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Abstract

Staff working directly with people who have challenging behaviour in learning disability services need to be good at what they do. These staff are trained by their employers to manage and to treat challenging behaviours and to improve the quality of life of people in their care. While such training is generally well evaluated by care staff, there is limited evidence that training alone changes poor attitudes or improves staff performance. Training has not been linked to quality of outcomes for service users.

From research on treating challenging behaviour, achieving maintenance of behavioural gains after treatment has been discontinued is the exception rather than the rule. Can the same be said for maintaining gains achieved through staff training in the area of challenging behaviour? This discussion paper reviews the value of training for staff working with people with challenging behaviour.

Introduction

Staff working with people who have challenging behaviour in learning disability services need to be good at what they do and 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 staff (Harris 1993; McKenzie et al 2000). Some staff lack the training to do the job properly (Smith et al 1996; NHS QIS 2006). How staff respond to 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 the "capacity" of staff to successfully implement programmes (Hieneman and Dunlap 2000a), each staff member's own views about challenging behaviour, and the characteristics of the employing organisation (Hastings et al 1995). The capacity of

care staff to do their job well is a multiply-determined phenomenon (Ziarnik and Bernstein 1982) and effective staff training plays a role in this. Ager and O'May (2001) reviewed 42 studies that 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 addition to staff training was one major finding.

But how effective is training and can capacity be improved? Over fifteen years ago Cullen (1988) wrote that staff training has not been shown to be sufficiently powerful as a factor to change staff behaviour. Has anything changed since then?

Balancing aspirations with shift rotas

There is little evidence that links staff qualifications or other training to quality of outcome for people with learning disabilities (Felce 2000). There is limited 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 1995a; Oliver et al 1996).

There is a basic belief that staff training will improve staff performance. In the last 10 years there have been co-ordinated efforts nationally to ensure that *all* staff working with people with learning disabilities have an accredited relevant qualification, or have the opportunity to receive one. 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 in Scotland has undertaken to register 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 is 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).

In reality, comprehensive, adequate training for staff has proven an illusive goal. For example, a recent review of health services for people with learning disabilities in Scotland (NHS QIS 2006) found that in only one out of 16 NHS Boards was the training needs of staff "substantially" developed; in 5 out of the 16 these needs were "scarcely" developed. See Table 1. Staff in these services were working with people with learning disabilities and challenging behaviour, including all of the adults still in long term learning disability hospitals in Scotland. This lack of training is consistent with previous findings about the proportion of staff with inadequate training for the job (Smith et al 1996; McVilly 1997).

Table 1 Workforce planning

Extract from NHS Quality Improvement Scotland: National Overview of Health Services for People with Learning Disabilities (2006)

Quality Indicator Statement 6.5: Workforce planning and the education and training needs of staff are identified and addressed in collaboration with NHS Education for Scotland.

Assessment category	NHS Organisations	
	Adult's	Children's
	Services	Services
Comprehensively Developed	0	0

Substantially Developed	1	1
Partially Developed	10	10
Scarcely Developed	5	3
Not Applicable	0	1

The need for staff training has to be balanced with the need to fill staff posts in what has becomes 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 (McKenzie et al 1999; Lyall et al 1995). In some cases staff with no training are being asked to work with people with the most difficult behaviours. In reality, 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 or person centred training, typically 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. (Hastings 1996, 1996a; Watts et al 1997) 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 these strategies may be a 'false economy', which do not change how staff view or respond to challenging behaviour, or the frequency or intensity of the behaviours themselves.

Successful Staff Training

The success of training interventions generally, to improve the quality of staff interactions 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 1996). 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 (Cullen 2000; Ziarnick and Bernstein 1982). 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, 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).

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 (NHS Scotland 2004).

With the exception of a few well planned programmes (e.g. Taylor et al 1996; Allen et al 1997; Allen and Tynan 2000) staff working practices do not change significantly as a result of training alone 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).

Challenging behaviour training

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. They 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.

There is an assumption that direct care staff act in the best interests of those in their care, to bring about therapeutic change. But there is 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 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). For direct care staff "active support training" (Jones et al 1999, 2001, 2001a) also known as "positive behaviour support" when applied to people with challenging behaviours (Magito-McLaughlin et al 2002; Reid and Green 2002; Koegel et al 1996) 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 a study on over 100 adults with learning disabilities (Smith et al 2002) supports previous work on the effectiveness of active support training (Jones et al 2001, Felce et al 2000; Felce et al 2002; Mansell et al 2002).

Similarly LaVigna et al (2002) have made claims for the efficacy of their own person-centred, analytic support services. There is convincing support for their efficacy of evidence-based approaches that are based on applied behavioural analysis (e.g. Stoltz 1981; Page et al 1982; Foxx 1996; Allen et al 1997; Cullen 2000; 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).

In this context, staff training has been described as "the missing link" between resource input and quality of outcome for service users, if staff are trained to use active support (Jones et al 2001, 2001a).

Studies of 'belief in self' and belief in others are also 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.

Ball et al (2004) have formalised the Clinical Practice Guidelines for interventions with people with challenging behaviour¹, and Cullen (2000) has identified 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 2000).

However, despite this evidence of a need for a constructional approach, a "pathological" or eliminative view of challenging behaviour still persists in many care settings. This is

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¹ The British Psychological Society (BPS) and the Royal Society of Psychiatrists (RCS) will publish guidelines for staff working with people with learning disabilities and challenging behaviour, "Challenging Behaviour: a unified approach".

evidenced by the never-ending search for instant or 'magic bullet' training solutions amongst services, and the use of medication as a first-line treatment (Branford 1994, 1996; Kiernan et al 1995; Anderson and Reeves 1991; Singh et al 1992). In one 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).

Staff training: Is it the training, or is it the staff?

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). Some people with learning disabilities show severe and persistent challenging behaviour over many years. Cullen (1992, 2000) 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, in relation to 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 1988, 1992; Hastings 1999; Hastings and Remington 1993; Smith et al 1992; McBrien and Candy 1998).

Of 247 studies reviewed by Whitaker (2002) only 19 studies showed ‡70% reduction in aggression, in follow-up of at least one month after the end of treatment in typical service settings. There is evidence then, albeit limited, that behavioural interventions *can* be effectively conducted in community settings, especially for people with less severe learning disabilities, when treatment programmes are properly conducted and there is good monitoring and maintenance by staff. Whitaker concluded that achieving maintenance after treatment

has been discontinued is "very much the exception rather than the rule". This is confirmation of other work looking at how changes are sustained, for example:

"Finally, the changes achieved by behavioural interventions were often less than permanent, even when the methods worked well. The behaviour change that could be achieved by committed behaviour analysts working full-tilt could not always be maintained by caregivers, parents, and others when the circus left town (Ager, 1991). Despite much theorising and research on how to generalise and maintain treatment gains (e.g., Stokes & Baer, 1977), the reality has often failed to live up to the promise."

Remington 1998

Again, can this also be said for changes brought about through staff training in the area of challenging behaviour? When the "circus" has moved on are there any permanent changes? In his study Whitaker (2002) also concluded that training people with learning disabilities to use self-control is a method that may only be applicable to clients with "sufficient linguistic or cognitive ability". Could it be the case that training staff in the use of some sophisticated interventions in relation to challenging behaviour is also limited by the linguistic or cognitive ability of staff?

These uncomfortable questions are mostly avoided by service managers, because of the implications for service development. However if staff training is to be any more effective than it has been to date, it may be necessary to consider not only what needs to be taught, but the capacity of existing staff to learn.

Can staff performance be assessed and training carried out to make their approach to challenging behaviour more consistent with evidence based, clinical practice? Previous research and increasingly sophisticated measurement and training procedures suggests that the answer to this question is a qualified 'yes'. However the corollary of this question poses a larger question for employers. If robust measures of staff views about challenging behaviour and staff performance are available and psychometrically evaluated, how is they to be used? For example, if it were possible to verify that some staff views and clinical practice in relation to 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?

Discussion

The effects of training are complex and training alone is rarely sufficient to change behaviour. Proven, effective training such as "active support training" 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.

Robust research evidence about the effects of staff training is now readily available to guide managers and trainers. However, by definition, there is very little research evidence on the characteristics of staff who do not volunteer for training or for studies of training. Most participants in research and in staff training are self selecting. 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 practices in relation to challenging behaviour subsequently. Conversely, staff who avoid training will have attitudes and behaviours that are more difficult to change. These factors should be borne in mind when extrapolating findings from training research. It is also one of a number of practical issues for employers.

References

- Ager, A. (1991). Effecting sustainable change in client behaviour: The role of the behavioural analysis of service environments. In B. Remington (Ed.), *The* challenge of severe mental handicap: A behaviour analytic approach (343-368).
 Chichester: Wiley.
- 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.
- Allen, D. and Tynan, H. (2000) Responding to aggressive behavior: impact of training on staff members' knowledge and confidence. *Mental Retardation*, 38, 97-104.
- 4. Allen, P., Pahl, J. and Quine, L.(1990) Care Staff in Transition. HMSO, London.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. Ball, T., Bush, A. and Emerson, E. (2004). Clinical Practice Guidelines psychological interventions for severely challenging behaviours shown by people
 with learning disabilities. Leicester: British Psychological Society.

- 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.
- 10. 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.
- 11. Bernstein, G.S. and Ziarnik, J.P. (1984) Training behaviour change agents in outcome selection. *Behavior Therapist*, 7(6), 103-104.
- 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.
- 13. 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.
- 14. BPS/RCS (2006) The British Psychological Society (BPS) and the Royal Society of Psychiatrists (RCS), "Challenging Behaviour: a unified approach: guidelines for staff working with people with learning disabilities and challenging behaviour". Draft for consultation to be published December 2006.
- Bromley, J. and Emerson, E. (1995) Beliefs and emotional reactions of care staff working with people with challenging behaviour. *Journal of Intellectual Disability Research*, 39, 4, 341-352.
- 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.
- 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.

- 18. Chung, M.C., Corbett, J. and Cumella, S. (1996) Relating staff burnout to clients with challenging behaviour in people with a learning difficulty: pilot study 2. *European Journal of Psychiatry*, 10, 155-165.
- 19. 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.
- Cullen, C. (1987) Nurse training and institutional constraints. *In J. Hogg and P. Mittler Staff Training in Mental Handicap*. Croom Helm, London.
- 21. Cullen, C. (1988). A review of staff training: the emperor's old clothes. *The Irish Journal of Psychology*, 9, 309-323.
- 22. 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.
- 23. 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.
- 24. Cullen, C. (1992) Staff training and management for intellectual disability services. *International Review of Research in Mental Retardation*, 18, 225-245.
- 25. Cullen C. (2000) A Review of Some Important Issues in Research and Services for People with Learning Disabilities and Challenging Behaviour: Scottish Executive review of services for people with a learning disability. Edinburgh: Scottish Executive.
- 26. 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.
- 27. 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.

- 28. Edwards, P., and Miltenberger, R. (1991) Burnout among staff members at community residential facilities for persons with mental retardation. *Mental Retardation*, 29, 125-128.
- 29. Emerson, E. (1995) Challenging Behaviour: Analysis and Intervention for People With Intellectual Disabilities 2nd Edition. Cambridge University Press, Cambridge.
- 30. 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.
- 31. Emerson, E. (2001) Challenging Behaviour: Analysis and Intervention in People With Severe Intellectual Disabilities. Cambridge University Press, Cambridge.
- 32. 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.
- 33. Felce, D. (2000) A Review of Research: Quality of Life for People with Learning Disabilities in Supported Housing in the Community: Welsh Centre for Learning Disabilities Applied Research Unit. University of Exeter, Centre For Evidence-Based Social Services Exeter
- 34. 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.
- 35. 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.

- 36. Foxx, R.M. (1996) Twenty years of applied behaviour analysis in treating the most severe problem behaviour: Lessons learned. *Behaviour Analyst*, 19, 225-235.
- 37. Harris, P. (1993) The nature and extent of aggressive behaviour amongst people with learning difficulties (mental handicap) in a single health district. *Journal of Intellectual Disability Research*; 37, 221-42.
- 38. 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.
- 39. Hastings, R., and Remington, B. (1994). Staff Behaviour and Its Implications for People with Learning Disabilities and Challenging Behaviours. British Journal of Clinical Psychology, 33, 423-38.
- 40. 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.
- 41. Hastings, R.P., Remington, B. and Hopper, G.M. (1995a) Experienced and inexperienced health care workers' beliefs about challenging behaviours. *Journal of Intellectual Disability Research* 39, 474-483.
- 42. 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.
- 43. Hastings, R.P. (1996a) Staff strategies and explanations for intervening with challenging behaviours. *Journal of Intellectual Disability Research*, 40, 2, 166-75.
- 44. Hastings, R. P. (1999). 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.

- 45. 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.
- 46. 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.
- 47. 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.
- 48. Health Evidence Bulletins Wales (2001) *Learning Disabilities (Intellectual Disability)*. Cardiff: National Assembly for Wales.
- 49. 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.
- 50. Hieneman, M. and Dunlap, G. (2000a) 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.
- 51. Hogg, J. and Mittler, P. (1987) (Eds.) *Issues in Staff Training in Mental Handicap*. Croom Helm, London.
- 52. 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.
- 53. Jahr, E. (1998). Current issues in staff training. *Research in Developmental Disabilities*, 19, 73-87.
- 54. 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
- 55. 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.
- 56. 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, (2) 79-99.
- 57. 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.
- 58. Knapp, M., Cambridge, P., Thomason, J., Allen, C. and Darton, R. (1992) *Care in the Community: Challenge and Demonstration*. Ashgate, Aldershot.
- 59. Koegel, L. K., Koegel, R. L., and Dunlap, G. (1996). *Positive behavioral support: Including people with difficult behavior in the community*. Brookes, Baltimore.
- 60. 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.
- 61. Lloyd, M.E. (1983) Selecting systems to measure client outcome in human service agencies. *Behavioural Assessment*, 5, 55-70.
- 62. Lyall, I., Holland, A. and Collins, S. (1995) Offending by adults with learning disabilities and the attitudes of staff to offending behaviour. *Journal of Intellectual Disability Research*, 39(6), 22-31.

- 63. 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.
- 64. Mansell J., Elliott T., Beadle-Brown J., Ashman B., and 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
- 65. 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.
- 66. McKenzie, K., Murray, G.C., Higgon, J. and Matheson, E. (1999) What is a learning disability? Do people need to be reminded. *Learning Disability Practice*, 2(1),8-11.
- 67. McKenzie, K., Simpson, F., Matheson, E., Murray, G.C. and Paxton, D. (2000) Challenging experiences. *Learning Disability Practice*, 2(3), 8-11.
- 68. McVilly, K.R.(1997) Residential staff: How they view their training and professional support. *British Journal of Learning Disabilities*, 25, 18-25.
- 69. NHS Scotland (2004) *The Learning Disabilities Health Needs Assessment*. NHS Scotland, Edinburgh.
- 70. NHS QIS (2006) National Overview of Health Services for People with Learning Disability. NHS Quality Improvement Scotland, Edinburgh
- 71. NMC (1993) Learning Disabilities, Challenging Behaviour and Mental Illness.

 *Research Highlights 1. Nursing and Midwifery Council, London.
- 72. 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.

- 73. 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.
- 74. Quilitch, H.R. (1975) A comparison of three staff management procedures. *Journal of Applied Behaviour Analysis*, 8, 59-66.
- 75. 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.
- 76. Remington, B. (1998) Behaviour analysis and intellectual disability: a long-term relationship? *Journal of Intellectual & Developmental Disability*, 23, (2), 121-135.
- 77. 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.
- 78. 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.
- 79. Smith, B., Wun W-L. and Cumella, S.(1996) Training for staff caring for people with learning disability. *British Journal of Learning Disabilities* 1996, 24, 20-5.
- 80. 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.
- 81. Stoltz, S.B. (1981) Adoption of innovations from applied behavioural research: "Does anybody care?" *Journal of Applied Behaviour Analysis*, 14, 491-505.

- 82. 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.
- 83. 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.
- 84. 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.
- 85. 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.
- 86. Whitaker, S. (2000) Evidence-based practice: have we got the evidence? *Clinical Psychology*, 11, 11-13.
- 87. Whitaker, S. (2002) Maintaining Reductions in Challenging Behaviours: A review of the literature. The *British Journal of Developmental Disabilities*, 48, 94, 15-25.
- 88. Wing, L (1989) Hospital Closure and the Resettlement of Residents: the case of Darenth Park Mental Handicap Hospital. Averbury, Aldershot.
- 89. Ziarnik J.P., Bernstein G.S. (1982) A critical examination of the effect of inservice training on staff performance. *Mental Retardation*, 20(3), 109-14.