + Questionnaire (b)	26	54
Questionnaire (a)	14	26
Questionnaire (b)	12	28

Comments on Results for Stage 8

At 129 items, the questionnaire was large. It was found that participants took an average time of 25-30 minutes to complete the questionnaire. For repeated presentation to participants in the next part of the research and for practical use subsequently, it was considered necessary to reduce the number of questionnaire items while retaining the level of reliability and validity. By using Component Matrices from principal components analysis it was possible to identify the questionnaire items that were most representative of each dimension; that is, those items with highest Eigen value or most heavily loading factors. The rationale here was that more than one questionnaire item in each dimension is measuring the same factor, within the dimension or subscale. These representative items were equally distributed between two 40-item questionnaires, (a) and (b) (See Appendix 8).

One disadvantage in reducing the number of questionnaire items is that the overall sensitivity of the questionnaire was reduced; a 40-item questionnaire will be less able to measure subtle changes in responding than a 129-item questionnaire. The reduction in sensitivity is considered as an acceptable 'trade off' however, given the following considerations:

- participant fatigue, participant boredom, recency and primacy effects may all be confounding constructs if the larger, 129-item questionnaire is used
- participants will be more reluctant to complete a very long questionnaire on repeated presentations
- the longer questionnaire can be retained for use by researchers in a more detailed, subsequent analysis of staff responses, if necessary

A further weakness of this methodology to reduce the number of items was the fact that the Consequences dimension had already been reduced to only eight items by previous, discrimination analysis (Stage 5). This

meant that it was necessary to repeat the eight Consequences items in both Questionnaire (a) and Questionnaire (b).

The final product of the first part of this study therefore, was two equivalent Questionnaires, (a) and (b), each with 40 questionnaire items, eight per dimension of Identity, Cause, Consequences, Emotional Reaction, and Treatment/Control. Questionnaire (b) was selected for use in the second part of the present study, with Questionnaire (a) as a reserve, to be used to repeat and verify findings if necessary.

Stage 9

Testing of concurrent validity of the final questionnaire.

Responses to a question about participants' general approach to challenging behaviour were compared with their questionnaire scores. All participants who completed the 129-item questionnaire (Panel 3) were asked to give written responses to the question:

> *"If you had to give just one piece of advice to someone new to working with people with challenging behaviour, what would that advice be? (Fewer than 50 words)".*

These responses were collected as a list and content analysed by a panel of experts (Panel 2). The panel were again asked to rate the views expressed in terms of "professionally desirability", (See Stage 4) further defined as before:

(i) existing good practice in a behavioural approach to challenging behaviour, i.e. *"concerned with responding in line with the interpretation of function so as to decrease the future likelihood of the behaviour"* (Oliver et al 1996).

(ii) views expressed by staff which positively influence the quality of care received by the service users, i.e. 'helping' behaviour.

(iii) ethically and practically acceptable in a service to people with learning disabilities.

Each statement was rated by each member of the panel as one of the following: very desirable (rated 5), desirable (rated 4), neither desirable nor undesirable (rated 3), undesirable (rated 2), very undesirable (rated 1). Only items that *seven or more* of the nine panel members agreed on were used in this analysis. Of the 35 statements, 26 had this level of agreement and were used in subsequent analysis.

Examples of statements and ratings given by the panel:

Take some time to get to know individuals and never judge them just on their behaviour. Be positive about what you do and always ask yourself, "What could this person be doing instead?" Rated 5.

Be calm at all times. Get to know people and get to know what they like and what they don't. This will be the most difficult and the most rewarding job you have ever done. You can make a real difference to somebody's life if you do the job well. Rated 5.

Treat people with respect and dignity. Always act in a professional manner and build up a professional relationship with the people in your charge. People will respond to being treated as individuals, no matter how serious their challenging behaviour is. Rated 4.

If you are going to work with people with challenging behaviour you should like the work. It is a difficult job but one that can be very rewarding. Ask for help and for training and don't be put off by what other staff say about a person – get to know that person yourself. Rated 4.

You won't learn the job in a week, a month or even a year. Don't be afraid to seek advice from your colleagues, or to ask for help. You will need to be properly trained to do this job. Rated 3.

It is a job just like any other job – just remember that. Rated 3.

Safety is your main concern; the safety of people in your care and your own safety. Never do anything that will risk putting anyone in danger – if you are not sure, don't take a chance. Challenging behaviours can be dangerous and you are not paid enough to put yourself in danger. Rated 2.

There are plenty of jobs in this area and you will be able to move around easily if you want. If one job doesn't suit you, move onto another. Some people are better at working with people with serious challenging behaviour, but it's not for everyone. Rated 2.

Remember that 'being proactive' also means, "Do it to them before they do it to you." Don't turn your back even when you think you know someone, as they can be very unpredictable. Rated 1.

Build up a relationship with them, but make sure that you make it clear about the rules. Most people with challenging behaviour will act better with staff who don't stand for any nonsense. Rated 1.

The ratings for these statements were then compared with individual participants' responses to the 40 items selected for the final questionnaire, i.e. each participant's overall score on those 40 items. Both the ratings and the scores showed normal distribution. A scattergram of the two variables indicated a straight-line relationship and Pearson's Correlation was used to investigate this; see Table 4.13.

Table 4.13 Correlation of participants' statements and questionnaire scores

		Panel Ratings	Questionnaire Scores
Panel Ratings of Statements	Pearson Correlation Sig. (2-tailed) N	1 26	0.771* 0.000 26
Questionnaire score (40 items)	Pearson Correlation Sig. (2-tailed) N	0.771* 0.000 26	1 26

*Correlation is significant at the 0.01 level (2-tailed).

There was a significant positive correlation between total scores on the 40-item questionnaire and a concurrent measure of participants' expressed view about challenging behaviour.

Comments on Results for Stage 9

The final questionnaire was tested for concurrent validity. There was a positive correlation (Pearson Correlation Coefficient= 0.771, $p<0.000$) between participant scores on the 40 items of the final questionnaire and an expert panel's rating of participants' statements about "professionally desirable" approaches to challenging behaviour. The questionnaire responses and the statements were obtained at the same time.

Summary

In summary, the questionnaire developed in this part of the study shows promise as a research tool to be used to measure the cognitive representations of challenging behaviour in staff. Results in this chapter also go some way towards answering the key research questions about the suitability of the Leventhal model. The 40-item questionnaire showed acceptable levels of reliability overall for both Cronbach Alpha internal reliability and for external test, retest comparison. The questionnaire has face validity and a measure of concurrent validity. The dimensions of Consequences and Emotional Reaction may need further testing, on internal consistency and test, retest reliability respectively, using larger groups of participants in future research, but levels are acceptable.

Discussion

It has been possible to use the Leventhal model to develop a theoretically derived questionnaire. The results suggest that the concept of 'challenging behaviour' may be cognitively represented in staff by a number of underlying components, or dimensions. Specifically, these are: Identity, Cause, Consequences, Emotional

Reaction, and Treatment/Control. The questionnaire has acceptable internal consistency overall, acceptable inter-item and good test–re-test reliability overall.

The original dimension of 'Duration'/Time Line' in the model was replaced by one of 'Emotional Reaction' because of the lack of evidence for 'Duration' as a dimension in the cognitive representation of challenging behaviour, and the acknowledged role of emotions in the Leventhal model. In addition, a body of research evidence in the field of learning disabilities supports the inclusion of Emotional Reaction as a determinant in staff views on, and responses to challenging behaviour. In an updated version of the Illness Perception Questionnaire (Moss-Morris et al 2002), published after analysis of data in this study, Weinman notes that *"time line showed some problems with respect to internal consistency"*. An *"emotional representation"* dimension has also now been added to Weinman's original questionnaire.

The questionnaire developed in this chapter is an attempt to bridge the gap between the theoretical and what is measurable. This may provide an *"empirical analogue"* (Edwards and Bagozzi 2000) to the cognitive representation of challenging behaviour. Results to date supported the adequacy of five subscales as measures of the constructs thought to be associated with challenging behaviour. The measure of cognitive representation of challenging behaviour used in the second part of this study will be the summated overall and subscale scores generated on the questionnaire by individual members of staff. This follows definitions of a measure in relation to a construct given by DeVellis (1991) and Messick (1995).

Previous research suggests that staff cognitive representations of challenging behaviour may be important determinants in the quality of care and quality of services experienced by people with learning disabilities and challenging behaviour. Staff interact with service users in ways that are either helpful and effective in reducing challenging behaviour *or* in ways that are contrary to evidence-based practice and *"counter-habilitative"* (Hastings 1996). The nature of these staff interactions is closely related to how staff view challenging behaviour in people with learning disabilities. These findings raise the crucial questions of whether and how suitable training can change staff views; the next research question to be addressed in this study.

Before evaluating the impact of training it is worth reviewing some of the research and data presented in Chapters 1-4. Can the original research objectives of the present study be achieved using the methods originally proposed in Chapter 1? Chapter 5 includes a review of some of the questions that have been raised in the first part of this study and how this will influence the next stages of the investigation.

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities –

An Evaluation of the Impact of an Open Learning Training Course

CHAPTER 5

An Evaluation of the Impact of an Open Learning Training Course

CHAPTER 5

An Evaluation of the Impact of an Open Learning Training Course

This chapter reports on a study to evaluate the effects of a specific training course on the cognitive representation of challenging behaviour in staff. The Challenging Behaviour Representation Questionnaire (CBRQ), developed in Chapter 4 of this study, was used to evaluate the impact of the training course, *"Approaches to People with Challenging Behaviour"* (University of St Andrews).

The main aim of this study was to use the scores on the Challenging Behaviour Representation Questionnaire (CBRQ) as an outcome measure to investigate the performance of participants undertaking the training course, *"Approaches to People with Challenging Behaviour"*, relative to the scores of participants undertaking another accredited training course, or no accredited training. A significant increase in overall scores would represent a change in the cognitive representation of challenging behaviour among staff, towards views most often associated with evidence-based practice, helping behaviours and meaningful outcomes for people with learning disabilities and challenging behaviour. The study also looked at whether undertaking the training course, *"Approaches to People with Challenging Behaviour"* would affect the 'dimensional' scores of participants on the five dimensions of cognitive representation measured in the questionnaire; the subscales of Identity, Cause, Consequences, Emotional Reaction and Treatment/Control. These outcome measures are described in detail later in this chapter. Possible interactions of main treatment effect (training intervention) and participant characteristics were also explored.

Methods

Design

An untreated control group design with pre- and post-test measures at more than one time interval was used to evaluate the effects of a training course. In addition, a second control group undertook a different training course. The performance of the main experimental group on a scored questionnaire was compared with that of the two control groups. This gave a longitudinal view of the specific variables under study; namely the overall questionnaire scores and subscales within the main questionnaire, representing dimensions of Identity, Cause, Consequences, Emotional Reaction and Treatment/Control. For within group comparisons a combination of antecedent pre-test and before-after intervention were also used, with post-test follow up. Antecedent pre-test was not used for the untreated, no-training control group; see Figure 5.1 for a summary.

To evaluate the effects of training a variety of between-group and within-group analyses of questionnaire scores were made. The study is designed to test for a variety of effects of 'Group' (different

training conditions) and 'Time' (testing at different time points) as variables, through trained/untrained and before/after comparisons. These comparisons are outlined below, then expressed as five corresponding hypotheses to be tested in this chapter. Over the course of the study comparisons were made between:

(i) Antecedent pre-test and pre-test scores to assess any maturation changes in the groups in the period before training was undertaken (antecedent Pre-Test 1)

(ii) All three groups immediately prior to training (Pre-Test 2)

(iii) Pre- and post-test scores for all three groups (Pre- and Post-Test)

(iv) Retention of changes in cognitive representation in each of the groups (Post-Test 2)

(v) Participants who completed all stages of this study and those who did not

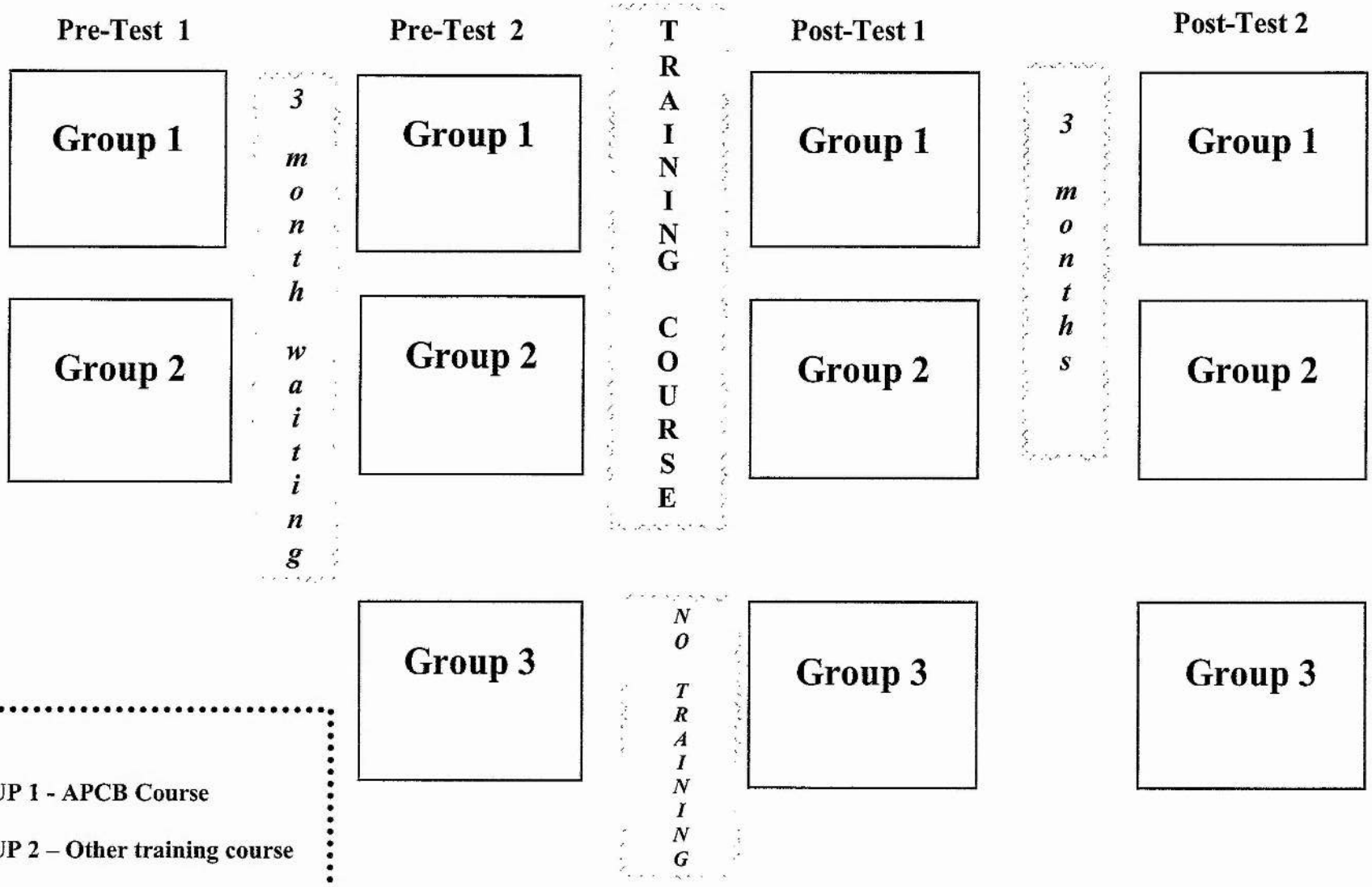
There were five specific hypotheses tested in this study. The rationale for these hypotheses is explained in the Methodological Considerations section that follows and in more detail in the introduction to each hypothesis in the Results section. As a *group*, these hypotheses addressed the main issues in this study. The five hypotheses were:

1. Groups 1 and 2 will show no differences in maturation over time prior to the training period, i.e. between Pre-Test 1 and Pre-Test 2 time points.
2. Groups 1, 2 and 3 will score differently on the questionnaire at Pre-Test 2 time point.
3. Staff who took the course "*Approaches to People with Challenging Behaviour*" will show a greater increase in scores pre-to-post course than staff in the other two groups.
4. The three groups will show different degrees of retention of any changes in cognitive representation measures of challenging behaviour at Post Test 2, i.e. different training effects at follow up.
5. Staff who completed the questionnaire at Post-Test 2 are different in some respects to the total sample of staff who participated in the study.

For each hypothesis the overall scores of the questionnaire and the scores on each of the five subscales (Identity, Cause, Consequences, Emotional Reaction, Treatment/Control) were recorded.

In summary, the dependent variables in this study were the participants' summated scores on the Challenging Behaviour Representation Questionnaire (CBRQ), developed in Chapter 4. The main experimental group of participants (Group 1) undertook the course, *"Approaches to People with Challenging Behaviour"*, at the same time as two control groups undertook either another open learning course (Group 2), or no training course (Group 3). This is summarised in Figure 5.1.

Figure 5.1 Test Conditions for Groups 1, 2 and 3



KEY

GROUP 1 - APCB Course

GROUP 2 – Other training course

GROUP 3 – No training course

Methodological considerations

1. A single, overall analysis, comparing the three groups at the four time points (e.g. repeated measures ANOVA) was decided against. In such an analysis the effect of the intervention would have been difficult to untangle from any effects of maturation, non-randomness in the missing data and any group differences at baseline. Instead, a series of five hypotheses were tested, which *collectively* addressed the main research questions, by using specific sub-sets of the main data.

2. There were different numbers of participants at each of the stages of testing; Pre-Test 1, Pre-Test 2, Post-Test 1 and Post-Test 2, and data for all participants were not available for all four time points; see Figure 5.10 on page 114. This was due to a number of factors. Student attrition on the training courses, staff moving jobs over the course of the study, early retirement, pregnancy, and failure to return completed questionnaires account for most of the attrition. These missing data have implications for the analysis and interpretation of results.

3. To get a reasonable estimate of the effects of training, the analysis was planned to take account of any initial differences between the groups and the fact that group numbers differed at some of the time points. The main analyses focused on the outcome measure – questionnaire scores– immediately before and immediately after training. The analyses of antecedent pre-test and second post-test scores were used to supplement this analysis. This was an effort to separate the effects of training from any effects due to selection and maturation differences between the groups.

4. An analysis based on a comparison of percentage or relative gains for each group was considered but rejected. The rationale here was that a maximum score was possible on the questionnaire and there may have been a ceiling effect. This would mean that individuals who had a higher initial score would have less room for improvement than participants who started with low scores. In other words, the relationship between percentage change and improvement in cognitive representation score would not be constant across the data.

5. It is possible that participants who did not complete the questionnaire at final time point Post-Test 2 differed in some way from participants who did. This would have implications for the interpretation of results, because the analysis for Post-Test 2 would only be on data from a particular subset of staff, for example, those who were more conscientious, more committed to completing tasks, more susceptible to the suggestion that they complete another questionnaire and so on. To control for this possibility, participants who completed questionnaire at Post Test 2 were compared with the total sample of participants to see if there were any variables that distinguished the participants who did not complete the final questionnaire. See Hypothesis 5 on page 136.

6. In the experimental design, participants were self-selecting and were not randomly allocated to groups. This meant that it was likely that groups would differ initially; some of these differences are identified in the section on 'Participants' in this chapter. While it was possible to control for differences such as age, job title and job setting in the analysis, it was possible that participants may have differed for *other* measures, which are not available. For example, factors such as participants' interest in the subject, their employment status as full/part time, permanent/temporary, amount of time they had to do the course, or their health status may all be important. Baseline scores at the Pre-Test 2 time point were used as a covariate in the main analysis, to control for differences in the participant scores at the starting level; see Hypothesis 3 on page 130.

7. The weaknesses of Likert-type scales are acknowledged (Breakwell and Rose 2000; Cook and Campbell 1979; Campbell and Stanley 1966). For example, a score of '0' on a questionnaire item may indicate that a participant is undecided, is torn between agreement and disagreement, or simply does not understand the statement. Similarly the scoring system (2, 1, 0, -1, -2) does not distinguish in *overall* scores between someone who has responded with 20 '2's and 20 '-2's, and someone who has responded with 40 '0's – the difference between someone with strongly held views and someone with no views on the subject. All scores are relative: they only have meaning in the context of *other* scores obtained, either at a different time point for the same individual or at the same time point for a different individual or group. For these reasons questionnaire scores are interpreted and analysed *only* in relation to each other in the five main hypotheses. Similarly no level of individual or group score is set as being 'acceptable/unacceptable' in itself.

8. Type 1 errors were more likely with the kind of multiple comparisons being made in this study and there is a danger of the experimental hypotheses being wrongly supported. There is an attempt at making any significance of results more robust by the choice of statistical tests and the design, using five linked hypotheses (Shaffer 1995; Wilcox 1995). Within-group analyses are followed by more rigorous between-group analyses.

9. Finally, the possibility that the apparent impact of training may be related to some differences in specific characteristics between the groups cannot be underestimated. Because of this, for most of the hypotheses tested *two* statistical analyses were run; one without these additional factors/covariates and one that included them. Where the two analyses agreed, changes in scores can be attributed with more confidence to the effects of training.

Despite these considerations, the methodology for the present study was judged as the best and most appropriate for the research questions and variables under investigation, given the participants and the

practicalities of the investigation. It is possible that data collected in a different way could yield different results, and this will be discussed later in Chapter 7. However, there are substantial similarities with other study methodologies to allow comparisons to be made with previous studies in this area.

The data on questionnaire scores show normal Gaussian distribution at each of the time points and parametric tests were used. Statistical procedures were employed using the SPSS for Windows programme (Version 10). Chi-Square Tests and Analysis of variance (ANOVA), some with inclusion of additional covariates, were used for the data analyses in Hypotheses 1-4. Binary Logistic Regression was used for Hypothesis 5. Group 1, the experimental group, are compared separately with the two control groups, Group 2 and with Group 3. (Comparisons between Groups 2 and 3 data are not part of the study design or analysis).

Measures and Procedures

The Courses

The study to evaluate the impact of training on cognitive representation of challenging behaviour was undertaken using participants in three groups; see Figure 5.1.

- Group 1 undertook the course "*Approaches to People with Challenging Behaviour*"
- Group 2 undertook the course "*Approaches to Sexual Abuse of Adults with Learning Disabilities*"
- Group 3 did not undertake any training course during the period of the study

Background to the courses used in Group 1 and Group 2 conditions

The University has provided short courses for several years to health, social care and education staff working with people with learning disabilities. These courses have used conventional face-to-face methods, requiring attendance away from the workplace. This programme has been very successful. At the same time the University and employers have recognised that two factors mitigate against such courses achieving sufficient impact on workplace practice:

1. There are relatively few expert practitioners in this area able to deliver face to face training, and access to them remains very limited.

2. Resource constraints also mean that a large number of staff who require training could not hope to have access to these experts, even where they are available.

The format of open learning courses enables staff working in this area to gain access to best practice information and University level accreditation without lengthy absence from the workplace. Staff are supported by university-approved, workplace Mentors. Course content in both courses includes:

Case Studies – written by case managers in health and social services, based on real situations faced by residential and day care staff.

Individual Student Activities – periodic exercises designed as self-assessment of understanding. Students combine their existing knowledge with newly introduced concepts to achieve learning objectives through such things as attitude quizzes, evaluation of their own services, task analysis of work to be done.

Group Student Activities – topic based activities with guidance for group use with other staff.

Research Findings – up-to-date research developments in the field, including established and emerging therapeutic approaches, documented staff experiences, investigation of the feelings of staff during and after incidents.

Structured Text – the main text is broken into self-contained units, each beginning with clearly stated objectives and closing with assessment options.

Practitioners' Notes – nursing, social work and education staff working on a daily basis with people with learning disabilities comment on constraints encountered in putting principles into practice, and describe how they adapted their approaches to succeed.

Portfolio– students are asked to compile a Portfolio of the good practices they have learned, for their own use as a checklist at any time in the future when they want to contribute to the design of management or treatment programmes.

There are no minimum academic entry requirements for these courses. There is an initial formative assessment to give students constructive feedback on content, style and presentation of answers. Support for students new to studying at this level, or students returning to study after a number of years is available at the start of the course. Formal assessment on the course has been carefully designed to test workplace competence and practical application of principles, rather than the ability to write long essays. Good communication between employers, workplace mentors and the University ensures that applications are made by suitably motivated staff, and that the courses are fit for purpose. There are two intakes per year and all applicants are guaranteed a place within six months of applying. The standard of the materials and the teaching and learning on these courses is strictly monitored by the university's own audit systems, and by periodic external review of teaching within the university as a whole.

The University strives to attract students from a variety of academic, social and cultural backgrounds. The financial and time demands of full time education can exclude some sectors of society from university courses. As part-time, open learning courses, with workplace support, these open learning courses have made it possible for the university to attract a much greater diversity of students. People successfully completing the courses have come from a range of social backgrounds in England, Wales, Northern Ireland, Eire, the Channel Isles, Gibraltar, as well as Orkney, Shetland and the Western Isles of Scotland. The course materials have now also been used by services in Australia, Finland, Bosnia, Hong Kong and Alaska. The university faces the twin challenge of operating in a rural location, not conducive to the matriculation of large numbers of

commuter students, and being a small, distinctive institution. Offering curricular access through open learning in this vocational area of study goes some way to addressing both of these challenges.

Group 1 – Approaches to People with Challenging Behaviour Course

(See course materials provided as a separate appendix to this thesis also – Appendix 11.)

This is a university course at degree level 1, written in open learning format. The course is accredited at 30 Credit Accumulative Transfer (CAT) points and 15 European Credit Transfer System (ECTS) points. Materials in the course were designed specifically for direct care staff providing services to people with Learning Disabilities and Challenging Behaviour. The development of the materials was supported by a grant from the European Social Fund and the materials were written jointly by a group of academics and practitioners in Scotland and Ireland.

The aim of the course is a practical exploration of Challenging Behaviours leading to an enhancement of staff skills in working with people who have challenging behaviours. The main objective of the course is that staff will be better able to manage and treat people with Challenging Behaviour more constructively, and clients with learning disabilities will gain more skills to assist their integration into community life. Values based services and good practice are espoused in the course materials. The course won the Royal Society for the Arts British Partnership Award for Innovation in Open Learning. The Royal College of Nursing in Scotland has approved the materials and it is included in the Nuffield Institute Database of Good Practice (University of Glasgow).

This course is intended to affect staff attitudes, as well as staff skills and knowledge. The practical objective has been to improve the quality of care and quality of life for people with learning disabilities and challenging behaviour, by making staff both more able and more confident. The subject matter of the course has not previously been available or accessible in an accredited format for 'hands-on' direct care staff, working with people with learning disabilities and challenging behaviour.

Contents of the course include:

- Definitions, causes and classifications of challenging behaviour
- The context of behaviour: Community values and Community Care
- The role of staff: Treating, managing or coping
- Environmental factors

- The Constructional Approach
- Behavioural principles
- Proactive and reactive approaches
- Reinforcement
- Aversive and non-aversive approaches
- Behavioural observation
- Changing behaviour settings
- Quality in a behavioural approach

The following is an extract taken from the Community Care magazine's review of *"Approaches to People with Challenging Behaviour"*:

> *"The behavioural approach has long struggled to make headway against social work resistance despite its undoubted efficacy in particular areas of work. This was due partly to the cold, even heartless language that an earlier generation of behaviourists employed to the professional distaste for what is perceived as a manipulative technique. This excellent pack will help to overcome that resistance because it describes the behavioural approach so clearly and adheres to an ethical value, committed to meeting client need.*
> *No other pack on the behavioural approach combines the elements of distance learning so well. Teaching texts, case studies, research findings alternate with exercises designed for self assessment allowing students to progress at their own speed towards university certification if they wish."*

(John Pearson, Senior Lecturer in Social Work, Staffordshire University, printed in Community Care Magazine).

Group 2 – Approaches to Sexual Abuse of Adults with Learning Disabilities

(See course materials provided as supplements to this thesis also; Appendix 11).

This is a university course at degree level 1, written in open learning format. The course is accredited at 30 CAT points and 15 ECTS points. Materials in the course were designed specifically for direct care staff providing services to people with Learning Disabilities. The development of the materials was supported by a grant from the Scottish Office. The materials were written jointly by a group of academics and practitioners in Scotland and Ireland.

The aim of this course is to increase staff knowledge and awareness by exploring the social, legal and therapeutic context of sexual abuse in services. The materials offer staff increased access to the growing body of research and good practice in this demanding area. The need for early detection and reporting of sexual abuse is emphasised. These course materials were originally developed as part of the Scottish Office Research Project, Scottish Home and Health Department: Evaluation of the Effectiveness of Open Learning Training on Sexual Abuse in Services to People with Learning Disabilities, K/OPR/2/2/D209 (Hogg et al 2001). The materials move from agreed definitions of sexual abuse, through first principles of prevention, disclosure and reporting, to an application of those principles in the workplace. Staff are asked to access and evaluate their own guidelines and procedures.

Contents of the course include:

- Elements of definition
- Characteristics and indicators of abuse,
- Patterns of abuse
- Incidence and prevalence
- Perpetrators and victims
- Settings for abuse
- Sub-culture
- Role of staff and carers
- Guidelines and procedures: When to tell, whom to tell, how to tell
- Consequences and effects of abuse: For staff and carers, for victims, for perpetrators
- Service deficiency proformas

A review from the Ann Craft Trust, (formerly the National Association for the Protection from Sexual Abuse of Children and Adults, University of Nottingham) printed in Community Care Magazine indicated that:

> *"This open learning pack may just fit the bill for a training manager charged with establishing and maintaining training to support adult protection policies and procedures in their organisation. The package is attractively presented, and there are four units in a logical sequence. The package has been designed to support a certified qualification through the university. The principle of mentorship, an important feature of the certified course, would be well adapted for in-house use also. The course tackles the issue of student isolation by offering group activities which it suggests mentors organise"*

The Questionnaire

The 40-item questionnaire used to assess the effectiveness of training was developed as described in Chapter 4 of this thesis. There were eight questionnaire items in each of the five dimensions under study: Identity, Cause, Consequences, Emotional Reaction and Treatment/Control. Each of the dimensions is represented as a separate subscale in the questionnaire. (See Appendix 8 (b) for a copy of the 40 items in full). The order of presentation of the 40 items in the questionnaire was varied to avoid familiarity with the questions and to avoid *"response acquiescence set"* (Coolican 1994) where participants respond in a similar way (e.g. all agree or all disagree) to a number of consecutive items. Five different, random orders of presentation were used, across the three subject groups, 1, 2 and 3. (Figure 5.1). Appendix 8 (b) shows one of the orders of presentation used.

The individual items on the questionnaire were scored as described in Chapter 4. Questionnaire items were scored either as:

very desirable – scored 2
desirable – scored 1
neither desirable nor undesirable– scored 0
undesirable– scored -1
very undesirable– scored -2

The direction of scoring in the questionnaire was : 12 items scoring 2, 1, 0, -1 ,-2; 28 items scoring -2, -1, 0, 1, 2. The maximum questionnaire score possible therefore was 80 (40 items X maximum item score of 2); the minimum score possible was -80 (40 items X minimum item score of -2). Similarly, the maximum and minimum possible scores for any single subscale within the questionnaire, (Identity, Cause, Consequences, Emotional Reaction and Treatment/Control) was 16 or -16 (8 items X maximum score of 2, or 8 items X -2).

Procedures

The investigation was sequenced as follows.

1. Informed consent was obtained in writing before participants completed the Challenging Behaviour Representation Questionnaires. The CBR Questionnaire was administered to participants in a variety of conditions over a three-year period; see Figure 5.1 for summary of test conditions. At four time points; Pre-Test 1, Pre-Test 2, Post Test 1 and Post-Test 2, participants completed the questionnaire either at their workplace, or in person while attending training events at the University. (See Appendix 9 for a list of organisations who gave permission for their staff to be involved in this research.) Participants were guaranteed anonymity, but were asked to give information on their gender, age, job title, job setting, severity and type of challenging behaviour experienced, length of service and post school qualifications. All participants were informed that they would be asked to complete the questionnaire on more than one occasion. The only other information they received was a brief introduction to the questionnaire; see Appendix 4.

2. Completed questionnaires were individually coded to ensure anonymity and filed according to group and time point, e.g. Group 1, Pre-Test 1; Group 2, Pre-Test 2 etc.

3. All questionnaires were marked using the methods described previously in Chapter 4. Each response in the 40-item questionnaire was given a score of 2, 1, 0, -1 or -2, according to the marking guide and individual item scores were added to give a final total and subscale scores.

4. Each response on the 40-item questionnaire from each participant at each of the time points was entered onto a data sheet on the SPSS programme. Individual participant codes were entered first and given a group number. All 40 questionnaire items were then entered as column/variable headings, and scores on each item entered as raw data. Characteristics of gender, age, job title, job setting, length of service, severity of behaviour, type of behaviour and post school qualifications were entered as separate variables, then coded for use in later analysis.

5. Because of the large number of data points (50,000+) and the fact that data were entered from questionnaires to computer by hand, the accuracy of data input was checked in two ways. Any missing data values (blank cells) or data values outwith the range (e.g. input errors of -22 or 11 instead of -2 and 1 respectively) were detected electronically by a double entry method and changed. In addition,

responses from a random sample of 20 questionnaires from each group were inputted again to a new data sheet and compared with the main data input file for any differences between the two files.

6. Total and Mean scores for each participant were calculated for time points Pre-Test 1, Pre-Test 2, Post-Test 1 and Post-Test 2. Total and Mean scores were also calculated for each participant for each of the five subscales (Identity, Cause, Consequences, Emotional Reaction, Treatment/Control) at each of the four time points. These values were entered as separate columns/variables in the SPSS data sheet.

Participants

The participants in Groups 1, 2 and 3 were all staff working directly with people with learning disabilities and challenging behaviour in a variety of service settings. There were originally 100 participants in each group at Pre-Test 2 time point. A list of the organisations that participated in this study is given in Appendix 9.

Some participants were recruited for the training courses after the Pre-Test 1 stage. 100 Questionnaires were sent or given to participants in each of the three groups at Pre-Test 2, Post-Test 1 and Post-Test 2. A number of participants in each of the three groups withdrew before the final, Post Test 2 stage, giving a variety of work, academic and personal reasons. The raw response rates varied and the numbers of questionnaires returned for each group at each stage is shown in Figure 5.10.

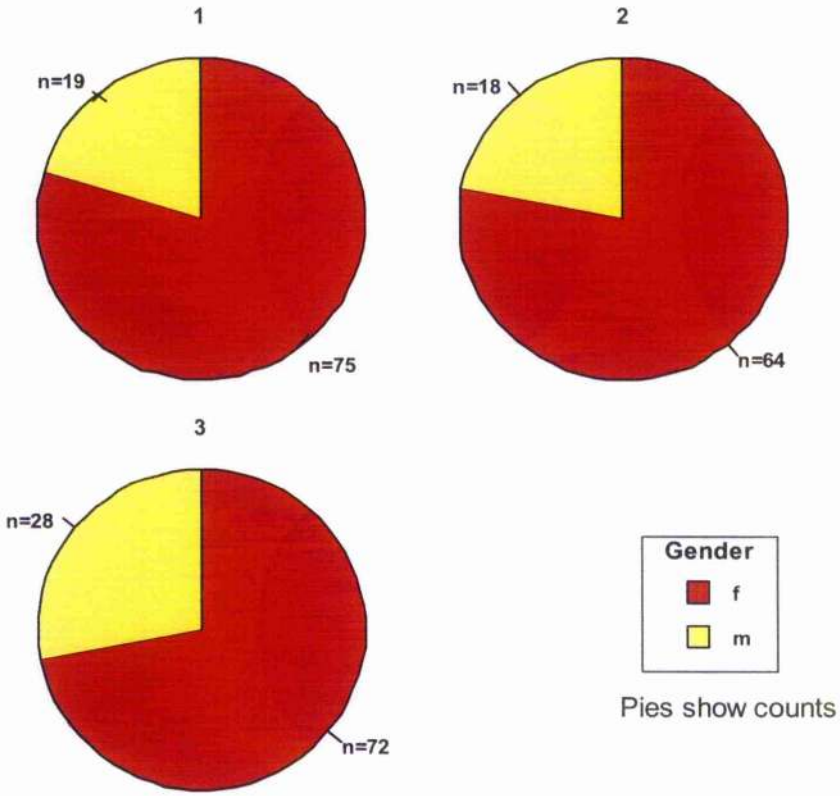
- Group 1 staff undertook training in the form of a University accredited open learning course, *"Approaches to People with Challenging Behaviour."*
- Group 2 staff undertook training in the form of a University accredited open learning course, *"Approaches to Sexual Abuse of Adults with Learning Disabilities."*
- Group 3 staff undertook no accredited training during this study.

Participants for Groups 1 and 2 were the staff who enrolled on the respective courses during the period of this study and they were therefore self selecting. Participants for Group 3 volunteered to take part in the study, committing to undertake no accredited open learning training during this time. Information about characteristics of participants is given in Figures 5.2-5.9. These show comparisons of the group characteristics. Full details of participant characteristics with relevant Means, Medians and Standard Deviations are then given in Appendix 10.

Data on the following characteristics were recorded:

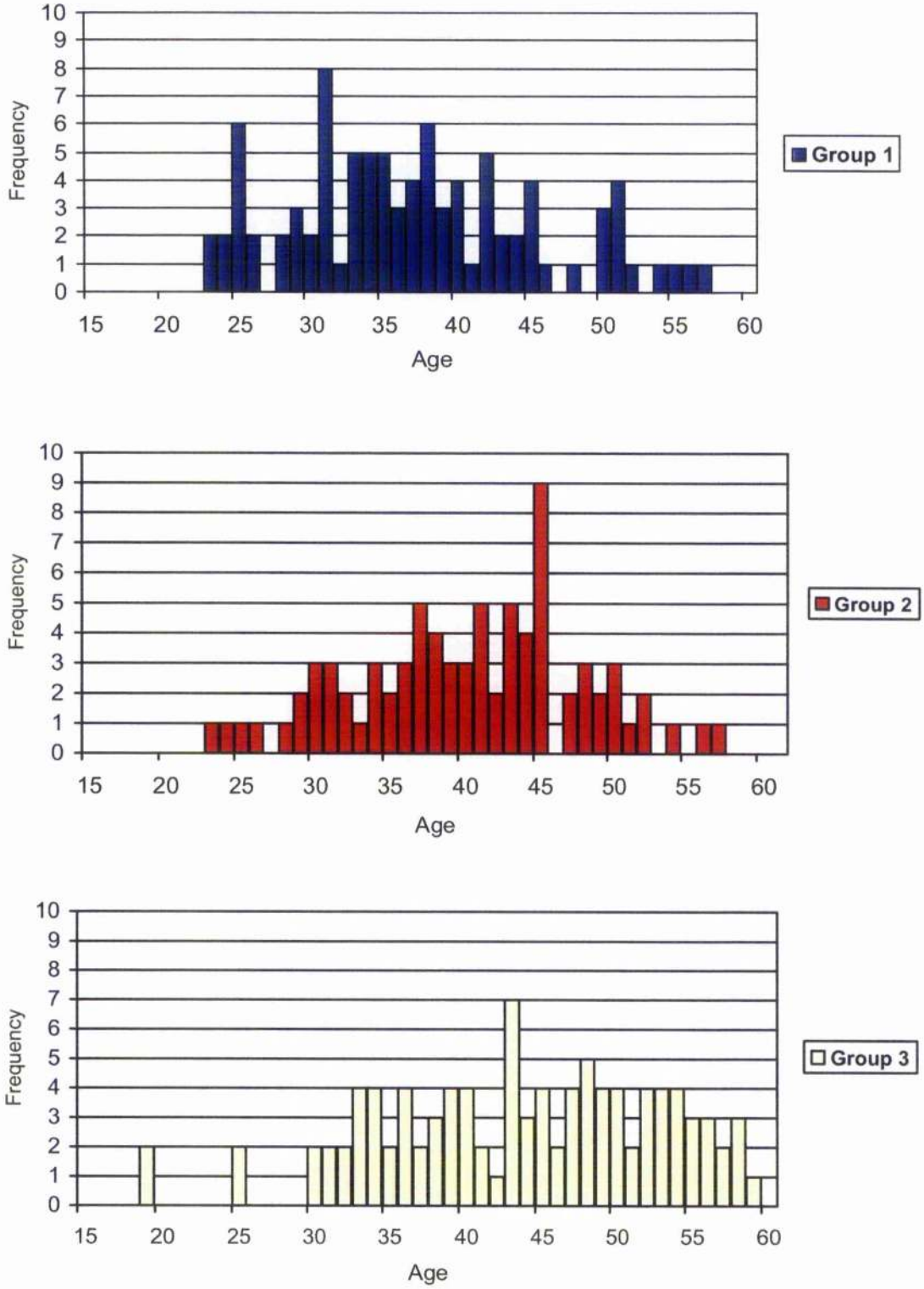
- Gender (Figure 5.2)
- Age (Figure 5.3)
- Job setting (Figure 5.4)
- Job title (Figure 5.5)
- Length of service (number of years working with people with learning disabilities and challenging behaviour) (Figure 5.6)
- Severity of challenging behaviour in current job setting (Figure 5.7)
- Types of challenging behaviour in current job setting (Figure 5.8)
- Post school qualifications (Figure 5.9)

Figure 5.2 Gender profile of participants for Groups 1, 2 and 3



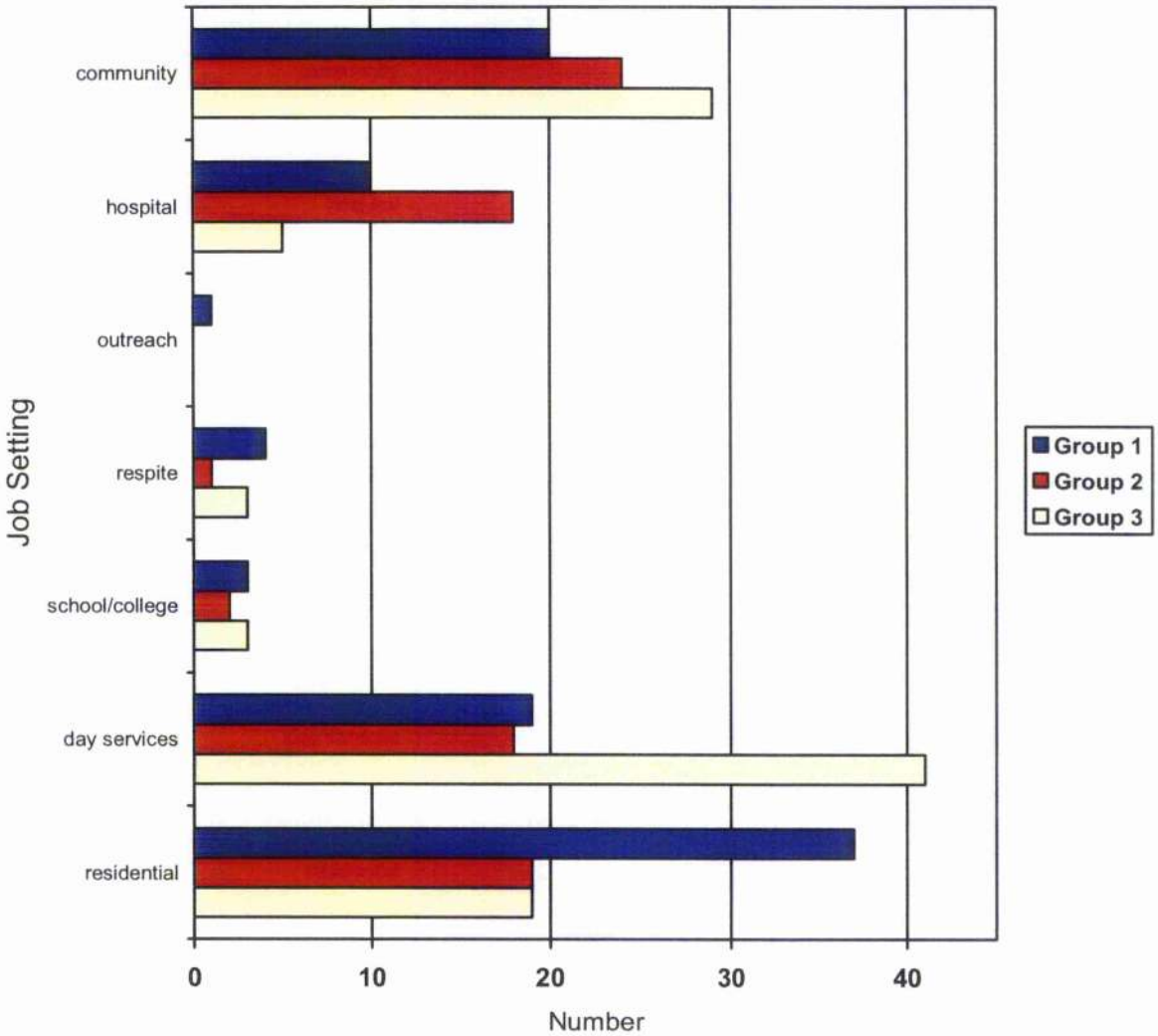
The percentage of male/female staff in each group was Group 1: 20.2%/79.8%; Group 2: 21.9%/78.1%; Group 3: 28%/72%. This balance is consistent with national figures (Information and Statistics Division, NHS Scotland 2003).

Figure 5.3 Age profile. Frequency distribution of ages of participants for Groups 1, 2 and 3



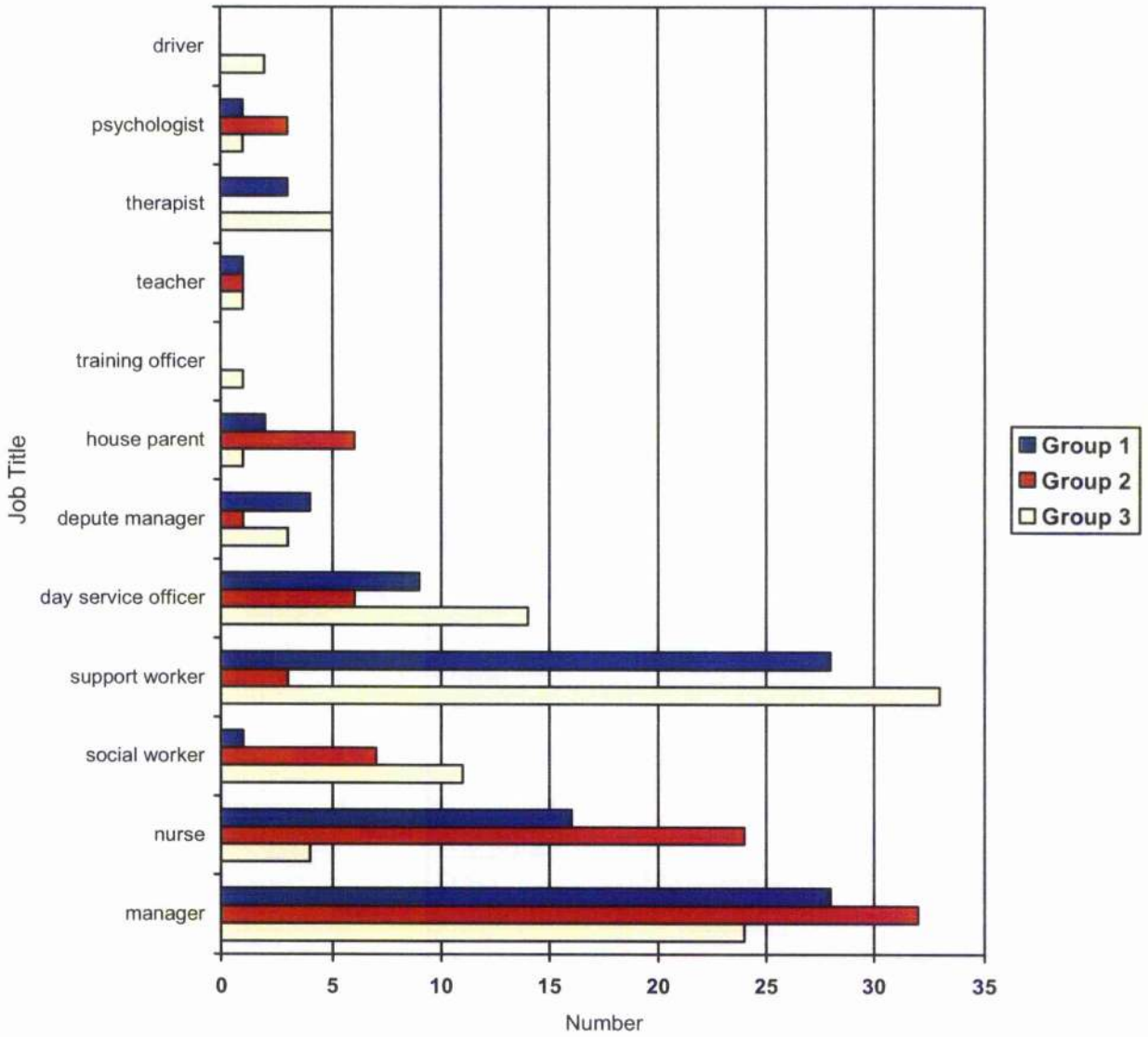
Mean age overall was 40.16. The Mean ages of Group 1, 2 and 3 participants were 36.79, 39.82 and 43.61 respectively. Standard deviations, medians and range are given in Appendix 10. Analysis of age differences is given in the Hypothesis 2 discussion, which follows.

Figure 5.4 Job setting profile. Frequency distribution of places of work for participants for Groups 1, 2 and 3



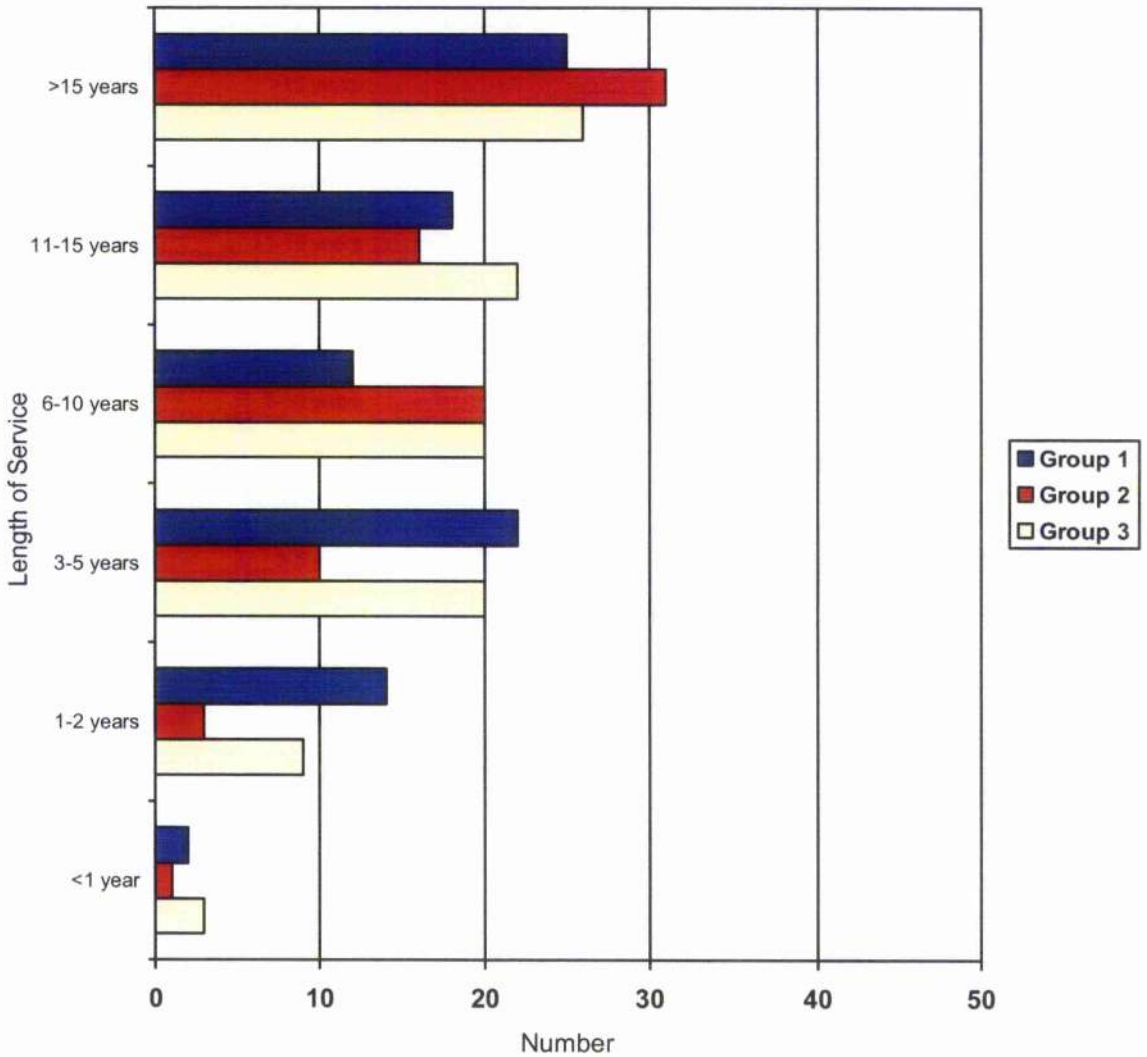
The majority of participants in all three groups were employed in day services, community services and support services for people in their own homes. Some staff were working in more than one role; in these cases their principal role is given in Figure 5.4. Further details about participants are given in Appendix 10.

Figure 5.5 Job title profile. Frequency distribution of job titles of participants for Groups 1, 2 and 3



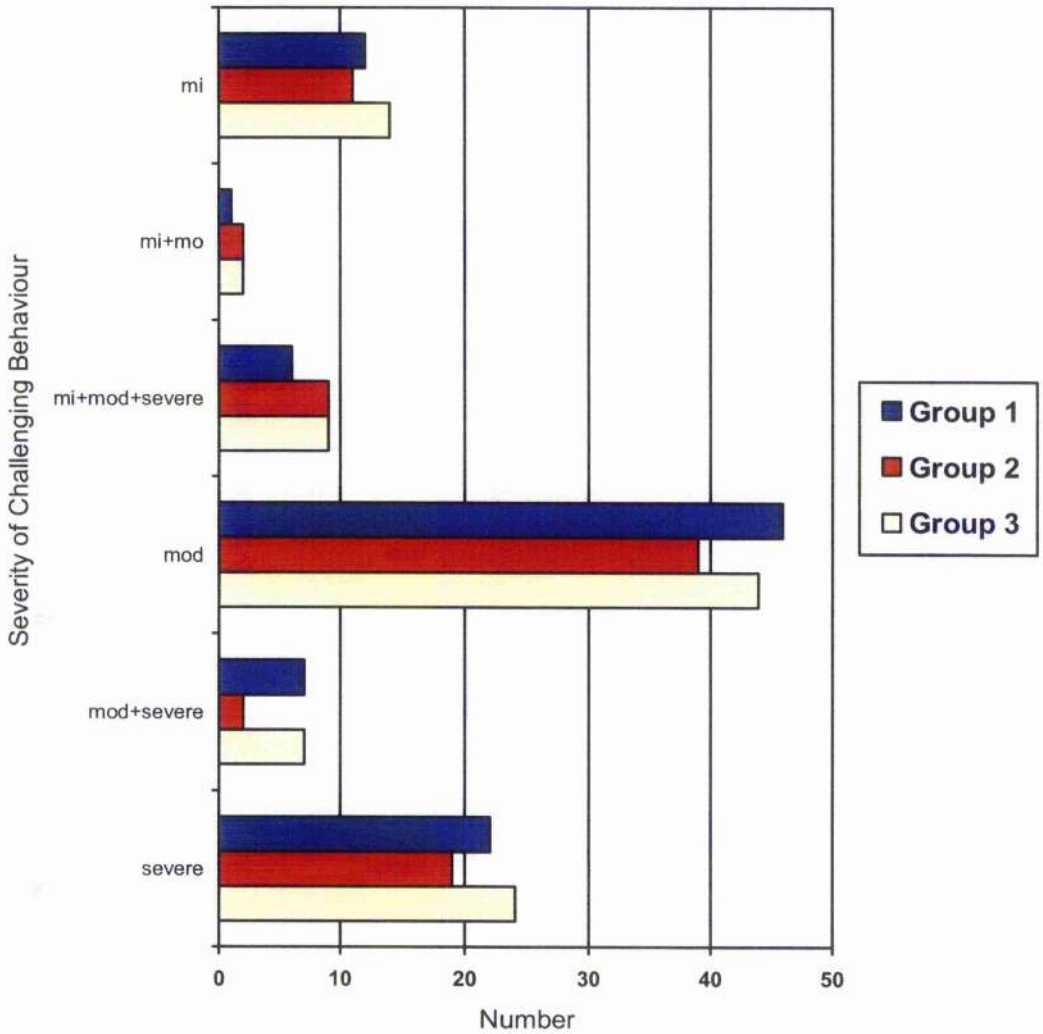
All participants had daily contact with people with learning disabilities and challenging behaviour. The greatest number of participants overall were managers (84), followed by support workers (64) and nurses (44). The category 'support workers' includes participants who gave the job titles 'neighbourhood worker', 'community support assistant', 'community care worker' and 'care assistant'. The category 'day service officer' includes 'day care officer'. Further details are given in Appendix 10.

Figure 5.6 Length of service profile of participants for Groups 1, 2 and 3 (In response to the question: *"How long have you been working with people with challenging behaviour?"*)



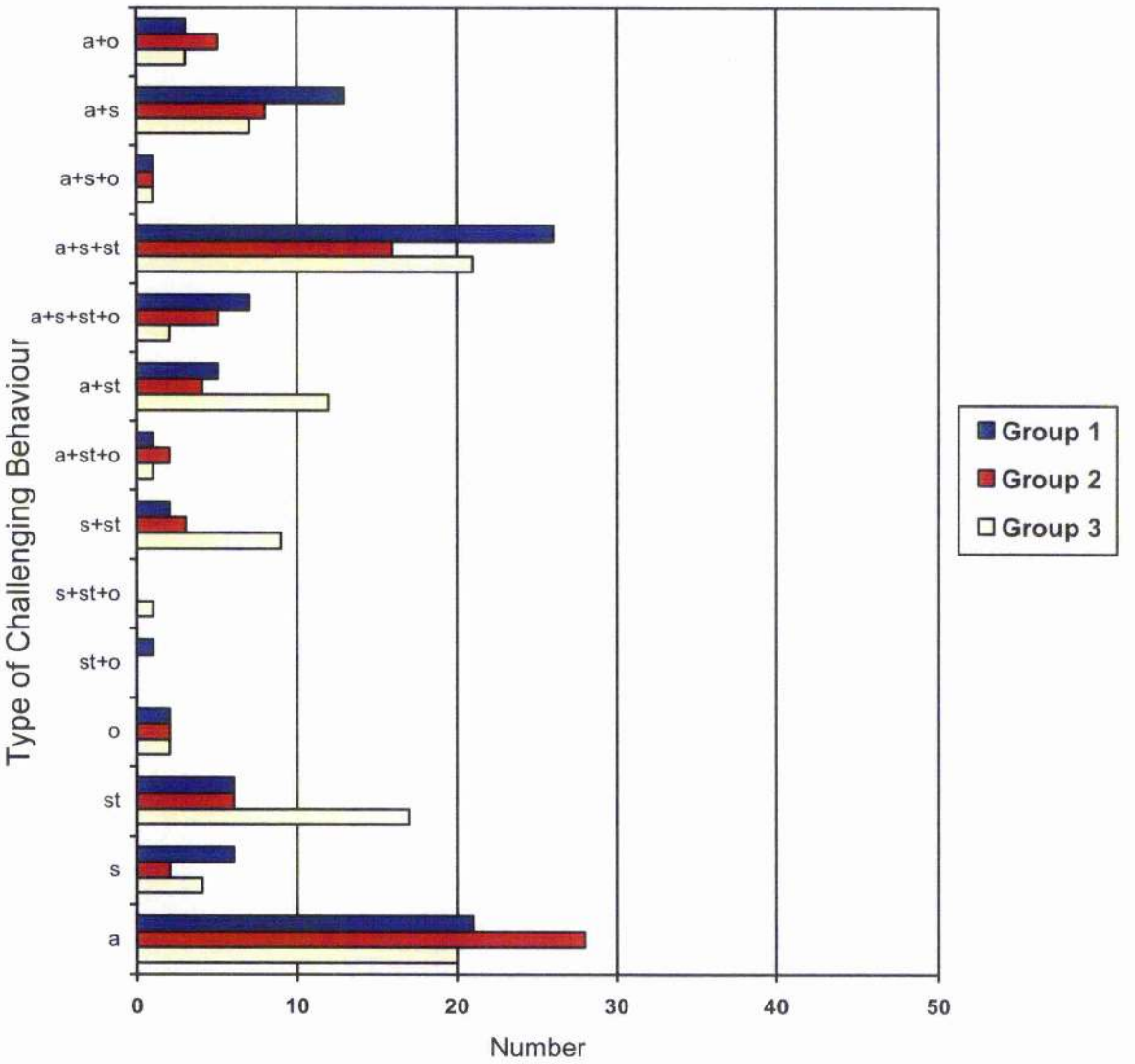
Length of service in years and months was obtained from participants in Groups 1, 2 and 3. The majority of participants had been working with people with learning disabilities and challenging behaviour for six years or more and fewer than ten participants had been in their job for one year or less. The Mean length of service for Group 1, 2 and 3 participants was 7.8, 9.7 and 8.2 years respectively. Further details are given in Appendix 10.

Figure 5.7 Severity of challenging behaviour profile of participants for Groups 1, 2 and 3. (In response to the question: *"Would you rate the challenging behaviour of service users in your present job as: Mild? Moderate? Severe?"*).



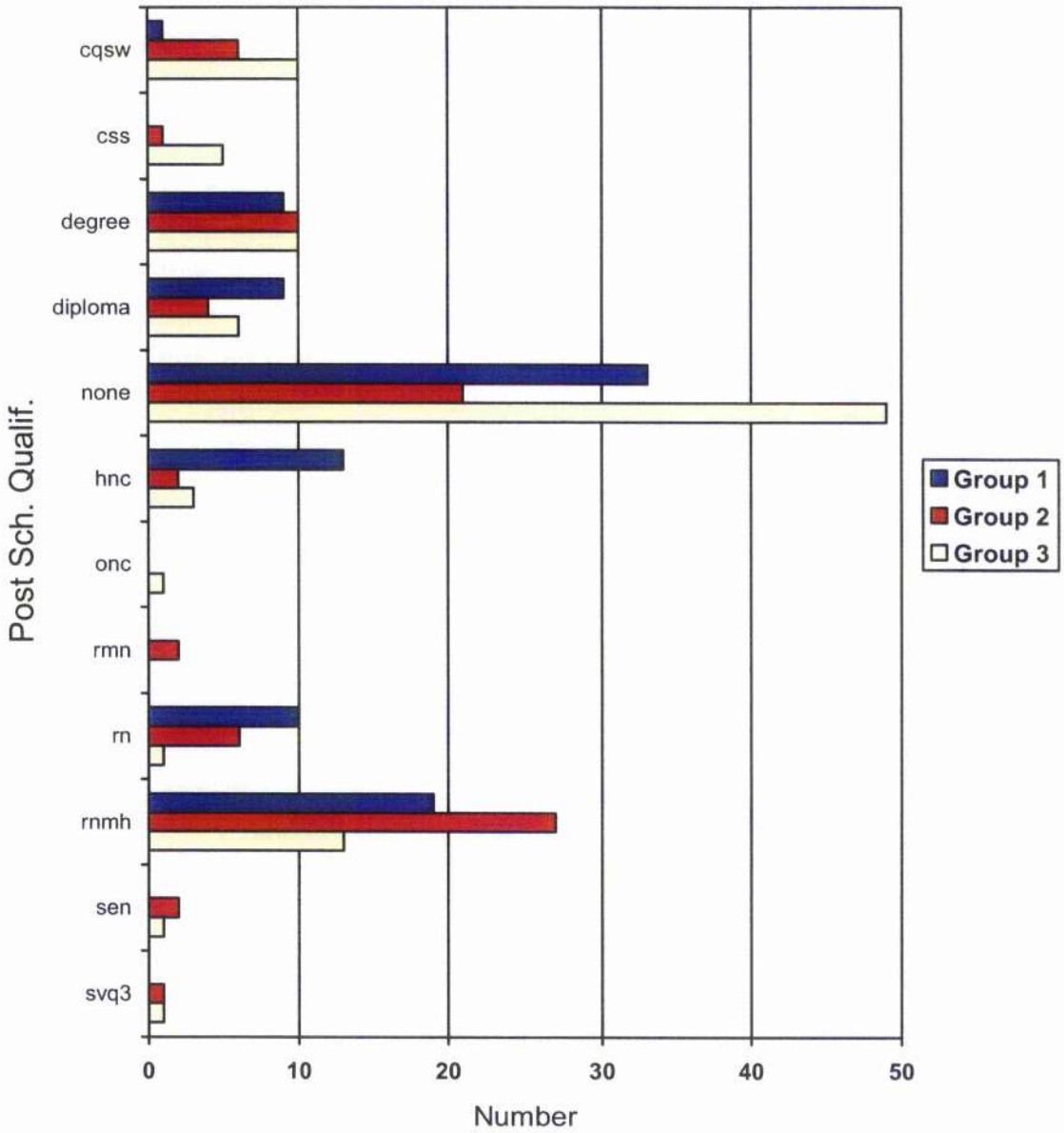
The highest number of participants reported working with people with 'severe' or 'moderate' challenging behaviour. This pattern was consistent in all three groups. No participants reported working with people in the category 'mild and severe'. Further details are given in Appendix 10.

Figure 5.8 Type of challenging behaviour profile of participants for Groups 1, 2 and 3. (In response to the question *"Is most of the challenging behaviour that you have worked with*:
Aggressive/destructive behaviours?
(causing injury to other people or destroying property); (a)
Self-injurious behaviours?
(repeated, self inflicted injury, producing temporary or permanent tissue damage); (s)
Stereotyped behaviours?
(consistent and repetitive behaviours, e.g. body rocking, other movements, postures); (st)
Other behaviour; (o)").



The highest number of participants in each group reported 'aggression' and 'aggression + self-injurious behaviours + stereotyped behaviours'. No-one reported self-injurious behaviours + other behaviours" (s+o). The categories here ((a), (s), (st) and (o)) are taken from the most commonly reported types of challenging behaviour (Allen and Felce 1999). Further details are given in Appendix 10.

Figure 5.9 Profile of participants for Groups 1, 2 and 3 – Post school qualifications



Abbreviations used in Figure 5.9

cqsw– Certificate of Qualification in Social Work;css– Certificate in Social Services; degree–3 or 4 year university accredited degree; diploma– 2 year diploma; hnc– Higher National Certificate; onc – Ordinary National Certificate; rmn– Registered Mental Nurse (mental health);rn – Registered Nurse (general); rnmh– Registered Nurse Mental Handicap (learning disabilities); sen– State Enrolled Nurse; svq3 – Scottish Vocational Qualification, Level III.

The most commonly reported qualification in Group 1 and in Group 3 was 'none', followed by RNMH. In Group 2 it was 'RNMH', followed by 'none'. The Scottish Social Services Council estimates that only about 20% of the social care workforce in Scotland holds any qualifications. Further details are given in Appendix 10.

Results

Challenging Behaviour Representation Questionnaire (CBRQ) scores for Group 1, Group 2 and Group 3

Descriptive statistics on questionnaire scores for each group are presented first, summarised with preliminary within-group analysis in Figures 5.10-5.16; see Appendix 10 for full details. Between-group statistical analysis of these data follows, testing the five different hypotheses outlined in the Methods section.

A summary of the number of participants in each group at each stage of the study and the Mean CBRQ scores overall for each group, including standard deviations, are shown in Figure 5.10. Overall Mean scores for each group are shown in Figures 5.11 and the Mean questionnaire scores for the five individual dimensions are shown in Figure 5.12 (Identity), Figure 5.13 (Cause), Figure 5.14 (Consequences), Figure 5.15 (Emotional Reaction) and Figure 5.16 (Treatment/Control).

The investigation was organised to allow hypotheses to be tested using the two main experimental designs: a longitudinal design using participants as their own controls for repeated measures, and a comparative subjects design. The five hypotheses collectively give comparisons of three kinds

1. Within group analysis for participants – longitudinal repeated measures design examining the effects of a training course on the subject of challenging behaviour.
2. Within group analysis for controls – longitudinal repeated measures design examining the effects of a different training course, and of no training course.
3. Between groups analysis for participants – comparative participants design examining any differences between the groups overall and at different time of testing.

The results follow the descriptive reports and separate reports are given for each of the hypothesis tested. The questionnaire scores for individuals in each of the groups are used as the main outcome measure. Overall scores, and scores on each of the five sub-scales are given, representing the five dimensions of Identity, Cause, Consequences, Emotional Reaction and Treatment/Control within the questionnaire.

Figure 5.10 on the following page is a summary of the different group conditions, also showing numbers in each group at each stage, Mean group scores on the questionnaire and Standard Deviations.

Figure 5.10 Summary of Challenging Behaviour Representation Questionnaire scores for participants in Groups 1, 2 and 3 - Number of participants completing Questionnaire at each stage, Mean score overall (*Standard Deviation*)

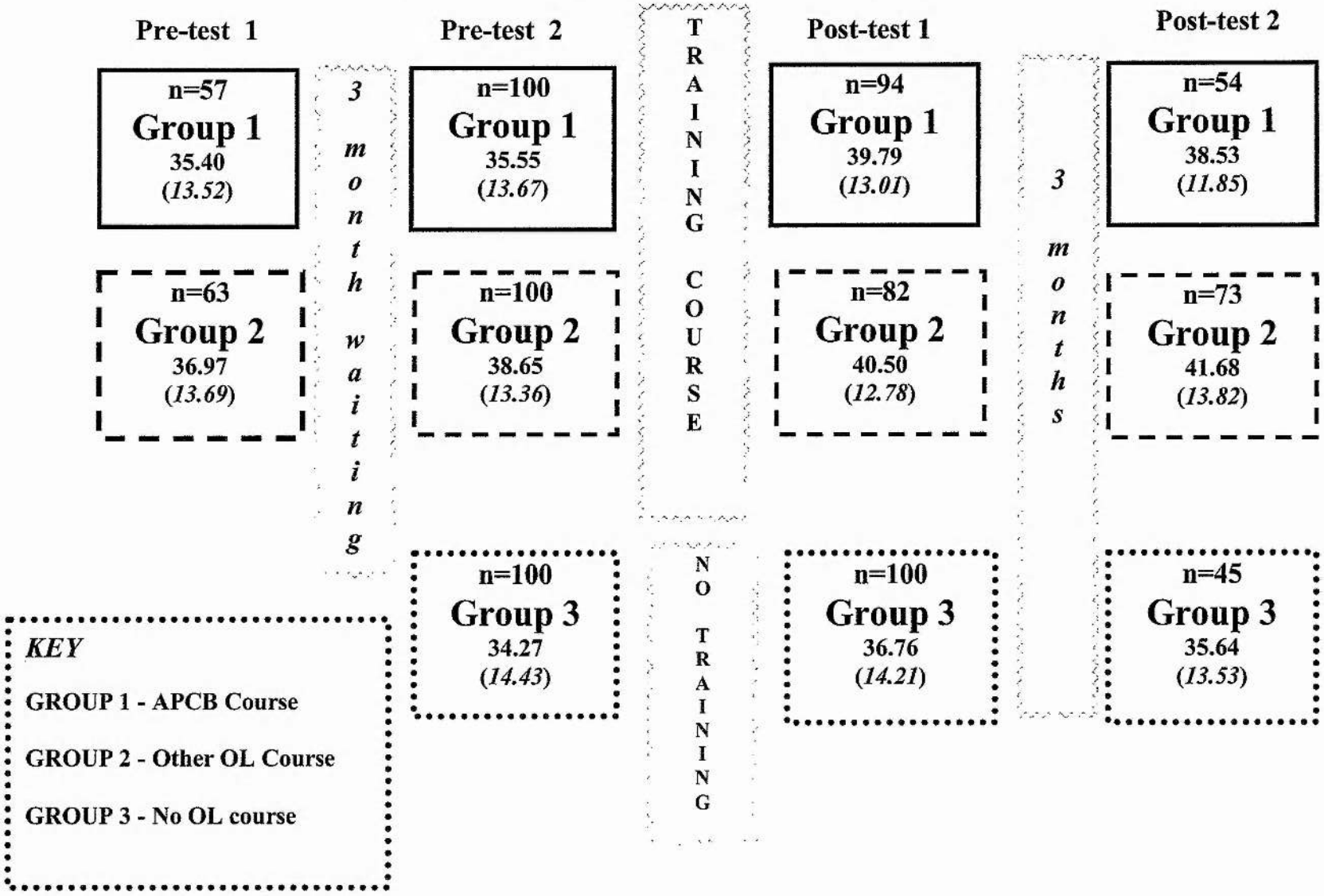


Figure 5.11 OVERALL Mean Scores on Questionnaire

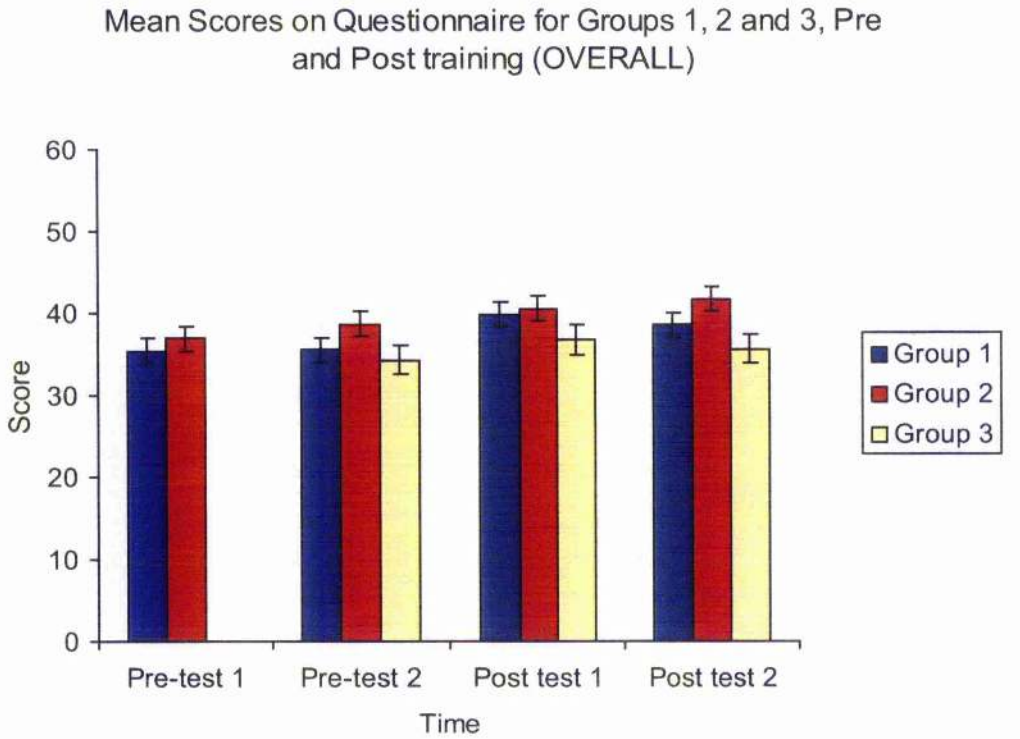


Figure 5.11 shows the overall Mean scores on the questionnaire, for each group at each of the four time points. Error bars show Standard Error (Standard Deviation/√Number of participants). Individual scores ranged from 0 to 74.

Group 1 scores show a small increase between Pre-Test 1 and Pre-Test 2, then a statistically significant increase at the $p<0.05$ level between Pre-Test 2 and Post-Test 1, ($t=-3.210$; $p=0.002$) for a paired sample *t*-test. This was followed by a decrease in score at the second post testing. (One-tailed t-tests are used throughout, unless otherwise indicated). Group 2 show a steady increase over the four time points. None of the increases between consecutive time points is statistically significant. Group 3, who were pre-tested only once, show a small increase at Post-Test 1, followed by a decrease at Post-Test 2. These changes were not significant.

Figure 5.12 IDENTITY Mean scores on Questionnaire

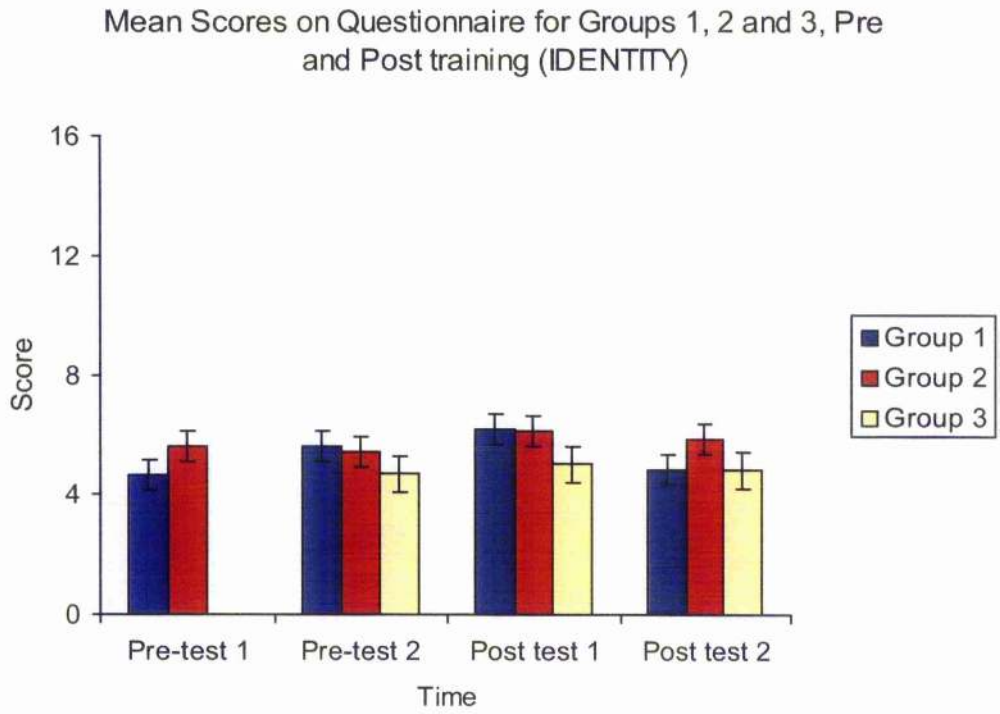


Figure 5.12 shows the Mean scores on the Identity subscale of the questionnaire, for each group at each of the four time points. Error bars show Standard Error. Individual scores ranged from -10 to 16. Of the five dimensions, Identity had the second lowest Mean scores overall.

Group 1 scores show a small increase between Pre-Test 1 and Pre-Test 2 and between Pre-Test 2 and Post-Test 1. Group 2 scores show a small decrease between the first and second pre-tests, an increase at Post-Test 1, decreasing slightly at Post-Test 2. Group 3 scores show the least amount of change; a small increase followed by a small decrease. None of the increases between consecutive time points was statistically significant at the $p<0.05$ level.

Figure 5.13 CAUSE Mean scores on Questionnaire

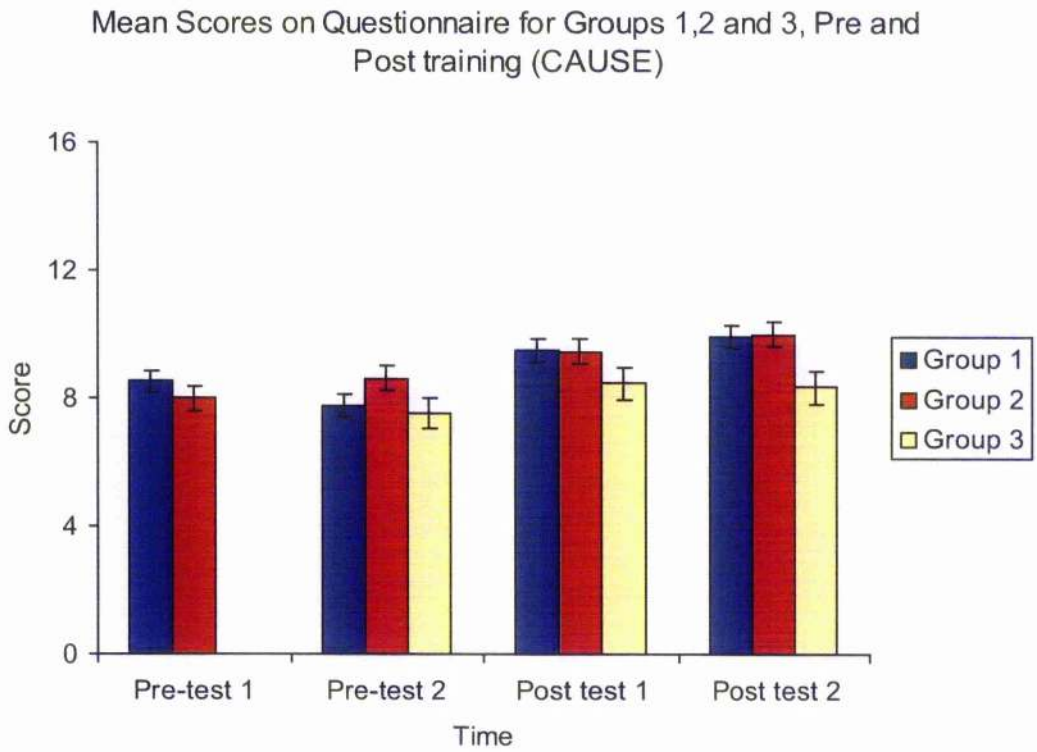


Figure 5.13 shows the Mean scores on the Cause subscale of the questionnaire, for each group at each of the four time points. Error bars show Standard Error. Individual scores ranged from -2 to 16. Of the five dimensions, Cause had the second highest Mean scores overall.

All groups improved significantly on this dimension between Pre-Test 2 and Post-Test 1. Group 1 scores show a small increase between Pre-Test 1 and Pre-Test 2, then a highly statistically significant increase between Pre-Test 2 and Post-Test 1 (t=1.056; p=0.000 for a paired sample *t*-test). Group 2 scores show a small decrease between the first and second pre-tests, followed by a statistically significant increase between Pre-Test 2 and Post-Test 1 (t=-1.351; p=0.046 for a paired sample *t*-test). Group 3 scores also show a significant increase between Pre-Test 2 and Post-Test 1 (t=-2.570; p=0.012 for a paired sample *t*-test).

Figure 5.14 CONSEQUENCES Mean scores on Questionnaire

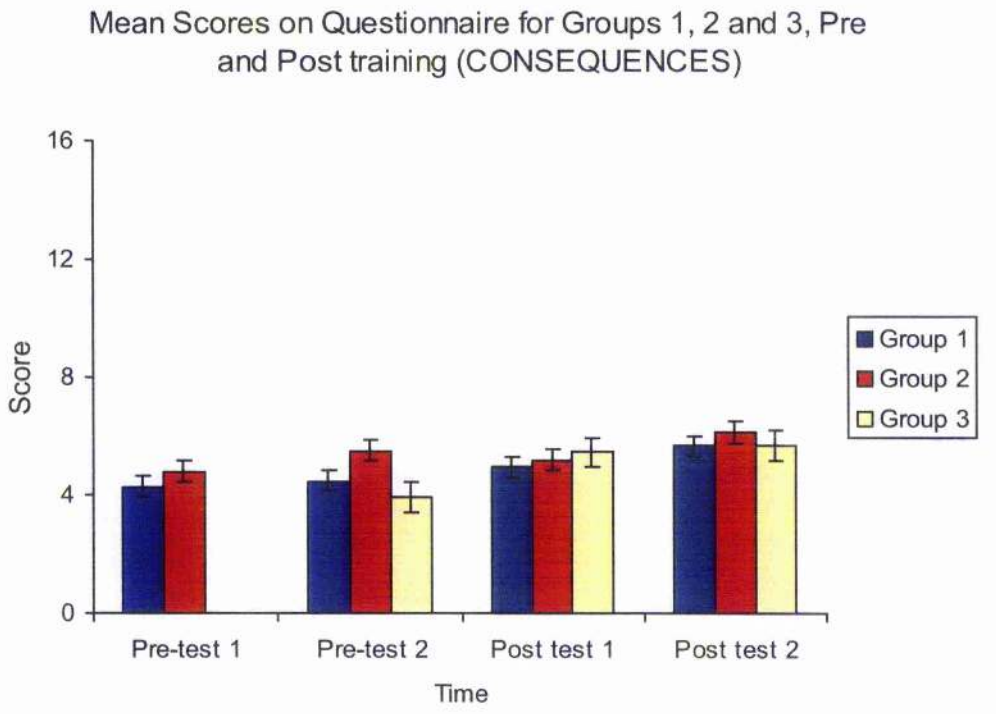


Figure 5.14 shows the Mean scores on the Consequences subscale of the questionnaire, for each group at each of the four time points. Error bars show Standard Error. Individual scores ranged from -4 to 14. Of the five dimensions, Consequences had the lowest Mean scores overall.

The only significant difference seen is for the Group 3 increase in scores between Pre-Test 2 and Post-Test 1 (t=-3.099; p=0.003 for a paired sample *t*-test).

Figure 5.15 EMOTIONAL REACTION Mean scores on Questionnaire

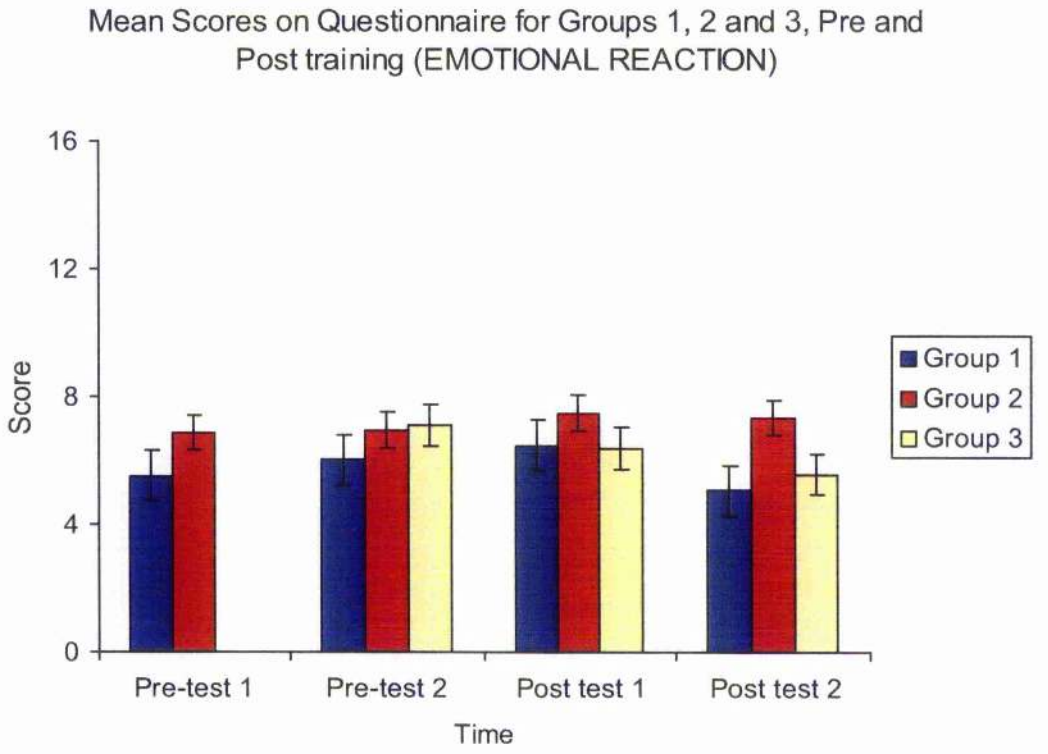


Figure 5.15 shows the Mean scores on the Emotional Reaction subscale of the questionnaire, for each group at each of the four time points. Error bars show Standard Error. Individual scores ranged from -13 to 16. Groups 1 and 2 scores show a similar pattern; a small increase between Pre-Test 1 and Pre-Test 2, and between Pre-Test 2 and Post-Test 1, then a decrease on the second post testing.

Group 3 scores show a steady decrease over the three time points. None of the changes between consecutive time points for any of the groups was statistically significant at the $p<0.05$ level.

Figure 5.16 TREATMENT/CONTROL Mean scores on Questionnaire

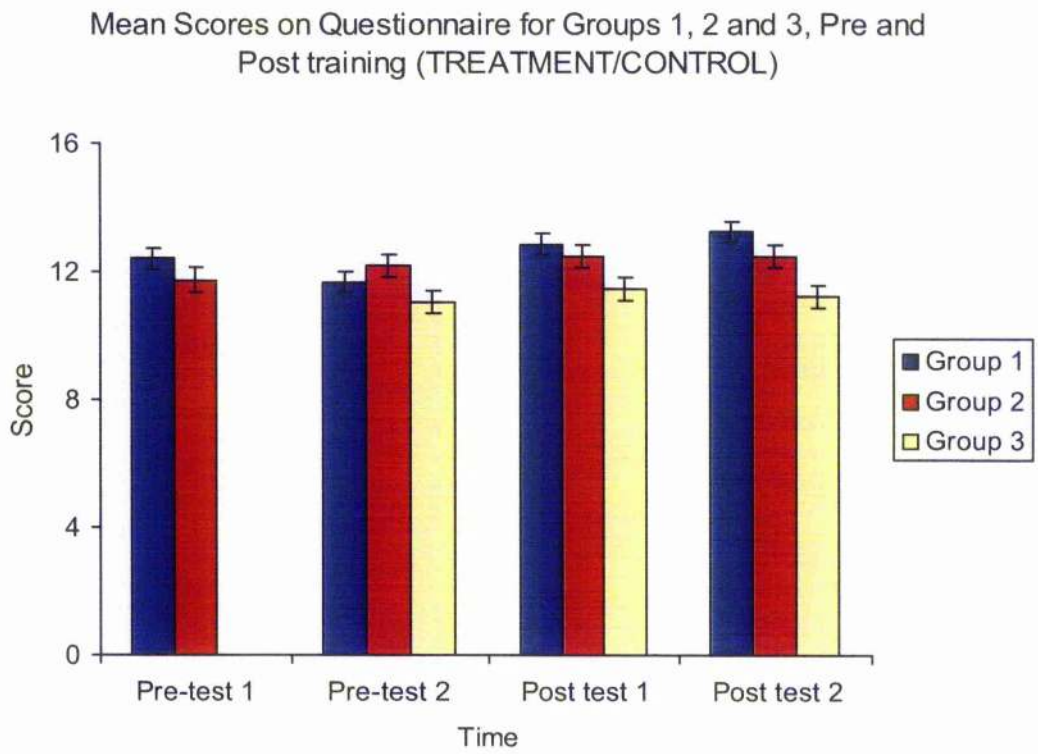


Figure 5.16 shows the Mean scores on the Treatment/Control subscale of the questionnaire, for each group at each of the four time points. Error bars show Standard Error. Individual scores ranged from 4 to 16. Of the five dimensions, Treatment/Control had the highest Mean scores overall and was the only dimension for which no participant had a negative score overall. Group 1 scores show a decrease between the two pre-tests then a statistically significant increase between Pre-Test 2 and Post-Test 1 (t=-3.498; p=0.001 for a paired sample *t*-test). Mean scores continue to increase at Post-Test 2. Group 2 show a small decrease between the first and second pre-tests, followed by a statistically significant increase between Pre-Test 2 and Post-Test 1 (t=-2.245; p=0.027 for a paired sample *t*-test).

Hypothesis 1

Groups 1 and 2 will show no differences in maturation prior to the training period, i.e. between Pre-Test 1 and Pre-Test 2 time points.

An antecedent pre-test (Pre-Test 1) was used with Group 1 and Group 2 to assess any changes in cognitive representation in the period between being accepted on the respective open learning training courses and beginning the courses; a period of three months. The analysis of data here is a test of the *null* hypothesis. The prediction is that there would be no changes in scores prior to training. The results are then built on in subsequent hypotheses, when the overall strategy for using the hypothesis in this way should become clear.

ANOVA was used, with the *change* in Questionnaire scores between Pre-Test 1 and Pre-Test 2 as the dependent variable (i.e. Pre-Test 2 score minus Pre-Test 1 score). 'Group' as a factor and Pre-Test 1 scores as a covariate were the independent variables in the analysis. Overall scores and scores on each of the five dimension subscales (Identity, Cause, Consequences, Emotional Reaction and Treatment/Control) were investigated.

Separate interpretation and analyses are done with and without inclusion of participant characteristics as additional covariates. These analyses are labelled as Hypothesis1(a) and Hypothesis1(b) respectively.

Analysis Hypothesis 1(a)

There was a marginally significant *overall* increase in the level of Mean scores between Pre-Test 1 and Pre-Test 2 for the two Groups; the 'intercept' term in the ANOVA analysis is 0.045 ($F_{1,119}= 4.095$; $p=0.045$). However Group 1 and Group 2 do not differ in the *amount* by which they have changed; the 'Group' term in the same ANOVA analysis is not significant ($F_{1,119}= 2.911$; $p=0.091$). For reference the Estimated Marginal Means are also given in Table 5.1.

Table 5.1 Estimated Marginal Means for Intercept and Group

Source	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Intercept	0.735	0.756	-0.761	2.232
Group 1	-0.556	1.096	-2.727	1.615
Group 2	2.027	1.043	-3.772E-02	4.092

In an analysis of each of the five dimensions only the scores on the Treatment/Control dimension showed a significant difference between Pre-Test 1 and Pre-Test 2 for Groups 1 and 2, when Pre-Test 1 scores are used as a covariate in the analysis; see Table 5.2.

Table 5.2 Analysis of variance on each of the five subscales – Group effect Pre-Test 1/Pre-Test 2

Dimension	*Comparison Group 1- Group 2*
Identity	$F_{1,119}= 0.041$; $p=0.840$
Cause	$F_{1,119}= 3.314$; $p=0.079$
Consequences	$F_{1,119}= 3.631$; $p=0.059$
Emotional Reaction	$F_{1,119}= 0.391$; $p=0.533$
Treatment/Control	$F_{1,119}= 5.398$; $p=0.022$*

*Significant at the $p<0.05$ level

Analysis Hypothesis 1(b)

There were no significant differences between Group 1 and 2 overall scores with any of the participant characteristics used as additional covariates in the analysis. There was a significant difference, at the $p<0.05$ level , between Group 1 and Group 2 on the Identity and Cause subscales when Severity of Behaviour was included in the analysis as covariates (Identity: $F_{1,119}= 5.561$; $p=0.020$, Cause: $F_{1,119}= 4.790$; $p=0.031$). There was a significant statistical difference, at the $p<0.05$ level, between scores on the Emotional Reaction subscale for Group 1 compared with Group 2 when Type of Behaviour was included as a covariate in the analysis, ($F_{1,119}= 4.495$; $p=0.036$).

Summary

From analysis in Hypothesis 1(a) there was an overall increase in scores between Pre-Test 1 and Pre-Test 2, indicating some maturational effect for both groups. Figures 5.10 and 5.11 show this change as an overall increase in scores and there was a trend towards significance. The two groups did not significantly differ in the amount that they changed. There was a significant difference in the change between Pre-Test 1 and Pre-Test 2 on the Treatment/Control dimension; note that Group 1 scores decreased, while Group 2 scores increased. See Figure 5.16 also.

When participant characteristics were included as covariates in the same analysis of variance between the two groups, in analysis Hypothesis 1(b), there were again no significant differences between Group 1 and Group 2 overall scores. Differences are seen in the dimensional measures for Identity and Cause when Severity of behaviour is used a covariate, and a similar degree of difference is seen in the Emotional Reaction dimension when Type of Behaviour is included in the analysis. This may suggest some maturation of the Identity and Cause dimensions for Group 1 participants working with people with more severe challenging behaviour and a similar maturation in the Emotional Reaction dimension for participants working with some types of challenging behaviour.

Conclusion

Hypothesis 1, which proposed Groups 1 and 2 would show no differences in maturation, evidenced as change in scores prior to the training period, was supported overall. However, Treatment/Control scores did differ significantly between the two groups. There were some variations in maturation in the subscale measures for Identity, Cause and Emotional Reaction when differences in the Type and Severity of Behaviour are factored into the analysis. The question of a maturation effect beyond pre-testing, across the four time points is further investigated later in this Chapter.

Hypothesis 2

Groups 1, 2 and 3 will score differently on the questionnaire at Pre-Test 2 time point.

Because participants were not assigned to groups randomly in this study, it was important to establish whether there were any overall group differences immediately prior to training. This was done by comparing both participants' overall scores and subscale scores at time point Pre-Test 2, and by comparing participant characteristics. Analysis of variance tests (ANOVA) were used for comparison where data were continuous (questionnaire scores, age, length of service) and a series of Chi-Squared tests was used where data were categorical (gender, job title, job setting, severity of behaviour, type of behaviour, post school qualifications).

Comparison of Groups 1, 2 and 3

On the basis of the information presented in Figures 5.2-5.9 and summarised in Appendix 10 participants in the experimental and control groups were generally well matched on the characteristics recorded.

Participants for Groups 1 and 2 were staff who enrolled on the training courses *"Approaches to People with Challenging Behaviour"* and *"Approaches to Sexual Abuse of Adults with Learning Disabilities"* respectively during the period of this study. Participants in Group 3 took neither of these courses, and did not undertake any accredited open learning training during the period of testing. All participants were allocated to the three groups on this basis alone. Because participants in Groups 1, 2 and 3 were not randomly allocated, therefore, it is expected that the groups are non-equivalent, representing a cross-section of the characteristics of care staff working with people with learning disabilities and challenging behaviour. Expected values of some characteristics are therefore expected to differ, even in the absence of the training intervention. This is investigated below. Groups 1 and 3 and Groups 1 and 2 were compared in separate analyses on pre-training scores and on eight different characteristics. (A comparison of Group 2 and Group 3 was not part of the study or experimental design). Not all participants were matched on all criteria and there were some differences noted.

Groups 1 and 3 comparison of questionnaire scores at Pre-Test 2

ANOVA was used, with 'Group' as the independent variable and Pre-Test 2 scores as the dependent variable. There were no significant differences between Group 1 and Group 3 on Pre-Test 2 Questionnaire scores overall ($F_{1,199}$=0.403, p=0.526, size of effect Eta^2 = 0.013) or on any of the five subscales within the questionnaire: (Identity: $F_{1,199}$=1.892, p=0.171; Cause: $F_{1,199}$=0.151, p=0.698;

Consequence: $F_{1,199}$=1.106, p=0.294; Emotional Reaction: $F_{1,199}$=1.598, p=0.208; Treatment/Control: $F_{1,199}$=1.726, p=0.190).

Groups 1 and 3 comparison of characteristics

Age

There was a significant difference at p<0.05, between the ages of participants in Group 1 and Group 3 ($F_{1,199}$=28.635, p=0.000). Group 1 had a Mean age of 36.79 years and Group 3 had a Mean age of 43.61 years.

Length of Service

There was no significant difference between the length of service of participants in Group 1 and Group 3 ($F_{1,199}$=0.389, p=0.534).

Other Characteristics

Chi square comparisons of the other characteristics revealed significant differences in Job Setting, Job Title and Post School Qualifications, but not in Gender, Severity or Type of Behaviour; data are summarised in Table 5.3.

Table 5.3 Groups 1 and 3 – comparison of characteristics

Chi-Square

Characteristic	*Chi-Square Value*	*df*	*Assymp. Sig. (2-sided)*
Gender	1.601	1	0.206
Job setting	41.481	6	0.000*
Job title	22.228	10	0.014*
Severity of challenging behaviour	2.607	7	0.919
Type of challenging behaviour	19.965	13	0.096
Post-School qualifications	34.708	12	0.001*

*Significant at p<0.05 level

Summary: Groups 1 and 3 comparison of pre-test scores and characteristics

- There were no significant differences in pre-training scores overall or on individual dimensions.
- Group 3 participants were significantly older in Mean years than Group 1.
- A significance value of p <0.05 for Pearson Chi-Square in Table 5.3 indicates that there *may* be a relationship between Group 1 and Group 3 participants for the characteristics of Job Title, Job Setting and Post School Qualifications, i.e. there may be some consistent differences between the two groups in these characteristics. The nature of these differences can be seen in Appendix 10 and in Figures 5.4, 5.5 and 5.9.

- There was a significant difference in job setting between Groups 1 and 3 ($p=0.000$). From Figure 5.4 it can be seen that Group 3 had greater numbers of staff who worked in day services and community settings, while Group 1 had more staff who work in residential and hospital settings.
- There was a significant difference in job title, at $p<0.05$ between Groups 1 and 3 ($p=0.014$). From Figure 5.5 it can be seen that Group 3 had greater numbers of Day Centre Officers (DCO), support workers and social workers, while Group 1 had greater numbers of nurses and managers.
- There was no significant difference in the severity of behaviour of people that participants in Group 1 and Group 3 were working with and no significant difference seen in the types of challenging behaviour that participants in Groups 1 and 3 experienced in their daily work.
- There was a significant difference in the post-school qualifications between Groups 1 and 3 ($p<0.001$). Overall 37% of participants reported no professional qualifications. From Figure 5.9 it can be seen that Group 3 had greater numbers of staff with no qualifications and greater numbers with CQSW social work qualifications, while Group 1 had greater numbers of people with nursing qualifications or HNCs.

This information indicates that while there was some predictable variability in some of the characteristics of the two groups, both groups are working with adults with similar types and degrees of challenging behaviour. Whether any of the differences noted were of *practical* significance was investigated further in Hypotheses 3 and 4.
Relationships between pre-test scores and the characteristics of age, job title, job setting and post school qualifications were also investigated. No statistically significant results were found when these characteristics were included in the analysis.

Groups 1 and 2 comparison of questionnaire scores at Pre-Test 2

ANOVA was used, with 'Group' as the independent variable and Pre-Test 2 scores as the dependent variable. There were no significant differences between Group 1 and Group 2 on Pre-Test 2 questionnaire scores overall ($F_{1,199}=1.998$, $p=0.159$, size of effect $Eta^2 = 0.001$) or on any of the five subscales within the questionnaire (Identity: $F_{1,199}=0.101$, $p=0.751$; Cause: $F_{1,199}=1.903$, $p=0.169$; Consequence: $F_{1,199}=4.318$, $p=0.309$; Emotional Reaction: $F_{1,199}=1.1.077$, $p=0.301$; Treatment/Control: $F_{1,199}=0.978$, $p=0.324$).

Groups 1 and 2 comparison of characteristics

Age

There was a significant difference at $p<0.05$, between the ages of participants in Group 1 and Group 2 ($F_{1,199}=5.987$, $p=0.015$). Group 1 had a Mean age of 36.79 years and Group 2 had a Mean age of 39.82 years.

Length of Service

There was a significant difference at $p<0.05$, between the length of service of participants in Group 1 and Group 2 ($F_{1,199}=7.533$, $p=0.007$). Group 1 had a Mean length of service of 7.8 years, Group 2 had a Mean length of service of 9.7 years.

Other Characteristics

Chi square comparisons of the other characteristics revealed significant differences in Job Setting, Job Title and Post School Qualifications, but not in Gender, Severity or Type of Behaviour; data are summarised in Table 5.4.

Table 5.4 Groups 1 and 2 – comparison of characteristics

Characteristic	*Chi-Square Value*	*df*	*Assymp. Sig. (2-sided)*
Gender	0.132	1	0.717
Job setting	15.913	6	0.014*
Job title	38.807	10	0.000*
Severity of challenging behaviour	2.758	7	0.737
Type of challenging behaviour	14.933	13	0.245
Post-School qualifications	27.621	12	0.002*

*Significant at $p<0.05$ level

Summary: Groups 1 and 2 comparison of characteristics

- There were no significant differences in pre-training scores, overall or on individual dimensions.
- Group 2 participants were older in Mean years and had greater Mean length of service in years than Group 1.
- There was a significant difference in job setting between Groups 1 and 2 ($p=0.014$). From Figure 5.4 it can be seen that Group 1 had greater numbers of participants working in community residential settings, while Group 2 had greater numbers working in hospitals.

- There was a significant difference in job title between Groups 1 and 2 (p=0.000). From Appendix 10 and Figure 5.5 it can be seen that Group 1 had greater numbers of support workers, while Group 2 had greater numbers of nurses, social workers and managers.
- There was no significant difference in the severity of behaviour of people that participants in Group 1 and Group 2 were working with and no significant difference seen in the types of challenging behaviour that participants in Groups 1 and 2 experienced in their daily work.
- There was a significant difference in the post-school qualifications between Groups 1 and 2 (p=0.002). From Appendix 10 and Figure 5.9 it can be seen that Group 1 had greater numbers of staff with no qualifications, while Group 2 had greater numbers of people with RNMH/RNLD nursing qualifications.

A significance value of $p < 0.05$ for Pearson Chi-Square in Table 5.4 indicates that there *may* be a relationship between Group 1 and Group 2 participants for the characteristics recorded i.e. there may be some consistent differences between the two groups in these characteristics. The nature of these differences can be seen in Appendix 10 and in Figures 5.2 -5.9. This information indicates that although there were some differences in some characteristics, both groups were working with adults with similar types and degrees of challenging behaviour. Whether any of the differences noted were of practical significance was investigated further in Hypotheses 3 and 4.
The experimental Group 1 and the control Group 2 were well matched overall on the characteristics recorded.

Relationships between pre-test scores and the characteristics of age, length of service, job title, job setting and post school qualifications were investigated. No statistically significant results were found when these characteristics were included in the analysis.

Summary of comparison of groups pre-training

There were no significant differences in the pre-training questionnaire scores overall, or in the five subscale scores when Group 1 are compared with Group 3 and with Group 2. Both Group 3 and Group 2 participants were older than Group 1 participants on average, and Group 3 participants had worked in services to people with challenging behaviour longer. There were differences between Group 1 participants and Group 3 and Group 2 participants when their place of work, job titles and post-school qualifications were compared. Some of these differences are highly *statistically* significant (<0.001); whether they are of *practical* significance will be judged from subsequent analysis of post-test scores in relation to these factors, e.g. is age related to the effects of the training.

No attempt was been made to match individuals in pairs or in blocks, or to match groups for equivalent characteristics. Because of this there was some predictable non-equivalence between the groups. Attempts will be made to control for this in the analysis of scores.

Conclusion

Hypothesis 2, which proposed that the three groups would score differently on the questionnaire at Pre-Test 2 time point, was not supported. However the equivalence of the three groups at Pre-Test 2 cannot be assumed on the basis of this finding alone. There were some significant differences between group characteristics and these may be of importance in later interpretation of the data.

Hypothesis 3

Staff who took the course, "Approaches to People with Challenging Behaviour" (Group 1) will show a greater increase in questionnaire scores pre-to-post course than staff in the other two groups (Groups 2 and 3).

On of the main aim of this study was to establish whether and how the cognitive representations of challenging behaviour changed significantly for Group 1, in comparison with the other participants, after relevant training. These changes are represented as differences in questionnaire scores. Overall scores and scores on each of the five dimensions were compared.

For reference, a summary of the relevant descriptive statistics and an overall analysis of variance for the three groups are given in Tables 5.5 and 5.6 below, including Means and Standard Deviations. This is followed by more detailed paired analyses of Group 1-Group 2 and Group 1- Group 3 comparisons, testing Hypothesis 3.

Table 5.5 Groups Means and Standard Deviations for Pre-Test 2/ Post-Test 1

	Group	N	Mean	Std. Deviation	Std. Error
Pre-Test 2	1	100	35.55	13.67	1.409
	2	100	38.65	13.36	1.696
	3	100	34.27	14.43	1.443
	Total	300	36.23	14.52	0.874
Post-Test 1	1	94	39.79	13.01	1.335
	2	82	40.50	12.78	1.412
	3	100	36.76	14.21	1.421
	Total	276	39.00	13.43	0.808

Table 5.6 ANOVA Groups 1, 2 and 3 comparison of Means for Pre-Test2/ Post-Test 1

		Sum of Squares	df	Mean Square	F	Sig.
Pre-Test 2	Between Groups	892.298	2	446.149	2.133	0.120
	Within Groups	57109.688	274	209.193		
	Total	58001.986	276			
Post-Test 1	Between Groups	817.642	2	408.821	2.285	0.104
	Within Groups	48835.354	274	178.884		
	Total	49652.996	276			

Table 5.6 shows no overall significant differences between Group scores compared at Pre-Test 2 and Post-Test 1 a.t $p<0.05$

To test Hypothesis 3, two separate analyses were done. First, ANOVA was used, with Post-Test 1 questionnaire scores as the dependent variable. 'Group', as a contrast factor and Pre-Test 2 scores (as a covariate) were the independent variables. This gave a comparison of Group 1 with Group 2 and a comparison of Group 1 with Group 3, which were the main contrasts of interest. This is labelled Analysis Hypothesis 3(a)

A second analysis was then done, using the same ANOVA procedure, but this time including participant characteristics as additional independent covariates. A two-tailed test was used in this analysis, as direction of change was not predicted. This is labelled Analysis Hypothesis 3(b).

These two analyses gave a measure of the effectiveness of the training, both with and without a consideration of any impact of differences in characteristics between the groups.

Analysis Hypothesis 3(a)

There were no significant differences between Group 1 overall scores at Post Test 1 when compared with Post Test 1 scores for Groups 2 ($F_{1,175}= 0.371$; $p=0.543$) or with Group 3 ($F_{1,193}= 2.415$; $p=0.122$).

Comparisons of scores on each of the subscales revealed significant differences between Group 1 and Group 3 on the Cause and Treatment/Control dimensions; these data are summarised in Table 5.7.

Table 5.7 Analysis of variance on each of the five subscales – Group effect Pre-Test 2/ Post-Test 1

	Comparison Group 1- Group 2		*Comparison Group 1- Group 3*	
Dimension	p	$F_{1,175}$	p	$F_{1,193}$
Identity	0.897	0.017	0.277	1.189
Cause	0.260	1.277	0.050*	3.793
Consequences	0.445	0.587	0.152	2.066
Emotional Reaction	0.454	0.564	0.297	1.093
Treatment/Control	0.116	2.491	0.005*	8.117

*Significant at the $p<0.05$ level

Analysis Hypothesis 3(b)

There were no significant differences between Group 1, 2 and 3 overall scores with any of the participant characteristics used as additional single covariates in the analysis. There was a significant difference between Group 1 and Group 3 on the Treatment/Control subscale when all characteristics are

included in the analysis as covariates ($F_{1,193}$= 6.916; p=0.009). There was a significant statistical difference between scores on the Emotional Reaction subscale for Group 1 compared with Group 2 when Type of Behaviour was included as a covariate in the analysis, ($F_{1,175}$= 4.706; p=0.031), and for Group 1 compared with Group 3 ($F_{1,193}$= 4.865; p=0.029) when Length of Service was included as a covariate in the analysis.

Summary

From analysis Hypothesis 3(a) it can be seen that although the direction of change for pre-to-post overall Mean scores is as predicted in each case (See Figures 5.10, 5.11 and Table 5.5 also) the changes for Group 1, when compared with changes for Groups 2 and Group 3, do not reach statistical significance. Group 1 does show a statistically significant greater improvement in scores pre-to-post for the dimensions of Cause and for Treatment/Control in comparison to Group 3.

When participant characteristics are included as covariates in the same analysis of variance between the groups, in analysis Hypothesis 3(b), there are again no significant differences between Group 1, 2 and 3 overall scores. A significant difference is seen in the Treatment/Control subscale between Groups 1 and 3 when all characteristics are included in the analysis, and in the Emotional Reaction subscale when Length of Service is included as a covariate in the analysis. In addition, there is a significant difference for the Emotional Reaction subscale between Groups 1 and 2 when Type of Behaviour is analysed as an additional covariate. This suggests that group characteristics may be a contributory factor in the significant difference in Treatment/Control scores seen in Group 1 – Group 3 pre-to post training. Non-significant differences in the Emotional Reaction scores may be influenced by the Length of service and Type of Behaviour may influence scoring in the Emotional Reaction dimension for Group 1 when compared with Group 2.

Conclusion

Hypothesis 3, which proposed that Group 1 would show a greater increase in scores pre-to-post course than staff in the other two groups, was not supported for overall scores, but was supported for the dimension measures of Cause and Treatment/Control. The question here was whether Group 1 would outperform the other two groups by *more than would be expected* on the basis of Pre-Test differences alone. They did, but only on two of the five dimension measures.

Hypothesis 4

The three groups will show different degrees of retention of changes in cognitive representation measures of challenging behaviour at Post Test 2, i.e. different training effects at follow up.

This hypothesis tested whether Group 1, who have completed the course *"Approaches to People with Challenging Behaviour"* showed better retention of any changes in cognitive representation (as represented by questionnaire scores) than Group 2 who undertook another course and Group 3 who undertook no training course, i.e. this was a test of training effects at follow up. The time interval between Post Test 1 and Post Test 2 was three months for all three groups. Strictly speaking, 'retention' is not the appropriate term for Groups 2 and 3, since participants were not given anything to 'retain'; 'maintenance of gain' may be a more appropriate term.

For reference, a summary of the relevant descriptive statistics and an overall test of significance for the three groups are given (Tables 5.8 and 5.9). This is followed by more detailed *paired* comparisons of the Group 1-Group 2 and Group 1- Group 3 testing Hypothesis 4. To test for significant differences between the three groups repeated measures ANOVA was used, with the Post-Test 1 and Post-Test 2 questionnaire scores as the within subject variables, 'Group' (as a factor) and Pre-test 2 scores as a covariate. The Pre-Test scores are used here as a baseline covariate and a Helmert contrast in the analysis to give the necessary Group 1/Group 3 and Group 1/Group 2 comparisons. This analysis is then linked to Hypothesis 5, where any *differences* between those participants who completed Post-Test 2 and those who did not are investigated.

Table 5.8 Groups Means and Standard Deviations for Post-Test 1/ Post-Test 2

	Group	N	Mean	Std. Deviation	Std. Error
Post-Test 1	1	94	39.79	13.01	1.335
	2	82	40.50	12.78	1.412
	3	100	36.76	14.21	1.421
	Total	276	39.003	13.43	0.808
Post -Test 2	1	54	38.53	11.85	1.592
	2	73	41.68	13.82	1.571
	3	45	35.64	13.53	2.138
	Total	172	38.62	13.16	1.015

Table 5.9 ANOVA Repeated Measures Groups 1,2 and 3 Post 1/Post 2

Pairwise Comparisons

Group		Mean difference	Standard error	Sig.
1	2	-.218	1.629	.894
	3	2.218	1.853	.233
2	1	.218	1.629	.894
	3	2.437	1.739	.163
3	1	-2.218	1.853	.233
	2	-2.437	1.739	.163

For the effect of 'Group', F_{171}=1.109 overall and p=0.112, indicating that group Means do not significantly differ overall. For 'Intercept' there is a significant difference for the overall change in Means across all three groups.

To test Hypothesis 4 two separate analyses were done; one without the inclusion of participant characteristics as covariates and one with these included. These are labelled as Analysis Hypothesis 4(a) and Hypothesis 4(b) respectively. Analyses were done on overall scores and on scores on each of the five subscales representing Identity, Cause, Consequences, Emotional Reaction and Treatment/Control.

Analysis Hypothesis 4(a)

There were no significant differences between Group 1 overall scores at Post Test 2 when compared with scores for Groups 2 ($F_{1,126}$= 1.731; p=0.191) or with Group 3 ($F_{1,98}$= 0.631; p=0.429).

Comparisons of scores on each of the subscales revealed significant differences between Group 1 and Group 3 on the Cause and Treatment/Control dimensions and on the Identity and Emotional Reaction dimensions when Group 1 and Group 2 were compared. Data are summarised in Table 5.10.

Table 5.10 Analysis of variance on each of the five subscales – Group effect

	Comparison Group 1- Group 2		*Comparison Group 1- Group 3*	
Dimension	p	$F_{1,126}$	p	$F_{1,98}$
Identity	0.033*	4.662	0.371	0.807
Cause	0.851	0.035	0.020*	5.640
Consequences	0.926	0.009	0.553	0.355
Emotional Reaction	0.018*	5.789	0.867	0.028
Treatment/Control	0.088	2.984	0.000*	13.701

*Significant at the p<0.05 level

Analysis Hypothesis 4(b)

There were no significant differences between Group 1, 2 and 3 overall scores with any of the participant characteristics used as additional covariates in the analysis. There were no significant differences, at the p<0.05 level , between Groups 1, 2 and 3 on any of the subscales when all characteristics are included in the analyses as covariates.

Summary

From analysis Hypothesis 4(a) it can be seen that there were no significant differences between the group scores overall when compared for retention of changes (follow up training effects) at Post Test 2. Group 1 and Group 2 differed significantly on dimension measures of Identity and Emotional Reaction and Group 1 and Group 3 on dimension measures of Cause and Treatment/Control; see Table 5.10. From Figures 5.12, 5.13, 5.15 and 5.16 and Appendix 10 the direction of these differences can be seen. Group 2 retention in Identity and Emotional Reaction measures is *greater* than Group 1, while Group 1 retention in Cause and Treatment/Control is greater than Group 3. From analysis Hypothesis 4(b) none of the participant characteristics included as covariates made a difference to the effects noted in analysis Hypothesis 3(a).

Conclusion

Hypothesis 4, which proposed that the three groups will show different training effects at follow up, as represented in changes in cognitive representation measures of challenging behaviour at Post Test 2, was not supported for overall questionnaire scores but is supported for the dimension measures of Identity and Emotional Reaction for Group 2 and for the dimension measures of Cause and Treatment/Control for Group 1.

It is noted that Cause and Treatment/Control were also measures showing statistical significance for Group 1/Group 3 differences in Hypothesis 3 analysis.

Hypothesis 5

Staff who complete the questionnaire at Post-Test 2 were different in some respects to the total sample of staff who participated in the study.

There was attrition of participants between Post-Test 1 and Post-Test 2: numbers in Groups 1, 2 and 3 decreased from 94 to 54, 82 to 73 and 100 to 45 respectively. This has implications for the analysis and interpretation of results for Hypothesis 4; any differences in retention/training effects at follow up may be due to differences in the participants who completed the final questionnaire, regardless of group, rather than differences due to intervention (training).

The purpose of this analysis was to determine if there were any variables that distinguish between participants who completed Post-Test 2 and participants overall. The differences of interest are not just pre-test questionnaire scores but other factors such as gender, age and other characteristics, which may affect retention of changes in cognitive representation and the likelihood that a participant will complete the final stage of post training testing; at Post-Test 2.

Binary Logistic Regression was used to test this hypothesis. All participants were categorised with a "Did complete/Did not complete Post-Test 2" variable and this was used as the dependent variable. 'Group', Pre-Test 2 scores, plus additional participant scores and characteristics were used as the independent variables. Separate analyses were done with and without inclusion of participant characteristics as additional covariates. Binary Logistic Regression was used with Forward Wald method of analysis to include additional variables. These analyses are labelled as Analysis Hypothesis 5(a) and Hypothesis 5(b) respectively.

Analysis Hypothesis 5(a)

'Group' as a variable distinguished between participants who completed Post-Test 2 and those who did not at a significance level of $p<0.05$ ($p= 0.038$). Group 3 participants were significantly less likely to complete Post-Test 2. There were no significant differences between participants who did not complete Post-Test 2 and the total sample in relation to their Pre-Test 2 scores or on their Post-Test 1 scores. See Table 5.11.

Table 5.11 Binary Logistics Regression for participants who completed/Did not complete Post-Test 2

	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
							Lower	Upper
Pre-Test 2	-0.008	0.009	0.879	1	0.349	1.992	1.008	1.021
Group	-0.544	0.290	3.519	2	0.061	0.580	0.328	1.025

The Wald statistic is not significant at $p<0.05$ for Pre-Test 2 or for Group as a variable, indicating that those participants who did not complete did not differ significantly from those who did. Exp (B) is less than 1 for Group as a variable, indicating that Group 3 participants were less likely to complete Post-Test 2. There were no significant differences on the "Did complete/Did not complete Post-Test 2" variable and any of the participant characteristic variables.

Summary

There were no significant differences between those participants who completed Post-Test 2 and participants as a whole. However from analysis Hypothesis 5(a) it can be seen that 'Group' as a variable was a reliable predictor of whether participants would or would not complete Post Test 2. For example fewer than half of all participants from Group 3 at Post-Test 1 completed Post-Test 2; 57% of Group 1 and 89% of Group 2 participants completed. This finding does not affect analysis and interpretation of results for Hypothesis 3, as Group as a variable was already being investigated and controlled for in the analysis. Neither Pre-Test 2 nor Post-Test 1 scores distinguish between participants who complete Post-Test 2 and participants as a whole.

When participant characteristics are included as covariates in the analysis of the "Did complete/Did not complete Post-Test 2" variable in Hypothesis 5(b), there are again no significant differences. This indicates that these characteristics do not affect the likelihood that a participant will complete Post-Test 2.

Conclusion

Hypothesis 5, which proposed that there are differences between staff who completed the questionnaire at Post-Test 2 and other participants in the study, was not supported.

Discussion

This section will review the results and focus on some of the questions that have been raised by the analyses. Five hypotheses were used to address the main research questions in this chapter. Preliminary within-group analysis was followed by more detailed between-group analyses to address the questions:

- Were cognitive representations of challenging behaviour affected by a training course, *"Approaches to People with Challenging Behaviour"* in comparison to another training course or no training?
- Are there any consistent relationships between participant characteristics and the effects of training?

In summary, participants' cognitive representation of challenging behaviour *was* affected by training, but the five dimensions that contribute to the cognitive representation were affected to different degrees. A within-group paired samples *t*-test showed a significant increase in Group 1 overall scores at Post-Test 1 when compared with Group 1 Pre-Test 2 scores (Figure 5.11), but Group 2 and Group3 did not show a significant overall increase measured over the same time The Group 1 overall increase was not significant however when compared with the increases in the other two groups in a between-group analysis (Hypothesis 3), although Cause and Treatment/Control scores did increase significantly in comparison to other groups.

Hypothesis 1 established that participants in Groups 1 and 2 did not differ significantly overall in maturation prior to training, after controlling for any initial differences between the scores at Pre-Test 1. The Treatment/Control dimension did show a significant difference between Pre-Test 1 and Pre-Test 2 for Groups 1 and 2. Some group differences were also noted in pre-training maturation for the dimensions of Identity, Cause and Emotional Reaction when the type and severity of behaviour was included in the analysis of differences.

Hypothesis 2 showed that there were no significant differences in pre-training scores overall or on any of the five individual dimensions for the three groups. Some significant differences in group characteristics were noted. The results of both Hypothesis 1 and Hypothesis 2 were necessary to establish conditions for Hypothesis 3 to be tested; groups showed no overall significant differences in scores prior to training. Group 1 significantly outperformed Group 3 dimension scores of Cause and Treatment/Control following training and showed non-significant increases in Identity and Emotional Reaction. The differences between Group 1 and Group 2 scores immediately after training were not significant. In follow up testing (Hypothesis 4) Group 1 showed greater retention of post training differences than Group 3, again for the dimensions of Cause and Treatment/Control. Group 2 participants showed greater retention than

Group 1 for Identity and for Emotional Reaction dimension scores. Hypothesis 5 was not supported, indicating that staff who did not complete the final follow up questionnaire at Post-Test 2 did not differ from the participants as a whole.

The *size* of the training effect may have differed across the characteristics of the participants, even when efforts have been made to control for these differences in the analysis. The comparatively large sample sizes at Pre-Test 2 and Post-Test 1 should reduce the likelihood of this as a confounding variable, but it is still possible, as the inclusion of each additional characteristic as a covariate reduces the power of the ANOVA to detect differences and not all *possible* characteristics are controlled for. However, because of the statistical tests used it is still possible to say with some confidence that there was an effect of training for Group 1 in comparison to the no-training Group 3. The comparison with Group 2, who completed another training course, is more complex and requires further explanation in a testable manner, which follows.

Group 1-Group 3 comparison

The dimensions where most change was seen post training for Group 1 were Cause and Treatment/Control. These increases were statistically significant in both within-group and between-group analyses and may be of practical significance also. It should be noted however that an increase in Group 3 scores is also noted between Pre-Test 2 and Post-Test 1 for within-group analysis, suggesting that not *all* of the Group 1 increase is attributable to training.

An increase in scores on the Cause dimension, towards more good practice views is an important finding. In a review of previous research in this area (Chapter 2) experimental manipulation of perceived cause has been shown to be an effective means of changing behaviour (e.g. Weiner 1988), and a reliable predictor of propensity to help others (Stanley and Standen 2000). At a practice level it was also shown that staff can base their decision on whether or not to implement approved interventions on their own perceived causes of challenging behaviour (Bromley and Emerson 1995). Staff behaviours have been implicated in maintaining or even causing challenging behaviours (Hastings 1997c) but are very rarely seen as a causal factor by the staff themselves (Heyman et al 1998).

An increase in scores on the Treatment dimension is also significant, but for different reasons. From a statistical point of view it is interesting that scores on the Treatment subscale increased significantly, as pre-test scores were the highest of any of the dimension and thus most likely to show a 'ceiling' effect. From a practice point of view a significant increase in scores indicates a move towards more evidence based therapeutic approaches and a move away from treatments which typically manage, rather than treat. It is not possible to say whether the statistically significant changes in *scores* did

correspond to changes in participants' *practice* in their place of work. The assumption that behaviour did change could be checked by conducting follow-up interviews with staff to discuss how the training course has impacted on their practice with respected to Identity, Cause etc. of challenging behaviour.

In the cognitive representation of challenging behaviour as a whole, Cause and Treatment/Control may play major roles but Identity, Consequences and especially Emotional Reaction have all been shown to make a contribution. It is clear in the findings that Cause and Treatment/Control scores were improved by training for Group 1. What is not clear is which aspects of the training were effective in doing this. For example, the training course was apparently *in*effective in significantly changing the Identity of challenging behaviour; this was a specifically targeted topic, with teaching materials aimed at improving participants' ability to recognise elements of behaviour which define it as 'challenging'. A more detailed content analysis is needed to investigate why some teaching materials were less effective.

Group 1-Group 2 comparison

Parametric tests indicate an improvement in the hypothesized direction, following completion of the open learning course for Group 1. Some attention is needed to the longitudinal differences seen between Groups 1 and 2 as these are quite complex.

A within-group analysis of the mean scores for the groups in this study shows that Group 1 overall scores improved significantly immediately following training in challenging behaviour but Group 2 scores did not. However Group 2, who received no specific challenging behaviour training, showed steady improvement from the first pre-test to the final post-test. There is a discontinuous effect seen in Group 1 overall scores (Figures 5.10 and 5.11), with a small increase between the two pre-testings, followed by a larger increase post training and finally a decrease in effect at follow up Post-Test 2. In contrast, there is a *continuous* effect seen is Group 2 overall scores across the four time periods (Figures 5.10 and 5.11), a total time of over a year. Group 2 outperformed Group 1 at each stage of testing and continue to improve at Post-Test 2. Even allowing for initial, baseline differences this finding merits further investigation. Could it suggest that completing a course in the study of sexual abuse of adults with learning disabilities is more effective at changing cognitive representations of challenging behaviour than completing a course about challenging behaviour? Two possible explanations are offered for this finding:

Firstly, it could be that participants who have chosen to undertake such a specialised course as "*Approaches to Sexual Abuse of Adults with Learning Disabilities*" course may be more motivated in terms of improving their professional practice, more interested in the subject and intrinsically more able to gain from given opportunities and exposure to new information. Also, the subject matter of the course is personally as well as academically demanding, asking staff to explore their own views and practice in some

detail. This requires a degree of honesty and emotional maturity. This suggests that a selection-maturation effect *may* account for some of the differences between the performances of the two groups.

The plausibility of a selection-maturation effect can be estimated by plotting participants pre-test scores against a maturational variable (Cook and Campbell 1979), in this case the Length of Service (years of experience) for the two groups If the regression lines differ in linear slope, this is evidence that the two groups may have been maturing or learning at *different* rates. See Figures 5.17 and 5.18 below, which compare the two Groups at Pre-Test 1 and at Pre-Test 2. Group 3 is included in Figure 5.18 only for reference.

Figure 5.17 Pre-Test 1 scores plotted against length of service for Groups 1 and 2.

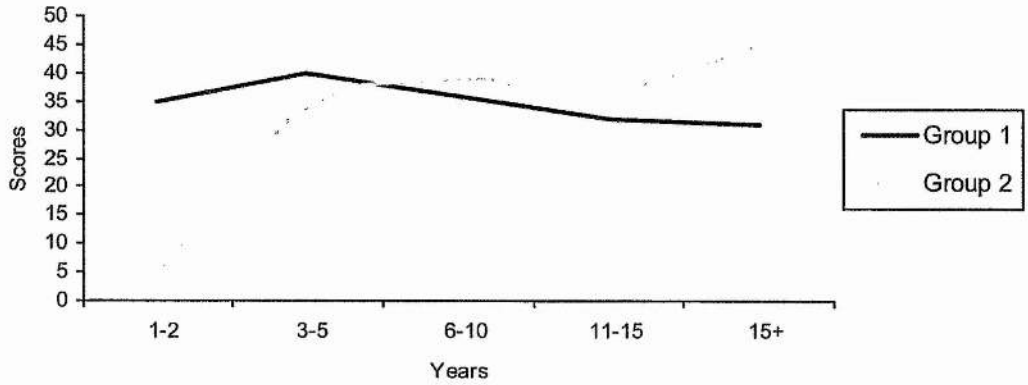
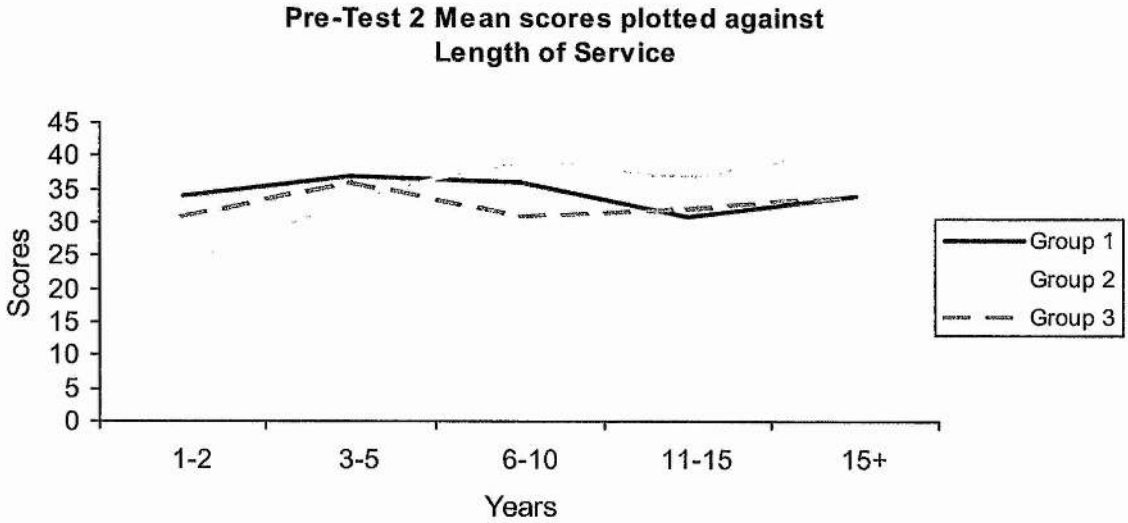


Figure 5.18 Pre-Test 2 scores plotted against length of service for Groups 1 and 2 and 3.



There is some presumptive evidence of *differential* growth rates in these two figures. The slope of the line for Group 2 differs from the Group 1 line at most points for both Pre-Test 1 and Pre-Test 2 Mean scores, especially for staff with between 1-10 years experience. This may account for some of the gains made by Group 2 relative to Group 1. The selection-maturation effect may be 'masquerading' as an apparent effect of training, seen across the four time points. Group 2 are older and have more years experience than Group 1; see Hypothesis 1 and Figures 5.3.and 5.6. Further investigation would be needed to confirm whether and how maturational effects were operating. This could be done by looking for other variables in the two groups which were not controlled for in the present study,

There may be another explanation for the differences in how the two groups performed relative to each other. Sexual abuse can be viewed as one form of challenging behaviour. Both contact abuse (such as assault, rape, unwanted touching) and non-contact abuse (such as self- exposure, masturbation in the presence of others, showing sexually explicit materials to others) are behaviours reported by staff working with people with learning disabilities in a range of settings (e.g. Lindsay 2002, Lindsay et al 1998b, Brown and Thompson 1997, Campbell et al 1998). A course which looks at issues in definition/identity, causes, consequence and treatment/control of sexual abuse may change how staff cognitively represent sexual abuse, and from that how they cognitively represent the construct of challenging behaviour more generally. It is interesting to note here that many of the recommended preventative measures target *staff* behaviours, as the recognised mediating factor in improving detection and avoiding settings for abuse – clearly the cognitive representation of sexual abuse in staff may play a part in effectiveness of such measures.

Sexual abuse *of* people with learning disabilities is only rarely termed 'challenging behaviour' in the research literature or in practice settings. However sexual abuse *by* people with learning disabilities may be more readily construed as 'challenging behaviour' for a number of reasons. It is estimated that 42% of perpetrators of sexual abuse of adults with learning disabilities are other adults with learning disabilities (Brown et al 1995; Turk and Brown 1993; Brown 1995; Brown and Stein 1997; and Turk and Brown 1993).

Men with learning disabilities who have unacceptable or abusive sexual behaviours 'challenge' services to provide effective care, reactive and preventative interventions (Brown and Thompson 1997). In one study *"unwanted sexual contact"* was rated as the third most frequently observed challenging behaviour by staff. However it was rated only seventh in *"management difficulty"* and ninth on *"severity"*(Sawuck and Reeves 2003). Abuse of *all* kinds usually involves an abuse of power and/or trust and there are parallels here between sexual abuse and other forms of more commonly acknowledged challenging behaviours – physical assault, verbal and physical aggression, for example. Similarly, there are

some approaches to the treatment of perpetrators of sexual abuse which are used more widely in the treatment of other challenging behaviours, for example, cognitive therapy, behaviour modification and direct treatment responses such as social skills training, counselling, cognitive restructuring and rule setting (Bowden 1994). In this analysis, sexual abuse of adults with learning disabilities can be seen as a 'case study' of challenging behaviour. Is it possible that some elements of staff cognitive representation of sexual abuse are being measured by questionnaire items in the Challenging Behaviour Representation Questionnaire? Consider the following 'Treatment/Control' items as examples:

"An adult with learning disabilities and challenging behaviour can be helped by teaching him/her new ways to respond" (Treatment/Control)
"An adult with learning disabilities and challenging behaviour can be helped by use of calm behaviour and responses to challenging behaviour" (Treatment/Control)
"An adult with learning disabilities and challenging behaviour can be helped by changing staff attitudes" (Treatment/Control)

Each of these could equally apply to the treatment of sexual abuse or to challenging behaviour more generally. However the continuous effect seen in improvement of Group 2 scores cannot be wholly accounted for by looking at how specific questionnaire items may have been answered with reference to sexual abuse; there are simply not enough questionnaire items where 'overlap' between sexual abuse and challenging behaviour can be seen. So how can Group 2 participants have improved their ability to give 'good practice' answers across the five dimensions? The answer may lie in a generalisation of knowledge and values. An analogy here might be how learning can generalise from specific topics to wider issues. For example students who study the subject of prejudice against one particular ethnic or religious group, and change their views as a result of their studies, may generalise those views to how they think about *all* ethnic and religious minorities.

In summary, the improved performance of Group 2 who have completed the course, *"Approaches to Sexual Abuse of Adults with Learning Disabilities"* may be as a result of selection-maturation differences or as an effect of their training. The most likely explanation would seem to be one that includes both selection-maturational effects *and* changes in cognitive representations as a result of training. Group 2 have started with higher scores than Group 1 because they have a faster rate of learning/growth than Group 1. They have then continued to 'grow' at this increased rate over the period of the study, helped by their access to the course materials and their ability to generalise to challenging behaviour as a whole. What is taught is, apparently, not necessarily what is learned. Training effects are generally complex.

Having completed the present study, the apparently anomalous finding of Group 2 improvement across the four time points raises wider issues about the experimental design, and the lessons to be learned

for the training courses. Would it be possible to use staff on another training course as a control group and thus control for the effects of generalisation or incidental learning? Two other courses were considered in the original design for this study. One was *"Approaches to People with Profound and Complex Disabilities"* and the other was *"Approaches to Advocacy for Adults with Learning Disabilities"*, both run by the University of St Andrews. The first course was rejected on the grounds that people with more severe learning disabilities are more likely to have challenging behaviours (Emerson et al 1987; Emerson 2001; Felce et al 1998b; SHAS 1998) and staff working with people with profound and complex disabilities would also have been involved in the treatment of challenging behaviour. The *"Approaches to Advocacy"* course was decided against because participants differed significantly from Group 1 in their job setting and qualification profile, a number of the advocates were representing adults with challenging behaviour and related problems, and because of the number of advocates who were working part time or on short term contracts and unlikely to be available at the four time points.

Challenging behaviour, in various forms and severity, is a major issue for most services working with people with learning disabilities. To find a practice-based training course for staff which has *no* references to challenging behaviour is therefore rare. It would be possible however to identify such a course to improve on the design of the present study. This might for example be an accredited training in specific communication systems, physiotherapy techniques, management or other skills-based professional development. There would be some 'trade off' here between the advantage of using a course with no references to challenging behaviour as a control group, and disadvantage in the reduced general accessibility for staff undertaking more specialised courses. A more viable alternative might be to look at the comparative changes in cognitive representation between two or more groups of staff undertaking a challenging behaviour course at different *level*, e.g. non-accredited, accredited modular and accredited certificate/diploma. Greater shifts, towards cognitive representation consistent with good practice, would be expected for the courses at more advanced levels, assuming all participants begin at a similar baseline. A newly developed Post Graduate certificate, *"Adults who with Learning Disabilities who have significant and complex needs"* is currently being piloted jointly between the Universities of St Andrews and Dundee and this course may be used in a follow up study to investigate if there is greater shift in cognitive representation for the more advanced course. A design to evaluate changes might involve measuring cognitive representation at different points *during* the course to monitor changes and relate these changes to specific materials or key points in the courses.

The findings in this chapter have led directly to a number of changes in the content and assessment in the course, *"Approaches to People with Challenging Behaviour"*. For example, accurate identification of challenging behaviour has been given additional emphasis (Identity component) and understanding of the criteria for identification has been more stringently assessed. A more detailed analysis of participant responses in the dimensions of Consequences and Emotional Reaction is also being conducted.

Finally, a comparison of the overall scores for the three groups (Figure 5.10 on page 114) shows that in each case Mean scores increase between Pre-Test 2 and Post-Test 1 (immediately following training), while standard deviations about the Means decrease. The change in standard deviations might indicate that participant views for each group are becoming more homogeneous, as the range of scores are more closely clustered about the Mean. (Cook and Campbell 1979). Possible reasons for the increase in Mean scores have been suggested for Groups 1 and 2 in this chapter, but Group 3 increases have not been explained. Chapter 6, which follows, builds on Chapter 5 results with an additional study to investigate the effects of repeated presentation of the questionnaire on group scores.

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities – An Evaluation of the Impact of an Open Learning Training Course

CHAPTER 6

Testing vs Training Effects

CHAPTER 6

Testing vs. Training Effects

Background

This chapter follows up on findings from Chapter 5. It reports on a study to investigate the possible effects of testing, looking at whether repeated presentation of the Challenging Behaviour Representation Questionnaire (CBRQ) had an effect on participants' questionnaire scores independent of training.

Results in Chapter 5 partly supported the original hypothesis that the training course, *"Approaches to People with Challenging Behaviour"* would change the cognitive representation of challenging behaviour of participants in Group 1 in comparison to the other two groups. Group 1 participants scored significantly higher on the individual dimensions of Cause and Treatment/Control in comparison to Group 3 (see Table 5.7) and increased scores in other dimensions (see Figures 5.10-5.16). But did the act of completing the questionnaire contribute to these increases? Would the same post training result have been obtained *without* pre-testing? There may be an interaction of testing and training effects in the experimental design. That is, Group 1 participants' scores on the questionnaire may be affected by multiple presentations of the questionnaire and some of the changes in scores may be due to (a) familiarity with the questions, (b) increased awareness of the most 'professionally desirable' responses or (c) questionnaire fatigue or boredom (Cook and Campbell 1979). To investigate this, the following hypothesis was tested:

> *Staff who took the course "Approaches to People with Challenging Behaviour" and were pre-tested on the CBRQ will show higher questionnaire scores post-course than staff who have completed the same course and were not pre-tested on the questionnaire.*

It was hypothesised that the questionnaire scores of Group 1, the experimental group would differ from the scores of control Group 1(a), overall, and in individual dimension scores of Identity, Cause, Consequences, Emotional Reaction and Treatment/Control.

Methods

Design

This was an independent samples design. Two groups completed the course *"Approaches to People with Challenging Behaviour"* and then completed the Challenging Behaviour Representation Questionnaire. Group 1 had been pre-tested on the questionnaire and Group 1(a) had not been pre-tested.

In addition, some of Group 1 had been pre-tested once and some had been pre-tested twice; an additional analysis was done using the data from these sub-groups. Participant characteristics of gender, age, job title, job setting, length of service, severity of behaviour, type of behaviour and post school qualifications were again recorded for Groups 1 and 1(a). The dependent variable in this study was participants' scores on the Challenging Behaviour Representation Questionnaire (CBRQ).

Measures and Procedures

The investigation was sequenced as follows.

1. Participants were allocated to Group 1 (previously described) or Group 1(a) depending on when they enrolled on the training course. That is, one complete intake of students for the course (35 staff) was allocated to Group 1(a) during a set time period when course applications were open.

2. Written consent was obtained from all Group 1 and Group 1(a) participants prior to completion of the questionnaire and all participants in Group 1(a) were given the same information and instructions as Group 1, previously described in Chapter 5. Participants were guaranteed anonymity, but were asked to give information on their gender, age, job title, job setting, severity and type of challenging behaviour experienced, length of service and post school qualifications. All participants in Group 1(a) were informed that they *might* be asked to complete the questionnaire on more than one occasion.

3. The CBRQ questionnaire was administered to control Group 1(a) immediately after training, without any pre-tests. All questionnaires were completed in the participants' workplace and returned by post. Completed questionnaires were individually coded and filed.

4. All questionnaires were marked using the methods described previously in Chapters 4 and 5. Each response in the 40-item questionnaire was given a score of 2, 1, 0, -1 or –2 and individual item scores were added to give subscale and overall scores.

5. Each response on the 40-item questionnaire from each participant at each of the time points was entered onto a data sheet on the SPSS programme. Individual participant codes were entered first and given a group number. All 40 questionnaire items were then entered as column/variable headings, and scores on each item entered as raw data. Characteristics of gender, age, job title, job setting, length of service, severity of behaviour, type of behaviour and post school qualifications were entered as separate variables, then coded for use in later analysis.

6. Accuracy of data input was checked in two ways. Any missing data values (blank cells) or data values outwith the range (e.g. input errors of -22 or 11 instead of -2 and 1 respectively) were detected electronically by a double entry method and changed. In addition, responses from a random sample of 10 questionnaires from Group 1(a) was entered again to a new data sheet and compared with the main data input file. There were no differences between the two files.

7. Total and Mean scores for each participant in Group 1 and Group 1(a) were calculated at the time point Post-Test 1 (See Figure 6.1). Total and Mean scores were also calculated for each participant for each of the five subscales (Identity, Cause, Consequences, Emotional Reaction, Treatment/Control). These values were entered as separate columns/variables in the SPSS data sheet.

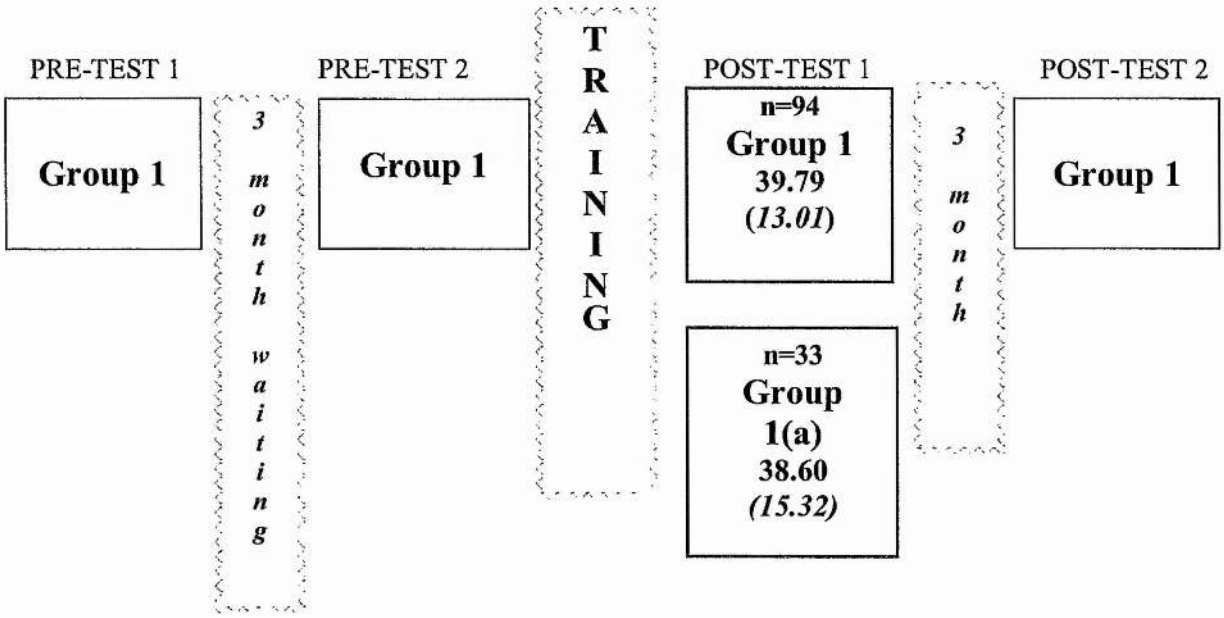
8. Overall scores and scores for the five dimensions of Identity, Cause, Consequences, Emotional Reaction and Treatment/Control were calculated and compared for Group 1 and Group 1(a).

9. Characteristics of Groups 1 and 1(a), were compared for any significant differences, prior to statistical analysis of questionnaire scores.

10. An additional analysis was carried out comparing any differences between Group 1 participants who had completed the questionnaire *once*, at Pre-Test 2 time point, and those who had completed it *twice*, at Pre-Test 1 and Pre-Test 2. (These differences existed because some of Group 1 enrolled on the course less than three months before the start of the course and were therefore not able to complete a questionnaire at Pre-Test 1 time point).

A summary of the experimental design including Mean scores and standard deviations is given in Figure 6.1.

Figure 6.1 Summary of test conditions for participants in Groups 1 and 1(a) – Number of participants completing Questionnaire at Post-Test 1, Mean Questionnaire score overall (*Standard Deviation*)



Materials

The 40-item questionnaire developed for the study described in Chapters 4 and 5 was used in this investigation. All participants were asked to complete the questionnaire within one week of finishing the open learning course, *"Approaches to People with Challenging Behaviour"*. Questionnaires were scored as described previously, with views expressed in individual questionnaire items rated as:
very desirable – scored 2; desirable – scored 1; neither desirable nor undesirable– scored 0; undesirable– scored -1; very undesirable– scored -2.

Participants

Group 1(a) consisted of 33 participants, who undertook the course, *"Approaches to People with Challenging Behaviour"*. All participants worked in the services listed in Appendix 9. Participants had been allocated to Group 1 or Group 1(a) on the basis of when they enrolled on the course, and there were originally 35 participants in Group 1(a). (See previous section on Procedures.) Two of the participants in Group 1(a) subsequently withdrew from the study. The statistical analysis was done using all of the Group 1 and all of Group 1(a) data. Group 1(a) completed the Challenging Behaviour Representation Questionnaire only once, immediately after finishing the course at Post-Test 1; see Figure 6.1. A participant profile of Group 1(a) is given in Table 6.1, comparing characteristics of participants with those of Group 1, given previously in Chapter 5 and Appendix 10.

Table 6.1 Summary Profile of characteristics for participants in Group 1 and Group 1(a)

CHARACTERISTICS	*Group 1*	*Group 1(a) (POST TEST only)*
N at Post Test 1	94	33
Gender (Male/ Female) *(Percentages)*	19/75 (23.6%/76.4%)	8/25 (24.2%/75.8%)
Mean age, years *((Std Deviation Median Range)*	36.79 *(8.52 36 23-57)*	37.73 *(6.92 38 23-53)*
Job setting		
Residential	37	14
Day services	19	7
School /College	3	2
Respite	4	2
Outreach	1	1
Hospital	10	4
Community	20	3
Job title		
Manager	28	10
Nurse	16	6
Social worker	1	2
Support worker/ care assistant	28	8
Day Services Officer	9	3
Depute Manager	4	1
House Parent	2	1
Teacher	1	0
Therapist	3	2
Psychologist	1	0
How long working with people with CB		
<1 year	2	0
1-2 years	14	1
3-5 years	22	6
6-10 years	12	15
11-15 years	18	5
>15 years	25	6
Mean *(Std Deviation Median)*	7.83 years *(5.49 6)*	7.70 years *(4.31 6)*

Severity of Challenging Behaviour		
Mild	12	4
Mild and Moderate	1	4
Moderate	46	14
Moderate and Severe	7	5
Severe	22	4
Mild and Moderate and Severe	6	2
Type of Challenging Behaviour A/SI/ST/O		
Aggression (A)	21	7
Self Injurious (SI)	6	1
Stereotype behaviour	6	1
Other (O)	2	2
A+O	3	2
A+SI	13	5
A+SI+O	1	0
A+ST	5	3
A+SI+ST	26	8
A+SI+ST+O	7	3
A+ST+O	1	1
SI+ST	2	0
SI+ST+O	0	0
ST+O	1	0
Post School Qualifications		
Degree	9	2
Diploma	9	2
SVQ3	0	0
SEN	0	0
RNMH/RNLD	19	11
RN	10	1
RMN	0	4
HNC	13	0
ONC	0	0
CSS	0	0
CQSW	1	1
None	33	12

Although participants were allocated to Groups 1 or 1(a) only on the basis of when they enrolled for the training course, this allocation was not random. It was expected that there would be some non-equivalence and participant variables may be a source of variation in questionnaire scores. Because of this, characteristics of participants were compared, to establish if it was necessary to control for any significant differences when interpreting and analysing questionnaire scores.

Results

Data were normally distributed and parametric tests were used. Analysis of variance tests (ANOVA) were used for comparison where data were continuous (age, length of service) and a series of Chi-Squared tests was used where data were categorical (gender, job title, job setting, severity of behaviour, type of behaviour, post school qualifications). Groups 1 and 1(a) were compared on eight different characteristics.

Groups 1 and 1(a) comparison of characteristics

Age

There was no significant difference between the ages of participants in Group 1 and Group 1(a) ($F_{1,126}$=0.326, p=0.569).

Length of Service

There was no significant difference at $p<0.05$, between the length of service of participants in Group 1 and Group 1(a) ($F_{1,126}$=0.2221, p=0.639).

Other Characteristics

Table 6. 2 Groups 1 and 1(a) – Comparison of other characteristics

Chi-Square

Characteristic	*Chi-Square Value*	*df*	*Assymp. Sig. (2-sided)*
Gender	0.237	1	0.626
Job setting	13.102	6	0.243
Job title	24.247	10	0.187
Severity of challenging behaviour	15.678	7	0.263
Type of challenging behaviour	5.497	13	0.939
Post-School qualifications	4.813	12	0.538

There were no significant differences at $p<0.05$, between the other characteristics measured.

Summary: Groups 1 and 1(a) comparison of characteristics

There were no significant differences in the measured characteristics of Groups 1 and 1(a). No attempt was made to match individuals or to match groups for equivalent characteristics. However Groups 1 and 1 (a) were generally well matched on characteristics of gender, age, job setting, job title, length of service, severity of challenging behaviour, type of challenging behaviour, post- school qualifications; see Table 6.1. In the subsequent analysis only questionnaire scores were included. There will be no attempt to control for effects of testing due to participant characteristics. It is acknowledged that other differences, not measured, may exist between the groups. For example, Group 1(a) were a Spring/Summer intake while Group 1 consisted of both Spring/Summer and Autumn/Winter intakes. Disregarding any seasonal influences on

questionnaire or course performance, students approaching their employers for funding for training course are more likely to be successful in Spring/Summer. This is because of public service underspend at the end of the financial year (April-March), and/or allocation of new training budgets at the start of the new financial year. It might be argued from this that staff in the Autumn/Winter intakes are more motivated and more resourceful since they have obtained funding when it is scarcer.

Hypothesis 6

Staff who took the course "Approaches to People with Challenging Behaviour" and were pre-tested on the CBRQ will show higher questionnaire scores post-course than staff who have completed the same course and were not pre-tested on the questionnaire.

ANOVA was used to compare the differences between the group scores, with 'Group' as the independent variable and Post Test 1 scores as the dependent variable. A comparison was made first between all participants in Group 1 and all participants in Group 1(a); see Table 6.3. An additional comparison was then done, dividing participants in Group 1 into two sub-groups; those who had been pre-tested once and those who had been pre-tested twice; see Table 6.4. Descriptive data in Tables 6.3 and 6.4 and Figure 6.2 are followed by statistical analysis in Table 6.5.

Table 6.3 Summary of Questionnaire scores for Group 1 and Group 1(a): Mean scores and Standard Deviation for overall scores and scores on each dimension

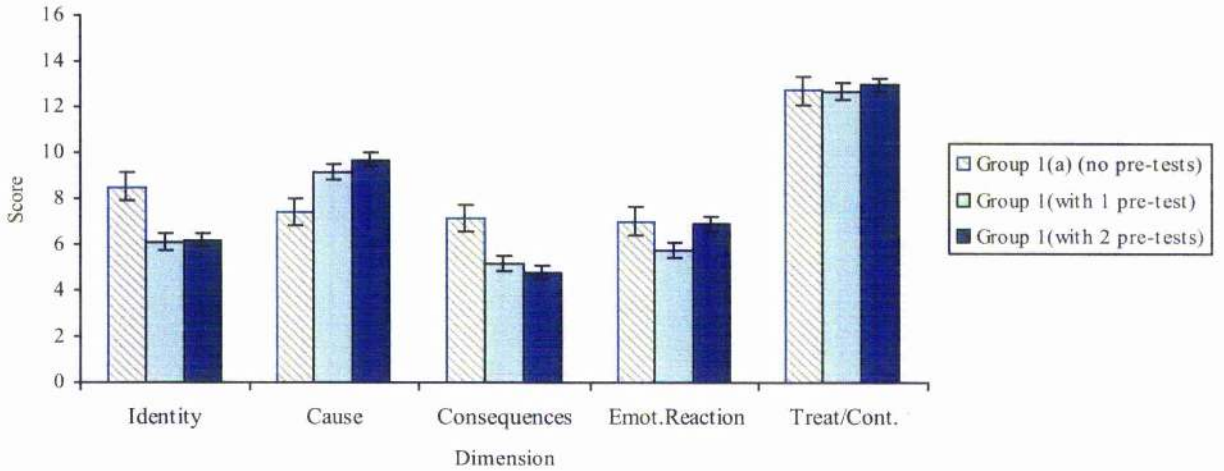
	Group 1(a) ***Post Test only*** ***(n=33)***	***Group 1*** ***Pre-Test and Post-Test*** ***(n=94)***
Overall	38.60 *(15.32)*	39.79 *(13.01)*
Identity	8.54 *(4.94)*	6.16 *(4.69)*
Cause	7.42 *(3.12)*	9.49 *(3.72)*
Consequences	7.15 *(3.66)*	4.94 *(3.33)*
Emotional Reaction	7.03 *(4.07)*	6.46 *(5.70)*
Treatment/Control	12.72 *(2.36)*	12.86 *(2.91)*

Table 6.4 Summary of Questionnaire scores for Group 1 (divided into two subgroups by number of pre-tests) and Group 1(a): Mean scores and Standard Deviation for overall scores and scores on each dimension

	Group 1(a) Post Test only (n=33)	*Group 1 Pre-Test 2 only (n=37)*	*Group 1 Pre-Test 1 and Pre-Test 2 (n=57)*
Overall	38.60 *(15.32)*	38.92 *(11.97)*	40.54 *(13.60)*
Identity	8.54 *(4.94)*	6.11 (4.04)	6.19 *(5.11)*
Cause	7.42 *(3.12)*	9.19 *(4.08)*	9.68 *(3.75)*
Consequences	7.15 *(3.66)*	5.18 *(3.58)*	4.77 *(3.17)*
Emotional Reaction	7.03 *(4.07)*	5.73 *(6.13)*	6.92 *(5.41)*
Treatment/ Control	12.72 *(2.36)*	12.70 *(3.22)*	12.96 *(2.72)*

Overall Mean scores for Group 1 participants who had taken one or two pre-tests (39.79) were greater than those of Group 1(a) participants who had taken no pre-tests (38.60). Mean scores for participants who had taken two pre-tests (40.54) were greater than those of participants who had taken one pre-test (38.92), or taken no pre-tests (38.60). However there were no significant differences between Group 1 and Group 1(a) on overall scores at Post Test 1 ($F_{1,126}= 0.220$; $p=0.640$) and there were no significant differences between the control groups and participants who had taken the pre-test once ($F_{1,126}= 0.009$; $p=0.925$) or twice ($F_{1,126}= 0.307$; $p=0.581$).

Figure 6.2 Mean scores on Questionnaire (individual dimensions) for Groups 1 and 1(a).



Error bars show Standard Error.

From Figure 6.2 and Tables 6.3 and 6.4 it can be seen that the direction of the differences between the scores was not consistent across the five subscales which make up the overall score. Group 1(a) score higher than Group 1 for Identity, Consequences and Emotional Reaction, but lower for Cause and for Treatment/Control dimensions. Participants who had been pre-tested twice score slightly higher than those pre-tested once, on all dimensions except Consequences.

ANOVA statistical analysis of differences (Table 6.5) shows that Group 1(a) scores were significantly greater than Group 1 scores for Identity and Consequences and significantly lower for Cause. This was the case for both Group 1 participants who had taken one or two pre-tests.

Table 6.5 Analysis of variance on each of the five subscales – Group 1 and Group 1(a)

	Comparison	*Comparison*	*Comparison*
Dimension	Group 1- Group 1(a)	Group 1(one pre-test only)- Group 1(a)	Group 1(two pre-tests only)- Group 1(a)
Identity	$F_{1,126}$= 6.135; p=0.015*	$F_{1,126}$= 5.144; p=0.027*	$F_{1,126}$= 4.440 ; p=0.038*
Cause	$F_{1,126}$= 8.140; p=0.005*	$F_{1,126}$= 4.052; p=0.048*	$F_{1,126}$=9.103; p=0.003*
Consequences	$F_{1,126}$= 10.278; p=0.002*	$F_{1,126}$= 5.132; p=0.027*	$F_{1,126}$= 0.11.455; p=0.001*
Emotional Reaction	$F_{1,126}$= 0.282; p=0.596	$F_{1,126}$= 1.067; p=0.305	$F_{1,126}$= 0.025; p=0.874
Treatment/Control	$F_{1,126}$= 0.057; p=0.812	$F_{1,126}$= 0.001; p=0.971	$F_{1,126}$= 0.171; p=0.681

*Significant at the $p<0.05$ level

Summary

There were no significant differences in the overall Mean scores of the two groups, but there were significant differences on the individual dimensions of Identity, Cause and Consequences. The direction of these differences was not consistent. Identity and Consequences Mean scores were higher in the 'no pre-test' Group 1(a), while Cause Mean scores were higher in the group of participants who had been pre-tested on the questionnaire.

Conclusion

Hypothesis 6, which proposed that staff who were pre-tested would show higher questionnaire scores than staff who have completed the same course and were not pre-tested, was not supported overall. There was some evidence that post-course scores on the Cause subscale was improved by pre-testing, but the direction of effects was not consistent across the five subscales.

Discussion

The hypothesis was that there was an interaction of testing and training in the results obtained in Chapter 5 and that this might be a confounding variable in this study. To check for this, a post-test only control group was used. There was no effect on scores overall and the effects on individual dimensions were inconclusive. Although participants who had not been pre-tested scored significantly higher on Identity and Consequences dimensions, those who had been pre-tested scored significantly higher on the Cause dimension. There were no significant differences on the Emotional Reaction or on the Treatment/Control dimensions. Repeated presentation of the questionnaire may have improved scoring on the Cause dimension, through familiarity with the questionnaire items on this subscale, but it is difficult to see why such an improvement would be seen only on this dimension and a significant effect in the opposite direction for two of the other dimensions. Although the two groups showed no significant differences in any of the characteristics recorded and are apparently well matched, it may be that they differed in other characteristics, not controlled for.

Participants who were pre-tested twice did score higher on four of the five dimensions than participants who were pre-tested just once; see Figure 6.2. This is indicative of an effect of pre-testing on scores, but the differences were small compared to the pre-tested/not pre-tested differences and not significant. There is some other evidence, from Chapter 5, that repeated questionnaire presentation may result in higher scores. Group 3, who received no training can be viewed as a 'tested only' group. Their scores increased overall and in four of the five dimensions when compared at time points Pre-test 2 and Post-test 1. Again, these increases were small and non-significant but may indicate some effect of familiarity, since the increase was in the absence of any training intervention.

There is a discussion point here also about whether higher scores on the questionnaire for Group 3 were indicative of changes in cognitive representation; is it possible that the questionnaire itself acted as some kind of 'training intervention' for Group 3? This issue has been raised elsewhere in literature reviewing attempts to measure constructs. Are empirical measures, similar to the one developed in this study, *causes* of their constructs, or are the constructs causes of their measures? (Edwards and Bagozzi 2000). This point is discussed further in Chapter 7.

From the hypothesis tested in this chapter there was no significant effect of testing which adds to the apparent effect of training. However further investigation is needed to establish whether pre-testing affects scoring on individual dimensions differentially. The order of questionnaire items was varied on each presentation in the study reported in Chapter 5. Further, random ordering of questionnaire items, presentation of the questionnaire at different time intervals, presentation of questionnaire subscales singly or in different combinations or varying the number of presentations might all be used to investigate the direction and degree of any effects of testing.

Chapter 7, which follows, attempts to summarise the findings from previous chapters and to suggest possible future directions for research and for training.

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities – An Evaluation of the Impact of an Open Learning Training Course

CHAPTER 7

Conclusions

CHAPTER 7

Conclusions

This chapter reviews the findings of this study, presented in chapters 1-6. Separate comments on each of the five dimensions of cognitive representation are followed by a framework proposing how these might interact in a dynamic system, incorporating cognitive representation, challenging behaviour and staff behaviour. The chapter concludes with a discussion of the practice implications of these findings and suggestions for future research.

Overview

Staff working with people who have challenging behaviour in learning disability services need to be good at what they do and, it might be argued, to believe that what they do brings about therapeutic change. Skills and awareness, as well as appropriate value and knowledge bases are essential for this very difficult work. To be the subject of verbal and physical abuse on an almost daily basis, for example, as well as being witness to self-injurious and other very disturbing behaviours can be common experiences for many workers in this field. How staff respond cognitively and behaviourally to these challenging circumstances is determined by both the direct contingencies of the behaviours they face and by the *"indirect contingencies"* (Wanless and Jahoda 2002), which include each staff member's own cognitive representation of challenging behaviour. These indirect contingencies also include the characteristics of the employing organisation (Hastings et al 1995) and the "capacity" of staff to successfully implement programmes (Hieneman and Dunlap 2000a).

This thesis investigated cognitive factors that influence staff views and staff behaviour in the care and treatment of people with challenging behaviour. The research and analysis presented looked at how the construct of 'challenging behaviour' is cognitively represented in care staff and whether these representations are changed significantly by targeted staff training. The applicability of aspects of Leventhal's model to a learning disability/challenging behaviour setting, incorporating self-regulatory mechanisms was tested, combining it with recent research to develop a measure to analyse staff responses on particular dimensions of challenging behaviour. Staff responded reliably to challenging behaviour on five separate dimensions and the crucial role of these dimensions in therapeutic intervention and outcomes was reviewed.

Quilitch (1975) suggested that *all* training which aims to change staff behaviour should be required to demonstrate effectiveness before time and money are invested (or wasted) in the training. More recently, a review of services in Scotland highlighted the need for preparatory training that *works,* for staff who spend the most amount of time with people with learning disabilities:

> *"Support staff require effective and comprehensive training relevant to their area of work before starting to work with clients"* (NHS Scotland 2004), emphasis added.

This is the key question for this thesis: can the findings be used to inform more effective staff training and facilitate staff views linked to staff behaviours that are 'professionally desirable'– evidence-based, helping behaviours? Further work is needed to refine the CBRQ but this research has provided a practical measure, and some practice discussion which may assist staff working in the area of learning disabilities and challenging behaviour in at least three ways.

- First, professionals designing and delivering training may be able to use the CBRQ, together with other tools, to assess whether staff views are consistent with good, evidence-based practice and 'helping' behaviours. Hastings' (2003) conceptualisation of 'helping behaviours' as those which make challenging behaviour less likely is especially useful here.
- Second, staff trainers may be able to target particular dimensions of staff views for change (Identity, Cause, Consequences, Emotional Reaction, Treatment/Control) and verify such changes post-training.
- Third, the research highlights the importance of verifying in any training curriculum that what is being *taught* corresponds to what is being *learned.* Both teaching and learning strategies need to be taken into account when investigating how self-directed learning will change staff views. The present study suggests that some aspects of cognitive representations may be more susceptible than others to change through training.

Overall, the outcome of this research and any subsequent training would be to effect changes in how staff think about challenging behaviour.

Cognitive Representation of Challenging Behaviour among Staff Working with Adults with Learning Disabilities

Based on aspects of Leventhal's theory underlying illness representation and self-regulation processes, Weinman et al (1996) proposed the use of his theoretically derived Illness Perception Questionnaire (IPQ) to measure cognitive representation of illness on five sub scales. The questionnaire in this thesis was developed to examine how staff cognitively represented challenging behaviour in terms of the five dimensions of Leventhal's Self-Regulation Model. The components of Identity, Cause, Consequences, Emotional Reaction and Treatment/Control were identified and tested in this model. (There was little evidence that Time Line was

a component). These five identified components may explain and help predict how cognitive representation influences treatment outcomes, although a full explanation is still some way off. The fact that challenging behaviour does seem to be represented in these five dimensions suggests that it is cognitively represented as an 'illness' type construct in some staff.

Some of the cognitive components have been studied using other methods in relation to interactions between staff and people with challenging behaviour with whom they are working. Each of the five components is discussed separately below, in the context of the model and in light of findings in Chapters 5 and 6.

Identity

The Identity component of the construct is a cognitive representation that conforms to accepted definitions of challenging behaviour; being able to say which behaviours are challenging, and why. Elgie and Hastings (2002) confirmed results from previous research about how challenging behaviour is defined by staff and, to some extent, by services. Behaviours that have negative effects on the individual are less likely to be identified as challenging than behaviours that are 'outwardly directed' at staff, other service users or objects. There is some support for this in the present study. The Identity questionnaire items which described behaviour which had negative effects on others were more likely to attract a strongly agree response. For example the item *"An adult with learning disabilities can be said to have challenging behaviour when that person pokes his/her eyes with a finger"*, had a more variable response across all groups than identity items such as, *"An adult with learning disabilities can be said to have challenging behaviour when that person follows staff around"* or *"An adult with learning disabilities can be said to have challenging behaviour when that person questions instructions"* where there was more consensus.

Scores on the Identity subscale increased, but not significantly, immediately following training. The size of the increase was less than predicted and, from a training point of view, disappointing. Of the five dimensions, Identity is the component that is the most 'knowledge-based'; it asks the question, "What defines a behaviour as challenging?". As such, it is reasonable to suggest that providing the information necessary to change staff views might be a relatively straightforward teaching matter. Identifying and using a set of criteria to define challenging behaviour is an important precursor to planning therapeutic action. This has to be balanced with the complicating fact that the *same* behaviour in different people may be challenging or not challenging depending on the causes and functions of the behaviour and the context (Derbyshire and Whittaker 1990). While it is not possible to devise a definition framework that can be used by staff for *every* contingency, from the results it seems that more explicit definitions may be needed in training materials of the kind used in this study, and testing required to assess how well staff can *use* these definitions to identify behaviour that is challenging.

It is also possible that Identity is more firmly established than other dimensions in staff cognitive representation of challenging behaviour and therefore more difficult to change. This is an area where further study would be merited; how 'embedded' are each of the five dimensions of cognitive representation, and is this a factor in their resistance to change?

Cause

Cause was one of the dimensions for which an effect of training was seen. Post-test scores were significantly improved for Group 1 in comparison with control Group 3, relative to pre-test scores and when adjustments had been made for pre-test differences between the groups. This suggests that staff who had completed the training course, *"Approaches to People with Challenging Behaviour"* had improved their understanding of a range of genuine likely causes of challenging behaviour, and were able to differentiate between these and other supposed causes that lacked an evidence base. Note that in Figures 5.11 and 5.13 (pages 115 and 117) the dimension of Cause is the one that most closely mirrors the overall Mean scores relative to the three groups. This relationship between trends for cause and overall scores might be spurious, but previous research in this area (Hastings et al 1997; Dunne 1994; Heyman et al 1998) strongly suggests that cause is an influential component in the formulation of staff cognitive representation of challenging behaviour as a whole.

Cause, as a single dimension, may be a more influential psychological determinant of behaviour than some of the other four dimensions. (See Figure 7.1 which follows also). It is worth noting here that in Weinman's revised Illness Perception Questionnaire (IPQ) he has suggested that researchers should feel free to modify the 'Cause' scale to take account of cultural settings or populations (Moss-Morris et al 2002). For example, "God's will" has been added to the list of causes of an IPQ investigating diabetes mellitus (Barnes 2001). In the context of challenging behaviour, "God's will" is not an empirically verifiable cause, but there may be particular and unique establishing operations or other local circumstances which cause or contribute to challenging behaviour for individuals. This should be taken into account when using the Challenging Behaviour Representation Questionnaire and other evidence-based additions may have to be made.

There is some evidence, mentioned earlier, that more experienced staff and more qualified staff distinguish between challenging behaviours especially in term of their causes, with implications for how these staff respond to the behaviours. (Hastings et al 1995b; Oliver et al 1996). In the present study there was little evidence in data that staff with more experience scored better than inexperienced staff on this dimension for Group 1 or Group 3, but for Group 2 this was the case. When questionnaire scores for the Cause dimension are plotted against years of service experience for Group 2, the result shows a growth line consistent with a continuous effect over all four time points, similar to Figures 5.11 and 5.13. (See discussion in Chapter 5 also).

Consequences

Of the five components, consequence was the one with the most inconsistencies, both during the development of the questionnaire and in the evaluation of training. (See discussion at the end of Chapter 4 also). There may be a number of reasons for this.

That Consequences *is* a component of the construct of challenging behaviour was evidenced by the analysis of initial statements and labelling by panels. However it is unlikely that all five components – Identity, Cause, Consequences, Emotional Reaction and Treatment/Control – contribute *equally* to the overall construct of challenging behaviour. Consequences may thus be more weakly represented in the construct as a whole, in relation to the other four components.

There may also be some differences in how the Consequences component translates from a self-regulatory model to an operational 'staff-regulatory' model. Do staff view the consequences of challenging behaviour primarily as consequences for the person with learning disabilities, or as consequences for the member of staff? Clearly each of these would elicit a different staff response. For example, the questionnaire item, "*As a consequence of their challenging behaviours, adults with learning disabilities are disempowered.*" may have two interpretations. Challenging behaviour does usually have as a consequence disempowerment – lack of privacy, more control by others, less say in lifestyle – but staff may see disempowerment as a comment on their own competence, the implication being that they are in some way responsible for disempowering individuals who have challenging behaviour. Similarly the questionnaire items, "*As a consequence of their challenging behaviours, adults with learning disabilities bring into question the values of staff*", and "*As a consequence of their challenging behaviours, adults with learning disabilities pose a challenge to the professionals in social care.*" may be interpreted personally, rather than professionally, with reference to the person with challenging behaviour. People with challenging behaviour may bring staff values into question and challenge professionals in social care to provide services to meet their needs, but staff may interpret both of these as some admission of failure on their part, and respond accordingly.

It may be necessary to further investigate the consequences subscale, to verify if questionnaire items are being responded to with reference to people with challenging behaviour, or with reference to staff. There are some parallels here with the identity subscale, where it was noted that challenging behaviour which has consequences for *others* are more likely to be labelled as "challenging".

Emotional Reactions

Emotional reaction is an important mediating factor between attribution and action in staff working with challenging behaviour. This was further evidenced in this study. Of the five components, emotional

reaction generated the largest number of statements from the original open question, *"When you think of challenging behaviour what comes to mind?"* (Chapter 4). It also showed the greatest variability of scores across individuals in the three groups and across the four time points in the evaluation of the training course in Chapter 5 ranging from -13 to 16. It seems clear that it makes a major contribution to the cognitive representation of challenging behaviour as a whole, and this is consistent with previous findings in this area, summarised in Chapter 2. A closer examination is needed here of how emotional reactions relate to staff *behaviour* in work settings.

In the results for Chapter 5 it was noted that significant differences are seen in the scores for the Emotional Reaction subscale between Group 1 and Group 2 and between Group 1 and Group 3 when the characteristic of "Type of Behaviour" is included in the analysis as a covariate. From this it can be suggested that the type of behaviour (aggression, self injury, stereotypy) may elicit *different* emotional responses from staff in each of the groups, and, by extension, different behavioural responses. For example, from Chapter 3 it was seen that not all staff will respond in the same way to severe self-injurious behaviour (Hall and Oliver 1992). This finding may be of clinical significance also, as 'type' rather than 'severity' of behaviour seems to be more important here. This supports similar findings (Hastings and Remington 1995a). Services tend to be matched to severity of challenging behaviour, rather than type. For example it is possible to find assessment and treatment units for people with moderate or severe challenging behaviours but it would be very unusual to find such a unit for people with self injurious behaviours or aggressive behaviours *only*. So while services may be organised on the basis of severity, it seems that staff emotional reactions may be more sensitive to type. This calls into question the value of practices such as selecting staff on the basis of their experience with people with serious challenging behaviour for some posts. It is possible to extrapolate findings from a recent study by Weinman and his colleagues here (Moss-Morris et al 2002), where it was shown that the emotional reaction component in the cognitive representation of some illnesses was largely unrelated to actual *severity* of the illness under study (MS). A more detailed analysis and further data would be needed before any associations between particular types of challenging behaviours and participant/group emotional reactions could be made, but this is an area where the CBRQ could be used.

Wanless and Jahoda (2002) have suggested that emotional reactions arising in situations of conflict are essentially interpersonal *"hot"* cognitions. In contrast, other dimensions of cognitive representation of challenging behaviour may be more impersonal or 'cold'. This is consistent with the view that emotional states in staff should be seen as a state of physiological arousal *and* a cognition appropriate to this state of arousal (Oatley and Jenkins 1996; Schachther and Singer 1962). This has service implications and highlights the need for staff to separate the 'professional' from the 'personal' when working with people with challenging behaviour and interpreting the actions of others. Although it is sometimes difficult *not* to believe and react on the belief that challenging behaviours are highly personalised, it is essential that staff are able to think and conduct themselves in a professional manner at all times. Phrases such as, 'he only does that to

wind me up' or 'he only does that because he knows I don't like it', typify the difficulty some staff have in separating the personal from the professional. As emotional responses and subsequent behavioural responses may be mediated through the interpretations, or meanings, that staff give to incidents involving challenging behaviour, a professional and a personal interpretation will result in very different emotional responses (Teasdale 1997). In Leventhal's original Self Regulation Model (Figure 2.1) the staff response would be governed by an interaction between (i) cognitive representations of other components, including cause and treatment/control plus (ii) the emotional experience. Leventhal emphasises the separation of emotional and *behavioural* responses. Hastings (2002) proposed that staff negative emotional reactions in particular mediate the impact of challenging behaviours on staff stress; how much staff are affected depends on which emotions are experienced and to what intensity. This in turn would effect staff behaviour. There is still some disagreement over the *order* of emotions and cognitions leading to behaviour here as was discussed in Chapter 2. In simple terms, Weiner (1980), Dagnan (1998) and Hastings (2002) all suggest a *linear* sequence of attribution resulting in affect and then action, whereas in the dimensions of Leventhal's original model there is a proposed combination of perceived cause (attribution) and an emotional (affective) component, acting *together*, and leading to the eventual action. (Figure 2.2.). The two are not incompatible however and *"emotional experience"* features as part of a separate, but parallel response in later adaptations of the Leventhal's model (Brownlee et al 2000). See Figure 2.1 .

It is also worth noting here another factor which may affect scoring on the Emotional Reaction subscale. In interpreting the questionnaire scores for this component there is a possibility that results may have been vulnerable to "socially desirable responding" or even "workplace desirable responding". The items in this subscale are the only ones which contain the personal pronoun 'I'. They are all prefixed with the phrase *"As a response to working with people with challenging behaviours,* I *experience feelings of..."* This may in itself have an effect on responding, since participants are being asked directly about themselves, rather than about people with learning disabilities, as in the other four subscales. Further testing, using an instrument such as Crowne-Marlowe Social Desirability Scale may also be useful here (Crowne and Marlowe 1960).

A sub-culture attitude of, "If-you-can't-stand-the-heat-get-out-of-the-kitchen" has pervaded a number of services to people with challenging behaviour unfortunately, and what is considered acceptable emotional responses can be clearly and narrowly prescribed in these services (e.g. Allen et al 1974). Most respondents are able to distinguish between what would be a "professionally desirable" and a "professionally undesirable" emotional response to challenging behaviour for the service in which they work. To *have* a certain emotional response, to *acknowledge* that you have it and to *report* it honestly in a questionnaire may be three separate components, all of which are necessary if the 'emotional reaction' is to be measured reliably in a questionnaire. It would be interesting to conduct a follow up study changing the question prefix to: *"As a response to working with people with challenging behaviours,* staff *experience feelings of..."* and contrasting

these responses with the ones given to *"As a response to working with people with challenging behaviours,* I *experience feelings of..."*

Treatment/Control

Treatment/Control was one of the dimensions for which an effect of training was seen. Post-test scores were significantly improved for Group 1 in comparison with control Group 3, relative to pre-test scores and when adjustments had been made for pre-test differences between the groups. The difference was highly significant at $p<0.000$. This suggests that staff who had completed the training course, *"Approaches to People with Challenging Behaviour"* had more post training 'evidence-accurate' cognitive representations of the interventions used to manage or to treat challenging behaviour. One needs to be cautious however, in attributing *all* of this increase to the effects of challenging behaviour training, as Groups 2 and 3 also showed some increase in this dimension, pre to post training, with Group 2 showing a significant improvement.

Of the five components, Treatment/Control generated the second largest number of statements from the original open question, *"When you think of challenging behaviour what comes to mind?"*, closely behind Emotional Reaction (Chapter 4). In the development of the CBRQ the internal reliability of each of the five sub-scales within the questionnaire was acceptable. The Cronbach Alpha value was highest for the Treatment/Control dimension at 0.97. This is a high value for a measure of this kind and strongly suggests that the subscale is independently measuring a single component within the questionnaire.

Treatment/Control was also the highest scoring dimension for all groups both pre- and post-test. Staff in all groups agreed or strongly agreed with statements consistent with the aims of evidence-based interventions. This is consistent with previous findings, that staff can *identify* recommended approaches. What is in question is whether this knowledge governs their actions when faced with challenging behaviour (Oliver et al 1996; Hastings 1996). Again, in interpreting the questionnaire scores for this component the possibility of "socially desirable responding" cannot be discounted. Staff may be agreeing or disagreeing with approaches they know by name, rather than from experience and a useful training follow up would be with more probing questions on staff understanding of the treatment approaches which appear in the questionnaire.

In a recent development Moss-Morris and Weinman (2002) have updated the original Illness Perception Questionnaire. This has happened since completion of data collection in the present study. In the updated factor analysis of their data they propose that the Treatment/Control dimension may contain not one, but *two* factors in the same subscale. *"Personal control"* is identified as a separate factor from *"belief in the treatment or recommended advice"* (Moss-Morris et al 2002; Horne and Weinman 1999). This development has implications for the present study. Hastings has looked at feelings of self-efficacy, and how staff were

more likely to be committed to a treatment approach when they believe that *"a clinician's plan could really work"* (Hastings and Remington 1995a). For staff working with people with challenging behaviour, belief or faith in the programmes that they are being asked to implement is a major factor in the success of the programmes; if they are not convinced of the efficacy of the programme, they are less likely to use it, regardless of any proven efficacy of the programme itself (Hieneman and Dunlap 2000). Like the Cause dimension, Treatment/Control may be more influential than some other dimensions in the cognitive representation of challenging behaviour as a whole.

A commitment to specific approaches to the treatment of challenging behaviour may be a function of the cognitive representations held by staff. For the Emotional Reaction one unresolved question was whether affect followed cognition; for the Treatment/Control component the question might be 'Does cognition follow behaviour or vice versa?'. Do staff cognitively represent challenging behaviour in a way that leads to specific treatment approaches, or does the use of the employing organisation's approach and subculture change existing cognitive representations to help staff rationalise their behaviour in implementing particular treatment approaches?

For people with learning disabilities and challenging behaviour cognitive representations of treatment by direct care staff may have a great impact on their quality of life, since substantial amounts of an individual's daily life will involve a treatment programme of some kind.

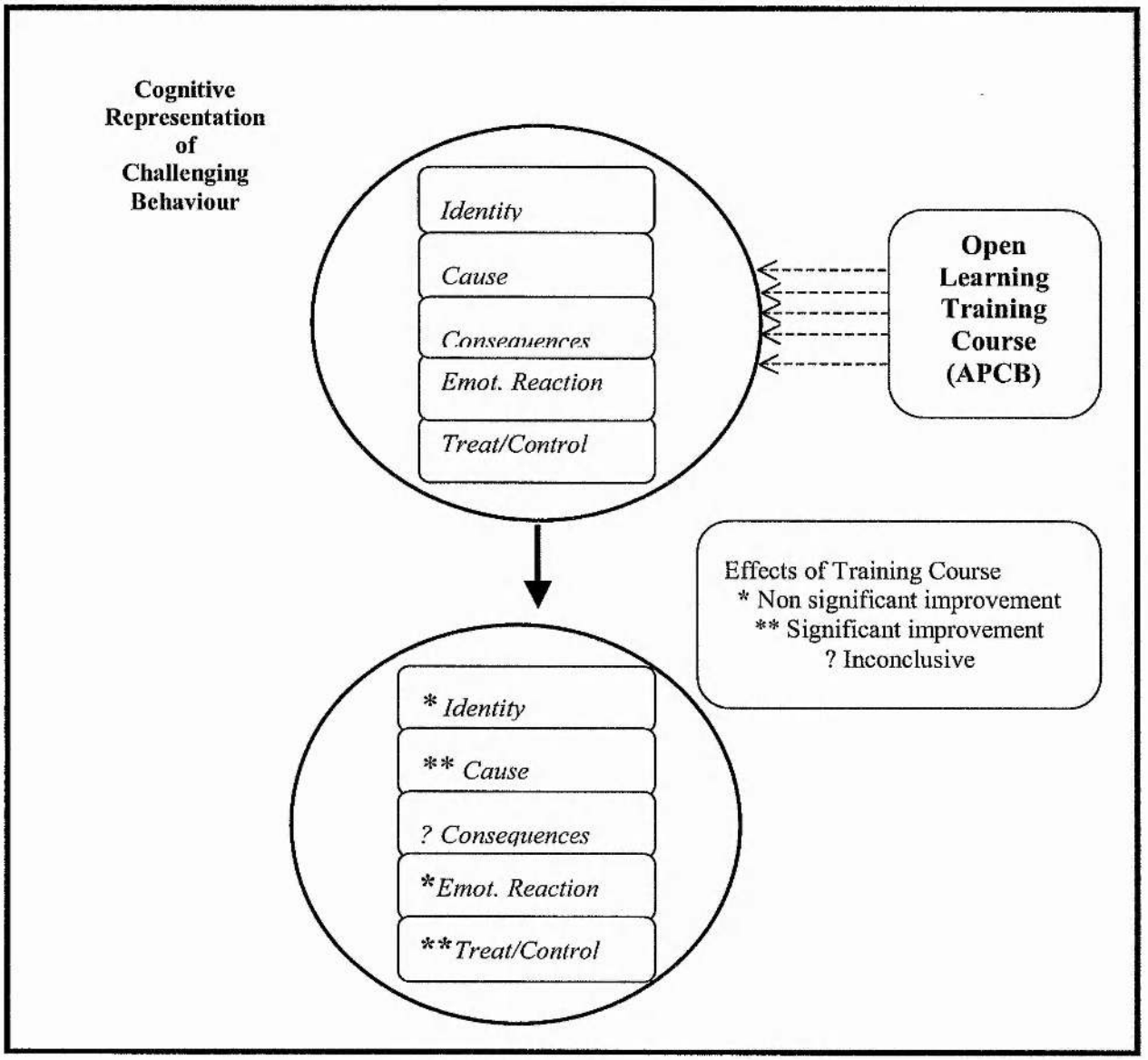
Interactions

The *interactions* between and among the five dimensions that make up the cognitive representation of challenging behaviour will be crucial factors on the formation of the cognitive representation as a whole. Similarly, interactions between the cognitive representation and the challenging behaviours themselves will also affect how staff behave. For example Hastings and Brown (1999) have developed the Difficult Behaviour Self-Efficacy Scale and investigated the interactions between causal beliefs and self-efficacy as predictors of staff emotional reactions to challenging behaviour (Hastings and Brown 2002). Staff were more likely to experience negative emotional reactions to challenging behaviour when they had low behavioural knowledge (Identity dimension) and low self-efficacy (Treatment/Control dimension).

A model summarising how the dimensions of cognitive representation may interact with each other is proposed in a Staff-Regulatory Model shown in Figure 7.2. Identity, Cause, Consequences, Emotional Reaction and Treatment/Control collectively make up the cognitive representation. Each makes a contribution to the construct of challenging behaviour, as it is cognitively represented in staff. The components are measurable separately and may have some independent characteristics, but each dimension may become *disproportionately* influential at specific times. For example Emotional Reaction may contribute more to the

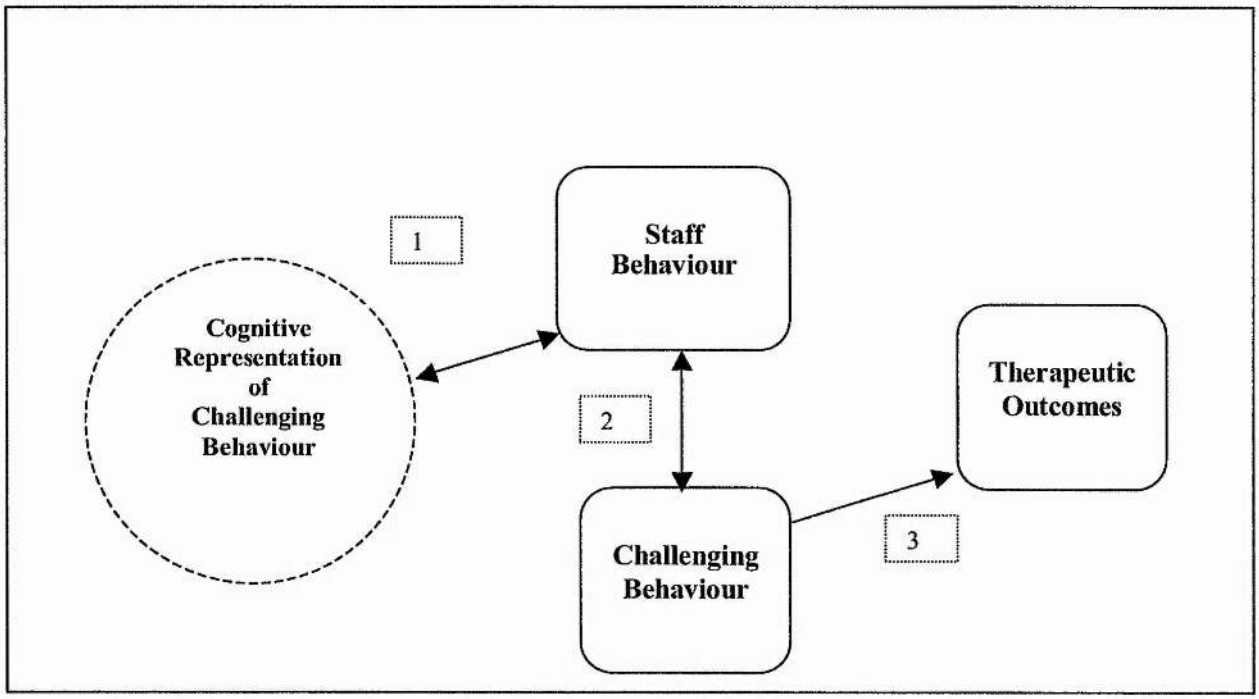
overall cognitive representation of challenging behaviour at times of crises, and Cause and Treatment/Control may be proportionally more influential at other times. The relative influence of each of the individual dimensions will thus differ over time and setting. For example, Espie and Bell (2002) have shown that positive and negative attitudes and emotions can *coexist* in staff working with people with serious challenging behaviours. This may account for the range of scores for some individuals across the five dimensions in the present study; some staff scored highly positive on one dimension and highly negative on another. It also suggests that both positive and negative elements may contribute to people's cognitive representation of challenging behaviour. The interaction among the five components is however, only part of a larger system of interactions affecting treatment outcomes. See Figures 7.1 and 7.2 which follow. These suggest how cognitive representation may contribute to the relationships supported by data from elsewhere and reviewed in Chapters 1, 2 and 3.

Figure 7.1 Summary of findings



The findings represented in Figure 7.1 go someway to answering the original research question about whether challenging behaviour was cognitively represented in staff in a number of dimensions, or domains, similar to the dimensions underlying the cognitive representation of illness. However cognitive representation of challenging behaviour has to be considered in the context of both staff and service user behaviours. See Figure 7.2, which show a proposed Staff Regulatory model.

Figure 7.2 Proposed Staff-Regulatory Model



Key to Figure 7.2

1	Proposed link between cognitive representation and the workplace behaviour of staff. This is based on the available evidence from health psychology studies, where cognitive representations of carers has been predictive of health outcomes in others and illness cognitions have been shown to determine coping strategies. See evidence presented in Chapters 2,3 and 5.
2	Established link between staff behaviour and challenging behaviour. See for example Carr et al (1991), Hall and Oliver (1992) and other evidence summarised in Chapters 1 and 2.
3	Established link between challenging behaviour and therapeutic outcomes. See General Introduction and evidence presented in Chapter 2, for example Marteau and Johnston (1990), Hieneman and Dunlap (2000) and Emerson et al (1994).

This is a dynamic system, which will also be subject to an independent effect of staff-service user interaction. These interactions will vary according to the nature and strength of the relationship between individual staff members and service users. The effect of these interactions on positive outcomes for service users is likely to be modified by the challenging behaviour and by the treatment approaches adopted, including the efficacy of these approaches. Staff behaviour and cognitive representation will be interdependent. Weinman (2004) suggested that each cognitive representation will *"automatically"* give rise to a particular pattern of behaviour in this illness model of cognitive representation. Where a set of staff behaviours is not providing a 'coping' function for that member of staff, *either* the cognitive representation *or* the behaviours will change. This is a dynamic system, which will also be subject to an independent effect of staff-service user interaction.

There are some complexities of challenging behaviour, referred to in Chapter 1 and these will be factors in how the proposed model operates. For example the topography of the challenging behaviour has been shown in a number of studies to have differential effects on staff behaviour. There are patterns to the way in which care staff respond cognitively and behaviourally to self injury and "outward directed" behaviours, typically aggression. Crucially, the interactions in the model proposed in Figure 7.2 will also vary according to the nature and strength of the relationship between individual 'care givers' and people with learning disabilities. For example, the relationship between a staff member and an adult service user in a managed care setting will be very different from the relationship between a member of school staff and a child or the relationship between a parent and their child. The effect of these interactions on positive outcomes for service users is likely to be modified by the challenging behaviour and by the treatment approaches adopted, including the efficacy of these approaches. Staff behaviour and cognitive representation will be interdependent. Weinman (2004) suggested that each cognitive representation will *"automatically"* give rise to a particular pattern of behaviour is his illness model of cognitive representation. Where a set of staff behaviours is not providing a 'coping' function for that member of staff, *either* the cognitive representation *or* the behaviours will change. In this proposed model, cognitive representation is one of the "indirect contingencies" (Wanless and Jahoda 2002) influencing staff behaviour, which in turn has a mediating role in therapeutic outcomes.
It is worth noting that although the majority of the evidence presented in this thesis has related to more *negative* cognitive representation of challenging behaviour and its impact on individuals, more *positive* cognitive representations would lead equally to positive outcomes in the system outlined in Figure 7.2. For example Taunt and Hastings (2002), Hastings and Taunt (2002) and Hastings et al (2002) report of the effects of positive perceptions or cognitive representations on the coping strategies of parents with children with learning disabilities, calling for more research in this area.

Future Studies

There were a number of methodological and practical aspects of the present study which could be improved on or developed further in future research in this area.

1. There were missing data from participants, at Post-Test 2 especially. This limited the ways in which data could be analysed across the four time points, although subsequent analysis showed that participants who completed the questionnaire at Post Test 2 did not differ from participants as a whole. A perennial problem in studies of this kind is giving participants a valid reason for being involved, especially over a long time period with multiple testings. This was compounded by a lack of 'performance' feedback for participants. It is rare that participants in research ever gain directly from it, unless they are convinced of the intrinsic value of the research process and take on trust the eventual benefits. A number of financial and other inducements have been tried to encourage participation in other studies, but these may affect responses. For future studies it would be helpful to obtain some form of commitment and encouragement from employers, especially for participants in the 'no-training' group where attrition was most marked between Post Test 1 and Post Test 2. Realistically, this might involve some promise of training for participants in this group on completion of the research. (This might also provide an additional set of 'waiting group' data for comparison, post training.)

2. Even in the absence of any external intervention, such as a training course, staff, their colleagues and the service users with whom they work are part of a dynamic system of interaction, such as the one proposed in Figure 7.2. In studying such a system, it is important to acknowledge the limits of the methodology used in this thesis and elsewhere:

   "The pre-test and post-test represent two snapshots of a continuous growth process" (Bryk and Wisberg 1977).

   The *act* of completing a questionnaire on up to four occasions will also be part of this dynamic process, and the *content* of the questionnaire may also have an effect on how the construct of challenging behaviour is cognitively represented. This raises a methodological issue which has been looked at in relation to other attempts to measure constructs; are empirical measures, similar to the one developed in this study, *causes* of their constructs, or are the constructs causes of their measures? (Edwards and Bagozzi 2000). The relationship is a complex one and it is beyond the scope of this discussion, but it should be acknowledged that questionnaires such as the CBRQ may themselves be a

variable in how staff cognitively respond and behave. Repeated presentation of the questionnaire may act as an intervention in itself, 'shaping' cognitive representation of challenging behaviour.

3. In this study there have been a number of challenges in trying to 'operationalise' aspects of Leventhal's original model of self regulation, as it applies to staff working with people with learning disabilities and challenging behaviour, and make it a 'staff-regulatory' model. As well as the dimensions measured there may also be an 'intensity' component to cognitive representations, generally and in individual components. This is not measured in a Likert type 'strongly agree, agree' format, as such a standardised scale does not allow for views which may be more passionately held than others. For example a member of staff may strongly disagree with the questionnaire item, *"An adult with learning disabilities can be said to have challenging behaviour when that person questions instructions"*, but the same person may very strongly or passionately disagree with the item, *"An adult with learning disabilities can be said to have challenging behaviour when that person follows staff around"*. Both items would be scored the same, but may contribute very differently to the staff member's cognitive representation of the identity component of challenging behaviour, and to the cognitive representation of challenging behaviour overall. Extending the Likert scale to seven rather than five points might be one way to tackle this.

4. Both the Weinman and the Hastings scales allow for the user to add items for particular groups, e.g. particular patient groups in Weinman's IPQ and children in Hastings CHABA. A further development of the CBRQ scale in this study may be to add particular items for specific staff groups, e.g. nurses, residential staff, day care staff, specific professions. The number of items to be added may be restricted by the number of items already on the questionnaire however, and selection of particular discriminating items for particular staff groups may be a more viable option.

5. The chosen method of interpreting and analysing the questionnaire scores using five separate hypotheses provided a reasonable adjustment for the initial differences between the groups and a measure of the effects of training. The question is whether this adjustment removed *all* of the bias in scores due to selection differences. This was unlikely. More detailed character profiles may have helped here, but the level of intrusiveness would be an additional difficulty and a balance is needed.

6. Related to this, many direct care staff are in the 'front line' in working with people with the most serious challenging behaviours over a period of years. Some of these staff have as their daily objective coping until the end of the shift, rather than treating, managing or changing long established behaviours (Hatton et al 1995). Individual views on matters such as the comparatively low salaries paid, conditions of employment, commitment to the employing organisation, commitment to work

colleagues and self preservation may all contribute to how a staff member cognitively represents challenging behaviour and responds to it. The interactions between these views and cognitive representation of challenging behaviour are likely to be complex and measuring them will require a high level of experimental sophistication. It is important however that these influential factors are taken into account and not dismissed as extraneous variables.

7. Studies of 'belief in self' and belief in others are emerging as promising areas of future research and training. Boosting staff self confidence through training, (Hastings 2002) and providing management support to help convince staff of the value of proven treatment strategies (Bell and Espie 2002; Burgio et al 1983) have both led to improvement in staff satisfaction in the work that they do. This in turn can be translated into more positive and meaningful interactions and outcomes for service users. Further development of the Treatment/Control subscale in the CBRQ could focus on separating questionnaire items which measure self-efficacy beliefs from those that assess the outcome expectancies of staff. This would provide a more sensitive measure of cognitive representation of challenging behaviour, and one that would more accurately specify the type of training needed.

8. Some of the differences in methods of collecting data for studies of this kind were referred to in Chapter 3; use of vignettes, semi-structured interviews and so on. Like some attitudes and prejudices, it is possible that cognitive representations of challenging behaviours may lie 'dormant' and may only be apparent when the 'object' of the cognitive representation – the challenging behaviour – is perceived. This may account for some of the differences noted in results obtained for studies using vignettes or case studies, and those done in field settings. Staff attribution of causes of challenging behaviour in relation to written descriptions of challenging behaviour is likely to be *" qualitatively different"* from attribution of causes of behaviour in service users known to the staff (Grey et al 2002). In the present study cognitive representations of challenging behaviour were based on a range of clients known to participants, in a large variety of services. It would be interesting to validate the CBRQ measure further by testing it in a matched group study in which responses to vignettes and to a small number of known clients were compared. Since data collection was by retrospective self reporting, a combination of self reports, completed in the workplace and away from the workplace by the same staff, would have also given more data to cross reference cognitive representations.

9. Finally there are a few key questions, related to the points above which may direct future research involving the Challenging Behaviour Representation Questionnaire.

- Does this impact of the training hold good for other similar training courses? For example what is the impact of *other* accredited training courses on each of the five dimensions of cognitive representation?

Similarly, what is the impact of more traditional face-to-face teaching, with less self directed learning? Does open learning change Cause and Treatment/Control dimensions more, or less than other formats?

The impact of different types of training on *each* of the five dimensions could usefully be explored. However relationships *between* dimensions needs to be included in this analysis. The results of the present study suggest that some dimensions are more easily changed than others by 'challenging behaviour' training and that some are changed by more indirect means. A number of explanations have been offered for these changes. One area for future investigation would be the 'order' in which change occurs; can Identity, Cause, Consequences, Emotional Reaction and Treatment/Control be changed at the same time 'in parallel' by training, or is this change more effectively done 'in series' by targeting the dimensions in a specific order? Although the five dimensions are represented as separate and equal components in Figure 7.1 it seems likely on the evidence to date that this is a simplification of how they are cognitively represented. The evidence for stronger associations between individual components was reviewed in Chapter 2. From a training perspective, one other possibility is that some of the dimensions may be embedded within others, in the manner of Russian dolls. In this analysis, it would be necessary to change Identity, for example, before Cause or Treatment/Control could be changed.

- Would the same effect of training be seen in staff *not* represented in this study? This is very important question, since the staff on this study, in common with most training courses, are self selecting. Are the findings of this study and other similar studies valid for staff who *don't* volunteer for training courses, and do this group of staff share particular characteristics?

By definition, there is very little research evidence on the characteristics of staff who do not volunteer for studies of this kind. Similarly, little is known about the characteristics of staff who either actively or passively resist training (Foxx 1996). Recent efforts to guarantee some basic level of qualifications and standards of care may improve the general level of training uptake, but the *willingness* of staff to undertake training will still vary. It can be argued that staff who do volunteer for training are more likely to change their cognitive representation of challenging behaviour subsequently. Conversely, staff who avoid training will have cognitive representations that are more difficult to change. This fact should be borne in mind when extrapolating findings from this study and related training research. It is also one of a number of practical issues for employers.

Some issues for employers

One of the aims of this study was to provide new insights into how training affects staff cognitive representation of challenging behaviour. The findings and the review of existing literature have raised some issues for those employing staff to work with people with learning disabilities and challenging behaviour.

In the last five years there have been a number of co-ordinated efforts to ensure that *all* staff working with people with learning disabilities have, or have the opportunity to receive, an accredited qualification in working with people with learning disabilities; for example, the Learning Disability Awards Framework (LDAF), a major government initiative introduced in the 2001 White Paper *Valuing People* for staff in England and Wales and mirrored in Scotland; the Scottish Vocational Qualifications Level III (SVQ); and The Registered Manager (Adults) NVQ/SVQ4 4 (RMA), a vocational qualification specific to the Management of Care Services. Similarly the Scottish Social Services Council has undertaken to registered all social workers, heads of residential homes, all staff in residential child care, heads of adult day care service and registration and inspection staff. This will be followed by registration of all staff in adult residential care and staff in early education and child care.

This has been an attempt to guarantee some minimum level of recognised qualification and standards of care for this vulnerable client group. In their first ever research publication in 1993 (NMC 1993) the Nursing and Midwifery Council emphasised the need for employers to *"illuminate the pathways leading to a Higher Award available to those working with this client group"*. Achieving the level of training needed nationally however has remained largely aspirational in the last ten years for a number of reasons including staff turnover (20-30% per year according to Allen et al 1990), shortage of training funds and re-organisation of community services (Felce et al 1993; Hatton et al 1995). It was noted in the present study that 37% of participants had no professional qualifications and approximately 65% had no qualifications. The need for staff training has to be balanced with the need to fill staff posts in a fast growing, high turnover market. At a practice level there is a dilemma therefore for service managers under pressure to make sure that staff are competent *and* that shifts are covered. Staff have been moved from other 'less demanding' parts of a service and asked to work with people with challenging behaviour. In some cases staff with no training have been asked to work with people with the most difficult behaviours. Training has to compete with other priorities, and minimum standards of staff qualifications and experience are sometimes not met because of the pragmatic view that *any* standard of care is better than no service. Where training is available in such services it is prioritised using short term criteria, focussing on training that will keep the staff, service users and the services *safe*; safe from injury, harm, abuse and legal action. Longer term, values based training, including training aimed at changing staff views or cognitive representations has a much lower priority and is rarer. There is perhaps a parallel here with use of reactive strategies to intervene in challenging behaviour. The short term strategies may stop the challenging behaviour at the time, but they will not make it any less likely in the future, and in some cases they will make it *more* likely. Proactive strategies are needed to reduce the frequency, duration and likelihood of the challenging behaviours in the long term. In the same way, short term staff training strategies may meet immediate perceived staff training needs, but without a longer term and more comprehensive assessment of the mechanisms underlying staff behaviour they may be a 'false economy', which do not change how staff view or respond to challenging behaviour.

Can staff views be measured and training carried out to make these views more consistent with 'professionally desirable' cognitive representation of challenging behaviour? On the basis of the present study, previous research and increasingly sophisticated training procedures, the answer to this question is a qualified 'yes'. However the corollary of this question poses a larger issue for employers. If a robust measure of cognitive representation of challenging behaviour can be developed and psychometrically evaluated how would it be used? For example, if it were possible to verify that some staff views about challenging behaviour were *not* consistent with recognised good practice, even *after* training, what is to be done with those members of staff? What are the implications of this for maintaining adequate staffing levels, and in some cases maintaining a whole service?

The following ethical issues would face service managers and trainers:

- Is it reasonable to use the information gathered from the Questionnaire as the basis of a training intervention, without giving staff feedback on their performance on the initial questionnaire, i.e. their scores? Clearly, a more accurate assessment of how cognitive representations have changed can be obtained if trainers do not reveal before and after scores until the end of the training. Does sharing the *true* objectives of the training with participants beforehand reduce or increase the effectiveness of changing cognitive representations?
- Should the information from subsequent questionnaires be used as part of staff appraisal schemes, involving agreed objectives, or as evidence of performance improvement?
- When staff scores and views on challenging behaviour are at extremes that give cause for concern, even after training intervention(s), what is to be done with this information? Is the information confidential to the individual, and if so, what is the value of the training to the employers?

One compromise solution for training here would be that *group* information is used, rather than individual scores. If staff are completing questionnaires anonymously and only group scores or Mean scores are reported then it will be possible to detect and to feedback any changes in the areas which have been targeted for training. This is less than ideal from an employer's point of view but it is perhaps the most pragmatic way to proceed with measures such as the Challenging Behaviour Representation Questionnaire.

A final issue for employers is the question of staff having the right skills or the right 'mind set'. As part of the study and as a means of gathering data to validate the questionnaire all participants completing the CBRQ were asked a final question :

> *"If you had to give just one piece of advice to someone new to working with people with challenging behaviour, what would that advice be? (fewer than 50 words)"*

There was a variety of unique responses to this question. For reasons of confidentiality individual responses are not reported here. These ranged from the inspiring and innovative to the ill informed and frankly alarming, given that all respondents were working on a daily basis with a vulnerable population of people with learning disabilities and challenging behaviour. For some staff, work is not a priority. How this is addressed by employers is primarily a management, rather than a training issue although the two are closely related. Management can be seen as a change of the working environment so as to change staff behaviour whereas training can be seen as changing staff behaviour through demonstrating particular approaches or techniques. It is important to maintain separate strategies for each.

Concluding comments

The cognitive representation of challenging behaviour among care staff is an important variable determining the quality of life experienced by people with learning disabilities and challenging behaviour. There is growing and consistent evidence that variations in therapeutic outcomes are influenced by the way that care staff think and feel about challenging behaviour and how they subsequently behave. This evidence has come from tests of health psychology models, cognitive-behavioural studies and research into staff behaviour. This study has presented some evidence for the applicability of five *a priori* subscales as measures of the concept of challenging behaviour, as it is cognitively represented in care staff.

Much misunderstanding about challenging behaviour still exists, despite published research, good practice guidelines and clear explanations of how challenging behaviour is established and maintained. There are examples in the research literature of robust, evidence-based practices, which fail because staff are not willing, or are not able to implement them (Foxx 1996; Cullen 1992, 1998; Hastings 1999a; Smith et al 1992; Hastings and Remington 1993). This thesis has demonstrated that challenging behaviour is cognitively represented in separate dimensions and that these dimensions can be changed in a positive way by training. These cognitive changes may reduce negative affectivity and lead to corresponding changes in the quality of interactions between staff and services users. The *effects* of training are complex however and training alone is not sufficient. This needs to be carefully evaluated and backed up with other proven strategies, such as positive monitoring of staff practice, good leadership and a clear supervision process.

Since the publication of the original Illness Perception Questionnaire in 1996, (Weinman et al 1996) and the initial work into staff explanations and perception of challenging behaviour in the learning disability field, research efforts in both areas have increased substantially. Since the beginning of the present study in 1998 more links have also been made between health and cognitive psychology, specific to work with people with learning disabilities. It is hoped that the present study will contribute to this body of research. The findings may go some way to improve understanding of not only how staff representation of challenging behaviour can be measured, but also how these interpersonal cognitions in staff can be further investigated to the benefit of people with learning disabilities and challenging behaviour.

APPENDICES

Appendix 1 – 129 item questionnaire. Examples of questionnaire items.

Identity:
"An adult with learning disabilities can be said to have challenging behaviour when that person…

1. smears faeces on him/herself
2. scratches him/herself until it bleeds
3. shows violent behaviour towards staff
4. is manipulative
5. never eats what they are offered
6. refuses to be told

Cause:
"Adults with learning disabilities engage in challenging behaviours because…

1. they are seeking attention, at any cost
2. they lack self control of any kind
3. they know that their behaviour irritates or annoys other people
4. of triggers in the environment which set them off
5. they are not happy
6. they lack communication skills

Consequences:
"As a consequence of their challenging behaviours, adults with learning disabilities…

1. are prevented from developing in the usual way
2. get what they want
3. bring into question the values of staff
4. avoid doing any work
5. do not appreciate that the system has been organised for them
6. force others to impose restrictions on them

Emotional Reaction:
"As a response to working with people with challenging behaviours, I experience feelings of…

1. apprehension
2. being forced into actions I don't agree with
3. fear of showing 'weakness' in front of colleagues
4. determination that the client will not get his/her own way
5. being valued
6. being challenged to do something

Treatment/Control:
"An adult with learning disabilities and challenging behaviour can be helped by…

1. relieving discomfort or pain
2. teaching that person new skills
3. using an approach which doesn't make things worse
4. removing people in danger
5. giving people the right message
6. use of aversive approaches

Appendix 2 – Initial question answered by 300 staff working with people with challenging behaviour

The School of Psychology is involved in a research project on the subject of 'Challenging Behaviour'. I would be very grateful if you could answer the question below and return this form to me as soon as possible.

You may complete the form anonymously, but your gender, age and job details are needed for purposes of this research. Please include your name and work address only if you wish to help further in this research project and to receive a copy of the final report.

Thank you in anticipation for your help - your views will be valuable.

We are interested in your ideas about challenging behaviour – not what is written in the books – just what you think about it. So what we want you to tell us is:

When you think about 'Challenging Behaviour' what comes to mind? (Please continue overleaf if necessary.)

Appendix 3 – Initial question 'When you think of challenging behaviour what comes to mind?', completed by 300 staff from the following groups:

Form 1 -	first batch (form numbers 1-29) completed by staff about to undertake the course, *Profound and Complex Disability* (University of St Andrews) June 1998
Form 1 -	second batch (30-76) completed by staff on *Creative Music* course (University of St Andrews) 21/22 May 1998
Form 1 -	third batch (77-125) completed by staff about to undertake the *Approaches to People with Challenging Behaviour* course (University of St Andrews) June/December 1998
Form 1 -	fourth batch (126- 164) completed by care staff and Police on the course *Appropriate Adults* (University of St Andrews) June 1998
Form 1 -	fifth batch (165- 184) completed by Care Managers, Borders Social Services Dept. July 1998
Form 1 -	sixth batch (185- 198) completed by staff on University of Kent *Learning Disabilities Summer School,* July 12-15, 1998
Form 1 -	seventh batch (199-210) completed by staff from Milbury Care Services (Behavioural Specialist Service, Co. Durham) Aug 1998
Form 1 -	eighth batch (211-236) completed by care staff who had previously attended learning disability courses run by University of St Andrews during 1997/1998
Form 1 -	ninth batch (237-248) completed by staff about to undertake the course *Approaches to Sexual Abuse of Adults with learning Disabilities* (University of St Andrews) August 1998
Form 1 -	tenth batch (249-266) completed by staff from SCOPE, Wales Aug 1998
Form 1 -	eleventh batch (267-277) completed by Tameside Community Learning Disability Team (Ashton under Lyme) staff Aug 1998
Form 1 -	twelfth batch (278-372) completed by staff acting as course Mentors on the course *Approaches to People with Challenging Behaviour* (University of St Andrews) Aug 1998
Form 1 -	thirteenth batch (373-446) completed by Police and courts staff (SW), Procurators Fiscal around Scotland Sept. 1998
Form 1 -	fourteenth batch (447-503) completed by staff from Cornerstone Care (Church of Scotland) and staff from Brothers of Charity, Melrose Sept. 1998
Form 1 -	fifteenth batch (504-689) completed by training staff from social services, health services in Scotland, England, (University of St Andrews database list) 1998
Form 1 -	sixteenth batch (690-717) completed by staff at *Creative Music* course (University of St Andrews) 18 Sept 1998
Form 1 -	seventeenth batch (718-781) completed by social work and health service trainers Wales and Ireland (University of St Andrews database list) 1998(2)
Form 1 -	eighteenth batch (782-804) completed by staff at *Music Therapy* Course (University of St Andrews) 11 November 1998
Form 1 -	nineteenth batch (805-832) completed by NAPSAC members Ann Craft Trust (formerly National Assoc. for the Prevention of Sexual Abuse of Adults and Children with Learning Disabilities) November 1998
Form 1 -	twentieth batch (833-856) completed by staff at Brothers of Charity, Kilrush, Ireland Dec 1998
Form 1 -	twenty first batch (857-886) completed by staff about to start the course *Approaches to People with Challenging Behaviour* (University of St Andrews) Jan and June 1999
Form 1 -	twenty second batch (887-915) completed by staff about to start the course *Approaches to Sexual Abuse of Adults with learning Disabilities* (University of St Andrews) Jan and June 1999
Form 1 -	twenty third batch (916-925) completed by staff about to start the course *Approaches to People with Profound and Complex Disabilities* (University of St Andrews) Jan and June, 1998, Jan 1999
Form 1 -	twenty fourth batch (926-950) completed by Shetland Social Work Department staff, In-Service training, April 1999

Total - 950 forms sent out; 300 valid forms returned.

Appendix 4 – Questionnaire introduction

PEOPLE WITH LEARNING DISABILITIES AND CHALLENGING BEHAVIOUR.

The School of Psychology is involved in a research project on the subject of 'Challenging Behaviour'. I would be very grateful if you complete some details about yourself on the next two pages and return this information.

Your gender, age and job details are needed for purposes of this research. All information will be treated confidentially and will not be used for any other purposes without your written permission.

Thank you in anticipation for your help – your views will be valuable. I will send you an update on progress on this project.

M.Campbell,
School of Psychology,
University of St Andrews,
St Andrews KY16 9JU

SCHOOL OF PSYCHOLOGY, UNIVERSITY OF ST ANDREWS

Name: **Job Title:**

Job setting: (school, day services, hospital etc.):

Age: **Gender:**

1. **How long have you worked with people with learning disabilities and challenging behaviour?:**

Less than 1 year ☐ 1-2 years ☐ 3-5 years ☐

6-10 years ☐ 11-15 years ☐ More than 15 years ☐

2. **Would you rate the challenging behaviour of service users in your present job as:**

Mild? ☐ Moderate? ☐ Severe? ☐

3. **Is *most* of the challenging behaviour that you have worked with:**

Aggressive/destructive behaviours? (causing injury to other people or destroying property) ☐

Self-injurious behaviours? (repeated, self inflicted injury, producing temporary or permanent tissue damage) ☐

Stereotyped behaviours? (consistent and repetitive behaviours, e.g. body rocking, other movements, postures) ☐

Other? (please give a few examples) ☐

4. **What professional and other training have you had to enable you to work with people with challenging behaviour?:** (Please continue overleaf if you need more space)

Professional qualifications:

Other relevant training:

In-house (organised and run by your employer)

External

5. **If you had to give just *one* piece of advice to someone new to working with people with challenging behaviour, what would that advice be?** (fewer than 50 words)

Appendix 5 – Instructions for Labelling

The School of Psychology is involved in a research project on the subject of 'Challenging Behaviour'. This will look at six dimensions of: identity, causes, duration, consequences, treatment/control and emotional reaction.

I would be very grateful if you could read the instructions that follow and clearly mark all questionnaires accordingly.

The 30 forms you have are a random selection. Respondents have been asked the question: ***'When you think about 'Challenging Behaviour' what goes through your mind?'***

Please read through their statements, then use the following criteria to ***underline and code*** *parts of their statements which you feel meet the criteria:*

- *identity (ID) statements: defining challenging behaviour as specific, observable behaviours e.g. punching, biting, spitting*
- *causes (CA) statements: attributing specific causes to the behaviour or behaviours e.g. 'does this because...' or 'does this to...'*
- *duration (DU) statements: references to how long the behaviour is likely to last, or how long the behaviour has been going on e.g. 'has always done this...' or 'a passing phase...' ' will persist with this behaviour until...'*
- *consequences (CO) statements: references to the consequences of the behaviour for the person doing it, in particular consequences for social functioning e.g. 'behaviour excludes him from...' or 'behaviour leads to ....'*
- *treatment/control (T/C) statements: references to the extent to which the challenging behaviour is amenable to control or treatment, or references to treatment being used e.g. 'medication reduces this behaviour...' or ' with consistent treatment he could....' or 'no matter what treatment he receives...'*
- *emotional reaction (ER) statements: references to any emotional response by the staff dealing with or treating the behaviour, e.g. 'every time it happens I feel...' or 'I dread this..' or 'challenging behaviour is behaviour which makes me feel....'*

Use the two letter codes (ID, CA, DU, CO, T/C, ER) to label the parts of the text you have underlined. ***Only*** *underline and label parts of the statements which you feel* ***clearly*** *meet the set criteria. Although there may be some instances of statements which meet* ***more than one*** *criterion, try to avoid using more than one code for each underlined statement where possible.*

Appendix 6 – Membership of Panels

Panel 1 **Inter-rater forms (30) completed by the following observers**

1. M.Campbell, Senior Teaching Fellow, School of Psychology, University of St Andrews
2. K.Beattie, Project Manager, RNMH, Aberlour Childcare Trust, St Boswells
3. T.Hunter, Sen Social Work Care Manager, Training Co-ordinator, Scottish Borders Council.
4. G.Robb, Director, RNMH, Mountview Duns Ltd., Duns
5. Dr. S.Cheseldine, Consultant Clinical Psychologist, Lanarkshire PC Trust
6. Professor C.Cullen Consultant Clinical Psychologist, Keele University and North Staffordshire Combined Healthcare NHS Trust, President of the British Psychological Society

Panel 2 **Membership of panel involved in rating questionnaire items**

very desirable, desirable, neither desirable nor undesirable, undesirable, very undesirable

Dr Margaret Whoriskey
Adviser
Scottish Health Advisory Service
Edinburgh

Professor Chris Cullen
Consultant Clinical Psychologist
North Staffordshire Combined
Healthcare NHS Trust
Stoke on Trent

Gordon Robb
Director
Mountview Duns Ltd.
Duns

Kelvin Beattie
Project Leader
Aberlour Childcare Trust
St Boswells

Iris McCready
Behaviour Therapist
Milbury Care Services
Newton Aycliffe

Dr Sally Cheseldine
Consultant Psychologist
Psychology Dept.
Kirklands Hospital
Bothwell

Dheas Connolly,
Director of Care
Brothers of Charity,
Kilrush,
Co Clare
Ireland

Linda Headland
Director
ELCAP
Prestonpans
East Lothian

Denis Rowley
Strategy Manager
Lothian Social Work Dept.
Edinburgh

Panel 3 Care staff used to used to refine the CBRQ by selection of discriminating items and to check test, re-test reliability. Organisations:

Aberlour Childcare, Scottish Borders VAMW Homes, Motherwell Streets Ahead Ltd. Hawick

Appendix 7 – Sample of training courses for staff run by School of Psychology, University of St Andrews (1992-2002):

Accredited Courses:

Approaches to People with Challenging Behaviour (Open Learning Course SD1)

Approaches to People with Profound and Complex Disabilities (Open Learning Course SD1)

Approaches to Sexual Abuse of Adults with Learning Disabilities. (Open Learning Course SD1)

Approaches to Care and Safety in Outdoor Activities for People with Learning Disabilities. (Open Learning Course SD1)

Approaches to Advocacy and Self Advocacy for Adults with Learning Disabilities. (Open Learning Course SD1)

Short courses and conference programme (examples):

Review of Appropriate Adults/ Mentally Disturbed Offenders legislation

Practical Aspects of Helping People with Learning Disabilities and Challenging Behaviour

Outdoor Education and Learning Disabilities

Music Therapy: an Introduction

The Law and Learning Disability

SHHD Scottish Office: Review of Appropriate Adults/ Mentally Disturbed Offenders legislation

The RNMH Nurse and Developments in Learning Disability Services

Sexual Abuse of Adults with Learning Disabilities : Settings and Training

Study Visit for Scottish Health and Social Service Staff to DDSO, NY (Learning Disability Services, New York State)

Study Visit for Scottish Health and Social Service Staff to BCACL (British Columbia Association of Community Living, Vancouver)

Study Visit for Scottish Health and Social Service Staff to IABA (Institute of Applied Behavior Analysis, Los Angeles)

Study Visit for Scottish Health and Social Service Staff to TEACCH (Treatment and Education of Autistic and Related Communication Handicapped Children, University of North Carolina)

Commissioned staff training for Aberdeen, Shetland, Scottish Borders, Stirling, Falkirk and Fife, Glasgow Councils, NHS Greater Glasgow, Lothian, Forth Valley, Highland, Fife, Dumfries and Galloway Health Trusts and Voluntary providers in Scotland and Ireland.

Appendix 8(a) and 8(b) – Questionnaires[1] developed in Chapter 4. Questionnaire 8(b) was used in Chapter 5 study – see Measures and Procedures, Chapter 5.

Appendix 8(a) CHALLENGING BEHAVIOUR AND ADULTS WITH LEARNING DISABILITIES

INSTRUCTIONS: Below there is a list of items about people's views on people with learning disabilities who also have challenging behaviour. Please think about your own experience of challenging behaviour and tick the box that best describes *your* views for each item.

You may strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with each item.

	strongly agree	**agree**	**neither agree nor disagree**	**disagree**	**strongly disagree**
1. Adults with learning disabilities engage in challenging behaviours because they don't know any better					
2. An adult with learning disabilities can be said to have challenging behaviour when that person is a non-conformist					
3. As a consequence of their challenging behaviours, adults with learning disabilities get what they want					
4. As a response to working with people with challenging behaviours, I experience feelings of being terrified of clients					
5. An adult with learning disabilities can be said to have challenging behaviour when that person is not able to feed themselves					

[1] The views expressed in these questionnaires are not those of the author. They were selected from views expressed by care staff as part of this research.

	strongly agree	**agree**	**neither agree nor disagree**	**disagree**	**strongly disagree**
6. An adult with learning disabilities and challenging behaviour can be helped by helping people to cope with the situations of life					
7. As a consequence of their challenging behaviours, adults with learning disabilities avoid doing any work					
8. As a response to working with people with challenging behaviours, I experience feelings of humiliation					
9. An adult with learning disabilities can be said to have challenging behaviour when that person campaigns for change					
10. Adults with learning disabilities engage in challenging behaviours because they constantly crave 1-1 attention					
11. As a response to working with people with challenging behaviours, I experience feelings of 'why me?					
12. Adults with learning disabilities engage in challenging behaviours because they are malicious					

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
13. As a consequence of their challenging behaviours, adults with learning disabilities pose a challenge to the professionals in social care					
14. An adult with learning disabilities can be said to have challenging behaviour when that person is lethargic					
15. Adults with learning disabilities engage in challenging behaviours because they are undisciplined					
16. An adult with learning disabilities can be said to have challenging behaviour when that person makes a mess with food					
17. As a response to working with people with challenging behaviours, I experience feelings of embarrassment					
18. As a consequence of their challenging behaviours, adults with learning disabilities are disempowered					
19. An adult with learning disabilities can be said to have challenging behaviour when that person refuses to be told					

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
20. An adult with learning disabilities and challenging behaviour can be helped by offering on-going direction and guidance to staff					
21. As a consequence of their challenging behaviours, adults with learning disabilities gain control of situations					
22. An adult with learning disabilities can be said to have challenging behaviour when that person has behaviour deeply ingrained in their psyche					
23. As a consequence of their challenging behaviours, adults with learning disabilities do not appreciate that the system has been organised for them					
24. As a response to working with people with challenging behaviours, I experience feelings of disgust					
25. An adult with learning disabilities and challenging behaviour can be helped by looking at who might help					
26. As a consequence of their challenging behaviours, adults with learning disabilities achieve their goals					

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
27. Adults with learning disabilities engage in challenging behaviours because they are indulged by others into believing their behaviour is justified					
28. As a consequence of their challenging behaviours, adults with learning disabilities bring into question the values of staff					
29. As a response to working with people with challenging behaviours, I experience feelings of fear of losing control					
30. Adults with learning disabilities engage in challenging behaviours because they enjoy intimidating people					
31. An adult with learning disabilities and challenging behaviour can be helped by raising staff awareness about poor practice with clients					
32. An adult with learning disabilities can be said to have challenging behaviour when that person is non verbal and has no sign language					
33. An adult with learning disabilities and challenging behaviour can be helped by providing a different form of support					

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
34. An adult with learning disabilities and challenging behaviour can be helped by using recognised prompts					
35. Adults with learning disabilities engage in challenging behaviours because they don't respect anyone, even themselves					
36. As a response to working with people with challenging behaviours, I experience feelings of resentment					
37. An adult with learning disabilities and challenging behaviour can be helped by functional analysis of challenging behaviour					
38. Adults with learning disabilities engage in challenging behaviours because they are intolerant of other people					
39. As a response to working with people with challenging behaviours, I experience feelings of having my authority challenged					
40. An adult with learning disabilities and challenging behaviour can be helped by finding out what a person is saying by their behaviour					

Thank you very much for taking the time to complete this questionnaire.

Appendix 8(b) 40 item questionnaire used in Chapter 5

CHALLENGING BEHAVIOUR AND ADULTS WITH LEARNING DISABILITIES

INSTRUCTIONS: Below there is a list of items about people's views on adults with learning disabilities who also have challenging behaviour. Please think about your own ideas about challenging behaviour and tick the box that best describes *your* views for each item.

You may strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with each item.

	strongly agree	**agree**	**neither agree nor disagree**	**disagree**	**strongly disagree**
1. An adult with learning disabilities and challenging behaviour can be helped by spending time with that person to deal with their behaviour					
2. As a consequence of their challenging behaviours, adults with learning disabilities get what they want					
3. Adults with learning disabilities engage in challenging behaviours because they are motivated only by food, warmth or sex					
4. Adults with learning disabilities engage in challenging behaviours because they are in control, but pretend not to be					
5. As a consequence of their challenging behaviours, adults with learning disabilities are disempowered					
6. An adult with learning disabilities and challenging behaviour can be helped by trying to understand, instead of blaming					
7. An adult with learning disabilities can be said to have challenging behaviour when that person is frustrating					

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
8. Adults with learning disabilities engage in challenging behaviours because they are over sensitive to criticism					
9. An adult with learning disabilities and challenging behaviour can be helped by use of calm behaviour and responses to challenging behaviour					
10. An adult with learning disabilities can be said to have challenging behaviour when that person follows staff around					
11. As a response to working with people with challenging behaviours, I experience feelings of being offended					
12. As a consequence of their challenging behaviours, adults with learning disabilities bring into question the values of staff					
13. Adults with learning disabilities engage in challenging behaviours because they have ingrained and stubborn natures					
14. An adult with learning disabilities and challenging behaviour can be helped by care planning					
15. As a response to working with people with challenging behaviours, I experience feelings of a need to escape from the area					
16. An adult with learning disabilities can be said to have challenging behaviour when that person questions instructions					
17. An adult with learning disabilities and challenging behaviour can be helped by looking at the person as an individual					

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
18. As a consequence of their challenging behaviours, adults with learning disabilities do not appreciate that the system has been organised for them					
19. An adult with learning disabilities can be said to have challenging behaviour when that person shows a lack of respect					
20. As a consequence of their challenging behaviours, adults with learning disabilities avoid doing any work					
21. As a response to working with people with challenging behaviours, I experience feelings of being sickened by behaviour of clients					
22. As a response to working with people with challenging behaviours, I experience feelings of fear of what I might do to clients who display challenging behaviour					
23. An adult with learning disabilities can be said to have challenging behaviour when that person has erratic movements					
24. As a consequence of their challenging behaviours, adults with learning disabilities achieve their goals					
25. As a response to working with people with challenging behaviours, I experience feelings of being bullied					
26. An adult with learning disabilities and challenging behaviour can be helped by teaching him/her new ways to respond					

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
27. As a consequence of their challenging behaviours, adults with learning disabilities pose a challenge to the professionals in social care					
28. An adult with learning disabilities can be said to have challenging behaviour when that person pokes his/her eyes with a finger					
29. As a response to working with people with challenging behaviours, I experience feelings of being provoked into actions I later regret					
30. As a consequence of their challenging behaviours, adults with learning disabilities gain control of situations					
31. An adult with learning disabilities can be said to have challenging behaviour when that person is confusing					
32. As a response to working with people with challenging behaviours, I experience feelings of total and utter despair					
33. Adults with learning disabilities engage in challenging behaviours because their behaviours are so deep seated that they can never be stopped					
34. As a response to working with people with challenging behaviours, I experience feelings of fear of showing 'weakness' in front of colleagues					
35. Adults with learning disabilities engage in challenging behaviours because they have needs which can never be effectively met					

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
36. An adult with learning disabilities and challenging behaviour can be helped by effectively monitoring changes					
37. Adults with learning disabilities engage in challenging behaviours because they are motivated most by selfishness					
38. Adults with learning disabilities engage in challenging behaviours because they like to challenge the system constantly					
39. An adult with learning disabilities and challenging behaviour can be helped by changing staff attitudes					
40. An adult with learning disabilities can be said to have challenging behaviour when that person never eats what they are offered					

Thank you very much for taking the time to complete this questionnaire.

Appendix 9 – Organisations participating in studies described in Chapter 5 and Chapter 6.

Staff from the following organisations were participants in Groups 1, 2 and 3 of the study.

Aberlour Child Care Trust
Aberdeen

Airbles Road Centre
Motherwell

Alternatives for Living Ltd.
Airdire

Archdiocese of Glasgow
Glasgow

Archway Respite Ltd
Aberdeen

Ark Housing Association
Forfar

Arrol Park Resource Centre
Ayr

Aston Hall Hospital
Aston on Trent, Derby

Atholl House
Glasgow

Aveyron Project
Hamilton

BAIT (Behavioural Team)
Kingston Park, Newcastle upon Tyne #

Beaumont College
Lancaster

Behavioural Services Team
Dukinfield, Cheshire

Birch Avenue Day Hospital
Perth

Blackhorse Centre
Norwich

Bridge College
Stockport, Cheshire

Brothers of Charity
Waterford, Ireland

Brothers of Charity
Gattonside, Melrose

Burgess Care Ltd.,
Warwickshire

Cairnhill Nursing Home
Newry, Co. Down

Caldecott Foundation
Kent

Capability Scotland
Perth

Carisbrooke Day Centre
Airdrie

Carnoustie High School
Angus

Challenging Behaviour Action Team
GGHB, Glasgow

Challenging Behaviour Services
Normanby, Middlesborough

Chase School
Doncaster

Cherry Road Resource Centre
Bonnyrigg, Midlothian

Cintre Community
Clevedon, N Somerset

Clarendon Resource Centre
Linlithgow, West Lothian

CLDT
St Michaels House
Dumfries

Co Action
West Cork, Ireland

Cois Na Roba
Co.Mayo, Ireland

Colchester PCT
Colchester

Community Lifestyles
Key Housing, Glasgow

Community Services
Stirling Council

Community Sheffield Health
Sheffield

Community Team (SW)
Ormskirk, Lancs

Cosgrove Care Ltd.
Giffnock, Glasgow

Counticare
Ashford, Kent

Crawford Care Home
Bognor Regis

Criminal Justice Team
Falkirk

Daisy Hill Hospital
Newry, Co Down

Dalgairn Centre
Cupar, Fife

Dingleton Hospital
Melrose

Downshire Hospital
Down Patrick,
N.Ireland

Drummonds Centre
Colchester

Dumfries & Galloway Primary Care NHS Trust
Dumfries

Dumfries and Galloway Social Work Dept.
Dumfries

Dumfries & Galloway College
Dumfries

Edward Lawson Centre
Wishaw

ELCAP
Prestonpans, East Lothian

ENABLE
Dalkeith, Midlothian

Enable Homes
Kirkwall, Orkney

Enable Homes
West Lothian

Enable Homes
Wester Hailes

Fife Council Social Work Dept.
Glenrothes

Forth Valley PC NHS Trust
Larbert

Gartnavel Hospital
Glasgow

Girvan Resource Centre
Girvan

Glenrothes College
Fife

Gowrie Housing Association
Dundee

Graylingwell Hospital
West Sussex

Hampden School
Glasgow

Hansel Aliance
Ayr

Hexham ATC
Northumberland

Highland Council Social Work Dept.
Wick

Hill House School

Lymington

Isobel Rhind Centre
Invergordon

John Chant Centre
Penicuik

Katherine Elliot Centre
Hawick

Kelvinbank ATC
Kirkintilloch

Key Housing
Glasgow

Kingsbury Community Unit
London

Kingwood Trust
Oxfordshire

Kirklands Hospital
Bothwell

KPFA Day Care and Activation Centre
Co. Kerry
Ireland

Kyle Resource Centre
Ayr

L'Arche
Inverness

Laburnum House
East Kilbride

Leicester Frith Hospital
Leicester

Lennox Castle Hospital
Glasgow

Little Sisters of the Poor
Barrhead

Loanhead Social Work Centre
Midlothian

Loretto Housing Association
Glasgow

MCCH Society Ltd.

Maidstone, Kent

Medical Centre
Northgate Hospital
Morpeth

Merchiston Hospital
Brookfield

Milbury Care Services
Newton Aycliffe

Milbury Care Services
Lichfield

Moorcourt Hall
Stoke on Trent

Moore Abbey
Co. Kildare
Ireland

Mountview ARC
Downpatrick
North Ireland

Mountview Duns Ltd
Scottish Borders

Muckamore Abbey Hospital
Antrim
Northern Ireland

Muirhouse Six Circle Project
Glasgow

N Staffs Combined Healthcare NHS Trust
Stoke on Trent

National Autistic Society
Gravesend
Kent

NE Health Board
Co. Monaghan
Ireland

New Burton House Community Unit
Stafford

NHS Fife
Dunfermline

North Western Health Board
Sligo

Ireland

Nat. Society for Epilepsy
Chalfont St Peter

Oakridge Residential Home
Inverness

Ordsall Health Centre
Salford

Oswald Avenue Centre
Grangemouth

OT Dept.
RSN Hospital
Larbert

Partnership Housing
Aberdeen

Perth College
Perth

Portsmouth Healthcare Trust
Portsmouth

Providence House
Glasgow

Prudhoe Hospital
Northumberland

Quarriers
Bridge of Weir

Real Life Options
Cupar

Real Life Options
Glasgow

Real Life Options
Middlesborough

Residential Services (SW)
Glenrothes

Richmond Fellowship
Glasgow

Riddrie ATC
Glasgow

SCOPE

Wakefield

SCOPE
Cardiff

SENSE Scotland
Fife

SENSE Scotland
Glasgow

SHARE Housing
Paisley

Shetland Islands Council
Lerwick

Social Services CPD
Cambridge

Social Work Dept.
Dumbarton

Springhill Care Group
Accrington
Lancs.

St Elizabeth's Home
Much Hadham, Herts

St Georges PRU
Nottingham

St Martins Hospital
Bath

St Michaels House
Dumfries

St Patrick's Centre
Kilkenny City
Ireland

St Vincents Centre
Dublin

Stirling Centre for FE
Falkirk

Stirling Council SW Dept.
Stirling

Streets Ahead Ltd.

Hawick

Sussex Health Care
West Sussex

The Action Group
Edinburgh

The Pines

The State Hospital
Carstairs

Turning Point Scotland
Glasgow

United Response
York

Wakes Hall
Colchester

West Lothian Family Support Team
Livingston

Western Isles SW Dept.
Stornaway

Willowbank Centre
Peterhead

Winchester Local Education Office
Winchester

Woodlands Hospital
Aberdeen

Appendix 10 – Summary Profile of Characteristics for Participants in Groups 1, 2 and 3

PARTICIPANT CHARACTERISTICS	*N (Groups 1,2 and 3)*	*Group 1*	*Group 2*	*Group 3*
N at Pre-Test 1	120	57	63	N/A
N at Pre-Test 2	300	100	100	100
N at Post Test 1	276	94	82	100
N at Post Test 2	172	54	73	45
(See Figure 5.10)				
Gender (Male/ Female)	65/211	19/75	18/64	28/72
(Percentages)	(23.6%/76.4%)	(20.2%/79.8%)	(21.9%/78.1%)	(28%/72%)
(See Figure 5.2)				
Mean age, years	40.16	36.79	39.82	43.61
(Std Deviation	*(9.01*	*(8.52*	*(7.80*	*(9.16*
Median	*40*	*36*	*40.5*	*44*
Range)	*19-59)*	*23-57)*	*23-57)*	*19-59)*
(See Figure 5.3)				
Job setting				
Residential	75	37	19	19
Day services	78	19	18	41
School /College	8	3	2	3
Respite	8	4	1	3
Outreach	1	1	0	0
Hospital	33	10	18	5
Community	73	20	24	29
(See Figure 5.4)				
Job title				
Manager	84	28	32	24
Nurse	44	16	24	4
Social worker	19	1	7	11
Support worker	64	28	3	33
Day Services Officer	29	9	6	14
Depute Manager	8	4	1	3
House Parent	9	2	6	1
Training Officer	1	0	0	1
Teacher	3	1	1	1
Therapist	8	3	0	5
Psychologist	5	1	3	1
Driver	2	0	0	2
(See Figure 5.5)				

How long working with people with challenging behaviour (Length of service)				
<1 year	6	2	1	3
1-2 years	28	14	3	9
3-5 years	52	22	10	20
6-10 years	52	12	20	20
11-15 years	56	18	16	22
>15 years	82	25	31	26
Mean *(Std Deviation* *Median)*	8.54 years *(5.26* *11)*	7.83 years *(5.49* *6)*	9.76 years *(4.91* *11)*	8.21 years *(5.21* *6)*
(See Figure 5.6)				
Severity of Challenging Behaviour Mild/Moderate/Severe				
Mild	37	12	11	14
Mild and Moderate	5	1	2	2
Moderate	129	46	39	44
Moderate and Severe	16	7	2	7
Severe	65	22	19	24
Mild and Moderate and Severe	24	6	9	9
(See Figure 5.7)				
Type of Challenging Behaviour A/SI/ST/O				
Aggression (A)	69	21	28	20
Self Injurious (SI)	12	6	2	4
Stereotype behaviour (ST)	29	6	6	17
Other (O)	6	2	2	2
A+O	11	3	5	3
A+SI	28	13	8	7
A+SI+O	3	1	1	1
A+ST	21	5	4	12
A+SI+ST	63	26	16	21
A+SI+ST+O	14	7	5	2
A+ST+O	4	1	2	1
SI+ST	14	2	3	9
SI+ST+O	1	0	0	1
ST+O	1	1	0	0
(See Figure 5.8)				
Post School Qualifications				
Degree	29	9	10	10
Diploma	19	9	4	6
SVQ3	2	0	1	1
SEN	3	0	2	1
RNMH/RNLD	59	19	27	13

RN	17	10	6	1
RMN	2	0	2	0
HNC	18	13	2	3
ONC	1	0	0	1
CSS	6	0	1	5
CQSW	17	1	6	10
None	103	33	21	49

(See Figure 5.9)

Appendix 11 – Training Course Materials

See separate copies of training course materials for:

"*Approaches to People with Challenging Behaviour*" (2000) University of St Andrews, ISBN 0953688207.

and

"*Approaches to Sexual Abuse of Adults with Learning Disabilities*" (1998) University of St Andrews, St Andrews. ISBN 0953688223

ACKNOWLEDGEMENTS

Many thanks to the following people for their help, support and advice.

In alphabetical order:

Kirsty Campbell, Psychology Department, Edinburgh University

Dr Sally Cheseldine, Consultant Psychologist, NHS Lothian

Professor Chris Cullen, Psychology Department, Keele University

Paul Gardner, School of Psychology, University of St Andrews

Professor James Hogg, White Top Research Centre, University of Dundee

Professor Marie Johnston, School of Psychology, University of Aberdeen

Professor Derek Johnston, School of Psychology, University of Aberdeen

Professor Malcolm MacLeod, School of Psychology, University of St Andrews

David Reeves, National Primary Care Research & Development Centre, University of Manchester

Gordon Robb, Director, Mountview (Duns) Ltd.

Dr Margaret Whoriskey, NHS Quality Improvement Scotland

Professor Philip Winn, School of Psychology, University of St Andrews

University of St Andrews

School of Psychology

UNIVERSITY OF ST ANDREWS
SCHOOL OF PSYCHOLOGY ETHICS COMMITTEE

30 May, 2001

Martin Campbell
School of Psychology
University of St Andrews

Dear Martin

Re: Cognitive representation of challenging behaviour

The above-named project has been read and approved by the School of Psychology Ethics Committee

After our meeting on Tuesday 7th August, I said that I would put in writing the conclusions of our discussion relating to various aspects of your application. These were as follows: -

1. You explained that it would be possible to totally anonymise the returned questionnaires and agreed to do so.
2. You also agreed to include a disclaimer to the effect that the items used in the questionnaire did not represent your views.

If, during the course of the proposed research, any important condition were to alter, then the Committee would wish to be informed.

Yours sincerely

Dr Hugh Morris
Convener

(Dictated but not read)

St Andrews, Fife KY16 9JU, Scotland
Switchboard: (01334) 476161 Extension: Direct Line: (01334) 46
Fax: (01334) 463042

REFERENCES

1. Abraham, C. and Sheeran, P. (1997) Cognitive representations and preventative health behaviour. *In* K.J..Petrie, and J.A.Weinman, (Eds.); *Perceptions of health and illness: Current research and applications.* Harwood Academic Publishers, Singapore.
2. Adelinis, J.D., Piazza, C.C., Fisher, W.W. and Hanley, G.P. (1997) The establishing effects of client location on self-injurious behaviour. *Research in Developmental Disabilities,* 18, 383-391.
3. Ager, A. (1991) Mental handicap. *In* W. Dryden and R.R. Rentoul (Eds.) *Adult clinical problems: A cognitive-behavioural approach.* Taylor and Francis/Routledge, Florence, KY, US.
4. Ager, A. and O'May, F. (2001) Issues in the definition and implementation of "best practice" for staff delivery of interventions for challenging behaviour. *Journal of Intellectual and Developmental Disability.* Vol.26 (3), 243-256.
5. Ahmed, Z., Fraser W., Kerr M.P. et al (2000) Reducing antipsychotic medication in people with a learning disability. *British Journal of Psychiatry,* 176, 42-46.
6. Albin, R.W., Lucyshyn, J.M., Horner, R.H. and Flannery, K.B. (1996) Contextual fit for behavior support plans: A model of goodness of fit. *In* L.K. Koegel and G Dunlap (Eds.) *Positive Behaviour Support: Including People with Difficult Behavior in the Community.* Paul H. Brookes, Baltimore.
7. Allen, D. (1999) Success and failure in community placements for people with learning disabilities and challenging behaviour: An analysis of key variables. *Journal of Mental Health,* 8, 307-320.
8. Allen, D. and Felce, D.(1999) Service responses to challenging behaviour. *In* N. Bouras (Ed). *Psychiatric and behavioural disorders in developmental disabilities and mental retardation.* Cambridge University Press New York, NY.
9. Allen, D. and Tynan, H. (2000) Responding to aggressive behavior: impact of training on staff members' knowledge and confidence. *Mental Retardation,* 38, 97-104.
10. Allen, D., McDonald, L., Dunn, C. and Doyle, T. (1997) Changing care staff approaches to the prevention and management of aggressive behaviour in a residential treatment unit for persons with mental retardation and challenging. *Research in Developmental Disabilities,* 18(2), 101-112.
11. Allen, G. J., Chinsky, J.M. and Veit, S.W. (1974) Pressures towards institutionalisation within the aide culture: A behavioural-analytic case study. *Journal of Community Psychology,* 2, 67-70.
12. Allen, P., Pahl, J. and Quine, L.(1990) *Care Staff in Transition.* HMSO, London.
13. Aman, M.G., De Smedt, G., Derivan, A., Lyons, B., Findling, R.L., and Risperidone Disruptive Behavior Study Group. (2002) Double-blind, placebo-controlled study of risperidone for the treatment of disruptive behaviors in children with subaverage intelligence. *American Journal of Psychiatry* 159, 1337-1346.
14. Aman, M. G. (1991). Pharmacotherapy in the developmental disabilities: new developments. *Australia and New Zealand Journal of Developmental Disabilities,* 17(2), 183-199.
15. Aman, M. G. (1993) Efficacy of psychotropic drugs for reducing self-injurious behavior in the developmental disabilities. *Annual of Clinical Psychiatry,* 5 (3), 171-188.
16. Aman, M. G. (1995) Psychotropic drugs in group homes: prevalence and relation to demographic/psychiatric variables. *American Journal of Mental Retardation,* 99 (5), 500-509.
17. Aman, M. G., and Singh, N. N. (1986). *The Aberrant Behavior Checklist.* Slosson Educational Publications, New York, NY.

18. Aman, M. G., and Singh, N. N. (1986a) A critical appraisal of recent drug research in mental retardation: the Coldwater studies. *Journal of Mental Deficiency Research*, Pt.3, 203-216.
19. Aman, M. G., Singh, N. N., Stewart, A. W., and Field, C. J. (1985). The Aberrant Behavior Checklist: A behavior rating scale for the assessment of treatment effects. *American Journal of Mental Deficiency*, 89, 485-491.
20. Aman, M.G. and Kern, R.A.(1989) Review of fenfluramine in the treatment of learning disabilities. *Journal of American Academy of Child and Adolescent Psychiatry*, 28(4), 549-565.
21. Aman, M.G., Singh, N.N. and White, A.J. (1987) Caregiver perceptions of psychotropic medication in residential facilities. *Research in Developmental Disabilities*, 8 (3), 449-465.
22. Anderson, S.R. (1987) The management of staff behaviour in residential treatment facilities: A review of training techniques. *In* J. Hogg and P. Mittler (Eds.) *Staff training in mental handicap*. Croom Helm, London, 66-122.
23. Anderson, W.H. and Reeves, K.R. (1991). Chemical restraint : an idea whose time has gone. *Administration and Policy in Mental Health,* 18, 205-208.
24. Atkinson, D., Jackson, M., Walmsley, J. (1997) *Forgotten Lives: Exploring the history of learning disability*. BILD Publications, Kidderminster.
25. Axelrod, S. (1987) Doing it without arrows: A review of LaVigna and Donnellan's Alternatives to punishment: Solving behaviour problems with non-aversive strategies. *The Behaviour Analyst*, 10, 243-251.
26. Ayllon, T. and Wright, P. (1972) New Roles for the Paraprofessional. *In* S.W.Bijou and E.Ribes-Inesta (eds.) *Behaviour Modification: Issues and Extensions.* Academic Press, New York.
27. Baker, P.A. and Bissmire, D. (2000) A pilot study of the use of physical intervention in crisis management of people with intellectual disabilities who present challenging behaviour. *Journal of Applied Research in Intellectual Disabilities*, 13(1), 38-45.
28. Ball, T. and Bush, A. (1998). *Clinical Practice Guidelines – Psychological Interventions for Severely Challenging Behaviours in People with Learning Disabilities.* The British Psychological Society, Leicester.
29. Barnes, L. (2001) *Cultural perceptions of diabetes mellitus.* Master's thesis. The University of Auckland.
30. Barrowclough, C. (1981) *An evaluation of a staff training course in the use of behaviour modification techniques with the severely mentally handicapped.* Unpub. MSc Thesis. University of Manchester.
31. Barrowclough, C., Johnston, M. and Tarrier, N. (1994) Attributions, expressed emotion, and patient relapse: An attributional model of relatives' response to schizophrenic illness. *Behavior Therapy,* 25(1), 67-88.
32. Baumeister, A.A., Sevin, J.A. and King, B.H. (1998). Neuroleptic medications. *In* S.Reis and M.G. Aman (Eds.) *Psychotropic Medication and Developmental Disabilities: The International Consensus Handbook.* Nisonger Center, Ohio State University, pp.133-150.
33. Beail, N. (1985). The nature of interactions between nursing staff and profoundly multiply handicapped children. *Child: care, health and development*, 11, 113-129.
34. Beardshaw, V. (1981) *Social Audit Commission Report on inquiries into abuse and malpractice in NHS mental hospitals.* HMSO London.
35. Beck, A.T. (1976) *Cognitive Therapy and Emotional Disorders.* International Universities Press, New York.
36. Beck, C., Heithoff, K., Baldwin, B., Cuffel, B., O'Sullivan, P., and Chumbler, N. R. (1997). Assessing disruptive behaviour in older adults: The Disruptive Behaviour Scale. *Aging and Mental Health*, 1, 71-79.
37. Bell, D.M. and Espie, C.A. (2002) A preliminary investigation into staff satisfaction, and staff emotions and attitudes in a unit for men with learning disabilities and serious challenging behaviours. *British Journal of Learning Disabilities*, 30(1), 19-27.

38. Bellamy, G. T., Newton, J. S., LeBaron, N. M., and Horner, R. H. (1990). Quality of life and lifestyle outcomes: A challenge for residential programs. *In* R.L. Schalock and M.J. Begab (eds.), *Quality of life: Perspectives and issues*. American Association on Mental Retardation, Washington, DC, 127-137.
39. Bender, M. (1993) The unoffered chair: The history of therapeutic disdain towards people with a learning disability. *Clinical Psychology Forum*, 54, 7-12.
40. Bernstein, G.S. and Ziarnik, J.P. (1984) Training behaviour change agents in outcome selection. *Behavior Therapist*, 7(6), 103-104.
41. Berryman, J., Evans, I.M. and Kalbag, A. (1994) The effects of training in non-aversive behaviour management on the attitudes and understanding of direct care staff. *Journal of Behaviour Therapy and Experimental Psychiatry,* 25, 3, 241-250.
42. Binney, V. (1992) Staff training to run activity groups with people with profound learning disabilities. *Behavioural Psychotherapy*, 20, 3, 267-278.
43. Blunden, R. and Allen, D. (1987) Facing the challenge: an ordinary life for people with learning disabilities and challenging behaviour. *King's Fund Project Paper*, No. 74, King's Fund Centre, London.
44. Booth, T., Simons, K. and Booth, W. (1990). *Outward Bound: Relocation and community care for people with learning difficulties*. Open University Press, Milton Keynes.
45. Borthwick, S. A. (1990) Quality of Life of Persons with Severe or Profound Mental Retardation. *In* R.L. Shalock (Ed) *Quality of Life.* American Association on Mental Retardation, Washington.
46. Borthwick-Duffy, S. A. (1994); Prevalence of destructive behaviours. A study of aggression, self-injury and property destruction. *In* Thompson, T and Gray, D B (eds.). *Destructive Behaviour in Developmental Disabilities. Diagnosis and Treatment.* Thousand Oaks, Sage, 3-23.
47. Bowden, K. (1994) 'No Control of Penis or Brain'? Key Questions in the Assessment of Sex Offenders with a Learning Disability. *Journal of Sexual Aggression*, Vol. 1, 57-63.
48. Braithwaite, R. (1988) Coming to terms with the effects of violence. *Social Work Today*, 20 October, 19-20.
49. Branford, D. (1996) Factors associated with the successful or unsuccessful withdrawal of antipsychotic drug therapy prescribed for people with learning disabilities. *Journal of Intellectual Disability Research,* 40(4), 322-329.
50. Branford, D. (1994). A study of the prescribing for people with learning disabilities living in the community and in National Health Service care. *Journal of Intellectual Disability Research*, 38, 577-586.
51. Breakwell, G.M. and Rose, D. (2000) Research: Theory and method. *In* G.M. Breakwell, S. Hammond and C. Fife-Schaw (Eds) *Research methods in psychology (2nd ed.).* Sage Publications Ltd., London.
52. Bromley, J. and Emerson, E. (1995) Beliefs and emotional reactions of care staff working with people with challenging behaviour. *Journal of Intellectual Disability Research,* Vol.39, 4, 341-352.
53. Brooker, D., Sturmey, P., Gatherer, A. J., and Summerbell, C. (1993). The Behavioural Assessment Scale of Later Life (BASOLL): A description, factor analysis, scale development, validity and reliability data for a new scale for older adults. *International Journal of Geriatric Psychiatry*, 8, 747-754.
54. Brown, H. (1995) The Sexual Abuse of Adults with Learning Disabilities: Update from the Kent Study. *NAPSAC Bulletin* 14, 3-5.
55. Brown, H. and Stein, J. (1997) Sexual Abuse Perpetrated by men with intellectual disabilities: a comparative study. *Journal of Intellectual Disability Research* 41, part 3, 215-224.
56. Brown, H. and Thompson, D. (1997) Service responses to men with intellectual disabilities who have unacceptable or abusive sexual behaviours: the case against inaction. *Journal of Intellectual Disabilities*, 10, 2, 76-197.

57. Brown, H., Hunt, G. and Stein J. (1994) Alarming but very necessary – Working with staff groups around the sexual abuse of adults with learning disabilities. *Journal of Intellectual Disability Research*, 38, Pt.4, 393-412.
58. Brown, H., Stein, J. and Turk, V. (1995) Report of a second Two Year Incidence Survey on the Reported Sexual Abuse of Adults with Learning Disabilities: 1991 and 1992. *Mental Handicap Research* 8, (1) 1-22.
59. Brownlee, S., Leventhal, H. and Leventhal, E.A. (2000) Regulation, self-regulation, and construction of the self in the maintenance of physical health. *In* M. Boekartz, P.R. Pintrick and M.Zeinder (Eds.) *Handbook of self-regulation*. Academic Press, San Diego Ca., 369-416.
60. Broxholme, S.L. and Lindsay, W.R. (2003) Development and preliminary evaluation of a questionnaire on cognitions related to sex offending for use with individuals who have mild intellectual disabilities. *Journal of Intellectual Disability Research*, 47(6), 472-482.
61. Bryk, A.S. and Weisberg, H.I. (1977) Use of the non-equivalent group design when subjects are growing. *Psychological Bulletin*, 85, 950-962.
62. Brylewski, J. and Duggan, L. (1999) Antipsychotic medication for challenging behaviour in people with intellectual disability: A systematic review of randomised controlled trials. *Journal of Intellectual Disability Research*, 43, 360-371.
63. Buitelaar, J.K., van der Gaag, R.J., Cohen-Kettenis, P., and Melman, C.T. (2001) A randomized controlled trial of risperidone in the treatment of aggression in hospitalized adolescents with subaverage cognitive abilities. *Journal of Clinical Psychiatry,* 62, 239-248.
64. Burgio, L.D., Whitman, T.L., and Reid, D.H. (1983) A participative management approach for improving direct-care staff performance in an institutional setting. *Journal of Applied Behaviour Analysis*, 16, 37-53.
65. Butterfield, E.C., Barnett, C.D. and Bensberg, G.J. (1966) Some objective characteristics of institutions for the mentally retarded: Implications for attendant turnover rate. *American Journal of Mental Deficiency* 70, 5, 786-794.
66. Butterfield, E.C., Barnett, C.D. and Bensberg, G.J. (1968) A measure of attitudes which differentiates attendants from separate institutions. *American Journal of Mental Deficiency* 72, 6, 890-899.
67. Campbell, D.T. and Stanley, J.C. (1966) *Experimental and Quasi-experimental Designs for research*. Rand McNally, Chicago.
68. Campbell, M. (1999) *Assertiveness Training – A five week course for self-advocates*. University of St Andrews, St Andrews. ISBN 0953688258.
69. Campbell, M. and Cullen, C. (1994) *Approaches to People with Challenging Behaviour*. University of St Andrews, St Andrews. ISBN 0953688207.
70. Campbell, M. and Cullen, C. (1996) *Approaches to People with Profound and Complex Disabilities*. University of St Andrews, St Andrews. ISBN 0953688215.
71. Campbell, M. and Cullen, C. (1997) *Approaches to Care and Safety in Outdoor Activity Programmes* for People with Learning Disabilities. University of St Andrews, St Andrews. ISBN 0953688231.
72. Campbell, M. and Cullen, C. (2000) *Approaches to People with Challenging Behaviour – Revised Edition*. University of St Andrews, St Andrews. ISBN 0953688207.
73. Campbell, M. and McConkey, R. (2000) *Approaches to Advocacy for and by Adults with Learning Disabilities*. University of St Andrews, St Andrews. ISBN 095368824X.
74. Campbell, M., Hogg, J., Cullen, C. and Hudson, W. (1998) *Approaches to Sexual Abuse of Adults with Learning Disabilities*. University of St Andrews, St Andrews. ISBN 0953688223.
75. Carr, E. G., and Durand, V. M. (1985). The social communicative basis of severe behaviour problems in children. *In* S. Reiss and R. Boozin (Eds.), *Theoretical Issues in Behaviour Therapy*. Academic Press, New York, NY, 219-54.
76. Carr, E. G., Taylor, J. C., and Robinson, S. (1991). The effects of severe problem behaviour in children on the teaching behaviour of adults. *Journal of Applied Behavioural Analysis*, 24, 523-35.

77. Carr, E.G., Dunlap, G., Horner, R.H., Koegel, R.L., Turnbull, A.P., Sailor, W., Anderson, J.L., Albin, R.W., Koegel, L.K. and Fox, L. (2002) Positive Behaviour Support: Evolution of an applied science. *Journal of Positive Behavior Interventions*, 4(1), 4-16.
78. Carr, E.G., Levin, L., McConnachie, G., Carlson, J.I., Kemp, D.C. and Smith, C.E. (1994) *Communication-based Intervention for Problem Behaviour: A user's guide for producing positive change*. Paul Brookes, Baltimore, MD.
79. Chan, J.S. and Yau, M.K. (2002) A study on the nature of interactions between direct-care staff and persons with developmental disabilities in institutional care. *The British Journal of Developmental Disabilities*, 48, 94, 39-51.
80. Chung, M.C. and Corbett, J. (1998) The burnout of nursing staff working with challenging behaviour clients in hospital-based bungalows and a community unit. *International Journal of Nursing Studies*, 35, 1-2, 56-64.
81. Chung, M.C., Corbett, J. and Cumella, S. (1996a) Relating staff burnout to clients with challenging behaviour in people with a learning difficulty : pilot study 2. *European Journal of Psychiatry,* 10, 155-165.
82. Chung, M.C., Corbett, J., Clarke, D. and Cumella, S. (1996b) Describing challenging behaviour: A pilot study 1. *European Journal of Psychiatry*, Vol. 10, 3 67-183.
83. Chung, M.C., Cumella, S., Bickerton, W.L. and Winchester, C. (1996) A preliminary study on the prevalence of challenging behaviour. *Psychological Reports,* 79, 3, 2, 1427-30.
84. Clare, I and Murphy, G (1998) Working with Offenders or Alleged Offenders with Learning disabilities, in, E. Emerson, C. Hatton, J. Bromley and A. Caine, *Clinical Psychology and People with Intellectual Disabilities*, Chichester: John Wiley and Sons Ltd.
85. Clarke, D.J., Kalley, S., Thinn, K. and Corbett, J.A. (1990). Psychotropic drugs and mental retardation : 1. Disabilities and the prescription of drugs for behaviour and for epilepsy in three residential settings. *Journal of Mental Deficiency Research*, 34, 385-395.
86. Clegg, J. (1994) Epistemology and Learning Disabilities. *British Journal of Clinical Psychology*, 33, 439-444.
87. Cohen, S.A., Ihrig, K., Lott, R.S. and Kerrick , J.M. (1998) Risperidone for aggression and self-injurious behavior in adults with mental retardation. *Journal of Autism and Developmental Disorders,* 28(3), 229-33.
88. Cook, D.C. and Campbell, D.T. (1979) *Quasi-Experimentation: Design and Analysis Issues for Field Settings*. Houghton Mifflin, Boston.
89. Coolican, H. (1994) *Research Methods and Statistics in Psychology (2nd Edition).* Hodder and Stoughton, London.
90. Corrigan, P.W. and Williams, O.B. (1998) Staff attitudes that impede the implementation of behavioural treatment. *Behaviour Modification,* Vol. 22, 4, 548-561.
91. Crews, W.D. Jr., Rhodes, R.D., Bonaventura, S.H., et al (1999) Cessation of long-term naltrexone administration: longitudinal follow-ups. *Research in Developmental Disabilities*, 20(1), 23-30.
92. Crowne, D.P. and Marlowe, D. (1960) A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349-354.
93. Cullen, C. (1987) Nurse training and institutional constraints. *In* J. Hogg and P. Mittler *Staff Training in Mental Handicap*. Croom Helm, London.
94. Cullen, C. (1988). A review of staff training: the emperor's old clothes. *The Irish Journal of Psychology*, 9, 309-323.
95. Cullen, C. (1991) Radical behaviourism and its influence on clinical therapies. *Behavioural Psychotherapy*, 19(1), 47-58.
96. Cullen, C. (1991a) Positive teaching and the aversives debate. *Positive Teaching*, 2, 1-6.
97. Cullen, C. (1993) The Treatment of People with Learning Disabilities who Offend. *In* K.Howells and C.R. Hollins(eds.) *Clinical Approaches to the Mentally Disordered Offender*. John Wiley and Sons Ltd., London.
98. Cullen, C. (1996). Challenging behaviour and intellectual disability : Assessment, analysis and treatment. *British Journal of Clinical Psychology*, 35, 153-156.

99. Cullen, C. (1999) A review of some important issues. *Scottish Office Review of Services to People with Learning Disabilities in Scotland.* Scottish Executive/ HMSO.
100. Cullen, C. and Dickens, P. (1990) People with mental handicaps. *In* D.F. Peck and C.M. Shapiro (Eds.), *Measuring Human Problems*. John Wiley and Sons.
101. Cullen, C. N. (1992) Staff training and management for intellectual disability services. *International Review of Research in Mental Retardation*, 18, 225-245.
102. Cullen, C., Brown, F., Combes, H. and Hendy, S. (1999) Working with people who have impairments. *In* Marzilliers, J. and Hall, J. (Eds.) *What is clinical psychology?* Oxford University Press, Oxford, 112-133.
103. Cullen, C., Burton, M., Watts, S. and Thomas, M. (1983) A preliminary report on the nature of interactions in a mental handicap institution. *Behaviour Research and Therapy*, 21(5), 579-583.
104. Cullen, C., Hattersley, J. and Tennant, L. (1981) Establishing behaviour: The constructional approach. *In* G. Davey (Ed.) *Applications of Conditioning Theory*. Methuen, London.
105. Cullen, C., Whoriskey, M. and Bowden, K. (1989) *Ward Based Procedures for Helping Mentally Handicapped People Who Have Challenging Behaviour*. SHHD Grant No. K/OPR/2/2/C856. Scottish Home and Health Department, Edinburgh.
106. Dagnan, D., Trower, P. and Smith, R. (1998) Care staff responses to people with learning disabilities and challenging behaviour: A cognitive-emotional analysis. *British Journal of Clinical Psychology*, 37, 59-68.
107. Dagnan, D. and Chadwick, P. (1997) Assessment and intervention. *In* B.S. Kroese, D.Dagnan and C.Loumidis (eds.) *Cognitive Behaviour Therapy for People with Intellectual Disabilities*. Routledge, London.
108. Delprato D.J. (1981) The constructional approach to behavioural-modification. *Journal of Behavior Therapy and Experimental Psychiatry,* 12 (1) 49-55.
109. Demchak, M.A., and Browder, D.M. (1990) An evaluation of the pyramid model of staff training in group homes for adults with severe handicaps. *Education and Training in Mental Retardation*, 25, 150-163.
110. Department of Health (1992) *Services for People with Learning Disabilities and Challenging Behaviour or Mental Health Needs*. Chairman Prof. Jim Mansell. (The 'Mansell Report'), London HMSO.
111. Department of Health (1992a) Choosing *with Care (The Warner Report) The Report of the Committee of Inquiry into the Selection, Development and Management of Staff in Children's Homes* (Chairman Baroness Warner), HMSO London.
112. Department of Health (1995) *The Health of the Nation —A Strategy for People with Learning Disabilities*, HMSO, London.
113. Department of Health (1998) Signposts *for Success (in commissioning and providing health services for people with learning disabilities)*. NHS Executive. (Chair Dr Mary Lindsay). Dept. of Health, London.
114. Department of Health (2002) *Choosing Talking Therapies*. Dept. of Health, London
115. Derby, K. M., Wacker, D.P., Sasso, G. and Steege, M. (1992) Brief functional assessment techniques to evaluate aberrant behavior in an outpatient setting: A summary of 79 cases. *Journal of Applied Behavior Analysis*. Vol. 25(3), 713-721.
116. Derby, K.M., Wacker, D.P., Berg, W., DeRaad, A., Ulrich, S., Asmus, J., Harding, J., Prouty, A.., Laffey, P. and Stoner, E.A. (1997) The long-term effects of functional communication training in home settings. *Journal of Applied Behavior Analysis*, 30(3), 507-531.
117. Derbyshire, P. and Whittaker, S. (1990) The final challenge. *Nursing Times*, 88, 2, 66.
118. Devellis, R.F. (1991) *Scale development: Theories and applications.* Newbury Park, Sage Publishers, CA.
119. Di Blasi, Z., Harkness, E., Ernst, E., Georgiou, A. and Kleijnen, J. (2001) Influences of context effects on health outcomes: a systematic review. *The Lancet, Vol.357, March 10.*

120. Didden, R., Duker, P.C. and Korzilius, H. (1997) Meta-analytic study on treatment effectiveness for problem behaviors with individuals who have mental retardation. *American Journal of Mental Retardation*, 101(4), 387-99.
121. Diefenbach, M.A. and Leventhal, H. (1996) The common-sense model of illness representation: Theoretical and practical considerations. *Journal of Social Distress and the Homeless*, 5(1), 11-38.
122. DiTerlizzi, M., Cambridge, P. and Maras, P. (1999) Gender, ethnicity and challenging behaviour: A literature review and exploratory study. *Tizard Learning Disability Review*, 4, 33-44.
123. Dobson S., Upadhyaya S., and Stanley B. (2002) Using an interdisciplinary approach to training to develop the quality of communication with adults with profound learning disabilities by care staff. *International Journal of Language and Communication Disorders,* 37, 41-57.
124. Doerner, M., Miltenberger, R.G. and Bakken, J. (1989) The effects of staff self management on positive social interactions in a group home setting. *Behavioral Residential Treatment,* 4, 313-330.
125. Donnellan, A.M., LaVigna, G.W., Negri-Shoultz, N. and Fassbender, L.L. (1988) *Progress without punishment: Effective approaches for learners with behaviour problems*. Teachers College Press, New York.
126. Donnelly, M., McGilloway, S., Mays, N., Perry, S., Knapp, M., Kavanagh, S., Beecham, J., Fenyo, A. and Astin, J. (1994) *Opening New Doors: and evaluation of community care for people discharged from psychiatric and mental handicap hospitals*. HMSO, London.
127. Dunne, T. P. (1994). Challenging behaviour: 'and there's more ...'. *Clinical Psychology Forum*, 67, 25-7.
128. Dykens, E.M. and Hodapp, R.M. (1999) Behavioural phenotypes: Towards new understanding of people with developmental disabilities. *In* N.Bouras (ed.) *Psychiatric and Behavioural Disabilities and Mental Retardation.* Cambridge University Press, Cambridge, 96-108.
129. Eayrs, C.B. and Ellis, N. (1990) Charity advertising: For or against people with a mental handicap? *British Journal of Social Psychology*, 29, 349-360.
130. Edelstein, T. M., and Glenwick, D. S. (2001) Direct-care workers' attributions of psychopathology in adults with mental retardation. *Mental Retardation*, 39(5), 368-78.
131. Edwards, J.R. and Bagozzi, R.P. (2000) On the Nature and Direction of Relationships Between Constructs and Measures. *Psychological Methods*, 5, 2, 155-174.
132. Edwards, P., and Miltenberger, R. (1991) Burnout among staff members at community residential facilities for persons with mental retardation. *Mental Retardation*, 29, 125-128.
133. Einfeld, S. L., and Tonge, B. J. (1995). The Developmental Behaviour Checklist: The development and validation of an instrument for the assessment of behavioural and emotional disturbance in children and adolescents with mental retardation. *Journal of Autism and Developmental Disorders*, 25, 81-104.
134. Elgie, S. and Hastings, R.P. (2002) Staff definitions of challenging behavior. *Education and Training in Mental Retardation and Developmental Disabilities*, 37(2), 202-208.
135. Ellis, A. (1973) *Rational-Emotive Therapy*. Peacock, Itaska, It.
136. Emerson E. (1998) Working with people with challenging behaviour. *In* E.Emerson, C. Hatton, J. Bromley and A. Caine (eds.). *Clinical Psychology in People with Intellectual Disabilities*. Wiley, Chichester.
137. Emerson, E. (1995) *Challenging Behaviour: Analysis and Intervention for People With Intellectual Disabilities 2nd Edition*. Cambridge University Press, Cambridge.
138. Emerson, E. (2000) Guest Editorial- Challenging Behaviour. *BILD Learning Disability Bulletin*, 3. BILD, Kidderminster.
139. Emerson, E. (2001) *Challenging Behaviour: Analysis and Intervention in People With Severe Intellectual Disabilities.* Cambridge University Press, Cambridge.

140. Emerson, E. and Bromley, J. (1995) The form and function of challenging behaviours. *Journal of Intellectual Disability Research,* 39, 5, 388-398.
141. Emerson, E. and Hatton, C. (1994) *Moving Out: The Effect of the Move from Hospital to Community of the Quality of Life of People with Learning Disabilities.* HMSO, London.
142. Emerson, E. and McGill, P. (1993). Developing services for people with severe learning disabilities and seriously challenging behaviours : South East Thames Regional Health Authority, 1985-1991. *In* I. Fleming and B. S. Kroese. (eds.) *People with learning disability and severe challenging behaviour. New developments in service and therapy.* Manchester University Press, Manchester.
143. Emerson, E., Alborz, A., Reeves, D., Mason, H., Swarbrick, R., Kiernan, C., and Mason, L. (1997). *The HARC Challenging Behaviour Project. Report II: the prevalence of challenging behaviour.* Hester Adrian Research Centre, University of Manchester.
144. Emerson, E., Barrett, S., Bell, C., Cummings, R., McCool, C., Toogood, A. and Mansell, J. (1987) *Developing services for people with severe learning difficulties and challenging behaviours.* Institute of Social and Applied Psychology, University of Kent at Canterbury.
145. Emerson, E., Beasley, F., Offord, G. and Mansell, J. (1992) Specialised Housing for people with seriously challenging behaviour. *Journal of Mental Deficiency Research* 36, 291-307.
146. Emerson, E., Hastings, R. and McGill, P. (1994) Values, attitudes and service ideology. *In* E.Emerson, P. McGill and J. Mansell (Eds.) *Severe Learning Disabilities and Challenging Behaviours: Designing high quality services.* Chapman and Hall, London.
147. Emerson, E., Kiernan, C., Alborz, A., Reeves, D., Mason, H, Swarbrick, R., Mason, L., Hatton, C. (2001) The prevalence of challenging behaviors: A total population study. *Research in Developmental Disabilities*, 22(1), 77-93.
148. Emerson, E., Robertson, J., Gregory, N., Hatton, C., Kessissoglou, S., Hallam, A. and Hillery, J. (2000) The treatment and management of challenging behaviour in residential settings. *Journal of Applied Research in Intellectual Disabilities*, 13(4), 197-215.
149. Felce, D. (1997). Defining and applying the concept of quality of life. *Journal of Intellectual Disability Research*, 41, 126-143.
150. Felce, D. and Perry, J. (1997). Quality of life: The scope of the term and its breadth of measurement. *In* R. I. Brown (Ed.), *Quality of life for people with disabilities: Models, research, and practice (2nd edition)*. Stanley Thornes, Cheltenham, England, 56-71.
151. Felce, D., and Perry, J. (1995). Quality of life: Its definition and measurement. *Research in Developmental Disabilities*, 16, 51-74.
152. Felce, D., and Perry, J. (1996). Assessment of quality of life. *In* R. L. Schalock (Ed.), *Quality of life: Vol. 1. Conceptualization and measurement.* American Association on Mental Retardation, Washington, DC, 63-72.
153. Felce, D., Bowley, C., Baxter, H., Jones, E., Lowe, K., and Emerson, E. (2000). The effectiveness of staff support: evaluating Active Support training using a conditional probability approach. *Research in Developmental Disabilities*, 21, 243-55.
154. Felce, D., Grant, G., Todd, S., Ramcharan, P., Beyer, S., McGrath, M., Perry, J., Shearn, J., Kilsby, M. and Lowe, K. (1998a) *Towards a full life: research on policy innovation for people with learning disabilities.* Butterworth Heinemann, Oxford.
155. Felce, D., Jones, E. and Lowe, K. (2002) Active support: Planning daily activities and support for people with severe mental retardation. *In* S.Holburn and P.M.Vietze,(Eds). *Person-centered planning: Research, practice, and future directions.* Paul H. Brookes Publishing Co., Baltimore, MD, US, 247-269.
156. Felce, D., Lowe, K. and Beswick, J. (1993) Staff turnover in ordinary housing services for people with severe or profound mental handicaps. *Journal of Intellectual Disability Research*, 37, 143-152.
157. Felce, D., Lowe, K. and Blackman, D. (1995). Resident behaviour and staff interaction with people with intellectual disabilities and seriously challenging behaviour in residential services. *Mental Handicap Research*, 8, 272-295.

158. Felce, D., Lowe, K., Perry, J., Baxter, E., Jones, E., Hallam, A. and Beecham, J. (1998b) Service support to people in Wales with severe intellectual disability and the most severe challenging behaviours: processes, outcomes and costs. *Journal of Intellectual Disability Research*, 42, 5, 390-408.
159. Felce, D., Repp, A.C., Thomas, M., Ager, A., Blunden, R. (1991). The relationship of staff: client ratios, interactions, and residential placement. *Research in Developmental Disabilities*, 12, 315-331.
160. Fenwick, A. (1995). On attribution theory: CB and staff beliefs. *Clinical Psychology Forum*, 79, 29-32.
161. Fleming, I. and Stenfert-Kroese, B. (Eds.) (1993). *People with a learning disability and severe challenging behaviour: New developments in service and therapy*. Manchester University Press.
162. Foxx, R.M. (1996) Twenty years of applied behaviour analysis in treating the most severe problem behaviour: Lessons learned. *Behaviour Analyst,* 19, 225-235.
163. Foxx, R.M., Bremer, B.A., Shultz, C. and Valdez, J. (1996b) Increasing treatment acceptability through. *Behavioral Interventions*, 11(4), 171-180.
164. Foxx, R.M., Henry, W.C.III and Bremer, B.A. (1996a) The effects of a video vignette on increasing treatment acceptability. *Behavioral Interventions*, 11(3), 131-140.
165. Furey, E.M. (1989) Abuse of persons with mental retardation: A literature review. *Behavioural Residential Treatment,* 4, 143-154.
166. Goldiamond, I. (1974) Toward a constructional approach to social problems. Ethical and constitutional issues raised by applied behaviour analysis. *Behaviourism*, 2, 1-84.
167. Green, C.W., and Reid, D.H. (1991) Reinforcing staff performance in residential facilities: A survey of common managerial practices. *Mental Retardation*, 29, 195-200.
168. Grey, I., McLean, B. and Barnes-Holmes, D. (2002) Staff attributions about the causes of challenging behaviours: Effects of longitudinal training in multi-element behaviour support. *Journal of Learning Disabilities*, 6(3), 297-312.
169. Hall, S., and Oliver, C. (1992). Differential Effects of Severe Self-Injurious Behaviour on the Behaviour of Others. *Behavioural Psychotherapy*, 20, 355-65.
170. Harborne, A. and Solly, A. (1996) Challenging behaviour in older people: nurses' attitudes. *Nursing Standard,* 11, 12, 39-43.
171. Harlow, P., Morton, S. and Wright, E. (1990) Some factors related to the use of psycholactive drugs, in an institution for adults with mental handicap. *Human Psychopharmacology*, 5, 388-395.
172. Harper, D.J. (1994) Evaluating a training package for staff working with people with learning disabilities prior to hospital closure. *British Journal of Developmental Disabilities*, 40, 78, 1 45-53.
173. Harris, J. (1993) Nature and extent of aggressive behaviours among people with learning difficulties in a single health authority. *Journal of Intellectual Disability Research*, 37, 221-242.
174. Harris, J. (1996). Physical restraint procedures for managing challenging behaviours presented by mentally retarded adults and children. *Research in Developmental Disabilities*, 17(2), 99-134.
175. Harris, J. and Craft, A. (1994) *People with Learning Disabilities at Risk of Physical or Sexual Abuse*. BILD Seminar Papers No.4 (Proceedings of two workshops in Bristol and Birmingham and a National Conference at the Royal Society of Medicine during 1992).
176. Harris. J. (1994). Checklist of challenging behaviour: development of a survey instrument. *Mental Handicap Research*, 17, 118-33.
177. Hastings, R. (1999) *Challenging Behaviour Staff Perception Questionnaire.* School of Psychology, University of Southampton, Southampton.
178. Hastings, R. (2002) Do challenging behaviours affect staff psychological well-being? Issues of causality and mechanism. *American Journal of Mental Retardation*, 107(6), 455-67.

179. Hastings, R.P., Allen, R., McDermott, K. and Still, D. (2002a) Factors Related to Positive Perceptions in Mothers of Children with Intellectual Disabilities. *Journal of Applied Research in Intellectual Disabilities*, 15(3), 269-276.
180. Hastings, R.P. and Taunt, H.M. (2002) Positive Perceptions in Families of Children with Developmental Disabilities. *American Journal on Mental Retardation*, 107(2), 116-127.
181. Hastings, R. and Brown. P (1999) *The Difficult Behaviour Self-Efficacy Scale*. University of Southampton.
182. Hastings, R. and Brown. P (2002) Behavioural knowledge, causal beliefs and self-efficacy as predictors of special educators' emotional reactions to challenging behaviours. *Journal of Intellectual Disability Research*, 46(2), 144-150.
183. Hastings, R. P. (1999a). The dialogue between research and application: A focus on practical issues in behavioral intervention. *In* J. R. Scotti and L. H. Meyer (Eds.), *Behavioral intervention: Principles, models, and practices*. Paul H. Brookes, Baltimore, 433-448.
184. Hastings, R. P., and Remington, B. (1994a). Rules of engagement: towards an analysis of staff responses to CB. *Research in Developmental Disabilities*, 15, 279-8.
185. Hastings, R.P. (1996) Staff training and management in services to people with learning disabilities: An annotated bibliography. *British Journal of Clinical Psychology*, 35, 3, 480-482.
186. Hastings, R.P. (1996a) Staff strategies and explanations for intervening with challenging behaviours. *Journal of Intellectual Disability Research*, 40, 2, 166-175.
187. Hastings, R.P. (1997a) Measuring staff perceptions of challenging behaviour: The Challenging Behaviour Attributions Scale (CHABA). *Journal of Intellectual Disability Research*, 41, 495-501.
188. Hastings, R.P. (1997b) Staff strategies and explanations for intervening with challenging behaviours: A replication in a community sample. *Journal of Intellectual Disability Research*, 41, 3 258-263.
189. Hastings, R.P. (1997c) Staff beliefs about the challenging behaviour of children and adults with mental retardation. *Clinical Psychology Review*, 17, 7, 775-790.
190. Hastings, R.P. and Remington, B. (1993) "Is there anything on....Why 'good' behavioural programmes fail?": A brief review. *Clinical Psychology Forum,* 55, 9-11.
191. Hastings, R.P. and Remington, B. (1993a) Connotations of labels for mental handicap and challenging behaviour: A review and research evaluation. *Mental Handicap Research*, 6, 237-249.
192. Hastings, R.P. and Remington, B. (1994) Staff behaviour and its implications for people with learning disabilities and challenging behaviour. *British Journal of Clinical Psychology*, 33, 4 423-438.
193. Hastings, R.P. and Remington, B. (1995a) The emotional dimension of working with challenging behaviours. *Clinical Psychology Forum*, 79, 11-16.
194. Hastings, R.P. and Remington, B. (1995b) Understanding factors that influence staff responses to challenging behaviours: An exploratory interview study. *Mental Handicap Research*. Special Issue on Staffing, 8(4), 296-320.
195. Hastings, R.P., Reed, T.S. and Watts, M.J. (1997) Community staff causal attributions about challenging behaviour in people with intellectual disabilities *Journal of Research in Intellectual Disabilities*, 10, 3 238-249.
196. Hastings, R.P., Remington, B. and Hatton, C. (1995) Future directions for research on staff performance in services to people with learning disabilities. *Mental Handicap Research*, 8, 333-339.
197. Hastings, R.P., Remington, B. and Hopper, G.M. (1995b) Experienced and inexperienced health care workers' beliefs about challenging behaviours. *Journal of Intellectual Disability Research* 39, 474-483.
198. Hastings, R.P., Allen, R., McDermott, K. and Still, D. (2002) Factors Related to Positive Perceptions in Mothers of Children with Intellectual Disabilities Journal of Applied Research in Intellectual Disabilities Volume 15, 3, 269-276.

199. Hatton, C. (1999). Staff stress. *In* N. Bouras (Ed.). *Psychiatric and Behavioural Disorders in Developmental Disabilities and Mental Retardation.* Cambridge University Press, Cambridge.
200. Hatton, C. and Emerson, E. (1998) Brief report: Organisational predictors of actual staff turnover in a service for people with multiple disabilities. *Journal of Applied Research In Intellectual Disabilities*, 11, 2, 166-171.
201. Hatton, C., Brown, R., Caine, A. and Emerson, E. (1995) Stressors, coping strategies and stress related outcomes among direct care staff in staffed houses for people with learning disabilities. *Mental Handicap Research*, 8, 252-271.
202. Hatton, C., Rivers, M., Mason, H., Mason, L., Emerson, E., Kiernan, C., Reeves, D. and Alborz, A. (1999). Organisational culture and staff outcomes in services for people with intellectual disabilities. *Journal of Intellectual Disability Research,* 43, 206-218.
203. Health Evidence Bulletins Wales (2001) *Learning Disabilities (Intellectual Disability).* Cardiff: National Assembly for Wales.
204. Heijmans, M. (1999). The role of patients' illness representations in coping and functioning with Addison's disease. *British Journal of Health Psychology*, 4, 137-149.
205. Hellings, J.A., Kelley, L.A., Gabrielli, W.F., Kilgore, E. and Shah, P. (1996) Sertraline response in adults with mental retardation and autistic disorder. *Journal of Clinical Psychiatry*, 57(8): 333-6.
206. Hemming, J., Lavender, T., & Pill, R. (1981). Quality of life of mentally retarded adults transferred from large institutions to new small units. *American Journal of Mental Deficiency*, 86, 157-69.
207. Hemsley B., Sigafoos J., Balandin S., Forbes R., Taylor C., and Green V.P. (2001) Nursing the patient with severe communication impairment. *Journal of Advanced Nursing* 35, 827-835.
208. Hester Adrian Research Centre for the Department of Health (1999) *The Quality and Cost of Residential Supports for People with Learning Disability*, Department of Health.
209. Hewson, S. and Walker, J. (1992) The use of evaluation in the development of a staffed residential service for adults with mental handicap. *Mental Handicap Research,* 5(2), 188-203.
210. Heyman, B., Swain, J. and Gillman, M. (1998) A risk management dilemma: How day centre staff understand challenging behaviour. *Disability and Society*, 13, 2, 163-182.
211. Hieneman, M. and Dunlap, G. (2000) Factors affecting the outcomes of community-based behavioural support I: Identification and description of factor categories. *Journal of Positive Behavior Interventions*, 2(3), 161-169.
212. Hieneman, M. and Dunlap, G. (2000) Factors affecting the outcomes of community-based behavioural support II: Assessing the relative importance of factor categories. *Journal of Positive Behavior Interventions*, 3(1), 67-74.
213. Hile, M.G., and Walbran, B.B. (1991) Observing staff-resident interactions: What staff do, what residents receive. *Mental Retardation*, 29, 35-41.
214. Hill, C. and Dagnan, D. (2002) Helping, attributions, emotions and coping style in response to people with learning disabilities and challenging behaviour. *Journal of Learning Disabilities*, 6(4), 363-372.
215. Hippocrates (1923) *Volume II: on decorum and the physician.* William Heinemann, London.
216. Hogg, J. and Mittler, P. (1987) (Eds.) *Issues in Staff Training in Mental Handicap.* Croom Helm, London.
217. Hogg, J., Campbell, M., Cullen, C. and Hudson, W (2001) Evaluation of the effect of an open learning course on staff knowledge and attitudes towards the sexual abuse of adults with learning disabilities. *Journal of Applied Research in Intellectual Disabilities* 14, 12-29.
218. Holburn, C. S. and Vietze, P. (1998). Has person-centered planning become the alchemy of developmental disabilities? A response to O'Brien and Mount. *Mental Retardation*, 36, 485-488.

219. Holburn, S. (2001) Compatibility of person-centered planning and applied behavior analysis. *Behavior Analyst,* 24(2), 271-2
220. Holland T., Clare I.C.H., and Mukhopadhyay T. (2002) Prevalence of "criminal offending" by men and women with intellectual disability and the characteristics of "offenders": implications for research and service development. *Journal of Intellectual Disability Research,* 46 Suppl. 1, 6-20.
221. Holland, A. J. (1991). Challenging and offending behaviour by adults with developmental disorders. *Australia and New Zealand Journal of Developmental Disabilities (Journal of Intellectual and Developmental Disabilities*), 17, 119-26.
222. Holmes, N., Shah, A., and Wing, L. (1982). The Disability Assessment Schedule: a brief screening device for use with the mentally retarded. *Psychological Medicine*, 2, 879-90.
223. Horne, R. (1997) Representations of medications and treatment: Advances in theory and measurement. *In* K. J. Petrie, and J.A.Weinman, (Eds.); *Perceptions of health and illness: Current research and applications*. Harwood Academic Publishers, Singapore.
224. Horne, R. and Weinman, J. (1998) *Predicting treatment adherence: An overview of theoretical models*. Harwood Academic Publishers, Amsterdam.
225. Horne, R. and Weinman, J. (1999) Patients beliefs' about prescribed medication and their role in adherence to treatment in chronic physical illness. *Journal of Psychosomatic Research*, 47, 6, 555-567.
226. Horner, R.H., Day, H.M. and Day, J.R. (1997) Using neutralizing routines to reduce problem behaviors. *Journal of Applied Behavior Analysis*, 30(4) 601-614.
227. Hudson-Allez, G. and Barrett, J. (1996) Attitudes to people with intellectual disabilities into ordinary houses: What the neighbours say. *Journal of Applied Research in Intellectual Disabilities,* 9, 1, 1-16.
228. Hyman, P., and Oliver, C. (2001) Causal explanations, concern and optimism regarding self-injurious behaviour displayed by individuals with Cornelia de Lange syndrome. *Journal of Intellectual Disability Research*, 45(Pt 4), 326-34.
229. Irvin, L.K. and Lundervold, D.A. (1988) Social validation of decelerative (punishment) procedures by special educators of severely handicapped students. *Research in Developmental Disabilities*, 9(4), 331-350.
230. Iwata, B.A., Bailey, J.S., Brown, K.M., Foshee, T.J., and Alpern, M. (1976) A performance-based lottery to improve residential care and training by institutional staff. *Journal of Applied Behaviour Analysis*, 9, 417-431.
231. Jacobson, J.W. (1982) Problem behaviour and psychiatric impairment within a developmentally disabled population. 1: Behaviour frequency. *Applied Research in Mental Retardation*, 3, 121-139.
232. Jahoda, A. and Espie A. (2003) Psychological treatment of common behavioural problems. *In* W. Fraser and M. Kerr (eds.) *Seminars in the Psychiatry of Learning Disabilities*. Gaskell Press, London, 201-221.
233. Jahoda, A., Pert, C., Squire, J., and Trower P. (1998) Facing stress and conflict: a comparison of the predicted responses and self-concepts of aggressive and non-aggressive people with intellectual disability. *Journal of Intellectual Disability Research* 42 (Pt 5), 360-369.
234. Jahoda, A., Trower, P., Pert, C., and Finn, D. (2001) Contingent reinforcement or defending of the self? A review of evolving models of aggression in people with mild learning disabilities. *British Journal of Medical Psychology,* 74, 305-321.
235. Jahr, E. (1998). Current issues in staff training. *Research in Developmental Disabilities*, 19, 73-87.
236. Jenkins, R., Rose, J. and Lovell, C. (1997) Psychological well being of staff working with people who have challenging behaviour. *Journal of Intellectual Disability Research*, 41, pt 6, 502-511.
237. Johnston, M. (1996) Models of disability. *Psychologist,* 9(5), 205-210.
238. Johnston, M. (1997) Representations of disability. *In* K. J. Petrie, and J.A.Weinman, (Eds.); *Perceptions of health and illness: Current research and applications*. Harwood Academic Publishers, Singapore.

239. Johnston, M., Bromley, I., Boothroyd-Brooks, M. and Dobbs, W. (1987) Behavioural assessments of physically disabled patients: Agreement between rehabilitation therapists and nurses. *International Journal of Rehabilitation Research*, 10(4, 5), 205-213.
240. Johnston, M., Earll, L., Giles, M., McClenahan, R., Stevens, D. and Morrison, V. (1999) Mood as a predictor of disability and survival in patients diagnosed with ALS/MND. *British Journal of Health Psychology*, 4, 2, 127-136.
241. Johnston, M., Gilbert, P., Partridge, C. and Collins, J. (1992) Changing perceived control in patients with physical disabilities: An intervention study with patients receiving rehabilitation. *British Journal of Clinical Psychology*, 31(1), 89-94.
242. Joyce, T. and Hardy, S. (2003) Cognitive Behaviour Therapy and people with learning disabilities. *Living Well*, 3 (4), 23-28.
243. Jones, C. and Hastings, R.P. (2003) Staff reactions to self-injurious behaviours in learning disability services: Attributions, emotional responses and helping. *British Journal of Clinical Psychology*, 42(2), 189-203.
244. Jones, E., Perry, J., Lowe, K., Felce, D., Toogood, S., Dunstan, F., Allen, D., and Pagler, J. (1999) Opportunity and the promotion of activity among adults with severe intellectual disability living in community residences: the impact of training staff in active support. *Journal of Intellectual Disability Research* 43, 164-178.
245. Jones, E. E., Kanouse, D. E., Kelley H. H., Nisbett R. E., Valins S., and Weiner B. (Eds.), (1972) *Attribution: Perceiving the Causes of Behavior* Morristown. General Learning Press, NJ, 151-74.
246. Jones, E., Felce, D., Lowe, K., Bowley, C., Pagler, J., Gallagher, B., and Roper, A. (2001). Evaluation of the dissemination of Active Support training in staffed community residences. *American Journal on Mental Retardation*, 106 (4), 344-58.
247. Jones, E., Felce, D., Lowe, K., Bowley, C., Pagler, J., Strong, G., Gallagher, B., Roper, A., and Kurowska, K. (2001a). Evaluation of the dissemination of Active Support training and training trainers. *Journal of Applied Research in Intellectual Disabilities*, 14, 79-99.
248. Jones, E.E. and Nisbett, R.E. (1987) The actor and the observer: Divergent perceptions of the causes of behavior. *In* Jones, E.E., Weiner, B. et al (Eds.) *Attribution: Perceiving the causes of behaviour*. Lawrence Erlbaum Associates, Inc., Hilsdale, NJ.
249. Jones, E.E., Weiner, B. et al (Eds.) (1987a) *Attribution: Perceiving the causes of behaviour*. Lawrence Erlbaum Associates, Inc., Hilsdale, NJ.
250. Jones, R.S.P. and Eayrs, C. (1993) *Challenging Behaviour and Intellectual Disability: A Psychological Perspective.* BILD Publications, Clevedon
251. Jones, R.S.P., Miller, B., Williams, H. and Goldthorp, J. (1997) Theoretical and practical issues in cognitive-behavioural approaches for people with learning disabilities. *In* B.S. Kroese, D.Dagnan and C.Loumidis (eds.) *Cognitive Behaviour Therapy for People with Intellectual Disabilities*. Routledge, London, 16-32.
252. Kahng, S., Iwata, B.A. and Lewin, A.B. (2002) Behavioral treatment of self-injury, 1964 to 2000. *American Journal on Mental Retardation*, 107(3), 212-221.
253. Kalfus,G.R. and Burk, B.K. (1989) The influence of case history and treatment mediator on ratings of acceptability of child treatment. *Child and Family Behavior*, 11(2), 45-55.
254. Kemp, F.D., Miltenberger, R.G. and Lumley, V.A. (1996) Treatment acceptability and 'faking good': Are staff telling us what they think we want to hear? *Behavioral Interventions*, 11, 181-191.
255. Kiernan, C. (1993) *Research into Practice? Implications of Research on the Challenging Behaviour of People with Learning Disabilities*. British Institute on Learning Disabilities, Kidderminster.
256. Kiernan, C. and Quereshi, H. (1993) Challenging Behaviour. In *Research to Practice? Implications of research on the challenging behaviour of people with learning disabilities*. (Ed. C. Kiernan, 53-87, BILD, Kidderminster.
257. Kiernan, C., Reeves, D. and Alborz, A. (1995). The use of anti-psychotic drugs with adults with learning disabilities and challenging behaviour. *Journal of Intellectual Disability Research,* 39, 263-274.

258. Knapp, M., Cambridge, P., Thomason, J., Allen, C. and Darton, R. (1992) *Care in the Community: Challenge and Demonstration.* Ashgate, Aldershot.
259. Koegel, L. K., Koegel, R. L., and Dunlap, G. (1996). *Positive behavioral support: Including people with difficult behavior in the community.* Brookes, Baltimore.
260. Kordoutis, P., Kolaitis, G., Perakis, A., Papnikolopoulou, P. and Tsiantis, J. (1995) Change in care staff attitudes towards people with learning disabilities, following intervention at the Leros Pikpu Asylum. *British Journal of Psychiatry*, 167, S28, 55-69.
261. Kushlick, A., Trower, P., and Dagnan, D. (1997). Applying cognitive behavioural approaches to the carers of people with intellectual disabilities who display challenging behaviours. *In* B. S. Kroese, D. Dagnan, and K. Loumidis (Eds.), *Cognitive Behaviour Therapy for People with Intellectual Disabilities*. Routledge, London, 141-161.
262. L'Institut Roeher (1995) *Harm's Way: The Many Faces of Violence and Abuse against Persons with Disabilities.* Roeher Institute, North York, Ontario.
263. Lau, R.R., and Hartman, K.A. (1983) Common sense representations of common illnesses. *Health Psychology*, 28 (2), 167-185.
264. Lau, R.R., Bernard, T.M. and Hartman, K.A. (1989) Further explorations of common sense representations of common illnesses. *Health Psychology*, 8(2), 195-219.
265. LaVigna, G.W. and Donnellan, A.M. (1986) *Alternatives to punishment: Solving behaviour problems with non-aversive strategies.* Irvington, New York.
266. LaVigna, G.W., Christian, L., Liberman, R.P., Camacho, E. and Willis, T. (2002) Rehab rounds: Training professionals in use of positive methods for community integration of persons with developmental disabilities. *Psychiatric Services*, 53(1), 16-18.
267. Leventhal, H. and Colman, S. (1997) Quality of life: A process view. *Psychology and Health, Special Issue: Quality of life*, 12, 6, 753-767.
268. Leventhal, H. and Diefenbach, M. (1991) The active side of illness cognition. *In* J.A. Skelton and R.T. Croyle (Eds.) *Mental Representation in Health and Illness*, Springer Verlag, New York, 247-272.
269. Leventhal, H. and Diefenbach, M. (1996) The common sense model of illness representation: Theoretical and practical considerations. *Journal of Social Distress and the Homeless*, 5, 1 11-38.
270. Leventhal, H. and Scherer, K. (1987) The relationship of emotion to cognition: A functional approach to a semantic controversy. *Cognition and Emotion*, 1, 1 3-28.
271. Leventhal, H., Benyamini, Y., Brownlee, S., Diefenbach, M., Leventhal, E. A., Patrick-Miller, L. and Robitaille, C.(1997) Illness representations: Theoretical foundations. *In* K. J. Petrie, and J.A.Weinman,(Eds.); *Perceptions of health and illness: Current research and applications*. Harwood Academic Publishers, Singapore.
272. Leventhal, H., Diefenbach, M. and Leventhal, E.A. (1992) Illness cognition: Using common sense to understand treatment adherence and affect cognition interactions. *Cognitive Therapy and Research*. (Special Issue), 16, 2, 143-163.
273. Leventhal, H., Nerenz, D.R. (1985) The assessment of illness cognition. *In* P. Karoly (Ed.) *Measurement Strategies in Health Psychology*. Wiley, New York, 517-555.
274. Leventhal, H., Nerenz, D.R. and Steele, D.J. (1984) Illness representation and coping with health threats. *In* A. Baum and S.E.Taylor and J.E. Singer (Eds.) *Handbook of Psychology and Health, Volume IV: Social Psychological aspects of Health*. Erlbaum, Hillsdale, NJ, 219-252.
275. Lewis M.A., Lewis C.E., Leake B., King B.H., and Lindemann, R. (2002) The quality of health care for adults with developmental disabilities. *Public Health Report,* 117, 174-184.
276. Lewis, M.H., Bodfish, J.W., Powell, S.B. and Golden, R.N. (1995) Clomipramine treatment for stereotype and related repetitive movement disorders associated with mental retardation. *American Journal of Mental Retardation* 100(3), 112-120.
277. Lindeman, D.P., Miltenberger, R.G. and Lennox, D.B. (1992) Acceptability of behavioural interventions: Perceptions of superintendents of public residential facilities. *Behavioral Residential Treatment*, 7, 35-44.

278. Lindsay W.R. (2002) Research and literature on sex offenders with intellectual and developmental disabilities. *Journal of Intellectual Disability Research,* 46, Supplement 1, 74-85.
279. Lindsay, W. R. (1991) Psychological therapies in mental handicap. *In* W. I. Fraser, R. C. MacGillivray and A. M. Green. *Hallas' Caring for People with Mental Handicaps 8th Edition*, Butterworth, Heinemann.
280. Lindsay, W.R., Neilson, C. and Lawerson, H. (1997) Cognitive-behaviour therapy for anxiety in people with learning disabilities. *In* B.S.Kroese, D.Dagnan and K.Loumidis (eds.) *Cognitive-Behaviour Therapy for People with Learning Disabilities.* Routledge, London.
281. Lindsay, W. R., Marshall, I, Neilson, C.Q., Quinn, K. and Smith, A.H.W. (1998b) The treatment of men with a learning disability convicted of exhibitionism. *Research in Developmental Disabilities*, 19, 295-316.
282. Lindsay, W. R., Neilson, C. and Smith, A.H.W. (1998a) The treatment of six men with a learning disability convicted of sex offences with children. *British Journal of Clinical Psychology*, 37, 83-98.
283. Lindsay, W. R., Olley, S., Baillie, N. and Smith, A.H.W. (1999) Treatment of adolescent sex offenders with intellectual disabilities. *Mental Retardation*, 37, 201-211.
284. Lindsay, W.R. and Morrison, F.J. (1996) The effects of behavioural relaxation on cognitive performance in adults with severe intellectual disabilities. *Journal of Intellectual Disability Research*, 40(4), 285-290.
285. Lloyd, M.E. (1983) Selecting systems to measure client outcome in human service agencies. *Behavioural Assessment*, 5, 55-70.
286. Lowe, K. and Felce, D. (1995) How do carers assess the severity of challenging behaviour – a total population study. *Journal of Intellectual Disability Research*, 39, 2, 117-127.
287. Lowe, K. and Felce, D. Perry, J., Baxter, H. and Jones, E. (1998) The characteristics and residential situations of people with severe intellectual disability and the most severe challenging behaviour in Wales. *Journal of Intellectual Disability Research*, 42, 375-389.
288. Lowe, K., Felce, D. and Blackman, D. (1995) People with learning disabilities and challenging behaviour: The characteristics of those referred and those not referred to specialist teams. *Psychological Medicine*, 25(3), 595-603.
289. Lyall, I. Holland, A.J. and Collins, S. (1995) Offending by adults with learning disabilities and the attitudes of staff to offending behaviour: Implications for service development. *Journal of Intellectual Disability Research*, 39, 6, 501-508.
290. Lyle O'Brien, C., O'Brien, J., and Mount, B. (1997). Person-centered planning has arrived ... or has it? *Mental Retardation*, 35, 480-484.
291. Maes, S., Leventhal, H. and de Ridder, D.T.D. (1996) Coping with chronic diseases. *In* Moshe Zeidner, Norman S. Endler et al (Eds.) *Handbook of coping: Theory, research, applications.* John Wiley and Sons, New York, NY, USA, 221-251.
292. Magito-McLaughlin, D., Mullen, J. K. Anderson, R.K. and Carr, E.G. (2002) Best practices: Finding a new direction for Christos. *Journal of Positive Behavior Interventions*, 4(3), 156-164.
293. Mansell J., Elliott T., Beadle-Brown J., Ashman B., & Macdonald S. (2002) Engagement in meaningful activity and "active support" of people with intellectual disabilities in residential care. *Research in Developmental Disabilities,* 23, 342-352.
294. Mansell, J. (1995) Staffing and staff performance in services for people with severe or profound learning disability and serious challenging behaviour. *Journal of Intellectual Disability Research*, 39, 1, 3-14.
295. Mansell, J. and Beasley, F.(1993) Small staffed houses for people with a severe learning disability and challenging behaviour. *British Journal of Social Work,* 23, 4 329-344.
296. Marteau, T. M. and Johnston, M. (1990) Health professionals: A source of variance in health outcomes. *Psychology and Health*, 5(1), 47-58.

297. Matson, J.L. (1988). *The Psychopathology Instrument for Mentally Retarded Adults (PIMRA)*. Oland Park, IL, International Diagnostic Systems.
298. May, P., London E.B. and Zimmerman T.(1995) A study of the clinical outcome of patients with profound mental retardation gradually withdrawn from chronic neuroleptic medication. *Annals of Clinical Psychiatry*, 7(4), 155-60.
299. McBrien, J. A., and Edmonds, M. (1985). An evaluation of an EDY training course in behavioural techniques for staff working with severely mentally handicapped children. *Behavioural Psychotherapy*, 13, 202-17.
300. McBrien, J. and Candy, S. (1998) Working with organisations, or: why won't they follow my advice? *In* E.Emerson and C.Hatton (Eds.) *Clinical Psychology and people with intellectual disabilities*. John Wiley and Sons Ltd., New York.
301. McCabe, M.P. (1993) Sex education programmes for people with mental retardation. *Mental Retardation*, 31, 6, 377-387.
302. McClenahan, R. and Weinman, J. (1998) Determinants of carer distress in nonacute stroke. *International Journal of Language and Communication Disorders*, 33(Supplement), 138-143.
303. McConkey, R. and Truesdale, M. (2000) Reactions of nurses and therapists in mainstream health services to contact with people who have learning disabilities. *Journal of Advanced Nursing*, 32, 158-163.
304. McConkey, R., Morris, I. and Purcell, M. (1999) Communication between staff and adults with intellectual disabilities in naturally occurring settings. *Journal of Intellectual Disability Research,* 43(3), 194-205.
305. McDonnell, A. (1997) Training care staff to manage challenging behaviour: An evaluation of a 3-day training course. *British Journal of Developmental Disabilities*, 43, 85, 2 156-162.
306. McDonnell, A. (2002) An investigation into the topography of referrals to a community challenging behaviour service: Implications for research and training. *www.studio3.org*
307. McDougle, C.J., Naylor, S.T. and Cohen, D.J. (1996) A double-blind placebo-controlled study of Fluvoxamine in adults with autistic disorder. *Archives of General Psychiatry*, 53, 1001-1008.
308. McGill, P. (1993). Challenging behaviour, challenging environments, and challenging needs. *Clinical Psychology Forum*, 56, 15-18.
309. McGill, P. (1999). Establishing operations: Implications for the assessment, treatment, and prevention of problem behaviour. *Journal of Applied Behaviour Analysis*, 32, 393-418.
310. McGrother C., Thorp C., Taub N. and Machado O. (2001) Prevalence, disability and need in adults with severe learning disability. *Tizard Learning Disability Review,* 6, 4-13.
311. McGrother, C W and Thorp, C F (1999) *Planning and Research Information to improve services for people with learning disabilities*, Annual Scientific Meeting of the Faculty of Public Health Medicine, Glasgow.
312. McGuiness, P. and Dagnan, D. (2001) Cognitive Emotional Reactions of Care Staff to Difficult Child Behaviour. *Behavioural and Cognitive Psychotherapy*, 29, 295-302.
313. McKenzie, K., McIntyre, S., Matheson, E. and Murray, G. (1999) Health and Social Care Workers understanding of the meaning and management of challenging behaviour in learning disability services. *Journal of Learning Disabilities for Nursing, Health and Social Care*, 3(2), 98-105.
314. Messick , S. (1995) Validity of psychological assessment. *American Psychologist*, 50, 741-749.
315. Meyer, L.H. and Evans, I.M. (1989) Non-*aversive intervention for behaviour problems: A manual for home and community*. Paul H. Brookes Publishing Company, Baltimore, Maryland.
316. Michael, J. (1982) Distinguishing between discriminative and motivational functions of stimuli. *Journal of the Experimental Analysis of Behaviour*, 37, 149-155.

317. Miltenberger, R.G., Lennox, D.B. and Erfanian, N. (1989) Acceptability of alternative treatments for persons with mental retardation: Ratings from institutional and community-based staff. *American Journal on Mental Retardation*, 93, 388-395.
318. Miltenberger, R.G., Suda, K.T., Lennox, D.B. and Lindeman, D.P. (1991) Assessing the acceptability of behavioural treatments to persons with mental retardation. *American Journal on Mental Retardation*, 96, 291-298.
319. Mitchell, G., and Hastings, R. P. (1998). Learning disability care staff's emotional reaction to aggressive challenging behaviours: development of a measurement tool. *British Journal of Clinical Psychology*, 37, 441-9.
320. Moniz-Cook, E., Woods, R., Gardiner, E., Silver, M. and Agar, S. (2001) The Challenging Behaviour Scale (CBS): Development of a scale for staff caring for older people in residential and nursing homes. *British Journal of Clinical Psychology*, 40(3), 309-322.
321. Montegar, C.A., Reid, D.H., Madsen, C.H., and Ewell, M.D. (1977) Increasing institutional staff to resident interactions through in-service training and supervisor approval. *Behaviour Therapy*, 8, 533-540.
322. Moores, B. and Grant, G.W.B. (1976) Nurses' expectations for accomplishments of mentally retarded patients. *American Journal of Mental Deficiency*, 80, 6, 644-649.
323. Moores, B. and Grant, G.W.B. (1977) Optimists and pessimists: Attitudes of nursing staff towards the development potential of mentally handicapped patients in their charge. *International Journal of Nursing Studies*, 14, 13-18.
324. Morgan, G.M. and Hastings, R.P. (1998) Special educators' understanding of challenging behaviours in children with learning disabilities: Sensitivity to information about behavioural function. *Behavioural and Cognitive Psychotherapy*, 26(1), 43-52.
325. Morrison, F.J. and Lindsay, W.R. (1997) Reductions in self-assessed anxiety and concurrent improvement in cognitive performance in adults who have moderate intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, 10(1), 33-40.
326. Moss-Morris, R., Weinman, J, Petrie, K.J., Horne, R., Cameron, L.D. and Buick, D. (2002) The Revised Illness Perception Questionnaire (IPQ-R). *Psychology and Health*, 17, 1-16.
327. Mount, B. (1992). *Person-centered planning: Finding directions for change.* A sourcebook of values ideals, and methods to encourage person-centered development. Graphic Futures Inc., New York.
328. Mount, B. (1994). Benefits and limitations of personal futures planning. *In* V. J. Bradley, J. W. Ashbaugh, and B. C. Blaney (Eds.), *Creating individual supports for people with developmental disabilities: A mandate for change at many levels*. Paul H. Brookes, Baltimore, 97-108.
329. Myers, F., Ager, A., Kerr, P. and Myles, S. (1998) Outside looking in? Studies of the community integration of people with learning disabilities. *Disability and Society,* 13, 3, 389-413.
330. Natarajan, D., Martin, A.J. and Tesh, D. (1997) Risperidone therapy in the control of behavioural disturbances in patients with learning disability. *Irish Journal of Psychological Medicine,* 14(2), 69-71.
331. National Electronic Library for Health – 2003 (NHS Nursing Library) - *http://www.nelh.nhs.uk/.*
332. NHS Scotland (2003) *Workforce Statistics.* Information and Statistics Division. Edinburgh.
333. NHS Scotland (2004) *The Learning Disabilities Health Needs Assessment.* NHS Scotland, Edinburgh.
334. Nihira, K., Foster, R., Shellhass, M. and Leland, H. (1975) *AAMD Adaptive Behavior Scale: Manual.* American Association on Mental Deficiency, Washington D.C.

335. Nihira, K., Leland, H. and Lambert, N. (1969, 1974, 1976, 1984, 1993) Adaptive *Behavior Scale*- Educational/ Residential and Community version and updates. Austin, TX: Pro-Ed, 1993. (DT 18).
336. NMC (1993) Learning Disabilities, Challenging Behaviour and Mental Illness. *Research Highlights 1.* Nursing and Midwifery Council, London.
337. O'Brien, G. (2003) The classification of problem behaviour in Diagnostic Criteria for Psychiatric Disorders for Use with Adults with Learning Disabilities/Mental Retardation (DC-LD). *Journal of Intellectual Disability Research*, 47, Supplement 1, 32-37.
338. O'Reilly, M. (1997) Assessing challenging behaviour of persons with severe mental disabilities. *In* K.Dillon Burger, M.O'Reilly, and M.Keenan, (Eds.) *Advances in Behaviour Analysis.* Dublin University College, Dublin.
339. Oatley, K. and Jenkins, J.M. (1996) *Understanding emotions.* Blackwell Publishers, Malden, MA, US.
340. Oliver, C., Hall, S., Hales, J. and Head, D. (1996) SIB and People with Intellectual Disabilities: Assessing the Behavioural, Knowledge and Causal Explanations of Care Staff. *Journal of Research in Intellectual Disabilities*, 9, 3 229-239.
341. Oliver, C., Murphy G. H. and Corbett J. A. (1987) Self-injurious behaviour in people with mental handicap: a total population study. *Journal of Mental Deficiency Research*, 31, 147-162
342. Orbell, S., Johnston, M., Rowley, D., Espley, A., Davey, P. (1998) Cognitive representations of illness and functional and affective adjustment following surgery for osteoarthritis. *Social Science and Medicine*, 47(1), 93-102.
343. Page, T.J., Iwata, B.A., and Reid, D.H. (1982) Pyramidal training: A large-scale application with institutional staff. *Journal of Applied Behaviour Analysis*, 15, 335-351.
344. Panyan, M., and Patterson, E.T. (1974) Teaching attendants the applied aspects of behaviour modification: An empirical approach. *Mental Retardation*, 12, 30-32.
345. Papadopoulos, L., Bor, R. Walker, C. and Legg, C. (2001) The Illness Perception Questionnaire as a reliable assessment tool: Cognitive representations of vitiligo. *Psychology, Health and Medicine*, 6(4), 441-446.
346. Partridge, C. and Johnston, M. (1989) Perceived control of recovery from physical disability: Measurement and prediction. *British Journal of Clinical Psychology,* 28, 1, 53-59.
347. Patel P., Goldberg D. and Moss S. (1993) Psychiatric morbidity in older people with moderate and severe learning disability. II: The prevalence study. *British Journal of Psychiatry* 163, 481-491.
348. Perry, D.W., Hinder, S., Krishnan, V.H.R. and Roy, A. (1996) The use of specific serotonin re-uptake inhibitors in people with learning disability, autism and depression: Letter to the Editors. *Human Psychopharmacology,* 11, 425-6.
349. Pert, C., Jahoda, A., and Squire, J. (1999) Attribution of intent and role-taking: cognitive factors as mediators of aggression with people who have mental retardation. *American Journal on Mental Retardation,* 104, 399-409.
350. Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., and Seligman, M. E. P. (1982). The Attributional Style Questionnaire. *Cognitive Therapy and Research*, 6, 287-99.
351. Petrie, K.J. and Weinman, J.A. (1997) Illness representations and recovery from myocardial infraction. *In* K.J. Petrie and J.A. Weinman (eds.) *Perceptions of health and illness: Current research and applications.* Harwood Academic Publishers, Singapore.
352. Petty, R.E., Wegner, D.T. and Fabrigar, L.R. (1997) Attitudes and attitude change. *Annual Review of Psychology*, 48, 609-647.
353. Porterfield, J. and Blunden, R. (1978) Establishing an activity period and individual skill training within a day setting for profoundly mentally handicapped adults. *Journal of Practical Approaches to Developmental Handicap*, 2, 10-15.

354. Prout, H. T. and Nowak-Drabik, K.M. (2003) Psychotherapy with persons who have mental retardation: An evaluation of effectiveness. *American Journal on Mental Retardation*, 108(2), 82-93.
355. Prout, H. T. and Strohmer, D.C..(1998) Issues in mental health counselling with persons with mental retardation. *Journal of Mental Health Counselling*, 20(2), 112-121.
356. Purcell, M., McConkey, R. and Morris, I. (2000) Staff communication with people with intellectual disabilities: The impact of a work based training programme. *International Journal of Language and Communication Disorders*, 35(1), 147-158.
357. Quilitch, H.R. (1975) A comparison of three staff management procedures. *Journal of Applied Behaviour Analysis*, 8, 59-66.
358. Qureshi, H. (1994) The size of the problem. *In* E.Emerson, P. McGill and J. Mansell (Eds.) *Severe Learning Disabilities and Challenging Behaviours: Designing high quality services*. Chapman and Hall, London, 17-36.
359. Qureshi, H. and Alborz (1992) Epidemiology of challenging behaviour. *Mental Handicap Research*, 5, 130-145.
360. Reeves, S. (1994). Violent clients: How do care staff cope? *Nursing Times,* 90, 12.
361. Reid, D.H. and Green, C.W. (2002) Person-centered planning with people who have severe multiple disabilities: Validated practices and misapplications. *In* S. Holburn, and P.M. Vietze, (Eds). *Person-centered planning: Research, practice, and future directions*. Paul H. Brookes Publishing Co., Baltimore, MD, US, 183-202.
362. Reid, D.H., and Whitman, T.L. (1983) Behavioural staff management in institutions: A critical review of effectiveness and acceptability. *Analysis and Intervention in Developmental Disabilities*, 3, 131-149.
363. Reiss, S. and Aman, M.G. (1997) The international concensus process on psychopharmacology and intellectual disability. *Journal of Intellectual Disability Research*, 41 (Pt.6), 448-455.
364. Ridout, S. (1993) Abuse *and Adults with Learning Difficulties - Reducing the Risk.* Social Care Practice Centre/Dept. of Applied Social Studies. University of Warwick SCA.
365. Robertson, J., Emerson, E., Gregory, N., Hatton, C., Kessissoglou, S., and Hallam, A. (2000) Receipt of psychotropic medication by people with intellectual disability in residential settings. *Journal of Intellectual Disability Research,* 44, 666-676.
366. Roeleveld ,N., Zielhuis G.A., and Gabreels F. (1997) The prevalence of mental retardation: a critical review of recent literature. *Developmental Medicine and Child Neurology,* 39, 125-132
367. Rojahn, J., Matson, J. L., Lott, D., Esbensen, A.J. and Smalls, Y. (2001) The Behavior Problems Inventory: an instrument for the assessment of self-injury, stereotyped behavior, and aggression/destruction in individuals with developmental disabilities. *Journal of Autism and Developmental Disorders*, 31(6) 577-588.
368. Rojahn, J., Tasse, M. J., and Sturmey, P. (1997) The Stereotyped Behavior Scale for adolescents and adults with mental retardation. *American Journal on Mental Retardation*, 102 (2): 137-146.
369. Rossiter, R., Hummisett, E. and Pulsford, M. (1998) Anger management training and people with moderate to severe learning disabilities. *British Journal of Learning Disabilities*, 26, 67-74.
370. Rowley, D. (1993) *Community Care in Context 1 and 2.* Social Work Dept. University of Dundee, Dundee.
371. Royal College of Psychiatrists (2001) The diagnostic criteria for psychiatric disorders for use with adults with learning disabilities/mental retardation. *Occasional paper* 48, 1-128. Gaskell Press, London.
372. Ryan, J. and Thomas, F. (1987) *The politics of mental handicap*. Free Association Books. London.
373. Sandman, C.A. and Matrick, W.P. (1995) Opiate mechanisms in self-injury. *Mental Retardation and Developmental Disability Research Review*, 1, 130-136.

374. Sandman, C.A., Metrick, W., Taylor, D.V. et al (1997) Dissociation of POMC peptides after self-injury predicts responses to centrally acting opiate blockers. *American Journal on Mental Retardation,* 102(2), 182-199.
375. Sawuck, G. and Reeves, S. (2003) Checking violent behaviour. *Learning Disability Practice*, 6 (9), 8-12.
376. Schachter, S. and Singer, J. (1962) Cognitive, social, and physiological determinants of emotional state. *Psychological Review*, 69(5), 379-399.
377. Shaffer, J.P. (1995) Multiple hypothesis testing. *Annual Review of Psychology*, 46, 561-584.
378. Scharloo, M. and Kaptein, A. (1997) Measurement of illness perceptions in patients with chronic somatic illness: A review. *In* K. J. Petrie, and J.A.Weinman, (Eds.). *Perceptions of health and illness: Current research and applications*. Harwood Academic Publishers, Singapore.
379. Scharloo, M., Kaptein, A. A., Weinman, J., Hazes, J. M., Willems, L. N. A., Bergman and W., Rooijmans, H. G. M. (1998) Illness perceptions, coping and functioning in patients with rheumatoid arthritis, chronic obstructive pulmonary disease and psoriasis. *Journal of Psychosomatic Research, 44*(5), 573-585.
380. Scottish Executive (1999) Public *attitudes to people with a learning disability and how to influence them: a selected literature review.* Scottish Executive, Edinburgh.
381. Scottish Executive (2000) *The same as you?: A review of services for people with learning disabilities.* Scottish Executive, Edinburgh.
382. Scottish Executive (2004) *Home at last? The same as you?* National Implementation Group: Report of the short-life working group On Hospital Closure and Service Reprovision. Community Care Division, Scottish Executive, Edinburgh.
383. Sharrock, R., Day, A., Quazi, F. and Brewin, C.R. (1990) Explanations by professional care staff, optimism and helping behaviour: An application of attribution theory. *Psychological Medicine*, 20, 4, 849-855.
384. SHAS (1998) *Adults with learning disabilities and challenging behaviour – a Good Practice Statement.* Scottish Health Advisory Service, Edinburgh.
385. SHAS (2003) *Extracts on Services for Children and Young People with Disabilities.* Scottish Health Advisory Service, Edinburgh.
386. Simpson, M. and Hogg, J. (2001) Patterns of offending among people with intellectual disability: A systematic review. Part I: methodology and prevalence data. *Journal of Intellectual Disability Research*, 45, 384-396.
387. Simpson, M. and Hogg, J. (2001a) Patterns of offending among people with intellectual disability: A systematic review. Part II: predisposing factors. *Journal of Intellectual Disability Research*, 45, 397-406.
388. Singh, N.N., Guernsey, T.F. and Ellis C. R. (1992). Drug therapy for persons with developmental disabilities : legislation and litigation. *Clinical Psychology Review,* 12, 665-679.
389. Skelton, J.A. and Croyle, R.T. (1991) (Eds.) *Mental Representation in Health and Illness*. Springer Verlag, New York, 247-272.
390. Skinner, B. F. (1957) *Verbal Behavior.* Reprinted by the B. F. Skinner Foundation, New York in 1992 and 2002.
391. Slama, K. M. and Bannerman, D.J. (1983) Implementing and maintaining a behavioral treatment system in an institutional setting. *Analysis and Intervention in Developmental Disabilities*, 3(2-3), 171-191.
392. Smiley E., Cooper S.-A., Miller S.M., Robertson P., and Simpson N. (2002) Specialist health services for people with intellectual disability in Scotland. *Journal of Intellectual Disability Research* 46, 585-593.
393. Smith, C., Felce, D., Jones, E., and Lowe, K. (2002) Responsiveness to staff support: Evaluating the impact of individual characteristics on the effectiveness of active support training using a conditional probability approach. *Journal of Intellectual Disability Research*, 46(8), 594-604.

394. Smith, T., Parker, T., Taubman, M., and Lovaas, O. I. (1992). Transfer of staff training from workshops to group homes: a failure to generalize across settings. *Research in Developmental Disabilities*, 13, 57-71.
395. Sobsey, D. (1994) *Violence and Abuse - In the lives of people with learning disabilities.* Brookes Publishing, Baltimore.
396. Sprague, R.L. and Werry, J.S. (1971) Methodology of psychophramalogical studies with the retarded. *In* N.R.Ellis (ed.) *International Review of Research in Mental Retardation, Volume 5.* Academic Press, New York, 147-210.
397. Stalker, K. and Hunter, S. (1999) *Resettlement of people with learning disabilities from Scottish Hospitals.* Review of Services for People with a Learning Disability. Scottish Executive, Edinburgh.
398. Stalker, K. and Hunter, S. (1999a) To close or not to close: The future of learning disability hospitals in Scotland. *Critical Social Policy*, 19, 2, 177-194.
399. Stangor, C. and Lange, J.E. (1994) Mental representations of social groups: Advances in understanding stereotypes and stereotyping. *In* Zanna, Mark P. (Ed). (1994). *Advances in experimental social psychology, Vol. 26.* Academic Press, San Diego, CA, US, 357-416.
400. Stanley, B. and Standen, P.J. (2000) Carer's attribution for challenging behaviour. *British Journal of Clinical Psychology*, 39, 157-168.
401. Stenfert-Kroese, B., Dagnan, D. and Loumidis, K. (Eds.) (1997). *Cognitive-Behaviour Therapy for People with Learning Disabilities.* Routledge, London.
402. Stevens, T., Williams, T. I. and Gaffan, E.A. (1999) Structured teaching for special school staff: A comparison of two training packages. *Journal of Applied Research in Intellectual Disabilities*, 12(4): 308-322.
403. Stolker J.J., Heerdink E.R., Leufkens H.G., Clerkx M.G., and Nolen W.A. (2001) Determinants of multiple psychotropic drug use in patients with mild intellectual disabilities or borderline intellectual functioning and psychiatric or behavioral disorders. *General Hospital Psychiatry,* 23, 345-349.
404. Stolker J.J., Koedoot P.J., Heerdink E.R., Leufkens H.G., & Nolen W.A. (2002) Psychotropic drug use in intellectually disabled group-home residents with behavioural problems. *Pharmacopsychiatry* 35, 19-23
405. Stoltz, S.B. (1981) Adoption of innovations from applied behavioural research: "Does anybody care?" *Journal of Applied Behaviour Analysis*, 14, 491-505.
406. Stone, G. C. (1991) An international review of the emergence and development of health psychology. *In* M. A. Jansen, J. Weinman et al (Eds.) *The international development of health psychology.* Harwood Academic Publishers, Philadelphia.
407. System 3 (1999) *Attitudes to learning disability.* Unpublished report, prepared for SHS. Scottish Office, Edinburgh.
408. Taunt, H. M. and Hastings, R.P (2002). Positive Impact of Children with Developmental Disabilities on Their Families: A Preliminary Study. *Education and Training in Mental Retardation and Developmental Disabilities*, Vol.37, 4, 410-20
409. Taylor, I., O'Reilly, M. and Lancioni, G. (1996) An evaluation of an ongoing consultation model to train teachers to treat challenging behaviour. *International Journal of Disability, Development and Education*, 43(3), 203-218.
410. Taylor, J.C. and Carr, E.G. (1992) Severe problems related to social interaction I: Attention seeking and social avoidance. *Behavior Modification*, 16(3), 305-335.
411. Taylor, J.C. and Carr, E.G. (1992) Severe problems related to social interaction II: A systems analysis. *Behavior Modification*, 16(3), 336-371.
412. Taylor, J.L. (2002) A review of the assessment and treatment of anger and aggression in offenders with intellectual disability. *Journal of Intellectual Disability Research* 46 Suppl. 1, 57-73.
413. Teasdale, J.D. (1997) The relationship between cognition and emotion: The mind-in-place in mood disorders. *In* D.M.Clark and C.G. Fairburn, (eds) *Science and practice of cognitive behaviour therapy.* Oxford medical publications. Oxford University Press London, 67-93.

414. Thompson, C.L. and Reid, A. (2002) Behavioural symptoms among people with severe and profound intellectual disabilities: A 26-year follow-up study. *British Journal of Psychiatry*, 181(1), 67-71.
415. Thompson, T., Hackenberg, T., Cerutti, D. and Baker, D. (1994) Opioid antagonist effects on self-injury in adults with mental retardation: Response form and location as determinants of medication effects. *American Journal on Mental Retardation*, 99(1), 85-102.
416. Trower, P., Casey, A., and Dryden, W. (1988). *Cognitive Behavioural Counselling in Action*. Sage, London.
417. Turk, V., and Brown, H. (1993) The Sexual Abuse of Adults with Learning Disabilities: Results of a Two Year Incidence Survey. *Mental Handicap Research* 6, (3) 193-216.
418. Verhoeven, W.M.A. and Tuinier, S. (1999) The psychopharmacology of challenging behaviours in developmental disabilities. *In* N Bouras (ed.) *Psychiatric and Behavioural Disorders in Developmental Disabilities and Mental Retardation.* Cambridge University Press, Cambridge, 295-316.
419. Waitman, A. and Conboy-Hill, S. (1992) *Psychotherapy and Mental Handicap.* Sage, London.
420. Wanless L.K. and Jahoda, A. (2002) Responses of staff towards people with mild to moderate intellectual disability who behave aggressively: A cognitive emotional analysis. *Journal of Intellectual Disability Research*, 46 (6), 507-516.
421. Watts, M. J., Reed, T. S., and Hastings, R. P. (1997). Staff strategies and explanations for intervening with CB: a replication in a community setting. *Journal of Intellectual Disability Research*, 41, 258-63.
422. Weiner, B. (1980) A cognitive (attribution)-emotion-action model of motivated behavior: An analysis of judgements of help-giving. *Journal of Personality and Social Psychology*, 39, 2 186-190.
423. Weiner, B. (1985) An attributional theory of achievement motivation and emotion. *Psychological Review*, 92(4), 548-573.
424. Weiner, B. (1986) From attributional theory of emotion to developmental psychology: A round-trip ticket? *Social Cognition*, 4(2), 152-179.
425. Weiner, B. (1988) Attribution theory and attributional therapy: Some theoretical observations and suggestions. *British Journal of Clinical Psychology*, 27, 1, 99-104.
426. Weiner, B. (1991) On perceiving others as responsible. *In* R.A. Dienstbier et al (Eds.) *Nebraska symposium on motivations, 1990: Perspectives on motivation.* University of Nebraska Press, Lincoln.
427. Weiner, B., Perry, R.P. and Magnusson, J. (1988) An attributional analysis of reactions to stigmas. *Journal of Personality and Social Psychology*, 55, (5) 738-748.
428. Weinman, J. (2004) *Illness Perception Questionnaire Development.* Seminar at Dept of Psychology, Aberdeen University, March 2004.
429. Weinman, J., Petrie K., Sharpe N. and Walker S. (2000) Causal attributions in patients and spouses following first time myocardial infarction and subsequent lifestyle changes *British Journal of Health Psychology,* 5(3), 263-273.
430. Weinman, J., Petrie, K.J., Moss-Morris, R. and Horne, R. (1996) The Illness Perception Questionnaire: A New Method for Assessing the Cognitive Representation of Illness. *Psychology and Health*, 11, 3, 431-445.
431. Wheldall, K., and Merrett, F. (1987). Training teachers to use the behavioural approach to classroom management: the development of BATPACK. *In* K. Wheldall (Ed.), *The Behaviourist in the Classroom.* Allen and Unwin, London.
432. Whitaker, S. (2000) The potential influences of frequency of challenging behaviour on treatment: an analysis of the literature. *British Journal of Developmental Disabilities,* 46, 83-88.
433. Whitaker, S. (2000a) Evidence-based practice: have we got the evidence? *Clinical Psychology,* 11, 11-13.

434. Whitaker, S. (2002) Maintaining Reductions in Challenging Behaviours: A review of the literature. The *British Journal of Developmental Disabilities*, 48, 94, 15-25.
435. WHOQOL (1993) Conceptual and psychometric considerations. *Social Sciences and Medicine*, 48, 473-487.
436. WHOQOL Group. (1995). The definition of quality of life and development of international quality of life assessment instruments. *Social Science and Medicine* 41, 1403-1409.
437. Wilcox, R.R. (1995) Testing the hypothesis of independence between two sets of variates. *Multivariate Behavioral Research,* 30(2), 213-225.
438. Williams, C. (1993) Vulnerable Victim? A Current Awareness of the Victimisation of People with Learning Disabilities. *Disability, Handicap and Society,* 8 (2), 161-172.
439. Williams, C. (1995) *Invisible Victims.* Jessica Kingsley Publishers, London.
440. Wing, L (1989) *Hospital Closure and the Resettlement of Residents: the case of Darenth Park Mental Handicap Hospital.* Averbury, Aldershot.
441. Woods, P.A., and Cullen, C. (1983) Determinants of staff behaviour in long-term care. *Behavioural Psychotherapy*, 11, 4-17.
442. World Health Organization. (1997). *Measuring quality of life: The World Health Organization quality of life instruments.* Geneva.
443. Xenitidis K.I., Henry J., Russell A.J., Ward A., and Murphy D.G. (1999) An inpatient treatment model for adults with mild intellectual disability and challenging behaviour. *Journal of Intellectual Disability Research,* 43, 128-134.
444. Young, A.T. and Hawkins, J. (2002) Psychotropic medication prescriptions: An analysis of the reasons people with mental retardation are prescribed psychotropic medication. *Journal of Developmental & Physical Disabilities,* 14, 129-142.
445. Zarcone J.R., Hellings J.A., Crandall K., Reese R.M., Marquis J., Fleming K., Shores R., Williams D., and Schroeder S.R. (2001) Effects of risperidone on aberrant behavior of persons with developmental disabilities: I. A double-blind crossover study using multiple measures. *American Journal on Mental Retardation,* 106, 525-538.
446. Ziarnik, J.P. and Bernstein, G.S. (1982) A critical examination of the effects of in-service training of staff performance. *Mental Retardation*, 20, 109-144.