

**A THESIS SUBMITTED TO THE UNIVERSITY OF BIRMINGHAM FOR THE
DEGREE OF DOCTOR OF CLINICAL PSYCHOLOGY**

**VOLUME I
RESEARCH COMPONENT**

**WHAT IS THE RELATIONSHIP BETWEEN CHALLENGING BEHAVIOUR, STAFF
BURNOUT AND JOB PERFORMANCE?**

by

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ABSTRACT

This thesis is submitted in partial fulfilment of the degree of Doctor of Clinical Psychology (Clin.Psy.D) at the University of Birmingham. It comprises two volumes, a research component and a clinical component.

Volume I comprises three sections, a systematic literature review paper, empirical paper and a public dissemination document. The literature review examines the literature for a link between staff stress and burnout on their job performance within learning disabilities services in the UK. The empirical paper follows on from the literature review and investigates whether there is a relationship between service users' challenging behaviour, burnout and job performance of staff within these services. Finally, there is a public dissemination briefing paper, which provides an executive summary of the empirical paper.

Volume II includes five Clinical Practice Reports (CPR), four written and one oral presentation, describing work completed while on clinical placements for adult, child, learning disability, physical and mental health opportunities. The first CPR describes a Cognitive and Systemic Formulation of a 31-year-old female with a diagnosis of learning disabilities and autism, presenting with health anxieties. The second CPR describes a case study of a 16-year-old girl with a diagnosis of severe autistic spectrum disorder and learning disabilities presenting with challenging behaviour. The third CPR is an audit of clinical practice: an evaluation of the clinical skills of staff who work with adults with severe and enduring mental health problems in a specialist community-based service. The fourth CPR describes a single-case experimental design study of the use of the Solihull Approach to reduce distress in a toddler (and her family) described as having elements of Global Developmental Delay, presenting with behavioural difficulties. Finally, the fifth CPR is an abstract providing a summary of an oral presentation of a 67-year-old woman with chronic

pain, in a community-based specialist pain management service. In order to ensure anonymity, names and identifying information have been altered or omitted, all participants and/or their family have given their permission for their cases to be used and published for the purpose of the degree.

This thesis is dedicated to my deceased parents Lucas and Agnita Bartholomew and my two precious little angels, Mica and Lorien who give me much joy, strength and inspiration.

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CHAPTER 1: LITERATURE REVIEW

Is there a link between stress and burnout for job performance in staff working in learning disabilities services? A systematic review of the literature and discussion of implications for clinical practice

ABSTRACT

Introduction: In the UK, it has been estimated that staff stress/burnout accounts for 30% of staff sickness in the NHS with an estimated cost of over £300 million each year due to absenteeism and turnover. Staff stress/burnout can be a major problem for services, not only for the well-being of the staff, but also assumed poorer job performance affecting quality service provision. The aim of this review was to evaluate the literature for evidence of a relationship between stress/burnout and job performance amongst staff in learning disabilities services.

Method: A search of the literature since 1987 to August 2013 was conducted using the PsycINFO, EMBASE, MEDLINE, CINAHL, ASSISA and Web of Science databases, combining terms representing the concepts 'learning disability or intellectual disability' with those for 'staff stress and burnout' and 'job performance'.

Results: From eleven quantitative studies (cross sectional and intervention), nine found a link and two did not find a link between staff burnout and job performance. The results revealed that a number of organisational and individual factors such as the environment, team cohesiveness and support from supervisors and other colleagues were also implicated in staff performance. The review highlighted two prominent approaches used to assess stress/burnout and job performance; self-report (subjective) and direct observations (objective). The articles are reviewed and their methodological weaknesses highlighted.

Conclusions: There was some evidence of a link between stress/burnout and job performance. Implications for clinical practice are discussed through a proposed stress / burnout framework model, which draws together some of the factors identified in the studies. More research is warranted to further test these relationships and the framework.

Keywords: staff stress, work stress, occupational stress, burnout, job performance, performance, learning disability, intellectual disability, developmental disability

INTRODUCTION

Stress and burnout are significant risk factors causing increasing concerns for staff, service users and organisations with a variety of predictive factors contributing to this risk. The NHS Health and Wellbeing Review (2009) was conducted to evaluate and provide an estimated economic cost of poor health and well-being amongst staff (Storey, 1995; Chen & Lin, 2003). It has been estimated that staff stress/burnout accounts for 30% of staff sickness in the NHS with an estimated cost of over £300 million each year through absenteeism, decreased productivity, staff turnover, and staff and service users' compensation claims (Boorman, 2009). Obtaining a balance between cost and quality service provision is a particular challenge for services.

Significantly, high levels of stress/burnout pose a particular threat to services in relation to job performance, as this is often associated with poor quality service provision that is not fit for purpose (Skirrow & Hatton, 2007). Achieving greater insights into whether there is a link between staff stress/burnout and job performance could improve interventions aimed at improving staff well-being, and, ultimately, improve the quality of service provision for people with learning disabilities. A review of the evidence suggesting a link between these relationships would contribute to this understanding.

Aim

The main aim of the paper is to synthesise and evaluate research literature that examines a relationship between staff stress/burnout and job performance. The reviewer will first seek to identify studies that report an association between these variables and will then discuss implications for clinical practice within a proposed theoretical framework combining the evidence. The studies' methodologies, strengths, weaknesses, and recommendations for future research will also be discussed.

Definitions: Stress/Burnout and Job Performance

Work Stress

Work stress occurs when the perceived demands of a job exceed one's own internal and external resources to do the job (Folksman *et al.*, 1987) through emotionally appraising stressful situations and events (Lazarus & Folkman, 1984). Similarly, Rose & Rose (2005) define stress as “the result of a transactional process between the environmental context and the individual. Stress is explained in terms of the demands placed on a person and how these demands are balanced between their perceptions of them as a threat and their perceived ability to cope”.

Burnout

Burnout has typically been defined as a state of physical, emotional and mental exhaustion that occurs when workers feel overburdened by the demands of long-term/prolonged involvement in emotionally demanding situations at work (Aitken & Schloss, 1994; Innstrand *et al.*, 2002; Hastings *et al.*, 2004).

Fundamentally, burnout is a construct with particular advantages over more traditional notions of stress as it considers the longer-term effects. Work by Maslach *et al.* (2001) refers to burnout as “job burnout” – a prolonged response to chronic emotional and interpersonal stressors at work. The authors further describe three dimensions of burnout; Emotional Exhaustion (EE), Depersonalisation (DP), and Personal Accomplishment (PA) in their burnout (MBI) measures; these are often used in learning disability research literature.

Borritz *et al.* (2006) refer to burnout as “personal burnout” and focus on the attributions of physical and psychological fatigue and exhaustion on the person. Research suggests that prolonged exposure to stress/or(s) at work leads to burnout in staff (Innstrand *et al.*, 2002; Hastings *et al.*, 2004). Hastings (2002) investigated stress and burnout under the overarching theme of psychological well-being. Thus, for the purpose of the review, both

terms, stress and burnout, are used synonymously, reflecting the language used in specific papers in the review.

Job Performance

Job Performance is a regularly used, yet poorly defined, concept within industrial and organisational psychology, and commonly refers to whether a person performs their job well (Campbell, 1990; Campbell *et al.*, 1993). Coming from an occupational psychology perspective, Campbell (1993) defines performance as behaviour, and describes job performance as an individual level variable; something a person does that is within their control. Despite this, no unified definition has been agreed within the learning disabilities literature, in relation to individual staff job performance.

It is important to note that job performance should not be confused with terms such as ‘job satisfaction’ or ‘productivity’ as these refer to different concepts but can exist as a direct result of job performance. For the purpose of this review ‘job performance’ refers to the quality of work produced by staff (subjective or objective) and is defined as an abstract construct represented by concrete phenomena that are measured, i.e. performance indicators. As direct care staff in learning disabilities services jobs cover many different types of activities and interactions, it is important to highlight what constitutes a person’s job performance.

This paper will focus on the quality of work delivered, using staff levels of interaction and service users’ outcomes as performance indicators. Interaction involves ensuring that service users have access to, and engage in, more meaningful activities /choices leading to more satisfaction with life and others within their environment (Mansell *et al.*, 2002), and that they achieve their full potential to improve their quality of life (Hatton *et al.*, 2009).

METHOD

Literature Search Strategy

To identify relevant studies that most clearly answer the overall research question, the following electronic databases were searched from 1987 to week 3 August 2013: EMBASE; Ovid MEDLINE; PsycINFO; Web of Science, ASSIA; Applied Social Sciences Index and Abstracts and CINAHL (Cumulative Index to Nursing and Allied Health Literature).

The literature search used a number of subject terms (with synonyms and closely related words) and each database was searched separately to make use of the particular search functions of each database, and then again collectively using EMBASE, MEDLINE and PsycINFO. The search terms used, together with the results of the searches, are shown in Table 1.1.

Table 1.1: Preliminary systematic literature search

Steps	Systematic search strategy	Number of articles
1	exp Learning Disabilities* .mp	39436
2	exp Intellectual disabilities* .mp	4887
3	exp Developmental Disabilities*.mp	74079
4	1 OR 2 OR 3	(98058)
5	exp burnout*/ or occupational stress	14807
6	Work stress*.mp	1825
7	5 OR 6	(15222)
8	exp Job Performance/	11540
9	exp Performance	39335
10	8 OR 9	(39335)
11	4 AND 7 AND 10	(12)
12	Exclude 6 non research articles	6

In addition to the above, the main inclusion and exclusion criteria are listed below:

Criteria for inclusion and exclusion

Inclusion criteria

1. Primary research studies
2. Quantitative studies including intervention studies
3. Studies reported in a learning disability setting:
 - a. A quantitative measurement of staff stress and burnout

- b. A quantitative measure of staff job performance

Exclusion criteria

1. Qualitative research
2. Case studies
3. Reviews
4. Editorials
5. Non-journal articles
6. Studies:
 - a. With children, and not with adults over the age of 18 years
 - b. With a non-learning disabled population
 - c. Not written in English
 - d. Have nothing to do with the research question

Search Findings

Application of the above criteria produced an initial shortlist of *six* studies. A further *three* studies were identified through scanning the reference lists of included studies, and abstracts were scrutinised to ensure that no relevant papers were missed. A citation search of key studies and consultations with clinicians working in the area produced a further *two* studies. The final selection comprised *eleven* quantitative studies including cross-sectional and intervention; the details of which can be seen in Table 1.2.

Table 1.2: Summary description of the *eleven* selected studies in reverse chronological order

Source and title	Sample and country	Design and analysis	Burnout measure(s)	Job performance measure(s)	Key findings
1. Kozak <i>et al.</i> (2013). Psychosocial work-related predictors and consequences of personal burnout among staff working with people with intellectual disabilities	N=409 (45% response rate). Staff in residential facilities for people with learning disabilities within services in Germany	Cross-sectional survey Multiple logistical regressions	Copenhagen Burnout Inventory (CBI); Kristensen <i>et al.</i> (2005).	Feedback subscale of the Copenhagen Psychosocial Questionnaire (COPSOQ); Nubling <i>et al.</i> (2005)	Correlation between performance feedback and levels of burnout as perceived by staff; with a reduced risk of burnout in staff who receive feedback on how they are performing their jobs. Staff who perceived more support from immediate managers /supervisors have fewer physical and psychological complaints.
2. Vassos & Nankervis (2012): Investigating the importance of various individual, interpersonal, organisational and demographic variables when predicting job burnout in disability support workers	N=108 Direct care staff working with learning disabilities who attended a conference in Melbourne, Australia	Descriptive statistics Correlations and multiple regressions	The Maslach Burnout Inventory- Human Services Survey (MBI); Maslach & Jackson (1986)	Job Feedback subscale (Borrill <i>et al.</i> , 1996, cited in Hatton <i>et al.</i> , 1997).	Findings suggest factors such as supervisor support and feedback on performance as perceived by staff are associated with staff burnout levels.
3. Hatton <i>et al.</i> (2009). Developing Measures of Job Performance for Support Staff in Housing Services for People with Intellectual Disabilities	N=122 support staff; N=115 service managers; N=82 people with intellectual disability; N=38 family members. UK	Questionnaire design using a worker-oriented job analysis method. Correlation analysis	MBI (Maslach <i>et al.</i> , 1996) (alphas for subscales EE=0.88; DP=0.72; PA=0.68)	Job Performance (Hatton <i>et al.</i> , 2009)	All four job performance measures showed adequate internal and test re-test reliability in terms of Cronbach's alpha; therefore appropriate measures of performance. Correlations between staff burnout and job

Source and title	Sample and country	Design and analysis	Burnout measure(s)	Job performance measure(s)	Key findings
4. Mitchell & Hastings (2001): Coping, burnout and emotion in staff working in community services for people with challenging behaviour	N=101 (41% response rate) Care staff from 23 community-based residential homes in the UK	Cross-sectional survey Correlations	MBI (Maslach & Jackson, 1986)	Behavioural and mental disengagement subscales of the COPE Inventory (Carver <i>et al.</i> , 1989).	performance were found. There was a correlation between burnout and staff performance in terms of interaction with service users. Staff who reported less stress engaged more with service users.
5. Hatton <i>et al.</i> (1999): Factors associated with staff stress and work satisfaction in services for people with intellectual disability.	N=450 (44% response rate) Staff from five community-based services for people with a learning disability in the UK	Cross-sectional survey Multiple regressions	General Health Questionnaire-12 (Goldberg, 1978) Job strain (Borrill <i>et al.</i> , 1996)	Job feedback (Borrill <i>et al.</i> , 1996). Focused on staff perception of supervisors providing feedback on their performance.	Increased support and job performance feedback from supervisors /colleagues as perceived by staff was associated with staff stress levels. Factors such as work satisfaction, greater role conflict and greater personal organisation mismatch concerning tolerance towards staff were also associated with increased staff stress and job performance.
6. Rose <i>et al.</i> (1998a): Investigating the relationship between stress and worker behaviour	N=33 Staff in two group homes (low stressed and high stressed for people with learning disabilities in the UK)	Cross-sectional design Intervention study <i>t</i> -tests	Depression and anxiety scale adapted from the “Thoughts and Feelings Index” (Fletcher, 1989)	Behavioural direct observation work schedule protocol (Adapted from Chernis, 1986)	Correlation between reduced levels of anxiety and better job performance (more interactions with service users). Some indication of potential intervention for improving clinical practice and suggests factors that are important in the

					mediation of stress in staff.
Source and title	Sample and country	Design and analysis	Burnout measure(s)	Job performance measure(s)	Key findings
7. Rose <i>et al.</i> (1998b): The impact of a stress management programme on staff well-being and performance at work	N=32 Staff in residential group homes for people with learning disabilities in the UK N= 14 intervention group (93% response rate) N= 18 control group (78% response rate)	Cross-sectional design Intervention study <i>t</i> -tests	Strain (stress) measured using the Thoughts and Feelings Index (Fletcher, 1989)	Behavioural direct observation using a protocol (Adapted from Chernis,1986)	An association between reduced anxiety/ depression and performance in staff. Results suggest that changing the work environment can have a direct impact on staff stress/burnout and job performance. Interventions aimed at reducing staff levels of anxiety and depression can have a positive impact on work performance.
8. Hatton <i>et al.</i> , (1997): Staff in services for people with learning disabilities.	N=512 (42 % response rate) Staff in seven districts providing services for people with learning disabilities in the UK .	Cross-sectional survey questionnaire design. ANOVA Regression: Path Analysis	1.GHQ-12 2.Self-Assessed Health and Health Behaviour (Borrill <i>et al.</i> , 1996) Job strain (Borrill <i>et al.</i> , 1996)	Job Activity (Allen <i>et al.</i> ,1990) Job Feedback (Borrill <i>et al.</i> , 1996)	Results showed a correlation between performance feedback from managers/supervisors and staff levels of stress as rated by staff. Performance feedback reduces staff levels of burnout and role conflict at work. Support from supervisors/managers seems especially important for improving staff skills and levels of burnout.
9. Lawson & O'Brien (1994): Behavioural and self-report measures of staff burnout in	N=79 Direct care staff from five facilities for people with a	Cross-sectional study Correlations	MBI (Maslach & Jackson, 1986)	Behavioural direct observational measures of staff activity levels with	Higher burnout levels correlated with job performance. Staff who reported higher levels of burnout were observed to

developmental disabilities.	learning disability within the UK			service users.	engage in little positive client interaction; with some staff avoiding clients.
Source and title	Sample and country	Design and analysis	Burnout measure(s)	Job performance measure(s)	Key findings
NO EVIDENCE TO SUPPORT A LINK BETWEEN BURNOUT AND PERFORMANCE					
10. Hatton <i>et al.</i> (1995): Stressors, coping strategies and stress-related outcomes among direct care staff in staffed houses for people with learning disabilities.	N=68 (Social Workers): UK	Cross-sectional survey. Multiple regression and correlation	1.The Malaise Inventory; (Allen <i>et al.</i> , 1990; Rutter <i>et al.</i> , 1970a;1970b) 4.Work stress (Hatton <i>et al.</i> , 1994)	Impact of stress on staff lifestyle (work performance, social life and personal relationships); Hatton <i>et al.</i> (1994).	No correlations were found between burnout and performance. However, perceived work stress (i.e. emotional impact of the work), violent service user behaviour and a ‘wishful thinking’ coping strategy were associated with stress and staff interaction with service users.
11. Rose <i>et al.</i> (1994): An examination of the relationship between staff behaviour and stress levels in residential care.	N=34 Staff in one community unit and two group homes for people with learning disabilities in the UK	Cross-sectional study Comparison <i>t</i> -test	Stress measure using Thoughts and Feelings Index (Fletcher, 1989)	Observational schedule protocol (Adapted from Chernis, 1989)	No significant differences in levels of stress between staff in group homes and community units. Results suggest greater staff and resident interaction in group homes, suggesting that environmental factors contribute to differences in performance. There were no correlations between stress/burnout and performance.

Evaluation criteria

Framework for assessing the quality of the literature for the review

No single approach was used to assess the quality of studies. However, in order to ensure a level of objectivity, the author felt it was appropriate to utilise the Critical Appraisal Skills Programme (CASP) (2000) as the majority of the studies in the review were cross-sectional with the exception of two intervention studies. The CASP is essentially a critical appraisal tool with a specific checklist to assist with appraisal of observational study (e.g. cohort, case-control, cross-sectional). Four questions/criteria were identified: What is the paper about? Can you trust the credibility of the paper? What did they find? Are the results relevant locally? to help make sense of the cross-sectional studies (see Table 1.3 for details).

The assessment process was undertaken to allow a basic evaluation of the quality of the respective studies. The quality framework was adapted for the purpose of the review because some of the questions did not apply to the studies (e.g. is any cost- information provided?)

The overall principle for using quality assessment criteria is to assess the internal validity of the studies based on methodological rigour, sample/ target population/ response rate, and the objective validity /reliability of the outcome measures in terms of whether the findings are relevant locally. The key themes from the quality assessment, highlighting some of the strengths and weaknesses of the articles, are considered within the review.

In terms of the results listed in Table 1.3, all of the papers were rated in a similar way. Given that not all the studies' primary aim(s) was to directly answer the current research question, overall the included studies were of satisfactory quality, with many of the weaknesses being to do with the methods and measures employed in the studies.

Table 1.3: CASP Quality criteria for cross-sectional studies (2000)

Quality Assessment Criteria		Papers										
		Vassos et al., /2012)	Rose et al., /1991)	Mitchell & Hastings /2011)	Larson et al., /1991)	Kozak et al., /2012)	Hatton et al., /2001)	Hatton et al., /1997)				
What is the paper about?												
1	Is the study relevant to the needs of the project?	++	++	++	++	++	+	++	++	++	+	+
2	Does the paper address a clearly focused issue in terms of:											
2.1	The population studied?	++	++	++	++	++	+	++	++	++	++	++
2.2	The aims of the investigation?	++	++	++	++	++	+	+	++	+	++	++
Can I trust it?												
3	Is the choice of method appropriate?	+	-	-	+	-	++	-	++	++	++	-
4	Is the population studied appropriate?	+	++	++	++	++	+	+	++	++	++	++
4.1	Was the sample representative of its target population?	+	++	++	+	+	+	+	+	+	+	++
5	Is confounding and bias considered?	+	++	+	+	+	-	++	+	-	-	+
5.1	Have all possible explanations of the effects been considered?	+	+	+	+	+	+	+	+	-	+	+
5.2	Did the study achieve a good response rate?	+	++	++	+	++	+	+	+	+	-	+
5.3	Were rigorous processes used to develop the questions? (e.g., were the questions piloted /validated?)	+	+	+	++	+	+	+	+	++	+	+
What did they find?												
6.	Are tables/graphs adequately labelled and understandable?	+	+	+	+	+	+	+	+	+	+	+
7.	Are you confident with the authors' choice and use of statistical methods, if employed?	+	+	+	+	+	+	+	+	+	+	+
8.	What are the results of this piece of research? Are the authors' conclusions adequately supported by the information cited?	+	+	+	+	+	+	+	+	++	++	++
Are the results relevant locally?												
9	Can the results be applied to the local situation? Consider differences between the local and study populations (e.g. cultural, geographical, ethical, learning disabilities) which could affect the relevance of the study.	+	++	++	+	+	++	+	+	+	+	+
10	Were all important outcomes/results considered?	+	+	+	++	+	+	+	++	++	+	+

Ratings key:

++	All or most of the criteria have been fulfilled. Where they have not been fulfilled the conclusions of the study or review are thought very unlikely to alter.
+	Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.
-	Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

RESULTS: DATA SYNTHESIS

1. Is there a link between staff stress/burnout and job performance?

Much of the research into the impact of stress and burnout on staff performance is within general medicine/nursing, educational and law enforcement organisations (Taris, 2006). However, within the learning disability literature, evidence suggests a link between self-reported levels of stress/burnout and performance. Links were found between high staff stress and poor performance resulting in negative consequences for services such as high staff absenteeism, turnover and sickness (Rose *et al.*, 1994; Arnold *et al.*, 1995; Rose, 2011). Hatton *et al.* (1999) and Hastings *et al.* (2004) also found reduced positive interactions with service users, suggesting a direct impact on the quality of service provision.

In view of the many and complex influences on the stress/burnout and performance relationship, it is important that these relationships are critically examined when appraising the literature on links between stress/burnout and job performance amongst staff. The following is an attempt to tease out the most relevant information from each study that reflects, even partially, the main aims of the review. The findings are discussed, examining each study respectively.

1.1 Studies that have found a link between stress/burnout and job performance

Below is a summary in chronological order (most recent first) of the nine studies that found evidence of a link between stress/burnout and job performance amongst staff.

In a study examining potential predictors of personal burnout among staff, Kozak *et al.* (2013) presented a cross-sectional survey involving $N=409$ (45% response rate) staff at all levels from different professional backgrounds across 50 welfare service facilities for people with intellectual disabilities in Northern Germany. Staff were asked to complete in 'pen and paper' format the Copenhagen Burnout Inventory (CBI) to assess levels of burnout, and the Copenhagen Psychosocial Questionnaire (COPSOQ) to assess job-related psychosocial aspects and outcomes including a one-item self-report job feedback scale for measuring job

performance. Data were analysed using correlations and multiple logistical regressions and it was found that burnout significantly negatively correlated with job performance ($\rho = -0.24^{**}$, $p < 0.01$). The authors suggested that regular feedback on job performance reduced the levels of burnout perceived by staff, thus indicating some evidence (albeit limited) of a link between performance and burnout. A strength of the study is that it benefited from a large sample, with a relatively high response rate. However, one weakness of the study was the one-item scale used to measure job performance as this reduces the overall usability of that measure. As such, the findings should be treated with caution as this brings into question any relationship that may be indicated in the study.

In an Australian study, Vassos & Nankervis (2012) carried out a cross-sectional survey with 108 disability support workers who had attended a conference. The aim was to investigate which factors contributed the most to the prediction of burnout based on the three aspects of The Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986); emotional exhaustion (EE), depersonalisation (DP) and personal accomplishment (PA). Staff completed a questionnaire booklet of standard measures of burnout and the job stressors related to the work measure (using the opinion items scale from Hatton *et al.*, 1997) which included job feedback items as a measure of performance. Data were analysed using ANOVA and multiple regressions and it was found that personal accomplishment significantly positively correlated with job feedback in relation to performance; ($\rho = 0.21^*$, $p < 0.05$). The findings confirmed limited evidence of a relationship between the personal accomplishment aspect of burnout and the work that staff perform, as rated by the staff themselves. A strength of the study is that it confirmed the importance of a number of individual, interpersonal and organisational variables that organisations need to consider when thinking about staff and client outcomes. However, a number of weaknesses were highlighted, such as the study having a relatively small sample size. In addition, the use of self-reported (subjective)

measures of job performance made it difficult to assess the accuracy of the results, and, again, as with the previous study, it was difficult to confirm the appropriateness of the self-reported job feedback scales for measuring staff job performance.

With a UK sample, Hatton *et al.* (2009) used a worker-oriented job analysis model to develop four separate job performance questionnaires with support staff working with people with learning disability. They used four sources for their data; Support Staff ($\alpha=0.91$, $n=122$); Service Managers ($\alpha=0.96$, $n=115$); Service Users ($\alpha=0.84$, $n=82$) and Family Members ($\alpha=0.90$, $n=38$). In addition the job performance questionnaires were examined to see if there were associations between all four job performance measures and the demographic characteristics of the support staff and service users, staff well-being (including burnout, sickness and turnover), service quality (person-centred planning process) and service user experiences (choice and satisfaction with life). Staff, line managers, service users and their relatives completed a questionnaire about how the staff were performing in their jobs. In addition, staff completed the MBI, the Person-Centred Planning Process Scale and Intended Turnover – a 2-item self-report measure. The researcher then conducted semi-structured interviews with service users using the Choice Questionnaire, My Life Interview and the Support Scale – a 10-item measure.

All four job performance measures showed adequate internal and test-retest reliability suggesting they were reliable measures. Associations were found between higher service user job performance scores and lower levels of emotional exhaustion ($\rho = -0.39$, $p = 0.002$); higher staff self-rated job performance scores and lower levels of depersonalisation ($\rho = -0.27$, $p = 0.003$) and higher levels of personal accomplishment ($\rho = 0.24$, $p = 0.009$). The findings suggest a link between levels of burnout in staff and job performance. A strength of the study is that the findings suggested that the job performance questionnaires were appropriate measures of performance for future research; they are relatively short, simple and

designed to capture the different expectations and perspectives of different groups of people involved in learning disabilities services. However, weaknesses of the study included the relatively small sample size for some of the groups, in particular the family members group, which makes the generalisability of the job performance measure unclear. Another issue highlighted was in relation to the accuracy of information gathered, because the staff were not able to remain anonymous to the researcher, with service users having to provide the names of the staff they were assessing, which may have impacted on the information gathered.

A study by Mitchell & Hastings (2001) was designed to explore staff coping/interactions styles, levels of burnout and emotional reactions to service users' aggressive and challenging behaviours. A total of 83 direct care staff were recruited from five community-based services for people with learning disabilities. Staff completed the following questionnaires: Emotional Reactions to Aggressive Challenging Behaviour Scale (Mitchell & Hastings, 1998); the COPE Inventory (Carver *et al.*, 1989) to assess staff coping and interaction styles; and the MBI for assessing levels of burnout in staff. The aim was to examine if emotional reactions and interactions with service users (job performance) were predictive of burnout in staff. Data were analysed using regression analysis.

The findings showed that staff used three main coping/interaction styles (when interacting with service users presenting with adaptive, disengagement and denial coping strategies). However, only disengagement (i.e. interactions with service users) was found to significantly positively correlate with emotional exhaustion ($\beta = 0.21^*$, $p < 0.05$) and significantly negatively correlate with the personal accomplishment ($\beta = -0.30^{**}$, $p < 0.01$) aspects of burnout. No significant correlations were found between disengagement and the depersonalisation (values not provided) aspect of burnout. Staff who are experiencing high levels of emotional exhaustion and low levels of personal accomplishment are more likely to

either avoid, or interact less with, service users presenting with challenging behaviour. These findings confirmed evidence of a link between levels of burnout and job performance in relation to interaction with service users. One noticeable weakness of the study was the use of the COPE Inventory as an appropriate measure of staff job performance at work.

A study by Hatton *et al.* (1999) employed a cross-sectional survey with 450 staff from five services for people with learning disabilities (both residential and non-residential) within the UK. The aim was to investigate factors associated with staff outcomes including stress, work satisfaction and job performance (self-rated feedback on how they were performing their jobs). Staff were asked to complete an extensive questionnaire booklet including self-report measures to assess levels of work stress (in the form of job strain), general stress, and work satisfaction.. Data were analysed using path analysis and multiple regressions. The findings showed that work stress was directly associated with job performance ($\beta = 0.17, p = 0.001$) and work satisfaction was strongly associated with job performance ($\beta = 0.29, p = 0.001$). Staff who reported receiving more support and feedback from immediate supervisors /colleagues on how they were performing in their jobs showed a greater sense of satisfaction/accomplishment and reduced job strain/stress, thus suggesting an associated link between stress/burnout and job performance.

As well as the survey benefiting from a large sample size, another strength was the wide range of variables analysed such as organisational and individual issues directly affecting staff outcomes including performance at work. However, similar to other studies, one weakness was a question over the appropriateness of employing a self-report job performance feedback measure for staff to assess their own job performance rather than utilising an objective measure of job performance, making it difficult to draw firm conclusions from the results.

Rose *et al.*'s (1998a) study compared levels of stress (based on measures of anxiety and depression) and behaviour of staff working with people with a learning disability when interacting with service users. They compared staff stress levels in group homes identified as 'low' or 'high' stress, and examined a number of other apparent differences between the groups. A total of 33 staff working in six residential homes were asked to complete questionnaires asking for information on their background, characteristics, demands and support/constraints. Stress levels were measured using the depression and anxiety scales of the Thoughts and Feelings Index (Fletcher, 1989). Performance was assessed by a third party, using a direct observation schedule (adapted from Chernis, 1986), on the level of interactions between staff and service users. It was predicted that staff in the 'low stress' homes would have more positive and constructive interactions with service users.

Comparison data analysis was conducted and the results showed that staff in the 'high stress' homes had fewer interactions with service users compared with staff in the 'low stress' houses where more assistance and positive interactions were observed ($t = 3.4, p = 0.001$). Staff in the low stress homes also had more frequent social interactions with colleagues than those in the high stress homes ($t = 3.56, p = 0.001$). The results confirmed a link between the work performed and staff stress. A strength of the study is that it included objective measures of the staff job performance through direct observation by a third party, to reduce bias. A limitation of the study was the very small sample, and the authors noted that they were unable to control for a number of other possible explanations for the differences in the level of interaction between the two homes, e.g. service users' characteristics, levels of peer support and overall team cohesiveness.

Another study by Rose *et al.* (1998b) examined whether the level of positive interactions of staff with service users would improve following a stress management programme intervention designed to reduce staff stress levels within a learning disability

setting. Five group homes took part in the study and staff were randomly assigned to intervention ($N=15$) and control ($N=23$) groups. Staff were asked to complete the Adaptive Behaviour Scale (Nihara *et al.*, 1974) and The Behaviour Problems Inventory (Rojahan *et al.*, 2001). Stress levels were assessed in terms of staff anxiety and depression using the Thoughts and Feelings Index (Fletcher, 1989) and the work performance was assessed through direct observations using an observational schedule protocol (adapted from Chernis, 1986). Pre- and post-intervention data were analysed using independent sample t -tests.

Significant differences were observed following intervention when compared with the control group; staff anxiety levels were found to be significantly reduced in the intervention group ($t = 4.82, p < 0.05$). There were also improvements in a number of directly observed staff behaviours associated with reduced levels of anxiety including a change in observed job performance, with an increase in positive interactions and assistance given to service users ($t = -3.45, p \leq 0.001$). However, no similar changes were found for staff depression levels in the control and intervention groups. The findings suggest that intervening to reduce staff levels of anxiety may have a positive impact on the work staff perform, providing evidence of a link between staff stress levels and job performance.

A strength of the study is that, in common with the previous study, objective measures of performance by way of direct observations of staff performing their work were included. The authors noted that this approach was generally welcomed by staff and that it can be a helpful way of examining work practices from both staff and service user perspectives. However, similar to Rose *et al.*'s (1998a) study, a limitation was the small sample size, which means that the results should be interpreted with caution. Another limitation was the appropriate use of levels of anxiety and depression as a measure of staff stress, because increased depression and anxiety may not have fully reflected the levels of stress leading to burnout in these services.

Hatton and Emerson (1997) conducted a similar survey to Hatton *et al.*'s (1999) study, and examined staff levels of stress and morale in learning disabilities services. The aim was to investigate potential influences on staff outcomes including performance. A total of 514 staff across seven districts completed a number of self-reported questionnaires to assess how they felt about their jobs, including levels of stress (using the GHQ-12 and Job Strain measures) and job performance (using job performance feedback and job activities measures). Data were analysed using one-way analyses of variance (ANOVA). The results showed a significant correlation ($t = 4.05, p = 0.0003$) between high stress levels and lower job performance (based on feedback from supervisors on work performed). There were also significant associations ($t = 3.75, p = 0.0006$) between higher staff stress and job performance (based on activities performed with service users when outside the usual care service setting i.e. outpatient appointments, external social events and day trips). The results suggested that increased interactions with service users outside the usual care settings were associated with increased stress levels in staff. The findings confirm a link between staff levels of stress and their job performance.

A strength of the study was the large sample size, incorporating a range of NHS, private and voluntary sector services within the UK. However, a negative aspect of the study was the appropriateness of the use of self-reported job feedback and job activity measures to assess staff job performance within the sample, bringing into question any relationships indicated in the study.

Lawson & O'Brien (1994) conducted a cross-sectional survey with 79 direct care staff from five facilities for people with developmental disabilities, to examine correlations between levels of staff burnout and activities performed with service users. Staff were asked to self-rate their levels of burnout on three aspects; EE DP and PA using the MBI, and job performance was assessed using the level of activities performed with service users. Data

were analysed using correlations, and the results found a statistically significant negative correlation ($\rho = -0.38, p < 0.05$) between levels of EE burnout and the activities carried out with service users. Staff who reported higher EE engaged in less positive client activities and interactions. No correlations ($\rho = -0.12, p > 0.01$) were found between job performance and DP or job performance and PA ($\rho = -0.09, p > 0.01$). A strength of the study was that objective measures of job performance were used, with clear performance indicators. However, a weakness of the study was the low rate of significant correlations for the MBI (5 out of 102) which was probably because of staff not accurately rating their true levels of burnout. It is therefore difficult to ascertain whether the significant findings were due to chance or because of response bias in the way that staff reported their levels of burnout.

1.1.1 Studies that have not found a link between stress/burnout and job performance

Two studies reported no links between levels of staff stress/burnout and job performance. Hatton *et al.* (1995) reported on a sample comprising 68 social workers from two housing networks (residential and community-based) for people with learning disabilities. The aim was to compare descriptive information across the two networks and explore the impact of stress on staff work performance, social life and personal relationships. Staff completed a number of self-report questionnaires to assess levels of stress (e.g. the Malaise Inventory and Work Stress) and job performance, based on staff perceptions of the impact stress had on their performance at work (e.g. using the Impact of Stress on Staff Questionnaire). Data were analysed using Mann-Whitney U Tests, and the findings revealed significant differences ($U = 341.5, p < 0.01$) between stress levels in staff, with staff in the community-based network reporting experiencing more general and work stress than staff in the residential network. However, the reviewer noted no relationship was found (no data provided) between stress and impact on job performance within the sample. While the study

highlighted the importance of considering the physical environment that staff work in as a potential stressor, a limitation of the study was the lack of robust measures to assess actual job performance rather than staff self-reporting on the impact of stress on their job performance.

In another study by Rose *et al.* (1994), one community unit and two group homes for people with learning disabilities were identified for a comparison study to examine the relationship between levels of stress and observed performance at work. A total of 27 staff were asked to complete the Thoughts and Feelings Index (Fletcher, 1989) to assess levels of stress, and direct observations were carried out on work performed and staff interactions with service users using a protocol based on a schedule from Chernis (1986). Comparisons were made using chi-squared tests. The results found no significant difference ($p < 0.01$) in levels of stress (based on anxiety and depression levels) between staff in the group homes and community units. However, staff in the group homes interacted far more with service users than staff in the community unit ($p < 0.05$). Therefore, there was no evidence to confirm a link between staff levels of stress and their job performance.

1.1.2 Summary

To conclude, overall the majority of studies in this review examined an association between (various aspects of) stress/ burnout and job performance; most relied on relatively small samples of staff in learning disabilities services. A number of stress and burnout self-reported measures were employed including the MBI, while self-rated job performance measures based on interactions, activities and supervisor/colleague feedback on work performed with service users were employed to measure staff job performance, with some studies using direct observations (objective) to assess the job performance.

While the reliability of the stress/burnout and performance measures employed in the studies were good, the validity of the self-reported (subjective) performance measures was

questionable, due to the high potential for bias in staff rating their own job performance. While employing objective measures of job performance (having someone else to rate the job performance) is a strength in study design it can often be subject to the same, or similar, biases as subjective measures (staff rating their own performance). It should be noted that, by their very presence, a third party may influence the behaviour of the staff being observed, which will affect the results. It is not entirely clear to what degree this shortcoming affected the findings of these studies on the magnitude of the relationship between job performance and stress/burnout, therefore caution should be used. However, these differences in approach may have implications for future research and perhaps a combination of the two approaches (self-reported and direct observations) should be considered for this type of research in the future.

1.2 Other factors influencing burnout

Some research has sought to identify the most predictive factors of burnout with consequences for job performance in services. Eight of the eleven studies found a relationship between predictive factors of burnout and job performance, with some similar themes relating to individual and organisational factors appearing throughout the studies.

Kozak *et al.*'s (2013) study investigated potential factors and consequences of personal burnout by asking 409 staff to complete the Copenhagen Psychosocial Questionnaire (COPSOQ) to assess job-related psychosocial aspects and outcomes, and the Copenhagen Burnout Inventory (CBI) to assess burnout. The findings indicated a significant association between a number of predictive factors of burnout and consequences for impaired job performance as such service users' challenging behaviour (namely service users' aggression) ($p < 0.001$); individual staff job experience ($p < 0.01$); support from colleagues and supervisors ($p < 0.01$); role clarity and conflict ($p < 0.01$); possibilities for staff development ($p < 0.01$) and quality of leadership ($p < 0.01$) within services. In addition,

higher levels of burnout significantly correlated with higher rates of intention to leave the job ($p < 0.01$), job security and lack of a sense of workplace commitment ($p < 0.01$). A limitation of the study was the use of a relatively new burnout measure and the difficulty in comparing findings with similar studies, limiting the generalisability of the results.

A number of surveys conducted by Hatton *et al.* (1995; 1997; 1999) asked staff in group homes to complete questionnaires about different aspects of their job to investigate factors associated with poor morale and outcome amongst staff in learning disabilities services. The data were analysed and the results were similar for all three studies. Significant correlations were found between staff perceptions about possibilities for career development at work and job performance, which confirms the findings of Kozak *et al.*'s (2013) study. In addition, a lack of positive commitment to the job was a predictor of burnout and correlated ($p < 0.01$) with job performance thus the authors suggested that staff who want to leave a job or, in some cases, are unable to find another job, feel less committed and are relatively unmotivated to improve their job performance. Significant correlations ($p < 0.01$) were also found between job experience (the length of time staff have worked within the learning disabilities field) and job performance; older staff who had worked for longer rated their performance as better than younger staff who had less experience of working with people with a learning disability. Additionally, Hatton *et al.* (1997) found a correlation ($p < 0.01$), between contractual working terms and conditions and staff performance with those on fixed-term contracts more likely to show less commitment to the service and engage in more job search behaviour. Hatton *et al.* (1997; 1999) and Rose *et al.* (1998a) also found significant associations ($p < 0.01$) between support from colleagues and job performance; support from colleagues and supervisors was found to be statistically significant in reducing staff levels of burnout and improving job performance. Staff who reported greater levels of support engaged in more positive interactions with service users. These findings were supported by

Rose *et al.* (1998b) who also found a significant difference ($p < 0.01$) between team cohesiveness and job performance in relation to the quality of interactions in residential group homes.

Furthermore, Rose *et al.* (1994) found in their comparison study with staff in group homes and community units that the physical environment was a more predictive factor of performance, noting a greater amount of staff and service user interaction in the group homes than in the community unit settings. Lawson & O'Brien (1994) found in their study that working longer hours was associated with decreased job performance, with those staff who worked longer hours engaging in less positive interactions with service users.

1.2.1 Summary

To conclude, staff with higher levels of stress and burnout are at risk of reduced performance at work (Kozak *et al.*, 2013; Vassoc & Nankervis, 2012; Hatton *et al.*, 2009, 1999, 1997; Mitchell & Hastings, 2001; Rose *et al.* 1998; Lawson & O'Brien, 1994), however, other factors contribute to this risk. While the above studies provide good evidence concerning associations between predictive factors that were most important in influencing performance, a particular strength of four of the studies was the use of objective measures of performance. Four of the studies were limited by the use of self-reported measures to assess job performance and did not mention whether objective measures were considered. Despite the various limitations, the findings with regard to predictive factors of burnout are consistent enough to be able to propose a tentative model linking burnout with reduced job performance.

DISCUSSION

Links between stress/burnout and job performance

The majority of studies provided some supporting evidence of a relationship between stress/burnout and performance, with other studies providing evidence of a relationship between predictive factors of burnout and job performance as mentioned previously, including the importance of organisational factors (i.e. support from supervisors/colleagues and working environment). More details can be seen in Figure 1.2 below. These results are interesting news for learning disability research.

The review included studies with a number of strengths, including relatively large sample sizes and a good response rate for some studies (e.g. Hatton *et al.*, 1997; Vassos & Nankervis, 2012; Kozak *et al.*, 2013) and adequate provision of statistics and interpretation of the findings. Another strength of the review is that some studies employed the use of direct behavioural observation (objective methods) to assess job performance, all of which adds to the quality of the current evidence. With these relative strengths in mind, it can be reasonably concluded that there is some evidence to suggest a relationship between increased staff stress leading to burnout and poor job performance.

The previously mentioned *two* main approaches for assessing job performance (self-report and observation of work performed) are highlighted in the review. While this is a good starting point for this type of research, it is essential that more and different methods for encouraging, evaluating/assessing and monitoring quality job performance are used and developed. For example, Repp *et al.* (1987) describe four basic strategies for encouraging, promoting and assessing performance including monetary feedback (e.g. a one-off extra annual leave day); self-monitoring; verbal feedback/appraisal from peers/team members on how staff are performing in their jobs; and public recognition (both positives and negatives) of staff performance (e.g. through notice boards, newsletters and team meetings). In addition,

the 360-degree feedback appraisal tool (Hazucha *et al.* 1993) has recently been gaining increasing interest in NHS services. Reilly *et al.* (1996) found in their study that 360-degree feedback increases performance, suggesting that this may be used as a predictor of future performance. Other methods could include the use of external assessors who regularly visit services and directly assess the quality of job performance while also making constructive recommendations and suggestions for improvements, and of course, the use of service-users' feedback/appraisal (Hatton *et al.*, 2009) can be helpful.

These approaches by their very nature, and if carried out on a regular basis, will provide a more balanced and accurate picture of job performance. The results generated from these approaches along with the two main approaches discussed earlier in this review will not only contribute to developing improved individual staff performance, but also to the overall quality of service provision.

Limitations of the review

This review has been undertaken at a time when empirical research is slowly emerging in the area of staff stress/burnout and job performance. The relationship between stress/burnout and job performance remains an issue that needs to be better understood, especially in terms of its implications for the quality of service provision. In order for improvements to be made in learning disabilities services, it is possible that narrower concepts are needed, with a focus on the predictive factors that are most important in influencing burnout, to better assist with the understanding of this relationship.

As discussed, the studies reviewed in the present research have a number of limitations. The first is the wide variety of self-report (subjective methods) measures used to assess stress/burnout and, in a few studies, the self-report measures used to assess job performance, many of which are not satisfactory indicators of performance. More

importantly, the content validity of the concepts used to record performance was not always high. The main issues here are whether these measures were (1) unbiased representations of performance, and (2) relevant to measuring performance. These points raise questions as to the accuracy of the results when staff are asked to rate their own performance.

Although the overall methodological quality of the current evidence was within the range of poor to satisfactory standard, it is worth noting that many studies drew on small samples. Again, both issues raise the question as to what extent the findings of these studies can be generalised to other studies, employing larger samples from other professions.

Implications for clinical practice and future research

As has been indicated, this is a new area, which has not been widely researched, and, on the balance of probabilities, the research does suggest there is an association between stress/burnout and job performance. Therefore, more research is warranted to examine factors influencing this relationship.

In total, eight studies identified a number of other important factors influencing job performance, which will have implications for clinical practice. These have been previously discussed and have been grouped into two sets of predictive factors of stress/burnout: ‘External Factors’ including service users and organisational factors; and ‘Individual Factors’. These are presented diagrammatically in a proposed framework model (adapted from ideas by Motowidlo *et al.*, 1986). Figure 1.2 shows the relationships between current evidence of stress/burnout/predictive factors and decreased job performance in services for people with learning disabilities.

Motowidlo *et al.* (1986) model of the causes of occupational stress and its consequences for job performance

This model was predominately developed for nursing staff in general medicine. However, Motowidlo *et al.* (1986) believed that the model would be applicable to “a variety of work stress situations” and further hypothesised how subjective stress in relation to specific events occurring at work leads to increased affective states such as anxiety, hostility and depression resulting in a reduction in certain aspects of job performance (see Figure 1.1).

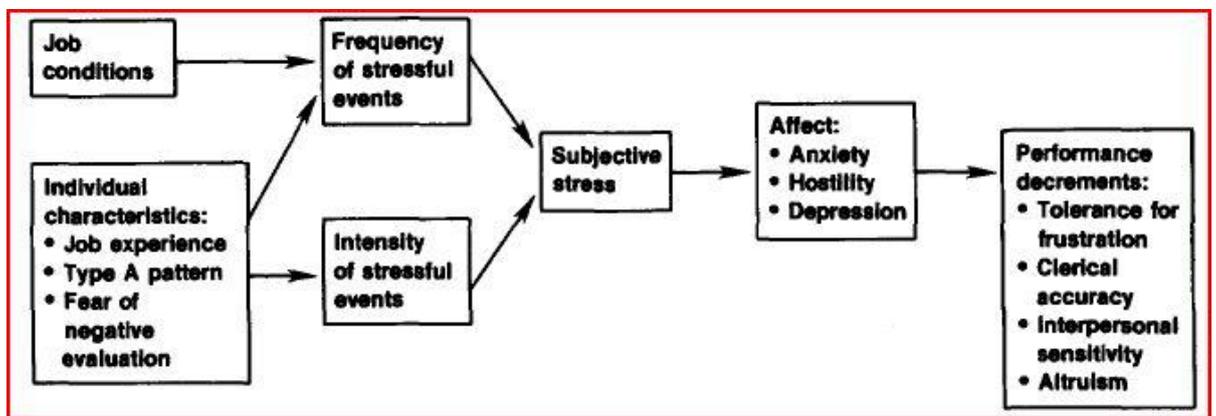


Figure 1.1: Preliminary model of the causes of occupational stress and its consequences for job performance. (Motowidlo *et al.*, 1986)

The model shown in Figure 1.1 proposes three levels. The first level is antecedents (identified as predictive factors in the current review) of stress/burnout. The second level refers to the frequency and intensity of antecedents leading to heightened emotional reactions of staff. The third level refers to the behavioural consequences, where the emotional experiences of the staff take priority and they can become exhausted and less able to perform effectively, resulting in possible decreased job performance on tasks that call for tolerance, clerical accuracy and the ability to avoid perceptual distractions (problem-solving abilities). These stressful events may also cultivate a sense of selfishness in staff making them less

sensitive to others, with decreased recognition of individual differences, and an increase in aggressive and complacent attitudes at work.

Applying Motowidlo *et al.*'s (1986) theory to clinical practice in learning disabilities services

Many of the findings identified in the research seek to test the applicability of Motowidlo *et al.*'s (1986) theory as a framework for clinical practice job performance in learning disabilities services. However, the following is an exploratory framework, with a view to incorporating the findings of the review and relevant ideas from Motowidlo *et al.* (1986) in order to better understand the impact and consequences of stress/burnout and job performance and identify future interventions and research in the area (see Figure 1.2).

The findings of the review found an association between job performance and stress/burnout with evidence to show, that support from immediate supervisors/colleagues and managers' was one of the most important predictive factors of stress/burnout and job performance. With this in mind, the author provides a preliminary list of recommendations that could be part of, or incorporated into, already existing clinical practices and policies.

Prevention

Organisations/local services need to develop and provide a safer environment that encourages a better attitude towards staff stress/burnout through improved stress management training focused on identifying risk indicators leading to stress/burnout and dealing with the conflict of work demands and negative emotions, whether this is due to perceived or actual stress from work.

In addition to providing clear guidelines about the employee's role and job performance indicators, services could provide staff with a clear pathway that is open, honest and fair for improving their job performance with an emphasis on quality rather than quantity performance. This could be done through regular informal job performance reviews/feedback /consultation with managers, supervisors and immediate colleagues.

Early intervention

Organisations/services need to develop other methods and resources while also utilising validated tools for identifying when staff are becoming stressed at work. This may include utilising stress/burnout screening tools regularly with staff, during supervision, appraisals and team forums such as MDT meetings and away-day events so that burnout is detected early and appropriate support can be provided.

Pathway for seeking support

Organisations/services need to develop a number of different clear and easy pathways for staff to obtain support in a non-judgemental and non-discriminatory manner that does not

negatively evaluate their job performance. In addition, organisations should provide a clear pathway for staff to also provide feedback 'upward' to managers as a means of encouraging staff to participate in the development of their own role within the service.

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CHAPTER 2: EMPIRICAL PAPER

**Investigating the relationship between the challenging behaviour of service users,
burnout and job performance of staff in learning disability services**

ABSTRACT

Background: Some research has found a link between the challenging behaviour of service users and staff burnout, however this link has not always been consistent. Burnout has been associated with a wide range of negative effects for staff and organisations but the impact on staff performance has yet to be clearly established. The current study aims to assess the reliability of a job performance measure and examine the relationship between challenging behaviour, levels of burnout and job performance.

Method: A cross-sectional survey was carried out with a sample of 74 direct care staff working with people with a learning disability who completed questionnaires about their experiences of service users' challenging behaviour, levels of burnout, job performance and their interaction in relation to interpersonal and intrapersonal behavioural styles.

Results: Evidence was found for convergent validity between the job performance measure and staff interaction behaviour styles. No associations were found between service users' challenging behaviour and levels of burnout. Contrary to the initial hypothesis, increased challenging behaviour was found to be associated ($\rho = 0.277^*$; $p < 0.05$) with higher scores of self-rated job performance. The personal accomplishment aspect of the burnout correlated with the job performance total score.

Conclusions: The results show evidence of a relationship between service users' challenging behaviour and job performance, which is mediated by the personal accomplishment aspect of burnout.

Keywords: Learning Disability, Intellectual Disability, Challenging Behaviour, Aggressive and Destructive Behaviour, Burnout, Work Stress, Job Performance, Work Performance, Interpersonal and Intrapersonal Job Behaviours.

INTRODUCTION

As many as a third of staff working within learning disability services report experiencing stress leading to burnout, which is consistent with the presentation of a mental health problem within the general population (Hatton *et al.*, 1999). There has never been a more urgent time than this for a focus on improving staff well-being. It is not surprising, therefore, that a growing body of research has focused on staff stress, recognising that stress abatement measures are needed within the learning disability staff population (Allen *et al.*, 1991; Edwards & Miltenberger, 1991; Sharrard, 1992; Stenfert Kroese & Fleming, 1992; Corrigan, 1993; Vassos & Nankervis, 2012; Kozak *et al.*, 2013).

Burnout refers to prolonged periods of stress experienced by staff and is usually described as emotional exhaustion, depersonalisation and personal accomplishment at various levels. It has been associated with a wide range of negative effects on staff and organisations in areas such as work productivity and job satisfaction (Felton, 1998; Maslach *et al.*, 2001).

Although few studies have investigated the relationship between staff burnout and performance, burnout remains an important area of concern for organisations, given the potential impact it has on staff well-being and the quality of service provided to clients (Hastings, 2002; Skirrow & Hatton, 2007). The NHS Health and Wellbeing Review (DoH, 2009) emphasised the importance to organisations of employees' physical and psychological well-being particularly when delivering care and support to users because there is increasing evidence linking staff well-being to the effective provision of quality care within learning disability services (Rose *et al.*, 1994; Hatton *et al.*, 1997; Rose *et al.*, 1998; Hatton *et al.*, 2009).

Predictive factors of burnout

Research has focused on three broad classes of variables that are significant in the current understanding of staff burnout, which are related to: a) individual clients b) staff

characteristics and c) organisational/service characteristics (Mitchell & Hastings, 2001). Among these, many factors have been found to contribute to burnout in staff in learning disability services. Most research has focused on staff exposure to client characteristics, in particular challenging behaviour, as an important factor contributing to staff burnout because it is deemed unique to this population (Hastings, 2002). While the majority of research findings suggest a link between challenging behaviour and increased levels of burnout among staff (Hatton *et al.*, 1995; Jenkins *et al.*, 1997; Rose *et al.*, 1998; Rose, 1999; Chung & Harding, 2009; Mills & Rose, 2011), these associations are often surprisingly weak when compared with other factors. In addition, some research has found no direct association between challenging behaviour and burnout (Hatton *et al.*, 1997; Howard *et al.*, 2008) suggesting that working with challenging behaviour may not necessarily lead to high staff stress/burnout, but that it can be an important contributory factor.

Stress/burnout and job performance

Stress/burnout is considered an important aspect of staff well-being, and the evidence strongly suggests that workplace stress can be a major problem for services (Hatton *et al.*, 1997). Research has shown a link between staff burnout and well-being and the quality of care the staff provide (Rose *et al.*, 1998; Hatton, 2002). There is some variation between individual services, but stress/burnout has been linked to high levels of staff turnover (Hatton & Emerson, 1993; Hatton *et al.*, 1997), absenteeism and poor staff performance which disrupts and affects the consistency of care of people within learning disability services (Hastings *et al.*, 2004). Research by Vassos & Nankervis (2012), however, found that the personal accomplishment aspect of burnout positively correlated ($rho = 0.21^*$, $p < 0.05$) with objective feedback by managers on staff performance, but it was difficult to draw firm conclusions in relation to the quality of feedback received by staff.

There is evidence to suggest that staff under stress engage in fewer positive interactions with clients (Lawson & O'Brien, 1994; Rose *et al.*, 1998) and this has been associated with the three composite elements of burnout: higher levels of emotional exhaustion (EE), depersonalisation (DP) and lower levels of personal accomplishment (PA). In extreme cases, it may result in loss of all sensitivity to the clients, contributing to the development and maintenance of challenging behaviour (Skirrow & Hatton, 2007; Phillips & Rose, 2010). However, there is still little known about the effect of challenging behaviour on job performance, how this is influenced by staff burnout and what this means for the quality of services.

Research by Hatton *et al.* (2009) showed associations between lower levels of burnout (lower emotional exhaustion, lower depersonalisation and higher personal accomplishment) and job performance in relation to person-centred planning goals set for service users. Additionally, further research found that the quality of the interactions between staff and clients is influenced by staff perceptions of the service users' challenging behaviour; positive interactions were often associated with lower levels of challenging behaviour (e.g. Rose, 2004; Kozak *et al.*, 2013). Consequently, factors associated with measures of staff interaction styles have gained significant research interest in recent years (Willems *et al.*, 2010). A study in the US by Motowidlo *et al.* (1996) found that staff burnout, and hostility and depression levels, were associated with a decrease in job performance and the quality of care provided to clients.

Given the significant demand for ongoing residential and inpatient care, identifying the conditions necessary for higher quality care will have extensive implications for the well-being of people in learning disability services. Clearly, the impact of staff burnout on job performance warrants further exploration if the extent to which staff interaction behaviour

styles with clients influences their performance at work has been found to be an important predictor of client outcomes (Willems *et al.*, 2010).

Impact on service provision

Staff stress/burnout is an organisational responsibility and without a commitment from services to the well-being of staff, organisations are unlikely to work effectively, which means that inefficiency, wastage and poor staff performance may become pervasive throughout services for people with learning disabilities (Hatton *et al.*, 1997). One limitation for organisations/services is the lack of empirical research examining the relationship between burnout and quality service provision. Interestingly, as mentioned previously, the disengagement of staff (Mitchell & Hastings, 2001) and their emotional reaction to aggressive behaviour (Mills & Rose, 2010) has been shown to be associated with increased burnout. One plausible explanation is that staff with good interpersonal/intrapersonal skills tend to have more positive interactions with clients, which bolsters a sense of personal accomplishment and provides a buffer against the potential for emotional exhaustion and depersonalisation.

Measuring job performance

Until recently, there appears to have been an absence of measures that specifically examine staff job performance within the learning disability literature. Likewise, there are few well-validated instruments for measuring staff interaction behaviour styles in a similar setting, and there is little research on whether these variables impact on the service users' outcomes, and if these outcomes predict an association between challenging behaviour, levels of staff burnout and job performance. Hatton *et al.* (2009) developed a measure to assess the performance of support staff within community learning disability services, which included a job performance questionnaire (JP). This was predominantly based on a worker-oriented job

analysis model (Primoff, 1975; Primoff & Eyde, 1988) to explore opinions about individual job performance from different perspectives (e.g. staff, service users, relatives, managers).

However, another questionnaire, developed by Willems *et al.* (2010), while not addressing job performance directly, provides an alternative perspective, with a number of elements that may influence and be associated with job performance, such as the various interpersonal/intrapersonal behaviour styles that staff exhibit when interacting with clients: assertive control, hostility, friendliness, support-seeking, proactive thinking, self-reflection and critical expressed emotions. The relationship between staff interpersonal/intrapersonal behaviour styles and job performance is worth further investigation.

Rationale for the current research

Relatively little is known about the factors influencing the relationship between staff burnout and job performance and the impact this may have on service provision. Therefore, it is hoped that the findings of the current study will provide some evidence that will help in the development of a greater understanding of the factors involved in this relationship and the overall impact this may have on direct client care, the staff, and the health service organisation as a whole.

Aims

The aims of the research were to examine whether there is a relationship between self-reported staff job performance (using the JP measure) and self-reported staff behaviour (specifically, interpersonal/intrapersonal styles) using the Staff-Client Interactive Behaviour Inventory (SCIBI) measure and then to examine the relationship between the challenging behaviour of service users, perceived levels of burnout and job performance.

Hypotheses

Hypothesis 1: Higher job performance scores will correlate with higher staff behaviour scores on the SCIBI subscales of assertive control, friendliness, support-seeking behaviour,

proactive thinking and self-reflection, and lower staff behaviour scores on the subscales of hostile and critical expressed emotion.

Hypothesis 2: Greater levels of staff-rated challenging behaviour by service users will correlate with increased levels of emotional exhaustion (EE) and depersonalisation (DP) and lower levels of personal accomplishment (PA).

Hypothesis 3: Increased levels of staff-rated challenging behaviour by service users will correlate with lower levels of self-rated job performance.

Hypothesis 4: Increased levels of EE and DP and decreased levels of PA will correlate with staff-perceived job performance.

Hypothesis 5: Self-reported staff burnout (on three subscales: EE, DP and PA) will mediate the relationship between service users' challenging behaviour (specifically aggression/destruction) as reported by staff, and staff-perceived job performance.

METHODS

Participants

A total of 252 survey questionnaires were distributed to direct care staff working with adults with a learning disability across four services (eight teams) (see Table 2.1) within the West Midlands, UK. Seventy-four staff participated (29% response rate), however, in total six staff were excluded; one having worked with people with learning disabilities for less than three months at the time of data collection, and a further five due to incomplete questionnaires (more than 20% of responses). Therefore, the final sample for analysis consisted of 68 participants. There were no missing data, as included participants completed all items on the questionnaires.

Participants were males (8%) and females (92%) within the age range 20-60 years old ($M=36.82$; $SD=10.25$). The majority of participants had reported levels of education and training at GCSE/equivalent and above. The results showed that participants had worked with people with a learning disability for an average of 88.65 months ($SD=85.68$), and had worked with their current team for an average of 42.52 months ($SD=48.95$).

Table 2.1: Characteristics of participating services

Sector	Description	No. of responses
NHS	Residential & Community based teams (2)	38
Private	Community residential group homes (4)	27
Voluntary	Inpatient units (2)	9

Materials used in the research

Background information

The Demographic Information Questionnaire is designed to capture a summary of participants' characteristics. The questionnaire comprises various sections with different categories of questions and was administered to participants who took part in the research (see Appendix 2. 4). In addition, four separate self-reported questionnaires were used in the research as outlined below (see Table 2.2).

Staff experiences of service users' challenging behaviour

The Behaviour Problems Inventory (BPI-01) (Rojahn *et al.*, 2001) is a self-rated instrument used for the assessment of three types of behavioural difficulties in individuals with learning disabilities: self-injurious, stereotyped, and aggression/destruction. For the purpose of the present study, only the aggression/destruction (12 items) subscale was used to assess service users' challenging behaviour. Frequency and severity scores were summed to produce a total aggressive/destruction behaviour score, with higher scores indicating higher frequency and severity of aggression and destructive behaviour. In order to reduce the number of variables used in the study it was felt that a total score would provide a better representation of the behaviour rather than using total frequency and severity scores.

Staff-perceived levels of burnout

The Maslach Burnout Inventory (MBI) Human Services Survey (Maslach & Jackson, 1986) consists of 22 self-rated statements about how the participant feels about their job and how often they experience a particular feeling on the three subscales of emotional exhaustion (EE), depersonalisation (DP) and personal accomplishment (PA). Scores are summed to produce a total score for each of the subtests; high scores on EE and DP and low scores on PA indicate higher levels of burnout.

Staff-perceived job performance

The job performance measure (JP) (Hatton *et al.*, 2009) was developed to be used as a self-rated instrument to measure the job performance of staff also by clients and their families. The measure consists of 94 statements, which make up a suite of four separate job performance measures from the perspective of four expert panels; service users, family members, support staff and service managers. However, for the purpose of the study only the support staff job performance measure was used. Items are summed to produce a total score, with higher scores indicating higher self-rated levels of job performance.

Staff-perceived behaviours

The SCIBI questionnaire (Willems *et al.*, 2010) measures both intrapersonal and interpersonal responses to service users' challenging behaviour in a learning disability setting. Based on the 'seven factors' model, the measure produces seven subscales: assertive control, hostility, friendliness, support-seeking, proactive thinking, self-reflection and critical expressed emotion. Self-rated items are summed to produce a total score for each of the seven subscales, with higher scores indicating higher levels of staff behaviour for each of the subscales (see Table 2.2).

Table 2.2: Description of measures used in the study

No.	Measure	Scale	Description	Psychometric properties
1	The Behaviour Problems Inventory (BPI-01; Rojahn <i>et al.</i> , 2001)	Aggression/destruction	The participant is asked to rate the frequency of a number of behaviours ranging from 'never' to 'hourly' and a severity scale ranging from 'slightly' to 'severe'.	The authors state that the measure has good internal consistency with a range from 0.61 to 0.82
2	Maslach Burnout Inventory Human Services Survey (MBI; Maslach & Jackson, 1986)	Emotional exhaustion (EE) Depersonalisation (DP) Personal accomplishment (PA)	Participants are asked to rate 16 statements regarding how they feel about their job on a 7-point Likert scale	The test is widely used in learning disability research and shows good internal consistency with alpha ranging from 0.68 to 0.87.
3	Job Performance Measure (JP; Hatton <i>et al.</i> , 2009)	Support staff-rated	Staff are asked to rate 26 statements about how they perform their job on a 7-point Likert scale ranging from 'superior' to 'unacceptable'.	The authors report that the measure has good internal reliability with Cronbach's alpha of 0.91
4	Staff-Client Interactive Behaviour Inventory (SCIBI; Willems <i>et al.</i> , 2010)	Assertive control Hostility Friendliness Support-seeking Proactive thinking Self-reflection Critical expressed emotion	Staff are asked to rate their interpersonal/intrapersonal job behaviours on a 30-item self-report questionnaire using a 5-point Likert scale, ranging from completely inapplicable (1) to completely applicable (5).	The authors report that the measure has good internal consistency with Cronbach's alpha for interpersonal behaviours: Assertive control $\alpha=0.84$; Hostility $\alpha=0.72$; Friendliness $\alpha=0.82$; Support-seeking $\alpha=0.68$; and intrapersonal behaviours: Proactive thinking $\alpha=0.89$; Self-reflection $\alpha=0.70$; Critical $\alpha=0.75$

Design

The study employed a cross-sectional survey of staff working with people with a learning disability. The independent variable was challenging behaviour (BPI), and the outcome (dependent) variable was job performance (JP) mediated by burnout: emotional exhaustion (EE), depersonalisation (DP) and personal accomplishment (PA).

Ethics

Prior to commencing the research, in order to adhere to British Psychological Society (BPS) guidelines in relation to research with human participants, the researcher sought ethical approval and received a favourable outcome from the University of Birmingham. Permission (see Appendix 2.1) was also obtained from the different organisations that participated, to allow their staff to take part in the survey. The advantages of taking part were explained and discussed. (Appendix 2.2 Information about the research).

Procedure

Permission was sought from the service and ward managers of various residential group homes and inpatient units initially via telephone conversation and email to arrange a meeting to discuss the research. Managers who agreed for their service to participate displayed a flyer about the research (see Appendix 2.3) in their service and agreed to discuss participation with staff during their weekly team meetings. Managers also agreed to distribute questionnaire packs to staff who demonstrated an interest in participating. All aspects of the research were explained, including the voluntary nature of participation. The option to meet individually with the researcher was also available if required; however, none of the staff attempted to make contact with the researcher to take up this offer of assistance. The researcher provided managers with enough questionnaire packs for the whole staff group. The packs contained an information sheet about the study and how to contact the researcher, a consent form; questionnaires and a pre-paid envelope (see Appendix 2.2).

Staff who wished to participate in the study were asked to sign and return the consent form and their completed questionnaires in the pre-paid envelope enclosed in the pack, or the researcher could collect them directly from the teams. Staff were informed that the questionnaires would take approximately 15 minutes to complete and the managers agreed to allow the staff time to complete the questionnaires during their working day. The researcher also arranged to contact the managers via email to check whether staff needed any assistance in completing the questionnaires and also to ask managers to remind staff about the research.

Confidentiality and anonymity were emphasised and, once the questionnaires were returned, consent forms were removed and participants were allocated a Participation Identification Number (PIN) in order to protect their identity.

Power Analysis

Mediator analysis, as described by Baron and Kenny (1986), requires the calculation of two regression (challenging behaviour and job performance) equations with a total of three predictor variables. Figure 2.1 below describes the relationship between the size of the proposed sample and the effect size that can be reliably detected at a power of 0.8. A minimum sample size of approximately 70 participants would allow for the detection of an effect size of approximately 0.15 (medium effect size). The current study had a sample of 74. This size of effect is consistent with expectations derived from past research.

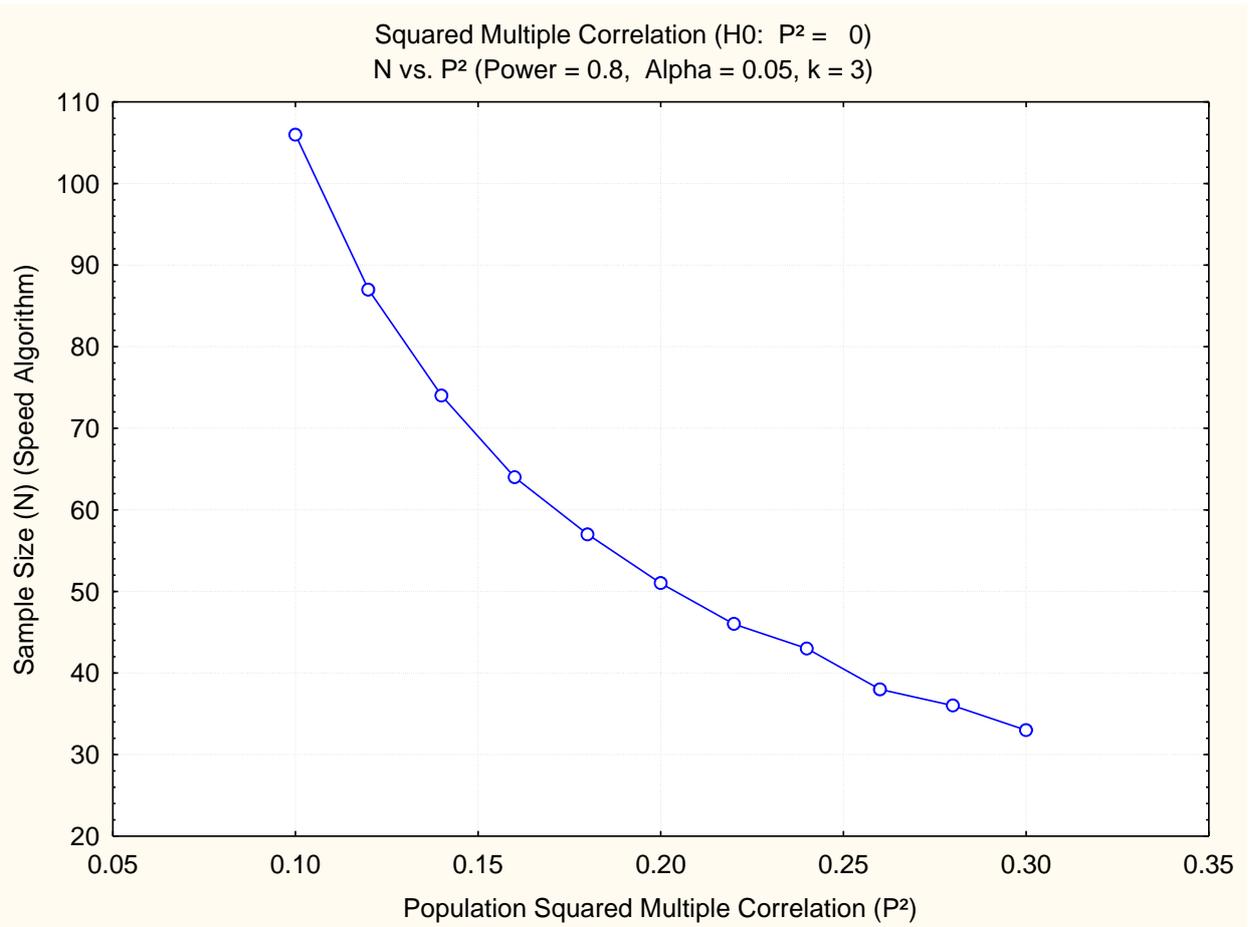


Figure 2.1 Power Analysis, adapted from Baron and Kenny (1986)

RESULTS

Data analysis

A test of normality was carried out to investigate the distribution of data using the Kolmogorov-Smirnov test (see Appendix 2.5). This revealed that the majority of the data were not normally distributed and therefore the analysis employed non-parametric tests using Spearman's correlations and bootstrapping for the current sample.

Table 2.3 provides a description of the study variables, using the median and inter-quartile range of the scores as the data were non-parametric.

Table 2.3: Study Variables

Variables (measures)	Median	Inter-quartile Range
Challenging behaviour (BPI)	16.50	22.50
Burnout (MBI)		
Emotional exhaustion (EE)	18.00	16.25
Depersonalisation (DP)	2.00	6.00
Personal accomplishment (PA)	36.00	10.25
Job performance (JP)	156.00	19.50
Staff behaviour styles (SCIBI)		
Assertive control (interpersonal)	19.00	5.00
Hostility (interpersonal)	6.50	5.00
Friendliness (interpersonal)	24.00	3.25
Support-seeking (interpersonal)	8.00	4.25
Proactive thinking (intrapersonal)	13.00	4.00
Self-reflection (intrapersonal)	9.00	4.00
Critical expressed emotion (intrapersonal)	10.00	5.00

Correlations

1. Reliability of measures

The JP and SCIBI are relatively new measures and their use has so far been limited. Cronbach's alpha was calculated to assess and confirm the reliability of the scales (see Table 2.4).

Table 2.4: Cronbach's Alpha for the Job Performance and Staff Client Interactive Behaviour Inventory measurements

Measures	Cronbach's α
1.Job Performance	0.902
2.SCIBI	
Interpersonal behaviour styles	
Factor 1 Assertive control	0.491
Factor 2 Hostile	0.638
Factor 3 Friendly	0.779
Factor 4 Support-seeking	0.782
Intrapersonal behaviour styles	
Factor 5 Proactive thinking	0.671
Factor 6 Self-reflection	0.479
Factor 7 Critical expressed emotion	0.628

As indicated above, some of the alphas did not meet conventional levels of acceptability, that is, 0.7 and above (Robson, 2002). Therefore the interpretation of results involving these scales needs to be treated with some degree of caution (e.g. SCIBI factors 1, 2, 5, 6 and 7).

Hypothesis 1: *Higher job performance scores will correlate with higher staff behaviour scores on the SCIBI subscales of assertive control, friendliness, support-seeking behaviour, proactive thinking and self-reflection, and lower staff behaviour scores on the subscales of hostile and critical expressed emotion.*

The scores of the JP scale were compared with the scores of SCIBI subscales using correlations to analyse the way that staff rated their job performance in relation to their interaction behaviour styles when working with clients (see Table 2.5). Although not the primary focus for the current study, the findings showed significant correlations between the total scores of the BPI scale and two subscales of the SCIBI; assertive control ($\rho = 0.415^{**}$; $p < 0.01$) and support-seeking ($\rho = 0.253^{*}$; $p < 0.05$) (See Table 2.5).

Table 2.5: Correlation Matrix of the Challenging Behaviour (BPI) subscales of Job Performance (JP) and Staff Interpersonal/Intrapersonal Job Behaviours using the SCIBI

Spearman Rho Correlations	Assertive control	Hostility	Friendliness	Support -seeking	Proactive thinking	Self-reflection	Critical expressed emotion	Job Performance (JP)
BPI	.415**	.068	.235	.253*	.017	-.055	.179	.277*
Assertive control		.359**	.246*	.533**	.068	.186	.534**	.305*
Hostility			-.186	.523**	.137	.357**	.510**	-.255*
Friendliness				.121	.205	.273*	.142	.430**
Support - seeking					.154	.438**	.464**	-.027
Proactive thinking						.517**	-.199	.150
Self-reflection							.057	-.122
Critical expressed emotion								-.019

*P<.05, **P<.01

(BPI: The Behaviour Problems Inventory)

When the JP scale was correlated with the subscales of the SCIBI, 3 out of the 7 subscales significantly correlated. The JP scale significantly and positively correlated with the SCIBI assertive control: JP ($\rho = 0.305^*$, $n=68$, $p<0.05$) and friendliness: JP ($\rho = 0.430^{**}$, $n=68$, $p<0.001$) subscales. However, the JP scale negatively correlated with the SCIBI hostility subscale: JP ($\rho = -0.255^*$, $n=68$, $p < 0.05$).

2. Correlations between challenging behaviour, burnout and job performance

Correlations were used to explore the relationships between the study variables: challenging behaviour, burnout and job performance (see Table 2.6).

Table 2.6: Correlation matrix for study variables (BPI, MBI, JP)

Spearman Rho Correlations	Emotional exhaustion (EE)	Depersonalisation (DP)	Personal accomplishment (PA)	Job performance (JP)
Behaviour Problems Inventory (BPI)	.133	.091	.225	.277*
Emotional exhaustion (EE)		.440**	.022	-.011
Depersonalisation (DP)			-.250*	-.144
Personal accomplishment (PA)				.478**

*P<.05, **P<.01 (BPI: The Behaviour Problems Inventory)

As can be seen in Table 2.6, the only element of burnout to statistically significantly correlate with job performance was personal accomplishment ($rho = 0.478^{**}$; $p < 0.01$), which increased with higher levels of reported job performance.

Hypothesis 2: *Greater levels of staff-rated challenging behaviour by service users will correlate with increased levels of EE and DP and lower levels of PA.*

Table 2.6 shows that the BPI aggression/destruction behaviour subscale did not significantly correlate with the subscales of the MBI; EE ($rho = 0.133$; $p > 0.05$); DP ($rho = 0.091$; $p > 0.05$); PA ($rho = 0.225$; $p > 0.05$). Therefore, Hypothesis 2 was not supported, with none of the MBI subscales producing a significant correlation with the BPI.

Hypothesis 3: *Increased levels of staff-rated challenging behaviour by service users will correlate with lower levels of self-rated job performance.*

Table 2.6 shows that the BPI aggression/destruction scores significantly and positively correlated ($\rho = \mathbf{0.277^*}$; $p < 0.05$) with the JP scores. Although these findings produced a significant correlation, this was contrary to the prediction made in Hypothesis 3. These results suggest that increased challenging behaviour is associated with higher levels of self-reported job performance.

Hypothesis 4: *Increased levels of emotional exhaustion and depersonalisation and decreased levels of personal accomplishment will correlate with staff-perceived job performance.*

Table 2.6 shows that the MBI personal accomplishment (PA) subscale significantly positively correlated ($\rho = \mathbf{0.478^{**}}$; $p < 0.01$) with the JP total score. The emotional exhaustion and depersonalisation subscales, however, did not correlate with the JP total score. These findings therefore provide partial support for Hypothesis 4 with only the personal accomplishment subscale correlating significantly with JP.

Mediation Analysis

Mediation is seen as causal, however, to further explain the following mediation relationship proposed in the current study; consider Baron & Kenny (1986) diagram below (Figure 2.2) as being representative of a mediating relationship in which the predominant relationship is labelled “c”, and is the path from the independent to the dependent variable.

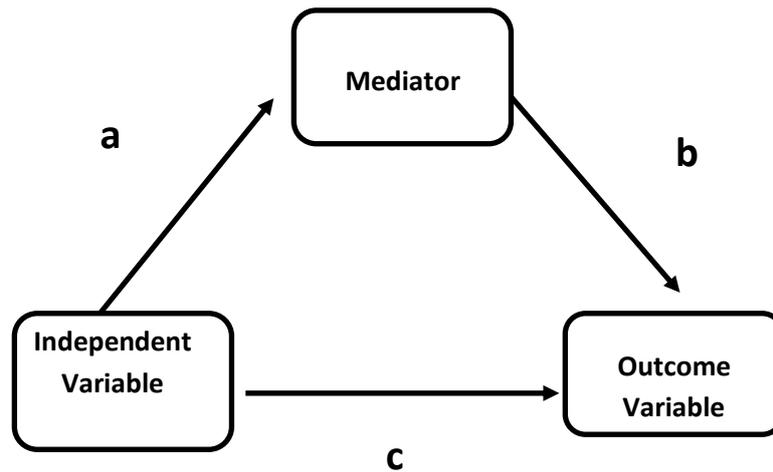


Figure 2.2: Model of Mediation (based on Baron and Kenny, 1986, p.1176).

Subsequently, data from the current study found a statistically significant positive association ($\rho=0.277^*$, $p<0.05$) between the path labelled “c”; variables of “challenging behaviour” (Independent variable) and “job performance” (Outcome variable) see Table 2.6) enabling a regression or mediation analysis to be performed. Baron and Kenny (1986) proposed that a mediation model could be tested if there were significant relationships between the independent variable and dependent variable, as in the current research. However noted, by itself, a single mediation analysis only provides preliminary non-experimental evidence to evaluate whether the proposed causal model is plausible. The author of the current study therefore, wanted to explore the variables of “challenging behaviour”, “job performance” and “burnout” to determine whether there was a mediating relationship and proposed Hypothesis 5 as follows.

Hypothesis 5: Self-reported staff burnout (on three subscales: EE, DP and PA) will mediate the relationship between service users’ challenging behaviour (specifically aggression/destruction) as reported by staff, and staff-perceived job performance.

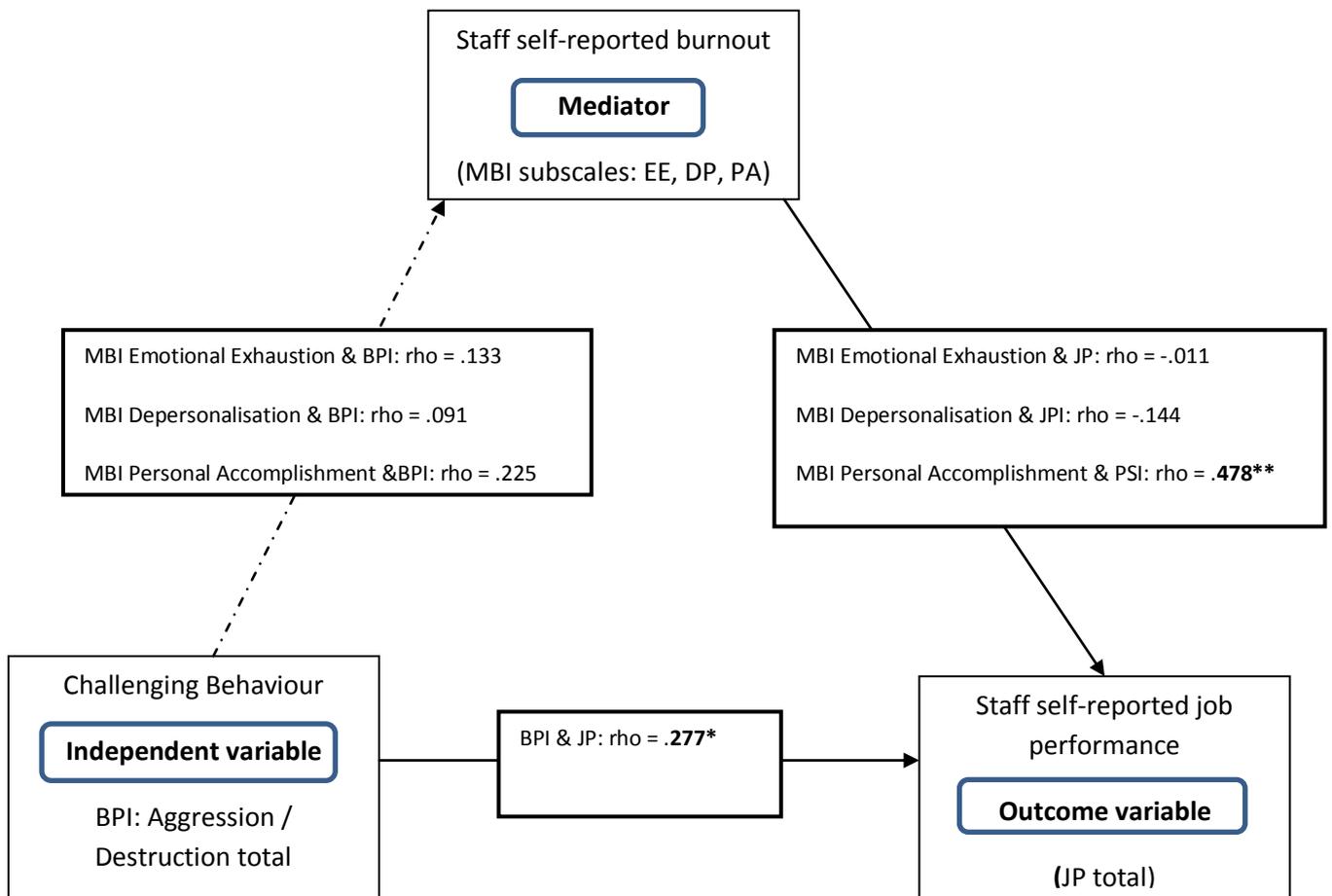
However, given that the data is non-parametric, and with a relatively small sample size, bootstrapping is the recommended approach for inference about indirect effects (Preacher & Hayes, 2008), to test hypotheses about the linear combination of indirect effects. (see Table 2.7).

Table 2.7: Mediation of the effect of challenging behaviour (aggression/destruction) on job performance through staff self-reported levels of burnout.

	Asymptotic Estimate	Bootstrap Path Estimate	Bias	Standard Error	Lower BC 95% CI	Upper BC 95% CI
MBI: personal accomplishment	.10	.10	-.00	.05	.02	.25
MBI: emotional exhaustion						
MBI: depersonalisation	-.00	.00	.00	.02	-.05	.03
	.00	.00	.00	.01	-.02	.05
Total	.10	.10	.00	.06	.00	.25

n = 67; Bootstrap sample size = 1,000; BC: Bias corrected.

Table 2.7 shows the results of the bootstrapping analysis to test mediation (see Appendix 2.7 for the mediation analysis matrix). The analysis showed that the overall mediation relationship of the effect of challenging behaviour (aggression/destruction) on job performance through staff self-reported levels of the personal accomplishment aspect of burnout was statistically significant ($R^2=0.23$; $p<0.0023$).



* $P < .05$, ** $P < .01$

Figure 2.3: Depicting correlations between the variables in the proposed mediation model for service users' challenging behaviour (aggression/destruction).

However, the correlations between the three variables are shown in the proposed mediation model to assess whether the relationship between service users' challenging behaviour (aggression/destruction) and staff job performance is mediated by burnout. As can be seen in Figure 2.3, challenging behaviour significantly correlated with job performance ($\rho = 0.277^*$; $p < 0.05$) and the personal accomplishment aspect of burnout significantly correlated with job performance ($\rho = 0.478^{**}$; $p < 0.01$). However, challenging behaviour did not significantly correlate with any aspect of burnout (EE $\rho = 0.133$, DP $\rho = 0.091$ &

PA $\rho = 0.255$). While the overall mediation model is statistically significant ($R^2 = 0.23$; $p < 0.0023$), this does not mean that a mediation relationship has occurred between challenging behaviour and job performance. Therefore, the findings show limited support for Hypothesis 5 [at this time].

DISCUSSION

The first aim of this study was to examine whether there was a relationship between self-reported staff job performance using the job performance (JP) measure and behaviour styles (specifically interpersonal/intrapersonal) using the staff-client interactive behaviour inventory (SCIBI) measure. Evidence for convergent validity was found, indicating that valid job performance measures correlated with interpersonal/ intrapersonal behaviour styles as rated by staff.

The findings showed significant correlations for three of the staff behaviour styles on the subscales of *assertive control*, *hostility* and *friendliness*; thus providing some evidence to confirm Hypothesis 1. This indicates that if staff engage in more positive interpersonal/ intrapersonal behaviour styles, they will have more positive interactions with services users, leading to better outcomes and subsequently increased job performance. In addition, the findings showed an association between the scores of the challenging behaviour scale (BPI), the JP scale and the SCIBI (assertive control and support seeking subscales), providing some evidence to support other factors that may be involved in job performance and may warrant further research.

No correlations were found between the JP scale and SCIBI subscales for *support seeking* ($\rho = -0.027$; $p > 0.05$), *proactive thinking* ($\rho = 0.150$; $p > 0.05$), *self-reflection* ($\rho = -0.122$; $p > 0.05$) and *critical expressed emotion* ($\rho = -0.019$; $p > 0.05$). One explanation for these findings may lie in the methodology, with insufficient variability in the current sample, i.e. perhaps too few participants. In addition, there were some issues with the questionnaire used to measure the staff behaviour/interaction styles (SCIBI). The alpha levels were low on some of the subscales on the SCIBI (see Table 2.5) which suggests that the results should be treated with some caution. Another issue is to do with job performance as a concept, which can be difficult to measure.

A further aim of the study was to examine whether there was a link between service users' challenging behaviour, staff-perceived levels of burnout and job performance. The results indicated no association (EE ($\rho = 0.133$; $p > 0.05$); DP ($\rho = 0.091$; $p > 0.05$); PA ($\rho = 0.225$; $p > 0.05$) between burnout and challenging behaviour in this sample and as a result this did not support Hypothesis 2. Previous studies have reported a range of results, with some research suggesting a relationship and others finding no relationship (Rose, 2011) between challenging behaviour and stress/burnout. There may be a number of reasons why a relationship was not found for the current sample. It may have been due to the relatively small sample size for this type of research or possibly the lack of variation within the sample (as mentioned previously) in that it may not reflect the full range of staff working with people with a learning disability. Another factor may have been the non-parametric analysis of the data, as this can be less sensitive than parametric analysis in detecting subtle relationships within samples.

The results showed that higher levels of challenging behaviour significantly correlated ($\rho = 0.277^*$; $p < 0.05$) with higher job performance as rated by staff. However, this was the opposite to what was predicted in Hypothesis 3. It could be that the study sample related job performance to a sense of accomplishment in coping with the increased levels of challenging behaviour, and it may be that these staff perceive an important part of their job to be managing challenging behaviour (hopefully effectively). However, some evidence suggests that staff behaviour can be counterproductive and may sometimes antagonise or provoke challenging behaviours amongst service users (Hastings, 1996). While it can be argued that an element of this is true for some staff, it is also possible that the staff in the current sample experienced a sense of fulfilment from this part of their work, and some of their identity as practitioners was invested in this role. These staff may therefore thrive on managing a certain amount of challenging behaviour. This may also account for the lack of association between

challenging behaviour and the emotional exhaustion (EE) and depersonalisation (DP) aspects of burnout in these results.

Hypothesis 4 was only partially supported, as the personal accomplishment (PA) subscale was the only aspect of burnout to significantly correlate ($\rho = \mathbf{0.478^{**}}$; $p < 0.01$) with job performance; the pattern of results showed that the higher the perceived PA for staff, the higher the perceived JP. It is interesting to note that neither emotional exhaustion nor depersonalisation were seen to relate to job performance and may be due to staff not being able to reflect on the impact of these negative experiences on their work performance. The more direct relationship between personal accomplishment and job performance may be easier and more directly apparent for staff to report.

The final aim was to examine whether staff burnout mediated the effect of challenging behaviour on job performance and how they interacted. The findings showed that while the overall mediation model is statistically significant ($R^2 = 0.23$; $p < 0.0023$), there is limited statistical evidence to fully support Hypothesis 5 because challenging behaviour (the independent variable) did not significantly correlate (EE $\rho = 0.133$, DP $\rho = 0.091$ & PA $\rho = 0.255$) with any aspect of burnout (the mediator variable) in the mediation model.

As discussed, the findings suggest that staff may perceive challenging behaviour as an integral aspect of their job and may consider it to be an expected occurrence. If staff are dealing effectively with challenging behaviour they may perceive that they are doing a good job and this results in increased feelings of personal accomplishment and perceived improvements in job performance. These results confirm the findings of previous research (e.g. Hatton *et al.*, 2009) suggesting that the greater the sense of personal accomplishment staff experience at work, the more they perceive themselves to be performing well in their

job. In order to gain a better understanding of the relationships and confirm these findings, further research is needed, with larger samples across a range of learning disabilities services.

Limitations of the study

The current study showed a number of limitations. The main limitation was the cross-sectional nature of the study, which may not have been the most appropriate design to answer the research question as it meant that causal claims could not be made. For example, the researcher could not be certain that it was the staff-perceived sense of personal accomplishment that led to better job performance; it may be rather that staff who perform better at their jobs experience a greater sense of achievement, and thus, personal accomplishment. Therefore, a longitudinal study and more mediation model designs would be required to establish causality.

Another limitation of the study was the sample size and relatively low response rate (29%). Questionnaires were distributed to two specific geographical areas (within the West Midlands). A number of different services (NHS, charity/voluntary/private sector) and settings (community teams, group homes and inpatient) participated. There might have been a number of factors unique to the staff in these locations (e.g. length of experience of working with people with a learning disability) which may have influenced the results and accounted for the levels of challenging behaviour and burnout reported. While the sample size was sufficient for the analysis utilised in this study (as per the power analysis calculated), future studies using larger samples including staff from a range of different backgrounds (ethnic/cultural/socio-economic) to investigate the effect of burnout on job performance would be beneficial, as the results would likely be more generalisable from larger samples.

The study was also limited by its reliance on self-reported data. The measurements of perceived challenging behaviour, levels of burnout and job performance were collected from

the same source (i.e. the staff themselves) which could reflect common-rater effects such as recall bias. Given the sensitivity of the topic, participants might have either under- or over-reported their experiences rather than reporting their situation accurately, for various reasons, such as the fear of negative evaluation from managers and colleagues in relation to their job performance.

Another obvious limitation of the study was the lack of objective measures of staff levels of burnout and job performance. Such measures could be in the form of supervisor/manager feedback on performance or through service users' satisfaction feedback about various aspects of staff performance. This could also be a focus for future research.

A final limitation of the study is that a large number of other potential mediators were not measured. However, this was mainly due to the researcher's deliberate choice of what to include in the current research in order to encourage participation and not overload participants. Other important factors (e.g. staff interpersonal/intrapersonal behaviours and attributions regarding challenging behaviour) influencing the relationship between challenging behaviour, burnout and job performance need to be investigated further, in order to gain an understanding of these relationships and the impact for staff, service users and services.

Implications for clinical practice

Despite the presence of challenging behaviour within these services, the current study found no direct association between challenging behaviour and burnout among staff and the findings indicated that an increase in service users' challenging behaviour does not inevitably lead to a decrease in staff job performance. More challenging behaviour was in fact related to an increase in personally rated job performance in the current study.

This study has contributed to an understanding of the relationship between challenging behaviour, burnout and staff performance. Therefore, organisations may want to consider initiatives that will increase and encourage a sense of personal accomplishment in staff thereby increasing job performance. The findings of the research suggest that if staff are expecting to deal with challenging behaviour and they feel that they can cope with it, then they will tend to feel that they are doing a good job and this may continue as challenging behaviour increases, at least for a time. However, the implication here is that challenging behaviour should not be assumed to be detrimental to staff and may be used by staff and services as a measure of competence. This could be used to support staff to deal effectively with service users' challenging behaviour, to develop themselves and provide the most appropriate response to the people they are working with. For example, organisations could provide training in Positive Behaviour Support (PBS) or other methodologies designed to support people with learning disabilities.

Staff and services need to recognise working with challenging behaviours as an ongoing issue to be managed rather than "cured". Organisations may also want to use a more proactive rather than reactive approach in thinking about future interventions to improve staff psychological well-being and service users' outcomes in relation to managing challenging behaviour.

Future research directions

The findings of this study have highlighted a number of issues that need to be addressed in order to better understand the relationship between service users' challenging behaviour, staff levels of burnout and job performance.

Given that it is not always possible to influence how staff will respond when reporting their experiences of challenging behaviour and burnout in relation to job performance,

research into other factors contributing to the way staff report sensitive information would be beneficial. Future research could take the findings of this study forward by incorporating objective measures of staff job performance, and through further examination of mediation models for relationships, using larger and more diverse samples over a wider geographical area.

Future research could also focus on developing appropriate measures to examine the effects of other important predictive factors contributing to burnout among staff and the consequences for quality service provision, perhaps using different methodologies that would provide evidence of a causal relationship. Projects designed to provide more information on the robustness of the measures would allow findings to be generalised across a wider population.

In addition, future research efforts may want to consider interviewing staff to gain more information about their views on managing challenging behaviour and see how this relates to their sense of a job well done.

As the current study highlighted with Hypothesis 1, other important factors (staff interpersonal/intrapersonal behavioural styles) contributed to job performance, and future research may benefit from exploring the relationship between various staff personality traits and behavioural styles and the extent to which these contribute to burnout and performance, as well as the consequences for staff, service users and services overall.

Conclusion

The findings from the current study go some way to providing a better understanding of the factors contributing to staff levels of burnout and job performance. The overall mediation model provides limited support for the hypothesis that levels of burnout will

mediate the relationship between service users' challenging behaviour and staff-perceived job performance. Additionally, while not a hypothesis for the current study, the findings provided limited evidence of a significant correlation between challenging behaviour, job performance and staff behaviour styles (specifically assertive control and support seeking aspects) that warrants further research to provide a better understanding of these relationships.

The findings also reinforce the complexity of the relationships influencing staff stress/burnout and overall well-being. However, these results suggest that these staff can get a sense of accomplishment and thus achieve improved job performance when working with people who present with challenging behaviour.

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PUBLIC DISSEMINATION BRIEFING PAPER

Staff burnout as a mediator in the relationship between challenging behaviour of service users and staff job performance in learning disabilities services

BACKGROUND

Staff stress/burnout is both an individual and organisational responsibility and without a commitment from services to the well-being of staff, organisations cannot work effectively, thus inefficiency, wastage and poor staff performance will become pervasive throughout services for people with learning disabilities (Hatton *et al.*, 1997). One limitation for organisations/services is the lack of empirical research examining the relationship between staff burnout and job performance.

A literature review was completed as part of the current thesis, which examined the link between stress/burnout and job performance. The review concluded that there is some evidence of a link between stress/burnout and job performance among staff in learning disabilities services, and there also appear to be several other factors influencing this relationship.

The empirical study aimed to contribute towards this area and it is therefore hoped that the findings will help in the development of a greater understanding of the relationship

between staff levels of stress/burnout and job performance, affecting staff and service users' outcomes.

Aims

The research aimed to examine whether there is a relationship between self-reported staff job performance (using the JP measure) and perceived interaction styles with service users (specifically, interpersonal/intrapersonal styles) using the Staff-Client Interactive Behaviour Inventory (SCIBI) measure, and then to examine the relationship between the challenging behaviour of service users, perceived levels of burnout and job performance.

METHODS

The research was approved by the University of Birmingham and permission was also obtained from the different organisations that participated and allowed staff to take part in the survey. A total of 74 staff (29% response rate) working with people in learning disabilities services across eight NHS, private and charity voluntary services within the UK took part in the study. All aspects of the study were explained to participants, including the voluntary nature of participation. Staff interested in participating were given a questionnaire pack to complete which included a demographic information questionnaire (to capture a summary of participants' characteristics) and four separate self-reported questionnaires to record burnout; (The Maslach Burnout Inventory; Maslach & Jackson, 1986); perceived levels of challenging behaviour (The Behaviour Problems Inventory (BPI-01); Rojahn *et al.*, 2001); perceived job performance (Job Performance Measure; Hatton *et al.*, 2009); and perceived interaction styles with service users (Staff-Client Interactive Behaviour Inventory; Willems *et al.*, 2010). The questionnaire pack also included a participation information sheet and consent form. Confidentiality and anonymity were emphasised.

SUMMARY OF RESULTS

No associations were found between service users' challenging behaviour and levels of staff burnout. Furthermore, the findings did not show that working with increased levels of challenging behaviour was associated with lower job performance; instead, the findings indicated that staff perceived their levels of job performance to be higher when dealing with more challenging behaviours. The findings also showed an association between burnout (personal accomplishment aspect) and job performance; with higher recorded levels of personal accomplishment being associated with higher levels of perceived job performance.

DISCUSSION

The lack of association between challenging behaviour and burnout confirms findings from previous research and suggests that other factors may also be influencing this relationship. However, the results suggest that the staff in this study sample related their job performance and increased sense of accomplishment to the level of challenging behaviour they had to deal with. Staff may therefore perceive dealing effectively with challenging behaviour to be an important part of their role and perhaps some of their identity as clinicians may be invested in this ability.

The findings may also account for the lack of association between challenging behaviour and the emotional exhaustion (EE) and depersonalisation (DP) aspects of burnout, and go some way to providing evidence to guide future clinical practice; if staff are supported appropriately then this should improve their overall well-being and job performance, with positive outcomes for both staff and residents in learning disabilities services.

However, this study showed certain limitations and therefore caution should be exercised in applying and interpreting the findings. Organisations would benefit from more research aimed at understanding the complex relationship between staff burnout and job

performance and the impact/consequences that decreased job performance will have for future service provision for people in learning disabilities services.

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APPENDICES

Appendix 2. 1: Ethical approval

Appendix 2. 2: Consent form and participant information sheet

Appendix 2.3: Recruitment flyer

Appendix 2.4: Materials used in the research (The questionnaire booklet)

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Appendix 2.5: Test of Normality; Kolmogorov-Smirnov Test

Appendix 2.6: Mediation Analysis Matrix

Appendix 2.1: Ethical approval

[insert anonymised copies]

Appendix 2. 2: Consent form and participant information sheet

Consent form, Staff Version No.2, May 2012



UNIVERSITY OF
BIRMINGHAM

School of Psychology

Participant Identification Number:

CONSENT FORM FOR STAFF

Title of Project: What is the relationship between Challenging Behaviour,
Burnout and Job Performance?

Name of Researcher: Susan Mangan

1. I confirm that I have read and understand the attached information sheet dated May 2012 (Version No.2) for the above study.
2. I have had the opportunity (at least 24 hours) to consider the information, ask questions about the research and have these answered satisfactorily.
3. I understand that my participation is voluntary and that I am free to withdraw from the study without giving a reason.
4. I understand that I also have the right to change my mind about participating up until two week after returning my completed questionnaire
5. I agree to take part in the above study.
6. I give permission for my manager to rate my performance in my current role for the purpose of the above study only, using Job Performance Questionnaire.

Participant Name:.....date:..... Signature.....

Researcher Name..... date:..... Signature.....

I would like to receive a summary of the results of the study when it is finished (please tick):
Yes No

If ticked 'yes' please write the address you wish the results summary to be sent to below:

University of Birmingham School of Psychology Edgbaston Birmingham B15 2TT United Kingdom



PARTICIPATION INFORMATION SHEET STAFF

Research Title: Study investigating the relationship between challenging behaviour, staff burn out and job performance

Researcher: [Omitted]

You are invited to take part in a study investigating the relationship between staff, challenging behaviour, staff burn out and job performance.

I am a trainee clinical psychologist at the University of Birmingham and the research will be submitted as part of this training.

Before you decide whether or not to take part in this study, it is important for you to understand why the study is being conducted and what it will involve. Please read the following information and contact the researchers if anything in this information sheet is not clear or if you would like to ask specific questions relating to the research.

What is the purpose of the study?

This study is designed to investigate the relationship between the challenging behaviour of service users, how this influences staff burnout and to explore whether there is a link between burnout and job performance.

Why have you been contacted?

You have been chosen as a possible participant in the study because you work with people who have learning disabilities. You do not have to take part; if you do decide to take part; your participation will be voluntary. Your participation in the study will not affect any aspect of the work you do. You are free to change your mind and can withdraw from the study up to two weeks from returning your completed questionnaires.

If you decide to withdraw and contact the researcher before this two-week period, all your data will be destroyed and will not be used in the study.

What will you be asked to do if you take part?

The study is designed in two parts; you can choose to do part one or both

parts one and two.

Part one

You will be provided with a questionnaire pack for you to complete. It will take approximately 15 minutes of your time to complete all the questionnaires. You will only have to complete the questionnaires once.

Part two (optional)

If you give your permission, your line manager will be contacted and asked to rate your performance using the Job Performance questionnaire. This information is solely for the purpose of the research study and will not be used in any other way apart from what is stated in this information sheet. Your line manager will not be able to view any of your own responses to questions.

What are the possible benefits of taking part?

We hope the findings of the research will benefit the services, in which you work.

If we can get a better understanding of these relationships we hope to develop recommendations about how to reduce staff burnout and improve the experience of service users and staff overall psychological wellbeing.

What if I change my mind about taking part?

If for any reason, you change your mind and decide not to take part you can withdraw from the study up to two weeks from when you have submitted your questionnaires by contacting the researchers (contact details listed below).

Will my taking part in this study be kept confidential?

Only the research team will have access to your data. You will be given a participant identification number, so your name or the service you work in does not appear on documents. However, if you opt in and give permission for your manager to be contacted, you will be asked to add your name to the consent form. This will help the researchers match your completed job performance questionnaire with the one completed by your manager. After a period of two weeks or when the Job Performance questionnaire is received from your manager, your consent form and questionnaires will be separated and it will not be possible to identify individual questionnaires.

Data generated for the study will normally be preserved and accessible within secured storage for ten years at the University of Birmingham. Details of how your data will be treated can be viewed via the following

http://www.as.bham.ac.uk/legislation/docs/COP_Research.pdf

What happens when the research study stops?

All the information collected from the questionnaires will be summarised together and analysed to see whether they answer the questions listed earlier (under '*what is the purpose of the study?*').

If you would like to have a summary of the research findings or discuss your

participation, then please let the researchers know and the appropriate arrangement will be made for a copy to be sent to you upon completion of the study.

What will happen to the results of the research study?

The result will be written and presented as part of my final year doctoral thesis. It may be presented at academic conferences and /or written up for publication in peer review academic journals.

Who is organising and funding the research?

The research is funded by the University and is being supervised by [omitted] with the University of Birmingham. This research project is not funded externally.

Who has reviewed the study?

In accordance with the requirements of the doctorate in Clinical Psychology Course, the research has been reviewed by two independent psychologists from the academic team at the University of Birmingham and was considered scientifically rigorous and ethically appropriate.

If you have any questions or concerns regarding this study then please the researchers on the below contact details.

Contact details for further information:

If you have any questions or would like to talk to someone about the study, please do not hesitate to contact:

[Omitted]

Or

[Omitted]



**UNIVERSITY OF
BIRMINGHAM**
SCHOOL OF PSYCHOLOGY

**DO YOU WORK WITH ADULTS WITH A LEARNING DISABILITY?
HAVE YOU WORKED IN THE SERVICE FOR MORE THAN 3 MONTHS?
DO YOU EXPERIENCE BURNOUT AND STRESS BECAUSE OF THE WORK YOU DO?**

LEARNING DISABILITY RESEARCH



If you answered 'yes' to any of the above questions then you could be eligible to participate in a research study.

The University of Birmingham, School of Psychology is conducting a research study in your service.

TITLE: "WHAT IS THE RELATIONSHIP BETWEEN CHALLENGING BEHAVIOUR, BURNOUT AND JOB PERFORMANCE?"

This study is designed to investigate the relationship between the challenging behaviour of service users, how this influences staff burnout and to explore whether there is a link between burnout and job performance.

We would like you to complete some questionnaires about the work you do with people with a learning disability. All study related procedures are optional and free of charge to you.

If you have any questions or are interested in participating, please contact the researcher:



Appendix 2.4: Materials used in the research (The questionnaire booklet)

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UNIVERSITY OF
BIRMINGHAM

School of Psychology

A Survey of staff working with people with learning disabilities: What is the Relationship between Challenging Behaviour, Burnout and Job Performance?

Thank you for taking the time to read though and complete the questionnaires for the above mentioned research. The information you provide is treated in strictest confidence and will be used only for the purpose of the present research.

Your participation in the research is voluntary. If you agree to participate you also have the right to withdraw without giving a reason at any time or up to two weeks after submitting your completed questionnaires.

Guidelines for completing the questionnaires

You are required to complete a Demographic Information Sheet with some personal background information. You will not be asked to write your name on the form. However you will be provided with a unique Participation number. This background information is an important aspect of the research. It provides us with a summary of who participated in the research. Following this you will proceed to complete four short questionnaires.

- For each section you are asked to tick or circle the response which most closely matches your opinion.
- Please answer each question as openly and honestly as possible. Please do not discuss the questions with colleagues, as this may influence your answer. I am interested in a range of individual opinions rather than a 'group' opinion.
- This is not a test; therefore there is no right or wrong answer.
- Answer all the questions. If you are not sure, please give your truest response.

The time taken to complete all the questionnaires is approximately 15 minutes.

DEMOGRAPHIC INFORMATION

It is important that we know some information about you and the service users you work with. This will allow a comparison of the views of different groups of staff.

ABOUT YOU

1. Age (years)
2. Are you? Male Female
3. Are you? Single Living with partner/married Separated/divorced/widowed
4. (a) Do you have any dependent children living with you? Yes No
(b) Do you have any other dependents living with you? Yes No
5. What is the highest level of qualifications you hold?
6. Your current job title:
7. Length of time working with people with learning disabilities? (months/years)
8. Length of time working with the organisation: (months/years)
9. Length of time as an employee in your current team (months/years)



Research Study Questionnaire Pack – Staff Version No1.

Participation Identification Number:

THE BEHAVIOR PROBLEMS INVENTORY (BPI-01) Johannes Rojahn, Ph.D. Copyright ©



Maslach Burnout Inventory (MBI), (Maslach et al, 1986). Copyright © 1986 by CPP, Inc.



Job Performance Questionnaire (JP), (Hatton et al, 2009) Copyright ©



Research Study Questionnaire Pack – Staff Version No1.

Participation Identification Number:

**Staff-Client Interactive Behaviour Inventory: Copyright © Drs. A. Willems, 2008,
English, translation 2010.**



Research Study Questionnaire Pack – Staff Version No1.

Participation Identification Number:



Appendix 2.5: Test of Normality; Kolmogorov-Smirnov Test

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
BPI	.110	66	.047	.940	66	.003
Assertive Control	.081	66	.200*	.971	66	.125
Hostility	.172	66	.000	.902	66	.000
Friendliness	.242	66	.000	.735	66	.000
Support Seeking	.094	66	.200*	.955	66	.018
Proactive Thinking	.162	66	.000	.879	66	.000
Self-Reflection	.117	66	.026	.964	66	.053
Critical	.128	66	.009	.951	66	.011
EE	.093	66	.200*	.959	66	.029
DP	.223	66	.000	.836	66	.000
PA	.094	66	.200*	.956	66	.020
JP	.083	66	.200*	.964	66	.053

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendix 2.6: Mediation Analysis Matrix

Mediation Run MATRIX procedure:

Preacher and Hayes (2008) SPSS Macro for Multiple Mediation

Written by Andrew F. Hayes, The Ohio State University

<http://www.comm.ohio-state.edu/ahayes/>

For details, see Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879-891.

Dependent, Independent, and Proposed Mediator Variables:

DV = JP
 IV = BPI
 MEDS = EE
 DP
 PA

Sample size
 67

IV to Mediators (a paths)

	Coeff	se	t	p
EE	.0911	.0960	.9495	.3459
DP	-.0039	.0345	-.1116	.9115
PA	.1496	.0672	2.2263	.0295

Direct Effects of Mediators on DV (b paths)

	Coeff	se	t	p
EE	-.0210	.1690	-.1241	.9016
DP	-.3206	.4763	-.6731	.5034
PA	.7247	.2189	3.3104	.0016

Total Effect of IV on DV (c path)

	Coeff	se	t	p
BPI	.2578	.1227	2.1012	.0395

Direct Effect of IV on DV (c' path)

	Coeff	se	t	p
BPI	.1501	.1185	1.2665	.2101

Model Summary for DV Model

R-sq	Adj R-sq	F	df1	df2	p
.2315	.1819	4.6686	4.0000	62.0000	.0023

BOOTSTRAP RESULTS FOR INDIRECT EFFECTS

Indirect Effects of IV on DV through Proposed Mediators (ab paths)

Asymptotic	Boot	Bias	SE
------------	------	------	----

TOTAL	.1077	.1081	.0004	.0643
EE	-.0019	.0005	.0024	.0216
DP	.0012	.0020	.0008	.0165
PA	.1084	.1056	-.0028	.0572

Bias Corrected Confidence Intervals

	Lower	Upper
TOTAL	.0066	.2538
EE	-.0570	.0342
DP	-.0252	.0517
PA	.0239	.2584

Level of Confidence for Confidence Intervals:

95

Number of Bootstrap Resamples:

1000

***** NOTES *****

----- END MATRIX -----