VOLUME I

RESEARCH COMPONENT

LITERATURE REVIEW AND EMPIRICAL PAPER

THE RELATIONSHIP BETWEEN CHALLENGING BEHAVIOUR, BURNOUT AND COGNITIVE VARIABLES IN STAFF WORKING WITH PEOPLE WHO HAVE INTELLECTUAL DISABILITIES

SOPHIE MILLS

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This thesis is dedicated to my parents Christine and Kenneth Mills and my partner Christopher Woodrow

Overview

This thesis is submitted in partial fulfilment of the degree of Doctor of Clinical Psychology (Clin. Psy. D.) at the University of Birmingham. It is comprised of two volumes and includes a research study and reports of clinical work while on placement during clinical training.

Volume I includes a literature review paper and an empirical paper. The literature review examines the literature on stress in staff who work with people with intellectual disabilities and challenging behaviour in order to address the question of whether there is an association between challenging behaviour and stress. The empirical paper follows on from the literature review in that it examines whether the relationship between challenging behaviour and staff burnout is mediated by cognitive variables including staff's perceptions and causal attributions about the behaviour, and their emotional responses to the behaviour. The empirical paper has been written for submission to the Journal of Applied Research in Intellectual Disabilities (see Appendix 2.20 for the instructions for authors). Finally, Volume I also contains a public domain briefing paper detailing the findings of the literature review and research study.

Volume II includes five Clinical Practice Reports describing work completed on adult, child, learning disability and forensic placements. The reports describe a case study of a 59 year old woman with a mild learning disability presenting with generalized anxiety formulated from both cognitive and psychodynamic perspectives, a single-case experimental design study of a 10 year old boy with an autistic spectrum disorder and challenging behaviour where a behavioural intervention was implemented, a case study of a 13 year old boy with Obsessive Compulsive

Disorder from a cognitive-behavioural perspective, a small scale service related research project exploring the barriers to implementing early warning signs work in a Community Mental Health Team setting, and an abstract providing a summary of an oral presentation of a 25 year old man with schizoaffective disorder in a medium secure forensic setting implementing a cognitive intervention. In order to ensure anonymity names and identifying information have been altered or omitted.

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LITERATURE REVIEW

IS THERE A RELATIONSHIP BETWEEN CHALLENGING BEHAVIOUR AND STRESS AND BURNOUT IN STAFF WHO WORK WITH PEOPLE WITH INTELLECTUAL DISABILITIES?

A REVIEW OF THE LITERATURE

Abstract

Introduction

The review evaluates evidence for a relationship between challenging behaviour and stress and burnout in staff working with people with intellectual disabilities. Staff stress and burnout is an important area as this can affect staff well-being and their interactions with clients.

Method

The databases searched included PsycINFO, EMBASE, Ovid MEDLINE(R), and CINAHL. The search terms represented the concepts of 'staff,' 'stress,' 'challenging behaviour' and 'intellectual disability.' Articles were also identified from reference sections. The search dated from 2000 to May 2010, to follow on from the review on the same subject by Hastings in 2002.

Results

The search yielded 29 articles relevant to the review. The review focuses on staff working with adults however articles on staff working with children are referred to in the discussion of the findings from the adult literature.

Conclusion

The literature shows evidence of an association between challenging behaviour and staff stress and burnout. There appear to be several variables which influence this relationship; attributions, emotions, coping, self-efficacy, organisational issues and personality. However, more research is required to investigate the exact influence of these factors.

Keywords: staff, stress, burnout, intellectual disability, challenging behaviour

Introduction

Stress and burnout can influence staff's interactions with clients as found by Rose, Jones and Fletcher (1998) whereby staff who experienced greater stress showed less interaction with clients. Stress in staff can also affect sickness and staff turnover, and employers have obligations both morally and legally for the well-being of staff (Hastings, 2002).

Stress and Burnout

Lazarus and Folkman (1984) describe "psychological stress" as "a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 21). More specifically, in relation to work-related stress Maslach (2003) describes 'job burnout' as "a prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach, 2003, p. 189). Therefore burnout can be seen as the effects of stress over time.

Specific tools have been used as measures of stress within the research on challenging behaviour. The General Health Questionnaire (GHQ) (Goldberg, 1978; Goldberg & Hillier, 1979) has been used, although the most commonly used measure is the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986; Maslach & Jackson, 1993; Maslach, Jackson & Leiter, 1996) which measures the specific construct of burnout. According to Maslach, Jackson and Leiter (1996) burnout has three components; emotional exhaustion (EE), depersonalization (DP) and personal accomplishment (PA), and a pattern of increased EE and DP, and decreased PA is suggestive of burnout. In defining the three constructs Maslach et al. (1996) describe EE as "feelings of being emotionally overextended and exhausted by one's work," DP as "an unfeeling

and impersonal response toward recipients of one's service, care, treatment, or instruction," and PA as " feelings of competence and successful achievement in one's work with people" (Maslach et al. 1996, p. 4).

An initial review of the literature prior to undertaking the formal searches revealed that although there are articles referring specifically to 'burnout' in relation to challenging behaviour, there are also many which refer to stress and negative emotional responses, and so these are also investigated under the overarching theme of psychological well-being as employed by a previous review by Hastings (2002), and this broader approach may shed more light on the effects on staff of challenging behaviour.

Challenging Behaviour

Challenging behaviour has been described as "culturally abnormal behaviour(s) of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities" (Emerson, 1995, p.4). The prevalence rate of challenging behaviour in people with intellectual disabilities has been reported as 10-15% (Emerson et al., 2001). Challenging behaviour can both impact on the quality of life of the person exhibiting the behaviour and present difficulties for carers (Emerson, 1995).

Attribution Theory

Attributions about challenging behaviour have been studied as a potential factor influencing the relationship between challenging behaviour and stress. According to Weiner (1980) there are three main aspects to consider with regards to attributions about behaviour;

locus, stability, and controllability. The term 'locus' refers to whether the cause of the behaviour is internal or external to the person. 'Stability' can be described as whether the cause of the behaviour is transient or more long-term. The concept of 'controllability' refers to whether the person has control over their behaviour. Weiner hypothesised that the attributions of internality and controllability are associated with negative emotions, namely anger and disgust and this reduces the likelihood of offering help. Dagnan, Trower and Smith (1998) found that the attribution of controllability predicts a negative response from staff, which predicts less optimism, which in turn predicts less willingness to help the client. It is therefore imperative that staff are making appropriate attributions about clients' behaviour if clients are to receive good quality care.

Previous Research

The literature has reported a variety of stressors for staff working in intellectual disability services including both work-related stress such as work load and resident-related stress such as challenging behaviour (Bersani & Heifetz, 1985), and some research has emphasised the role of organisational issues as a stressor such as lack of support from management and lack of training (Chung & Corbett, 1998; Chung, Corbett & Cumella, 1995). In more recent years the Staff Stressor Questionnaire (SSQ) (Hatton et al. 1999b) was developed to measure stressors experienced by staff working in these services. The SSQ includes seven different stressors including poor user skills, lack of staff support, lack of resources, having a low status job, bureaucracy, work-home conflict, and also challenging behaviour. Hatton et al. (1999b) found that direct care staff reported challenging behaviour as a stressor whereas staff in more senior managerial roles did not. In a later study (Hatton et al. 1999a) also found wishful thinking and

role ambiguity as sources of general distress and job strain, but found no association with challenging behaviour.

Hastings (2002) conducted a review to explore the link between challenging behaviour and the psychological well-being of staff who work in intellectual disability services and concluded there was "reasonable evidence" for a relationship between staff stress and challenging behaviour (Hastings, 2002, p.455). However, Hastings highlighted many weaknesses of the studies in his review. Hastings emphasised the lack of measurement of levels of challenging behaviour and that simply rating challenging behaviour as stressful does not provide evidence for a relationship. Hastings adds that measuring the challenging behaviour of one client with whom the staff member works closely, or simply measuring the number of clients with challenging behaviour does not provide accurate measures of levels of exposure and that frequency and severity of behaviour should be taken into account. In terms of the methodological problems Hastings points out the lack of control groups of staff who have not been exposed to challenging behaviour, and the lack of random assignment of staff to control groups. Hastings talks of the problem that correlational designs do not offer information on cause and effect. He also states that regression analysis has not shown challenging behaviour to uniquely account for variance in stress but that organisational factors also account for much of the variance and not all studies have measured or controlled for such factors. Similarly Hastings draws attention to the lack of control of client characteristics such as clients' level of ability or characteristics of staff. Hastings also cites the limited research utilising longitudinal designs. Hastings states that the studies failing to identify an association between challenging behaviour and stress suffered from a variety of the weaknesses. Hastings highlighted that the literature shows mediating and moderating effects of coping and self-efficacy on the relationship between challenging behaviour

and stress. Making reference to Baron and Kenny's (1986) conditions for the presence of mediation, Hastings concludes that there is some evidence of a relationship between challenging behaviour and stress, between challenging behaviour and negative emotions, and between negative emotions and stress. He therefore proposed that staff's negative emotions mediate the effects of challenging behaviour on stress. However he highlighted that, at the time of writing his review, there were no studies using meditational analysis which employs the final condition suggested by Baron and Kenny of showing that the relationship between challenging behaviour and stress diminishes when controlling for negative emotional reactions. Hastings suggested future research could examine the mediating effect of negative emotions. Finally he discusses the clinical implications of his findings in that staff training and support may increase self-efficacy and improve staff's ability to cope which in turn may protect staff from experiencing negative emotions and consequently preserve their well-being.

Skirrow and Hatton (2007) conducted a review of burnout investigating sources and levels of burnout over time in intellectual disability staff and specifically examined only studies using the Maslach Burnout Inventory (Human Services version) (Maslach, Jackson & Leiter, 1996). Although the results of the studies were mixed, Skirrow and Hatton's review reported sources of stress including organisational variables such as support from management, perceptions of job role such as role ambiguity, personal variables such as coping and demographic variables such as the number of years of experience, in addition to challenging behaviour as important stressors. White, Edwards and Townsend-White (2006) carried out a review of stress and burnout between 2004 and 2006 with a focus on the implications for staff and clients of the move to community care. They also cite various stressors for staff including long hours, work-home conflict, the use of behavioural interventions, wishful-thinking as a

coping strategy, and role ambiguity and also touched upon challenging behaviour. However, the present review focuses on challenging behaviour as a source of staff stress, and examines a broader construct than purely burnout, using the wider themes of stress and well-being. In the present review, the term 'stress' has been used apart from where a study specifically measures 'burnout' or 'well-being' and these terms are then used. It is eight years since Hastings (2002) review and further research has been conducted regarding the effects on staff of challenging behaviour, and the present review aims to provide an update to Hastings' review.

Method

Databases Used for the Literature Search

- PsycINFO
- EMBASE
- Ovid MEDLINE(R).
- CINAHL

Search Limited By:

- English Language
- Journal articles

Inclusion Criteria

The search is from 2000 to May 2010 as there was a review by Hastings in 2002 on the same subject and to allow for time taken for publishing, the present search predated this by two years. A paper was included if it commented on the relationship between challenging behaviour and stress/burnout/negative emotions, or any potential moderators or mediators of this relationship.

Exclusion Criteria

- Non-paid caregivers
- Children as service users

Search Terms

A search was conducted using variations on the terms 'staff,' 'stress,' 'challenging behaviour' and 'intellectual disability' (see Table 1).

Table 1

Search Terms Used in the Literature Search

'Staff'		**'Stress'**		**'Challenging Behaviour'**		**'Intellectual Disability'**
staff* **OR** carer* **OR** caregiver* **OR** care giver* **OR** healthcare professional* **OR** health care professional* **OR** healthcare personnel **OR** health care personnel	**AND**	stress* **OR** burnout **OR** emotional* exhaust* **OR** emotion* **OR** well-being **OR** well being	**AND**	challenging behav* **OR** violen* **OR** aggress* **OR** self-harm* **OR** self harm* **OR** self-injur* **OR** self injur*	**AND**	intellectual* disab* **OR** learning disab* **OR** mental* retard* **OR** mental* handicap* **OR** developmental* disab*

The above four sets of search terms were combined with the Boolean operator 'AND.' Truncation was used to pick up all versions of a term. Each database was searched separately to make use of the function which allows a search of that particular database's method of categorising search terms, known as the 'suggest subject terms' or 'map term to subject heading'

function. This was used in addition to the above terms used in the keyword search. See Appendix 1.1 for full descriptions of the searches of individual databases.

Results

Some articles appeared in more than one database. Some articles were immediately excluded as they were not relevant. Following closer inspection additional articles not directly relevant to the topic were then excluded. See Table 2 for the reasons for exclusions. This left 29 articles which were deemed relevant to the present review. See Appendix 1.2 for a summary table of articles included in the review.

Table 2

Breakdown of the Articles from the Search

	Database			
	CINAHL	EMBASE	Ovid MEDLINE(R)	PsycINFO
No. of articles generated from search	46	193	60	198
Additional articles from reference sections	3			
No. of articles excluded with no relevance	21	158	36	160
Summary of further exclusions following closer inspection (duplicates removed)	Non-paid carer (parents): 9 Child (teachers): 7 Dementia and older adults: 9 Physical responses (restraint): 1 Epilepsy: 1 Expressed emotion: 2 Staff support: 1 Cognitive level and attributions: 1 Review: 1 Training: 1			
Final no. of articles (duplicates removed)	29			

The present review focuses on staff working with adults, and has excluded articles relating to staff working with children from the main review although comment will be made on this research in the discussion of the main findings. The rationale is that there may be different variables for adults and children which influence the relationship between challenging behaviour and stress, and also different services which serve adults and children.

Review of the Literature

The approach taken was to examine the qualitative studies first to find out what themes were salient and then to review the quantitative studies to explore whether the same themes are present. The strengths and limitations of the methodologies will also be examined when evaluating the evidence for an association between challenging behaviour and stress.

Qualitative Studies

The search identified six qualitative studies, and although they have different methodologies they appear to be reporting similar experiences of the effects of challenging behaviour. Fish (2000) interviewed nine staff working in a medium secure service using an unstructured interview. Themes included frustration, exhaustion, anger, inadequacy, self-recrimination, and uncertainty, and one of the themes for dealing with the behaviour was to distance oneself. Staff also talked about limited support from management. The main limitations with this study are the small sample size and the fact that it is only addressing self-harm.

The remaining five qualitative studies examine various behaviours including violent, aggressive and challenging behaviours and self-injury. In a focus group of 19 care staff Raczka (2005) found the greatest source of stress reported was challenging behaviour. The feelings reported included being scared, angry, and not knowing how to respond. Staff also employed 'wishful thinking' coping strategies. Raczka says of the "emotional responses" that they "could be interpreted as stress related" (Raczka, 2005, p. 174). Positive themes included enjoying the challenge and a sense of achievement. Therefore not only negative emotions are associated with

challenging behaviour. Raczka highlights a limitation of the study in that the participants were all from one organisation and therefore the generalisability of the results is reduced.

Whittington and Burns (2005) used a semi-structured interview with 18 staff. Negative emotions included fear and frustration. Staff used both positive coping strategies such as "getting to know the client" and maladaptive strategies such as "forms of distancing from the client" (Whittington & Burns, 2005, p.72). This is one of the more thorough qualitative studies as it provided staff with a summary of the themes identified and invited staff to provide feedback to ensure accuracy of the interpretations from the transcripts before continuing with the analysis. The strength of this study was that it recruited staff from a range of public, private and voluntary sector organisations.

Jahoda and Wanless (2005) interviewed 36 staff using a semi-structured interview. As opposed to asking about challenging behaviour in general, staff were asked to think about an incident with a client. This may give a more authentic view as staff are having to think about a specific incident, although it does restrict the views in that it is staff's perceptions of only one client. The strength of this qualitative study was that the reliability of the categories generated by the content analysis was checked using an independent rater and agreement was between 83% and 93%. The emotions included feeling frustrated, angry, annoyed, anxious, and fearful. Most staff reported negative perceptions of the client. It was also found that staff made contradictory attributions about the cause of the challenging behavior such as external and intentional which the authors say shows that staff can hold several different views of a client's behaviour.

Lundström, Åström and Graneheim (2007) interviewed 44 community staff about incidents of violence using a semi-structured interview. The authors identified two broad themes; 'falling apart' and 'keeping it together.' The former is a broad theme for experiences of anger,

sadness, fear and feeling powerless, and the latter is the overarching theme to describe positive experiences of pleasure from the work, being reflective about one's practice and respect for the client. Finding the positive as well as the negative experiences parallels the findings of Raczka (2005).

Dagnan (2007) pooled together the comments made by staff at a number of training days. In total, data were collected from 16 staff teams with each team ranging from between 6 and 20 staff. The data were collected from a particular exercise during the training, whereby staff were asked about the effects of challenging behaviour. Staff's responses were categorised and with a second rater the agreement level was 87.1%. One of the overarching themes was 'stress.' Emotions included worry, fear, sadness and anger. The theme of feeling unable to manage the behaviour also emerged.

Returning to the question of whether there is a link between challenging behaviour and stress the data generated from the qualitative studies appear to be conveying the message that challenging behaviour is a stressful experience for staff for a number of reasons; the negative emotional responses elicited, beliefs about abilities to manage the behaviour, poor coping strategies and lack of support. One study (Jahoda & Wanless, 2005) also talked about attributions about the cause of the challenging behaviour and, like the studies showing that staff can hold a mixture of both positive and negative emotions, this study demonstrated that staff can also hold different views about the cause of the behaviour within the same incident. This would suggest that the link between challenging behaviour and staff's thoughts is more complex than staff experiencing purely a negative reaction.

In evaluating the quality of these studies a number of difficulties arise. As is expected with the nature of the methodology used, most employ relatively small samples sizes. Another

issue is that because staff are not able to remain anonymous to the researcher this may impact upon the information gathered. In addition there is no objective measure of the amount of challenging behaviour or 'stress' experienced. Quantitative studies however allow more objective measurements of these constructs.

Quantitative Studies

The quantitative studies can be split into two broad categories; those which use a specific measure of stress and those which do not specifically measure stress per se but measure negative emotional responses to challenging behaviour. In total there were 11 studies using specific measures of stress, of which six measured burnout using the MBI (Maslach & Jackson, 1986; Maslach & Jackson, 1993; Maslach, Jackson & Leiter, 1996); two measured well-being using the GHQ (Goldberg, 1978; Goldberg & Hillier, 1979); two used both the MBI and GHQ; and one used the Index of Psychological Well-Being (Berkman, 1971). The remaining 12 studies used measures of emotional responses.

Studies using measures of stress. The studies using measures of stress can be separated into two different types of methodology employed; studies comparing groups with and without challenging behaviour, and studies using correlation and regression techniques to look for associations between variables. Six studies used group comparisons to look at differences between groups with and without challenging behaviour, or between groups where there is perceived to be a difference in the level of challenging behaviour. Alexander and Hegarty (2000) studied 13 staff split into two groups based on job type; direct care staff and senior staff, and measured burnout using the MBI (Maslach & Jackson, 1986), and work demands and supports. It

could be hypothesised that the direct care staff may experience greater burnout because they are exposed to greater levels of challenging behaviour. However, it was found that the direct care staff reported lower burnout than senior staff and none of the staff in either group reported challenging behaviour as the greatest source of stress.

In a study of 107 community staff Rose and Rose (2005) split staff into high and low levels of exposure to challenging behaviour. No differences were found for levels of burnout using the MBI (Maslach, Jackson & Leiter, 1996) or stress with the GHQ (Goldberg, 1972). They also found no correlation between attributions about challenging behaviour and burnout or stress, although there was a correlation between less stability and negative emotion; between negative emotion and increased DP but decreased EE; and between negative emotion and higher stress on the GHQ. One difficulty with this study is that the groups were formed on the basis of self-reported levels of challenging behaviour.

In a similar vein, Robertson et al. (2005) studied 157 staff in two types of community residential settings; congregate (more than half of clients had challenging behaviour) and non-congregate (less than half had challenging behaviour). Questionnaires completed included measures of sources of stress and the GHQ-12 (Goldberg, 1978). For the group as a whole, organisational factors such as 'lack of resources' and 'lack of staff support' were rated as more stressful than challenging behaviour. No difference was found between the groups for scores on the GHQ. Although staff working in non-congregate settings experienced lower levels of challenging behaviour, they rated lack of procedures in dealing with challenging behaviour as more stressful than the congregate setting. It could be suggested that challenging behaviour itself is not the most stressful factor, but the lack of support which staff receive in dealing with the behaviour. The strength of this study was that it took other factors such as organisational issues

into account. A weakness of this study, in line with that suggested by Hastings (2002), is that identifying a factor as a stressor does not actually provide evidence that there is a relationship between that factor and stress.

Howard, Rose and Levenson (2009) examined two groups; 44 staff from a medium secure setting with high levels of violence and 38 staff from a community setting with lower levels of violence. Overall violence was associated with higher emotional exhaustion as measured by the MBI (Maslach & Jackson, 1993). Interestingly less fear was reported by medium-secure staff and there were no differences between the groups for burnout. Both groups showed a positive correlation between violence and emotional exhaustion, and the levels of all three components of burnout were similar for both groups; the medium-secure staff did not experience any more burnout than the community staff. Using Baron and Kenny's (1986) principles, self-efficacy was found to moderate the relationship between challenging behaviour and burnout. The authors suggest that the unexpected results may be due to the fact that the medium-secure staff received more training in managing aggression which may have influenced their perceptions of their ability to manage the behaviour and therefore their fear. An issue with this study is that fear was measured with the use of vignettes as opposed to reflecting on a real incident.

A limitation of these quantitative studies is the lack of control groups to compare stress in staff not exposed to challenging behaviour. Only two studies used control groups. Lundström, Graneheim, Eisemann, Richter and Åström (2007) studied 112 community staff split into two groups; those reporting exposure to violence in their work, and those reporting no exposure. No difference was found on the MBI (Maslach, Jackson & Leiter, 1996) but the group exposed to violence scored higher on a measure of agitation than those not exposed. Furthermore when exposed to violence, staff with particular personality traits became more emotionally exhausted

and experienced more depersonalization. They found that staff scoring high for 'harm avoidance' and staff with 'low self-directedness' experienced greater burnout. The authors suggest that the perception of stress is influenced by personality.

Donaldson (2002) carried out a study with 60 day centre staff. Staff working with Down Syndrome and dementia were split into two groups; those working with challenging behaviour, and no challenging behaviour. Overall there was no difference between the groups for measures of anxiety, depression and well-being as measured by the GHQ (Goldberg, 1978). However correlational analysis revealed that, within the challenging behaviour group, as challenging behaviour increased, well-being decreased. There was a similar pattern for staff working with non-specified learning disability with no dementia where challenging behaviour was correlated with depression and poor well-being. The fact that overall there was no difference between the groups suggests that it is not challenging behaviour alone which affects well-being. The limitation of all these quantitative studies comparing groups is the lack of random assignment to groups. Hastings (2002) highlights that it is neither practical nor ethical to assign staff to groups with and without challenging behaviour.

Four studies used correlation/regression techniques to look at the relationships between variables, and one study simply reported descriptive statistics. Bell and Espie (2002) used measures of emotions, staff support and the Index of Psychological Well-Being (Berkman, 1971) with a sample of 25 staff working in a secure setting. Negative emotions were reported in relation to challenging behaviour and dissatisfaction with support from senior staff. Positive emotions (such as empathy and satisfaction) towards clients was also reported, which mirrors the findings of some of the qualitative studies. Overall staff had positive feelings and good levels of well-

being. The unit was all male and the study employed a small sample size which limits the generalisabilty of the results.

Mitchell and Hastings (2001) conducted a study with 83 community staff using measures of emotions, coping and burnout with the MBI (Maslach & Jackson, 1986). Negative emotional responses were associated with greater EE and DP. In addition the authors found that disengagement coping was associated with greater EE and lower PA, and adaptive coping was associated with higher PA. The difficulty with this research is that there was no measure of the level of challenging behaviour.

Rose, Horne, Rose and Hastings (2004) conducted two separate studies. In the first study, 101 staff completed the MBI (Maslach, Jackson & Leiter, 1996) and a measure of emotional reactions to challenging behaviour. The results showed that depression, anger, fear and anxiety were associated with EE and DP. In the second study 99 staff again completed the MBI and were asked to rate their emotional responses to vignettes describing challenging behaviour. Similarly the results showed that negative emotions were associated with EE and DP as with the correlational study by Mitchell and Hastings (2001). It is encouraging that two types of methodology demonstrate the same results. However this study also suffers from a lack of measurement of challenging behaviour. Both of these studies used a measure of the emotions associated with challenging behaviour but did not measure the actual level of challenging behaviour staff were exposed to. Snow, Langdon, and Reynolds (2007) interviewed 41 nurses working with people demonstrating self-injurious behaviour. Staff were interviewed about their attributional beliefs about two vignettes describing challenging behaviour, and completed the MBI (Maslach & Jackson, 1986). Staff who made fewer attributions about behaviour being stable experienced greater EE. Although this study did not measure levels of self-injurious behaviour, it

investigated the length of time staff had been working with these clients but no association was found. It was found that staff who cared for greater numbers of clients with self-injurious behaviour experienced more EE, although the authors suggest this may be less to do with the experience of the behaviour and more to do with the extra workload created by this behaviour. In addition, as stated by Hastings (2002) simply measuring the number of clients is not an accurate measure of exposure.

Like Lundström, Graneheim, Eisemann, Richter and Åström (2007), Chung and Harding (2009) also examined personality. A total of 103 community staff completed measures of burnout with the MBI (Maslach & Jackson, 1986), well-being (using the GHQ-28, Goldberg & Hillier, 1979), challenging behaviour and personality. Higher levels of challenging behaviour were associated with higher EE and lower PA. Regression analyses revealed that personality predicted burnout and well-being. High neuroticism predicted high EE, low PA and low well-being; high extraversion predicted low EE and high PA; and high conscientiousness predicted high DP. However staff were only asked to rate the challenging behaviour of clients they were keyworker to and so the total level of exposure to challenging behaviour was not captured.

The quantitative studies using specific measures of well-being/burnout found similar themes to that of the qualitative studies in relation to staff's experiences of challenging behaviour; the role of emotions, attributions, coping strategies, and organisational factors such as lack of staff support. Howard, Rose and Levenson (2009) also found a role for self-efficacy and the themes of inadequacy, powerlessness and feeling unable to manage the behaviour found in the qualitative studies may be alluding to a sense of reduced self-efficacy. The link between challenging behaviour and stress in the quantitative studies appears mixed. Three studies found a relationship between levels of challenging behaviour and burnout (Chung & Harding, 2009;

Donaldson, 2002; Howard, Rose & Levenson, 2009) while others found no difference between groups for burnout (Lundström, Graneheim, Eisemann, Richter & Åström, 2007; Rose & Rose, 2005) or well-being (Robertson et al., 2005), and some which had initially found correlational relationships then found no difference when either comparing to a non-challenging behaviour group (Donaldson, 2002), or splitting the group into high and low challenging behaviour (Howard, Rose & Levenson, 2009). Some of these studies also used measures of emotional reactions to challenging behaviour and found evidence for negative emotions being associated with higher levels of burnout (Mitchell & Hastings, 2001; Rose, Horne, Rose & Hastings, 2004). The study by Howard, Rose and Levenson (2009) suggests that a feeling of being able to manage challenging behaviour has more of an influence on burnout than exposure to challenging behaviour. Therefore it could be suggested that it is not the level of challenging behaviour which is stressful, but the way in which it is perceived. The remaining 12 studies focus on the association between challenging behaviour and the perceptions and emotions associated with it.

Studies of emotional responses to challenging behaviour. Of the remaining 12 studies, two look at challenging behaviour and emotional responses; one looks at both emotional responses to challenging behaviour and emotions associated with causal attributions about challenging behaviour; one looks at emotions associated with general perceptions/beliefs about challenging behaviour; and eight are investigating only causal attributions and emotions. The first two studies presented investigate emotional responses to challenging behaviour. A study of 87 care staff by Rose and Cleary (2007) found mixed results using two different measures of fear of assault. Again the methodology of comparing groups is used; a secure setting and a community setting where, based on the number of incident reports, it was deemed that there was a difference

in exposure to challenging behaviour. One measure simply asked about fear of possible violence in the workplace and the other used vignette methodology with hypothetical scenarios. The first measure showed that staff in the high challenging behaviour group showed greater fear whereas the second measure showed no difference, although it could be argued that this was because it used vignettes rather than asking about actual levels of fear. This study shows some support for a relationship between level of challenging behaviour and negative emotion. Lundström, Saveman, Eisemann and Åström (2007) carried out a study with 149 care staff. The most common emotions reported were powerlessness, insufficiency and anger. This study provides limited information as it only reports the frequency of types of emotional reactions. However the study also found that younger staff, staff who had worked in the service for the least amount of time, and Assistant nurses (as opposed to Registered nurses and Nurse's aides) were exposed to the greatest violence. This highlights the importance of staff characteristics which may be a confounding variable, as the staff exposed to the greatest violence may have a characteristic in common which may in turn impact on their emotional responses.

The next study looks at emotions associated with both the level of challenging behaviour and attributions made about challenging behaviour. Lambrechts, Kuppens and Maes (2009) carried out a study with 51 staff from residential services. They found that the severity of both self-injurious and aggressive behaviour was positively correlated with fear/anxiety, and the frequency of aggressive behaviour was positively correlated with fear/anxiety. The authors also looked at the association between attributions and emotions but only found a significant correlation between greater positive emotions and greater stability, and no negative emotions were related to controllability.

Williams and Rose (2007) looked at emotions associated with general perceptions/beliefs about challenging behaviour in 51 care staff. They found that less negative emotion was associated with episodic behaviour and more negative emotion with chronic behaviour. Therefore the more staff perceive challenging behaviour to be continuous with no break over time (which could serve as a measure of self-reported frequency) the greater the negative emotion. They also looked at one attribution of whether staff thought they themselves could control the behaviour. Interestingly carer controllability was associated with less positive emotions.

The remaining eight studies all focus on causal attributions only, seven of which are in the context of examining helping behaviour. These studies are not looking at the level of challenging behaviour but the attributions made in the presence of challenging behaviour and the corresponding emotions. Weiner (1980) proposed that internality and controllability are associated with negative emotions. Four of these eight studies have shown associations with attributions and negative emotion. Stanley and Standen (2000) carried out a study with 50 day services staff using three types of vignette (demonstrating aggression, destructiveness and self-injury), and two levels of functioning (dependent and independent). The greater the perception of the client being independent and exhibiting behaviour directed outwardly, the greater the attribution of controllability and the greater the negative emotion. The greater the perception of dependent and self-directed behaviour the greater the attribution of stability and the greater the positive emotions. Dagnan and Cairns (2005) investigated 62 staff in residential settings, social services and the independent sector. The authors found that internal attributions were significantly associated with increased anger and decreased sympathy, and greater stability was associated with increased sympathy. Attributions of controllability were associated with increased anger and decreased sympathy although these correlations were not significant. In

further support of the hypothesis regarding controllability and negative emotions, Dagnan and Weston (2006) conducted a study with 37 residential care staff. The authors found the attribution of controllability to be associated with greater anger. However this study employed a very small sample size. Although Wanless and Jahoda (2006) looked at attributions, they also examined real incidents versus vignettes with 38 day centre staff. It was found that greater internal and controllable attributions were associated with increased anger. It was also found that staff experienced more anger and were less sympathetic towards the client in the real incident as opposed to the vignette. This is an important study as it provides support for measuring challenging behaviour using real incidents.

Two of the eight studies found the opposite to Weiner's (1980) hypothesis. Jones and Hastings (2003) used videos of clients engaging in self-harm with 123 staff in residential, community nursing and day service settings. It was found that attributions of controllability were associated with relaxed and positive responses, and external attributions were associated with depression and anger. The authors suggest this may be because this study was specifically examining self-injury and staff may feel relieved to think the cause is internal and that staff are not responsible for it occurring. Bailey, Hare, Hatton and Limb (2006) conducted a study with 43 day centre staff. The authors examined negative emotions in relation to controllability, stability and internality. The results showed that negative emotions including depression and anger were associated with uncontrollable, stable and internal attributions. This again is the opposite to Weiner's hypothesis that controllability is associated with negative emotions. Furthermore this was not the case only for self-injurious behaviour, but also other forms of challenging behaviour. However differences were found between self-injurious and other types of behaviour. Of the attributions studied, the group of staff exposed to challenging behaviour (without self-injury)

showed the greatest negative emotion for internal attributions, and the group of staff exposed to self-injury showed the greatest negative emotion for stable attributions. This suggests staff may respond differently to self-directed challenging behaviour than other forms of challenging behaviours.

A further two of the eight studies were unable to find any associations between attributions and negative emotions as with Lambrechts, Kuppens and Maes (2009). In a vignette study, Willner and Smith (2008) recruited 65 care managers and 56 care staff and were unable to find any significant associations between negative emotions and controllability. However it should be noted that this study was specifically looking at inappropriate sexual behaviour and only in male clients. Hill and Dagnan (2002) conducted a study with 33 care staff and, although there were no significant results for anger, they found that staff were more sympathetic when attributions of behaviour were perceived as less internal and more stable. Although the results are somewhat mixed, perceptions and attributions about challenging behaviour do appear to affect emotions. Perhaps then attributions are one of the means by which challenging behaviour leads to negative emotions.

Discussion

The qualitative studies have contributed greatly by way of identifying salient themes and it is interesting that they appear to identify the same constructs as measured by the quantitative studies and are generally telling the same story; that challenging behaviour is stressful and variables such as attributions, coping, self-efficacy, emotional reactions and organisational factors are implicated. The fact that both methodologies have identified similar constructs would appear to confirm the importance of these variables.

In support of the findings from the adult literature, child studies have identified similar themes, reporting emotional responses including anger and frustration (Cudré-Mauroux, 2010; Howard & Hegarty, 2003), the roles of self-efficacy (Hastings & Brown, 2002a) and coping (Hastings & Brown, 2002b), and that staff can have several different attributions for the same incident (Cudré-Mauroux, 2010). They have also reported stress resulting from extra work load, fear of injury and parents pursuing legal action (Kelly, Carey, McCarthy & Coyle, 2007), and that the function of behaviour can affect emotions in staff (Hastings, Tombs, Monzani & Boulton, 2003; Mossman, Hastings & Brown, 2002).

Figure 1 provides a diagrammatic representation of a proposed model of the relationships between challenging behaviour and stress. The model is based on the findings of the studies in the present review. However, the speculative nature of this model should be noted. It aims to offer a tentative hypothesis about the relationship between challenging behaviour and stress/burnout. Many studies have identified negative emotions including both qualitative (Dagnan, 2007; Fish, 2000; Jahoda & Wanless, 2005; Lundström, Åström & Graneheim, 2007; Raczka, 2005; Whittington & Burns, 2005) and quantitative studies (Bell & Espie, 2002;

Lambrechts, Kuppens & Maes, 2009; Lundström, Saveman, Eisemann & Åström, 2007; Rose & Cleary, 2007). Therefore this link has been depicted in Figure 1. There is evidence for the link between negative emotions associated with challenging behaviour and stress/burnout (Mitchell & Hastings, 2001; Rose, Horne, Rose & Hastings, 2004; Rose & Rose, 2005) and again this is shown in Figure 1. The diagram does not show a direct link between challenging behaviour and stress in accordance with the equivocal evidence for this. Instead the link is shown via negative emotions as this appears to be a more consistent finding. Negative emotions, stress and burnout are placed within the overarching theme of well-being as these are constructs regarding negative reactions which could be said to contribute to psychological well-being, and Hastings (2002) used the broad concept of well-being in his review to encompass stress, burnout and negative emotions. Figure 1 also shows a link between challenging behaviour and attributions and this is seen in studies where the type of behaviour (self-injury) has influenced attributions (Stanley & Standen, 2000). The figure also shows the association between attributions and negative emotions as shown for specific attributions of controllability (Dagnan & Weston, 2006; Wanless & Jahoda, 2006) and internality (Dagnan & Cairns, 2005; Wanless & Jahoda, 2006). Although attributions and negative emotions appear to play a major role, other staff characteristics have been shown to be important, including coping resources (Mitchell & Hastings, 2001; Raczka, 2005; Robertson et al. 2005; Whittington & Burns, 2005); more recently personality, as introduced by the quantitative studies (Chung & Harding, 2009; Lundström, Graneheim, Eisemann, Richter & Åström, 2007); and self-efficacy (Howard, Rose & Levenson, 2009). With regards to self-efficacy, the qualitative studies appear to allude to this construct with themes of powerlessness (Lundström, Åström & Graneheim, 2007), inadequacy (Fish, 2000) and feeling unable to manage challenging behaviour (Dagnan, 2007). Therefore these staff characteristics have been shown in

the figure as exerting an influence. In addition to staff characteristics, Figure 1 also includes the influence of organisational variables as suggested by some studies (Bell & Espie, 2002; Fish, 2000; Robertson et al. 2005). As found by previous research negative emotions and stress can affect staff's actions (Dagnan, Trower & Smith, 1998; Rose, Jones & Fletcher, 1998), and Figure 1 also hypothesises a link between these actions and the maintenance of challenging behaviour as suggested by Hastings (2002).

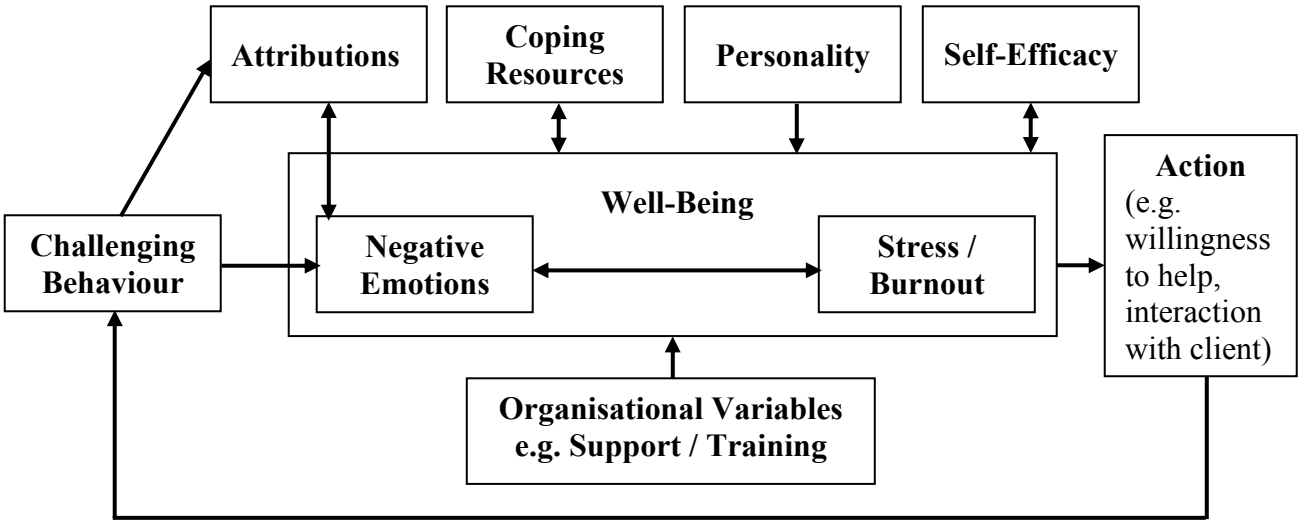

Figure 1. Proposed Model of the Association Between Challenging Behaviour and Stress

Methodological Limitations

Qualitative research. Stress and burnout is a sensitive issue and staff may be reluctant to talk about such issues in interviews or focus groups. Also the nature of this methodology often restricts sample size. There is also a lack of definition of what is being measured. One issue with some of the qualitative research is that, as opposed to asking about the experiences of working with this client group, the researcher has directly asked why challenging behaviour is stressful.

This makes the assumption that it is stressful, but some qualitative research has shown staff also hold positive feelings about working with the challenges these clients present. The obvious weakness of the qualitative methodology is that it does not provide evidence for relationships between variables.

Quantitative research. Many studies do not take into consideration the effects of stressors external to the working environment. It is also difficult to distinguish whether work-related stress is directly related to the challenging behaviour of clients or to other aspects of staff's employment such as organisational issues including lack of support or training.

Hastings (2002) highlighted that the research has not addressed staff stress having an impact on challenging behaviour. Hastings termed this a 'feedback loop.' If staff are experiencing stress, then this may have a negative effect on the way they interact with clients, and may reinforce challenging behaviour. Again with the studies in the present review, establishing cause and effect is a problem. There are also many different definitions of stress, well-being and burnout with different ways of measuring these constructs. The MBI itself is not one composite measure but three separate constructs suggesting burnout is not constituted of one unique element. It could be said that the MBI is a measure of general work-related burnout and does not measure stress specifically related to challenging behaviour. However, it is designed for staff in human services.

Hastings (2002) points out the lack of longitudinal data and the results of this updated review did not yield any longitudinal studies. Many of the studies did not use control groups of staff not exposed to challenging behaviour and staff were not randomly assigned to groups or groups were crudely split into high and low levels of challenging behaviour. In addition some

studies did not use a measure of challenging behaviour, merely asked staff to rate how stressful challenging behaviour is, or asked about only one client. Many studies did not take into consideration other variables such as organisational factors, staff characteristics and client characteristics. There was also a lack of mediational methodology as suggested by Hastings. The use of vignettes is another weakness, as Wanless and Jahoda (2006) found that staff's ratings of emotions and attributions were higher with real incidents of challenging behaviour as opposed to vignettes suggesting real incidents improve the ecological validity of the research. There were also issues with sample size, only recruiting from one service or studying a specific group (self-injury, male clients only) and the implications for generalising the results.

Some studies did not find a relationship between challenging behaviour and stress/negative emotions. Compared to other forms of challenging behaviour, self-injurious behaviour elicits less negative emotions (Stanley & Standen, 2000) or differences in the strength of emotion for particular attributions (Bailey, Hare, Hatton & Limb, 2006) and this may affect results in studies where self-injury has not been separated from other forms of behaviour. In addition the use of vignettes may have affected results as seen in the study by Rose and Cleary (2007) where two questionnaires were employed and the questionnaire asking directly about staff's fear resulted in significant results whereas the questionnaire using vignette methodology did not. This was also the case for studies looking at attributions and negative emotions (Hill & Dagnan, 2002; Willner & Smith, 2008).

In light of the limitations, the findings should be viewed with some caution. Studies using direct measures of stress have had mixed results, however there appears to be a correlation between challenging behaviour and negative emotions, and between negative emotions and stress. The results of this updated review appear to support what had previously been found by

Hastings (2002); that negative emotions may be a mediating factor between challenging behaviour and staff stress. In terms of the link between challenging behaviour and negative emotions there appears to be some evidence that negative emotions may be partly as a result of the attributions made, particularly controllability and internality which have been shown to be associated with anger (Dagnan & Cairns, 2005; Dagnan & Weston, 2006; Wanless & Jahoda, 2006). Hastings (2002) raised the need for mediation analyses. Although there has been research to show the moderating effect of self-efficacy (Howard, Rose & Levenson, 2009), there does not appear to be any such research for negative emotions and there remains scope for investigating the mediating role of negative emotions.

Clinical Implications

The roles of self-efficacy and coping have been highlighted, and support and training for staff may help increase coping resources and self-efficacy which may protect staff from the potential negative emotions associated with challenging behaviour. The studies also showed that causal attributions influence staff's emotions and again, training in understanding challenging behaviour may help staff make appropriate attributions about the behaviour. The research has also started to demonstrate the role of personality, and this may be an area worthy of future research in terms of support for staff who may be more vulnerable to burnout. Organisational variables, particularly support from management, have been implicated as an important influence, and a supportive working atmosphere may also protect staff from negative emotions. If staff feel supported in the work they do, then this, in turn, may have a beneficial effect on the quality of care clients receive.

References

Alexander, M., & Hegarty, J. R. (2000). Measuring staff burnout in a community home. *British Journal of Developmental Disabilities, 46*(1), 51-62.

Bailey, B. A., Hare, D. J., Hatton, C., & Limb, K. (2006). The response to challenging behaviour by care staff: Emotional responses, attributions of cause and observations of practice. *Journal of Intellectual Disability Research, 50*(3), 199-211.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Bell, D. M., & Espie, C. A. (2002). A preliminary investigation into staff satisfaction, and staff emotions and attitudes in a unit for men with leaning disabilities and serious challenging behaviours. *British Journal of Learning Disabilities, 30,* 19-27.

Berkman, P. L. (1971). Measurement of mental health in a general population survey. *American Journal of Epidemiology, 94*(2), 105-111.

Bersani, H. A., & Heifetz, L. J. (1985). Perceived stress and satisfaction of direct-care staff members in community residences for mentally retarded adults. *American Journal of Mental Deficiency, 90*(3), 289-295.

Chung, M. C., & Corbett, J. (1998). The burnout of nursing staff working with challenging behaviour clients in hospital-based bungalows and a community unit. *International Journal of Nursing Studies, 35,* 56-64.

Chung, M. C., Corbett, J., & Cumella, S. (1995). Relating staff burnout to clients with challenging behaviour in people with a learning difficulty: Pilot study 2. *European Journal of Psychiatry, 10*(3), 155-165.

Chung, M. C., & Harding, C. (2009). Investigating burnout and psychological well-being of staff working with people with intellectual disabilities and challenging behaviour: The role of personality. *Journal of Applied Research in Intellectual Disabilities, 22,* 549-560.

Cudré-Mauroux, A. (2010). Staff attributions about challenging behaviours of people with intellectual disabilities and transactional stress process: A qualitative study. *Journal of Intellectual Disability Research, 54*(1), 26-39.

Dagnan, D. (2007). Helping staff teams tell us about the effects of challenging behaviour. *Clinical Psychology Forum, 179,* 15-18.

Dagnan, D., & Cairns, M. (2005). Staff judgements of responsibility for the challenging behaviour of adults with intellectual disabilities. *Journal of Intellectual Disability Research, 49*(1), 95-101.

Dagnan, D., Trower, P., & Smith, R. (1998). Care staff responses to people with learning disabilities and challenging behaviour: A cognitive-emotional analysis. *British Journal of Clinical Psychology, 37,* 59-68.

Dagnan, D., & Weston, C. (2006). Physical intervention with people with intellectual disabilities: The influence of cognitive and emotional variables. *Journal of Applied Research in Intellectual Disabilities, 19,* 219-222.

Donaldson, S. (2002). Work stress and people with Down Syndrome and dementia. *Down Syndrome Research and Practice, 8*(2), 74-78.

Emerson, E. (1995). *Challenging behaviour: Analysis and intervention in people with learning disabilities.* Cambridge: Cambridge University Press.

Emerson, E., Kiernan, C., Alborz, A., Reeves, D., Mason, H., Swarbrick, R., Mason, L., & Hatton, C. (2001). The prevalence of challenging behaviors: A total population study. *Research in Developmental Disabilities, 22,* 77-93.

Fish, R. (2000). Working with people who harm themselves in a forensic learning disability service: Experiences of direct care staff. *Journal of Learning Disabilities, 4*(3), 193-207.

Goldberg, D. P. (1972). The detection of psychiatric illness by questionnaire. In A. Bowling (Ed.), *Measuring disease.* (pp. 85-87). Buckingham: Open University Press.

Goldberg, D. (1978). *General Health Questionnaire (GHQ)-12.* Oxford: NFER Nelson.

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine, 9,* 139-145.

Hastings, R. P. (2002). Do challenging behaviors affect staff psychological well-being? Issues of causality and mechanism. *American Journal on Mental Retardation, 107(6),* 455-467.

Hastings, R. P., & Brown, T. (2002a). Behavioural knowledge, causal beliefs and self-efficacy as predictors of special educators' emotional reactions to challenging behaviours. *Journal of Intellectual Disability Research, 46*(2), 144-150.

Hastings, R. P., & Brown, T. (2002b). Coping strategies and the impact of challenging behaviors on special educators' burnout. *Mental Retardation, 40*(2), 148-156.

Hastings, R. P., Tombs, A. K. H., Monzani, L. C., & Boulton, H. V. N. (2003). Determinants of negative emotional reactions and causal beliefs about self-injurious behaviour: An experimental study. *Journal of Intellectual Disability Research, 47*(1), 59-67.

Hatton, C., Emerson, E., Rivers, M., Mason, H., Mason, L., Swarbrick, R., Kiernan, C., Reeves, D., & Alborz, A. (1999a). Factors associated with staff stress and work satisfaction in services for people with intellectual disability. *Journal of Intellectual Disability Research, 43*(4), 253-267.

Hatton, C., Rivers, M., Mason, H., Mason, L., Kiernan, C., Emerson, E., Alborz, A., & Reeves, D. (1999b). Staff stressors and staff outcomes in services for adults with intellectual disabilities: The Staff Stressor Questionnaire. *Research in Developmental Disabilities, 20*(4), 269-285.

Hill, C., & Dagnan, D. (2002). Helping, attributions, emotions and coping style in response to people with learning disabilities and challenging behaviour. *Journal of Learning Disabilities, 6*(4), 363-372.

Howard, R., & Hegarty, J. R. (2003). Violent incidents and staff stress. *British Journal of Developmental Disabilities, 49*(1), 3-21.

Howard, R., Rose, J., & Levenson, V. (2009). The psychological impact of violence on staff working with adults with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 22,* 538-548.

Jahoda, A., & Wanless, L. K. (2005). Knowing you: The interpersonal perceptions of staff towards aggressive individuals with mild to moderate intellectual disabilities in situations of conflict. *Journal of Intellectual Disability Research, 49*(7), 544-551.

Jones, C., & Hastings, R. P. (2003). Staff reactions to self-injurious behaviours in learning disability services: Attributions, emotional responses and helping. *British Journal of Clinical Psychology, 42,* 189-203.

Kelly, A., Carey, S., McCarthy, S., & Coyle, C. (2007). Challenging behaviour: Principals' experience of stress and perception of the effects of challenging behaviour on staff in special schools in Ireland. *European Journal of Special Needs Education, 22*(2), 161-181.

Lambrechts, G., Kuppens, S., & Maes, B. (2009). Staff variables associated with the challenging behaviour of clients with severe or profound intellectual disabilities. *Journal of Intellectual Disability Research, 53*(7), 620-632.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* New York, NY: Springer Publishing Company, Inc.

Lundström, M., Åström, S., & Graneheim, U. H. (2007). Caregivers' experiences of exposure to violence in services for people with learning disabilities. *Journal of Psychiatric and Mental Health Nursing, 14,* 338-345.

Lundström, M., Graneheim, U. H., Eisemann, M., Richter, J., & Åström, S. (2007). Personality impact on experiences of strain among staff exposed to violence in care of people with intellectual disabilities. *Journal of Policy and Practice in Intellectual Disabilities, 4*(1), 30-39.

Lundström, M., Saveman, B., Eisemann, M., & Åström, S. (2007). Prevalence of violence and its relation to caregivers' demographics and emotional reactions – an explorative study of caregivers working in group homes for persons with learning disabilities. *Scandinavian Journal of Caring Sciences, 21*(1), 84-90.

Maslach, C. (2003). Job burnout: New directions in research and intervention. *Current Directions in Psychological Science, 12*(5), 189-192.

Maslach, C. & Jackson, S. E. (1986). *The Maslach Burnout Inventory Manual.* Palo Alto, CA: Consulting Psychologists Press, Inc.

Maslach, C., & Jackson, S. E. (1993). *Maslach Burnout Inventory (2nd ed.).* Palo Alto, CA: Consulting Psychologists Press, Inc.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory Manual (3rd ed.).* Palo Alto, CA: Consulting Psychologists Press, Inc.

Mitchell, G., & Hastings, R. P. (2001). Coping, burnout, and emotion in staff working in community services for people with challenging behaviors. *American Journal on Mental Retardation, 106*(5), 448-459.

Mossman, D. A., Hastings, R. P., & Brown, T. (2002). Mediators' emotional responses to self-injurious behavior: An experimental study. *American Journal on Mental Retardation, 107*(4), 252-260.

Raczka, R. (2005). A focus group enquiry into stress experienced by staff working with people with challenging behaviours. *Journal of Intellectual Disabilities, 9*(2), 167-177.

Robertson, J., Hatton, C., Felce, D., Meek, A., Carr, D., Knapp, M., Hallam, A., Emerson, E., Pinkney, L., Caesar, E., & Lowe, K. (2005). Staff stress and morale in community-based settings for people with intellectual disabilities and challenging behaviour: A brief report. *Journal of Applied Research in Intellectual Disabilities, 18,* 271-277.

Rose, D., Horne, S., Rose, J. L., & Hastings, R. P. (2004). Negative emotional reactions to challenging behaviour and staff burnout: Two replication studies. *Journal of Applied Research in Intellectual Disabilities, 17,* 219-223.

Rose, D. & Rose, J. (2005). Staff in services for people with intellectual disabilities: the impact of stress on attributions of challenging behaviour. *Journal of Intellectual Disability Research, 49(11),* 827-838.

Rose, J. L., & Cleary, A. (2007). Care staff perceptions of challenging behaviour and fear of assault. *Journal of Intellectual and Developmental Disability, 32*(2), 153-161.

Rose, J., Jones, F., & Fletcher, B. (1998). Investigating the relationship between stress and worker behaviour. *Journal of Intellectual Disability Research, 42*(2), 163-172.

Skirrow, P., & Hatton, C. (2007). 'Burnout' amongst direct care workers in services for adults with intellectual disabilities: A systematic review of research findings and initial normative data. *Journal of Applied Research in Intellectual Disabilities, 20,* 131-144.

Snow, E., Langdon, P. E., & Reynolds, S. (2007). Care staff attributions toward self-injurious behaviour exhibited by adults with intellectual disabilities. *Journal of Intellectual Disabilities, 11*(1), 47-63.

Stanley, B., & Standen, P. J. (2000). Carers' attributions for challenging behaviour. *British Journal of Clinical Psychology, 39,* 157-168.

Wanless, L. K., & Jahoda, A. (2006). Responses of staff towards people with mild to moderate intellectual disability who behave aggressively: A cognitive emotional analysis. *Journal of Intellectual Disability Research, 46*(6), 507-516.

Weiner, B. (1980). A cognitive (attribution) – emotion – action model of motivated behavior: An analysis of judgments of help-giving. *Journal of Personality and Social Psychology, 39*(2), 186-200.

White, P., Edwards, N., & Townsend-White, C. (2007). Stress and burnout amongst professional carers of people with intellectual disability: Another health inequity. *Current Opinion in Psychiatry, 19,* 502-507.

Whittington, A., & Burns, J. (2005). The dilemmas of residential care staff working with the challenging behaviour of people with learning disabilities. *British Journal of Clinical Psychology, 44,* 59-76.

Williams, R., & Rose, J. (2007). The development of a questionnaire to assess the perceptions of care staff towards people with intellectual disabilities who display challenging behaviour. *Journal of Intellectual Disabilities, 11*(2), 197-211.

Willner, P., & Smith, M. (2008). Can attribution theory explain carers' propensity to help men with intellectual disabilities who display inappropriate sexual behaviour? *Journal of Intellectual Disability Research, 52*(1), 79-88.

EMPIRICAL PAPER

THE RELATIONSHIP BETWEEN CHALLENGING BEHAVIOUR, BURNOUT AND COGNITIVE VARIABLES IN STAFF WORKING WITH PEOPLE WHO HAVE INTELLECTUAL DISABILITIES

Abstract

Introduction

There is evidence to suggest a relationship between the way in which staff perceive challenging behaviour and burnout in staff working with people with intellectual disabilities and challenging behaviour. However the evidence of a direct link is equivocal and it is possible that a number of different variables mediate this relationship. The aim of the study is to confirm whether there is a relationship between challenging behaviour and staff burnout, and in addition, to test whether staff perceptions about challenging behaviour mediate this relationship.

Method

Seventy-eight staff completed measures of burnout, challenging behaviour and perceptions about challenging behaviour. The perceptions explored included beliefs about the timeline of behaviour, staff's perception of whether they themselves have control over the behaviour, beliefs about clients' ability to control the behaviour and staff's negative emotional responses.

Results

Significant positive correlations were found between challenging behaviour and burnout, challenging behaviour and cognitive variables, and cognitive variables and burnout. Regression analyses demonstrated that negative emotions mediate the relationship between challenging behaviour and burnout.

Conclusion

The results show evidence that there is a relationship between challenging behaviour and burnout which is mediated by negative emotion, namely the fear of potential assault.

Keywords: staff, burnout, intellectual disability, challenging behaviour, cognitive variables

Introduction

Rationale for the Research

Research into stress and burnout in staff who work with people with intellectual disabilities and challenging behaviour suggests that stress can influence staff and clients. Rose, Jones and Fletcher (1998) showed that an increased level of staff stress was associated with fewer interactions with clients. Hastings (2002) highlights that staff sickness and turnover are affected. Hastings also points out that employers are responsible in both a moral and legal sense for staff's well-being. Fenwick (1995) highlights that investigating staff's perceptions about challenging behaviour is important because these perceptions play a role in the interventions staff employ with clients.

Previous Research on Challenging Behaviour and Burnout

Emerson (1995) defines challenging behaviour as: "culturally abnormal behaviour(s) of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities" (Emerson, 1995, p.4). There is a body of research which suggests a link between the challenging behaviour of clients and burnout in the staff who work with them (Chung & Harding, 2009; Freeman, 1994). Maslach (2003) has explained 'job burnout' as a: "psychological syndrome that involves a prolonged response to stressors in the workplace" and "involves the chronic strain that results from an incongruence, or misfit, between the worker and the job" (Maslach, 2003, p.189). Maslach,

Jackson and Leiter (1996) describe three components of the burnout syndrome; emotional exhaustion (EE), depersonalization (DP) and a lack of personal accomplishment (PA). In relation to emotional exhaustion Maslach et al. explain that: "as emotional resources are depleted, workers feel they are no longer able to give of themselves at a psychological level" (Maslach et al., 1996, p.4). Depersonalization is defined as: "negative, cynical attitudes and feelings about one's clients" (Maslach et al., 1996, p.4). Finally, regarding a reduction in personal accomplishment: "workers may feel unhappy about themselves and dissatisfied with their accomplishments on the job" (Maslach et al., 1996, p.4).

Chung and Harding (2009) found a direct link to challenging behaviour and burnout in that a higher level of challenging behaviour was associated with increased EE and decreased PA on the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986). There is also evidence to show that higher levels of challenging behaviour can lead to greater negative emotions in staff. Lambrechts, Kuppens and Maes (2009) found that the greater the frequency and severity of challenging behaviour, the greater fear and anxiety experienced by staff. The relationship between challenging behaviour and stress in care staff has also been investigated in qualitative studies. Raczka (2005) conducted a focus group with staff working with people with intellectual disabilities. Staff reported experiencing a range of challenging behaviours. The results showed they reported negative responses, both physical sensations and emotional (fear and anger). When asked about the long term consequences of exposure to challenging behaviour, staff reported reliving the experience, headaches, and the anticipation of the behaviour. Raczka suggests these responses are related to the experience of stress. Therefore there is some evidence that challenging behaviour elicits negative emotions, is stressful and is associated with burnout. However, there is a lack of research which specifically uses measures of the actual levels of

challenging behaviour staff are exposed to, in order to compare this to measures of negative emotions or burnout. Much of the research merely looks at attributions/perceptions about challenging behaviour (with no measure of the actual level of challenging behaviour) in relation to negative emotions, and also looks at the emotions in the presence of challenging behaviour (again with no measure of the level of challenging behaviour) in relation to burnout (Mitchell & Hastings, 2001; Rose, Horne, Rose & Hastings, 2004).

Do Certain Perceptions About Challenging Behaviour Lead to Negative Emotions?

Weiner (1979) made the distinction between three different types of attribution about an event; locus, control, and stability. 'Locus' refers to whether the cause of an event is located internal to the person or external within the person's environment. The term 'control' is used in relation to the extent to which the cause of an event can be controlled. Weiner refers to 'stability' to describe whether the cause of an event is temporary or longer term. Weiner (1980) found that when the cause for needing help was perceived as being outside the person's control, others were more likely to respond with sympathy and offer help; whereas when the cause was perceived as internal and controllable by the person, then others were likely to respond with negative emotions such as anger and were less likely to help. In support of this Dagnan, Trower and Smith (1998) found that staff experienced more negative responses and were less likely to offer help if they perceived the cause of behaviour to be controllable. Bromley and Emerson (1995) found that 59% of their sample of 70 care staff reported the unpredictability of clients' behaviour as stressful. Continuing with the theme of unpredictability as a cause of stress, more recently Snow, Langdon and Reynolds (2007), in a study of 41 care staff using vignette methodology, found that the higher the level of emotional exhaustion as measured by the Maslach Burnout Inventory

(Maslach & Jackson, 1986), the less attributions made about the cause of behaviour being stable. Less stability would imply unpredictability of behaviour. This study shows a direct link between attributions and burnout.

Research has also shown that the function and type of behaviour can influence the attributions made. Noone, Jones and Hastings (2005) found that when staff were presented with information depicting different functions of the behaviours of clients, staff made different causal attributions, such as controllable where it was hypothesised that the function of behaviour was avoidance. Stanley and Standen (2000) found that behaviour directed outwardly, such as aggression, was more likely to be perceived as controllable; that behaviour directed inwardly, such as self-harm, was more likely to be perceived as stable; and that controllability was associated with negative emotion. Bailey, Hare, Hatton and Limb (2006) also compared staff's attributions for both self-injurious and other challenging behaviours. The authors found differences between the self-injury group and the general challenging behaviour group (excluding self-injury), whereby the strongest correlation for negative emotions for general challenging behaviour was with internal attributions, and the strongest correlation for negative emotions for self-injury was with stability.

Aside from causal attributions there is also research into other beliefs about challenging behaviour and negative emotions. Williams and Rose (2007) developed the Challenging Behaviour Perception Questionnaire and used it in a study with 51 care staff. It was found that the greater staff's perceived control over clients' behaviour, the less positive emotion reported by staff. In addition, Williams and Rose's measure also incorporated scales to explore the timeline of behaviour. The 'Chronic/Acute' timeline describes behaviour which is permanent, and the 'Episodic' timeline describes behaviour where there are periods of improvement and relapse.

Behaviour perceived to be chronic was found to be associated with negative emotions, and episodic with less negative emotions, suggesting that prolonged challenging behaviour may be stressful. This hypothesis would appear to be supported by the finding of Bromley and Emerson (1995) that, over a period of time, challenging behaviour can become wearing. It would therefore appear that particular perceptions about challenging behaviour are associated with negative emotions.

Negative Emotions and the Association with Burnout

Studies have demonstrated a link between burnout and negative emotions in response to challenging behaviour. Mitchell and Hastings (2001) found that negative emotional responses to challenging behaviour were associated with increased EE and DP on the MBI (Maslach & Jackson, 1986). Rose, Horne, Rose and Hastings (2004) found identical results. They used two different types of methodology; firstly assessing staff's emotions in relation to challenging behaviour, and secondly employing a vignette methodology. In both circumstances the authors found that negative emotions were significantly positively correlated with EE and DP.

Leather, Beale and Lawrence (1997) investigated levels of violence and fear of violence experienced by publicans in relation to their well-being. This study used regression analysis to test for mediation and found that fear of assault mediated the relationship between the level of violence and the publican's well-being as measured by the General Well-Being Questionnaire (Cox, Thirlaway, Gotts & Cox, 1983). In his review looking at the relationship between challenging behaviour and well-being, Hastings (2002) concluded that the means by which challenging behaviour is associated with stress is via negative emotions. Within the field of intellectual disability however, Hastings (2002) reported that there is no research which has used

the method of mediation to demonstrate the influence of emotions in the link between challenging behaviour and staff stress, and since Hastings' review it still appears that there is no research examining the mediating role of negative emotions.

In summary there appears to be a link between challenging behaviour and negative emotions, between particular perceptions about challenging behaviour and negative emotions, a clear association between negative emotions and burnout, and some evidence of burnout being directly linked to the level of challenging behaviour. One study has also shown a direct association between attributions and burnout. It would therefore seem reasonable to suppose that negative emotions, and attributions/perceptions which are thought to elicit negative emotions, may play a mediating role in the relationship between challenging behaviour and burnout.

Methodological Limitations of Current Research

Much of the current research has used vignette methodology. However, a study by Wanless and Jahoda (2002) found significantly more negative perceptions about behaviour when asking staff to think about a client they actually work with as opposed to a vignette. Therefore, in an attempt to improve on the ecological validity of research in this area, the present study asks staff to think about clients they work with. Some research has examined self-injury as a form of challenging behaviour, and because this type of behaviour is directed inwardly, staff may view these behaviours differently to aggression directed outwardly at staff as found by Stanley and Standen (2000) and Bailey, Hare, Hatton and Limb (2006). The present study therefore seeks to examine a broader range of challenging behaviours.

The Attributional Style Questionnaire (Peterson, Semmel, Von Bayer, Abramson, Metalsky & Seligman, 1982) has commonly been used as a measure of attributions. However it is

not aimed at measuring the attributions towards a specific client and uses vignette methodology. The present research uses measures relating to a specific client with whom staff are working with, as opposed to vignettes, in order to measure staff's real experiences. The Controllability Beliefs Scale (Dagnan, Grant & McDonnell, 2004) will examine beliefs about controllability for a specific client, and the Challenging Behaviour Perception Questionnaire (CBPQ) (Williams & Rose, 2007) will explore carer controllability, perceptions about the timeline of the behaviour, and negative emotions, again in relation to a specific client. In particular the negative emotion of fear has been implicated as an important variable, but there is no tool which measures fear in relation to a specific client and so a general measure of fear of assault (Rose & Cleary, 2007) has been used.

The majority of the research has focused on client controllability and the present study aims to investigate attributions concerning whether staff themselves feel able to control clients' behaviour. Williams and Rose (2007) highlighted the need for further research into staff's perceptions of the duration and pattern of challenging behaviour, and therefore the 'timeline' scales of the CBPQ will be further explored. The current research is investigating causal attributions, general perceptions/beliefs and emotions and these variables will be referred to collectively as 'cognitive variables.'

Aims

The present study firstly seeks to confirm the association between higher levels of challenging behaviour and increased burnout. It will then look to confirm the relationship between cognitive variables and burnout. Finally, it will investigate whether cognitive variables mediate the relationship between challenging behaviour and burnout.

Hypotheses:

Hypothesis 1: Challenging Behaviour

The higher the level of challenging behaviour, the higher the burnout reported by staff.

Hypothesis 2: Cognitive Variables

2.1: Negative emotions. The higher the level of negative emotions towards challenging behaviour, the higher the burnout.

2.2: Consequences for carer. The more staff perceive that challenging behaviour has negative consequences for themselves, the higher the burnout.

2.3: Consequences for client. The more staff perceive that challenging behaviour has negative consequences for the client, the higher the burnout.

2.4: Controllability by carer. The more staff perceive themselves as able to control challenging behaviour, the higher the burnout.

2.5: Controllability by client. The more staff perceive clients as able to control their challenging behaviours, the higher the burnout.

2.6: Chronic timeline. The more chronic staff perceive the challenging behaviour, the higher the burnout.

2.7: Episodic timeline. The less episodic staff perceive the challenging behaviour the higher the burnout.

Hypothesis 3: Mediation Between Challenging Behaviour and Burnout.

Cognitive variables will mediate the relationship between challenging behaviour and burnout.

Materials and Methods

Design

The study employs a cross-sectional correlational design in the form of a staff survey. At the time of conducting the study, a similar study on staff burnout and organisational factors was being carried out. To minimise the burden on staff of being asked to complete two sets of questionnaires, the questionnaires for both studies were enclosed in one questionnaire pack.

Sample and Setting

The inclusion criteria for the study included qualified and unqualified staff who are in a direct care role in residential homes for adults with intellectual disabilities. Managers and staff from disciplines other than nursing were only included if they had a direct care role with clients. Only staff who had been working within their present employment for a minimum of three months were included. This was to ensure that staff knew the clients they work with well enough to be able to complete the questionnaires. Staff working in a variety of services including both the NHS and independent sector were recruited in order to increase the generalisability of the results. In total 78 staff took part from a total of six organisations. The majority of staff were in a community setting, with 14.1% from a secure setting. The geographical area of the sample included both the West Midlands and Oxfordshire.

Ethical Review

The study was reviewed by the South Staffordshire Local Research Ethics Committee. A favourable ethical opinion was obtained (Appendix 2.1).

Procedure

Local psychologists were asked to identify homes where clients displayed challenging behaviour. Managers of these homes were approached to invite staff to take part in the study. If managers decided to take part, questionnaire packs were then left with them to distribute to the staff. The questionnaire packs included the Participant Information Sheet (see Appendix 2.2), the Consent Form (see Appendix 2.3), and the questionnaires (see Appendices 2.4 - 2.8). The questionnaire pack took approximately 30 minutes to complete. Participants either posted the questionnaires back to the researchers using the pre-paid envelope provided, or the researchers collected them directly from the homes. A total of 333 questionnaires were distributed, and 78 returned, giving a response rate of 23%.

Measures

Demographic Information Questionnaire. The Demographic Information Questionnaire (see Appendix 2.4) completed by staff about themselves includes information on age, gender, job title, length of time in current employment, length of time employed in services for people with learning disabilities, qualifications, and training.

Fear of Assault. The Fear of Assault measure comprised of two questions to measure staff's fear (see Appendix 2.4) which Rose and Cleary (2007) adapted from Leather, Beale, Lawrence and Dickson (1997). The questions are rated on a 5-point likert scale.

Checklist of Challenging Behaviour. The Checklist of Challenging Behaviour (see Appendix 2.5) was developed by Harris, Humphreys and Thomson (1994), and measures the level of challenging behaviour exhibited by a service user in the last three months. The participant is asked to rate the frequency, management difficulty, and severity of 14 'aggressive behaviours' exhibited by a client. The aggressive behaviours include such things as hitting, kicking, and self-injury. Following the aggressive behaviours, there is a list of 18 'other challenging behaviours,' and these include shouting and swearing, refusing to do things, and spitting. For these other challenging behaviours, the participant is only asked to rate the frequency and management difficulty, not severity. The behaviours are rated on a 5-point scale, and instead of writing a score in a box, participants circled a score. This format was adopted for ease of use. The authors state that the checklist has acceptable levels of reliability (as tested by inter-rater, between interviewer, and test-retest reliability checks), and also high content validity.

Challenging Behaviour Perception Questionnaire. The Challenging Behaviour Perception Questionnaire (CBPQ) (see Appendix 2.6) was developed by Williams and Rose (2007). It has been adapted from the Illness Perception Questionnaire (IPQ) (Weinman, Petrie, Moss-Morris & Horne, 1996) which measures people's perceptions about their own physical illness. The IPQ was adapted to be used by carers of people with schizophrenia by Barrowclough, Lobban, Hatton and Quinn (2001) who report it to be a reliable measure. Since then it has been

modified again for use with carers of people with challenging behaviour (Williams & Rose, 2007). The CBPQ was adapted from the Illness Perception Questionnaire, and the scales of the CBPQ originate from a model of illness representations (Leventhal & Nerenz, 1985; Leventhal, Nerenz, & Steele, 1984) which suggests that people interpret illness in terms of identity, cause, consequence, and duration. Leventhal and Nerenz (1985) describe the 'identity' of an illness as referring to the "variables that identify the presence or absence of the illness" and state that these can be in the form of labels such as cancer, signs such as bleeding, or symptoms such as pain (Leventhal & Nerenz, 1985, p.520). Examples of the 'causes' of illness include genetic influences, and the individual's behaviour such as smoking (Leventhal & Nerenz, 1985). Leventhal and Nerenz also discuss the 'consequences' of illness and suggest that these can be in the form of physical, emotional, social and economic consequences. Finally, the 'duration' (also known as the 'time line') of an illness is defined as the perception of the emergence and course of the illness (Leventhal & Nerenz, 1985). On the CBPQ respondents are asked to rate statements about their views of a client's challenging behaviour on a 5-point scale. The questionnaire is comprised of six scales which measure the degree to which staff believe the challenging behaviour has negative consequences for the service user (Consequences Client), for the staff (Consequences Carer), that staff feel they themselves can control the behaviour (Control Carer), that the behaviour is permanent as opposed to temporary (Timeline Chronic/Acute), that the level of behaviour is changeable with periods of improvement (Timeline Episodic) and that the behaviour elicits negative emotions in the carer (Emotional Representation). High scores indicate agreement with these concepts. Cronbach's alpha coefficients are reported to range from 0.58 to 0.79.

Controllability Beliefs Scale. The Controllability Beliefs Scale (see Appendix 2.7) was developed by Dagnan, Grant and McDonnell (2004) initially for use with staff working with older people. This scale measures staff's beliefs concerning service users' challenging behaviour. The respondent rates on a 5-point scale the degree to which they agree with statements about the challenging behaviours of a client they work with. A high score on this measure indicates that the respondent perceives the client to have a high degree of control over their challenging behaviour. The authors report that the scale has good internal reliability with a Cronbach's alpha of 0.89, and it has been used previously in research with staff working with adults with intellectual disabilities (Kalsy, Heath, Adams & Oliver, 2006).

Maslach Burnout Inventory – Human Services Survey (MBI-HSS). The Maslach Burnout Inventory – Human Services Survey (MBI-HSS) (Maslach, Jackson & Leiter, 1996) (Appendix 2.8) measures burnout in staff working in human services such as health care and education. Respondents are presented with statements regarding their feelings about their employment, and are required to rate on a 7-point scale how often they experience that which is described in the statement. The statements are divided into three scales; emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). A high level of burnout is characterized by high EE and DP scores, and low PA scores. Maslach, Jackson and Leiter report good test-retest reliability for the scale, and it has been used with staff working with people with intellectual disabilities (Chung & Harding, 2009). Hastings, Horne and Mitchell (2004) carried out a factor analytic study with staff working with people with intellectual disabilities and reliability was found to be reasonable using Cronbach's alpha (EE = 0.87, DP = 0.68, PA = 0.76).

Statistical Analysis

Correlational analyses were employed to explore the relationships between levels of challenging behavior, cognitive variables and staff burnout. Where there were significant associations, regression analyses were then conducted to test for the mediation of cognitive variables of the relationship between challenging behaviour and burnout.

Results

In total 78 questionnaires were returned, but one participant was removed from the analysis having only been in their current employment for two months. Therefore the final sample consisted of 77 participants. There were some missing data and so the sample sizes are included with all reports of the results. See Tables 1 and 2 for the demographic data.

Descriptive Statistics

Table 1

Demographic Data: Age and Length of Time in Current and Previous Employment in Intellectual Disability Services

	Mean	**Range**	**SD**	**N**
Age (years)	37	18-62	11.89	76
Length of time in current employment (months)	62	3-279	75.32	76
Length of time working in services for people with intellectual disabilities (months)	101	3-387	97.89	76

Table 2

Demographic Data: Gender, Job Title and Training

		Percentage	**N**
Gender	Male	29.87	77
	Female	70.13	
Job Title	Support workers	63.16	76
	Qualified Nursing staff	11.84	
	Managerial positions (e.g. House / Team Leader)	14.47	
	Other disciplines (including Psychology, Occupational Therapy, Social Work)	10.53	
Training Related to Challenging Behaviour	Breakaway / de-escalation	19.05	63
	Training relevant to challenging behaviour (unspecified)	4.76	

Variables

Included in the analysis were the six scales of the CBPQ, the Controllability Beliefs Scale, the Fear of Assault measure, the three components of the MBI, and two scales from the Checklist of Challenging Behaviour. The three 'aggressive behaviours' sub-scales (frequency, management difficulty and severity) of the Checklist of Challenging Behaviour were added together to form a composite 'Aggressive Behaviours' score, and the two 'other behaviours' sub-scales (frequency and management difficulty) were added together to form a composite 'Other Behaviours' score. See Table 3 for the means and standard deviations of scores, and comparisons with previous studies. As with previous studies the majority of scores for variables were total scores. Mean scores were used in the analysis for the Checklist of Challenging Behaviour

because there are different numbers of items for the aggressive behaviours scale and the other behaviours scale and so using means allows for comparison between the two types of behaviours. However, total scores were also computed and the means of these calculated purely for comparison with a previous study which used totals (Jenkins, Rose & Jones, 1998).

Reliability of Measures

The CBPQ is a relatively new measure and its use has so far been limited. The Fear of Assault measure has also been adapted. Therefore Cronbach's alpha levels were calculated on these measures to assess for reliability. (See Table 4). The majority of alphas fall within what is considered to be a reasonable level of internal consistency of 0.7 – 0.9 (Nunnally, 1978). The alphas for the CBPQ are generally similar to those found when Williams and Rose (2007) piloted the questionnaire.

Table 3

Comparisons of Scores with Previous Studies

			Present Study			Previous Studies		
Measure	Scale	Total/ Mean	Mean	SD	N	Mean	SD	N
Checklist of Challenging Behaviour	**Aggressive Behaviours**	**Total:**	88.78	33.82	77	55.66	15.09	63
		Mean:	2.11	0.81		-	-	
	Other Behaviours	**Total:**	77.80	25.24	74	52.27	11.59	
		Mean:	2.16	0.70		-	-	
						Jenkins, Rose & Jones (1998). Learning disability staff in hospital & community setting		
Maslach Burnout Inventory	**EE**	**Total:**	19.86	11.09	74	20.59	11.99	103
	DP		4.72	5.38	74	4.85	5.49	
	PA		36.39	6.67	73	35.29	7.79	
Average range for burnout in mental health services: EE = 14 - 20, DP = 5 - 7, PA = 33 - 29 (Maslach, Jackson & Leiter, 1996)						Chung & Harding (2009). Learning disability staff in community setting		
Challenging Behaviour Perception Questionnaire	**Conseq. Client**	**Total:**	19.23	3.40	77	14.14	3.21	51
	Conseq. Carer		7.39	2.56	72	7.92	2.58	
	Control Carer		7.46	1.44	74	6.86	1.84	
	T'line Chr./Ac.		7.39	2.05	76	6.76	2.01	
	T'line Episod.		7.97	1.57	76	7.71	1.28	
	Em. Rep.		13.71	3.55	77	15.4	3.64	
						Williams & Rose (2007). Learning disability staff in community setting		
Controllability Beliefs Scale		**Total:**	42.86	9.50	77	49.47	12.96	142
						Dagnan, Grant & McDonnell (2004). Staff working with dementia in physical health, mental health & community setting		
Fear of Assault		**Total:**	5.31	2.01	77	3.7	-	37
						Rose & Cleary (2007). Learning disability staff in community setting		

Table 4

Reliability of Newly Constructed / Adapted Measures

Measure	Scale	Number of Items	Cronbach's Alpha (α)	
			Current Study	Previous Study
Challenging Behaviour Perception Questionnaire	Consequences Client	5	.73	.73
	Consequences Carer	3	.58	.58
	Control Carer	2	.50	.79
	Timeline (Chronic / Acute)	2	.82	.74
	Timeline Episodic	2	.74	.62
	Emotional Representation	5	.75	.73
				Williams & Rose (2007)
Fear of Assault		2	.93	-

Analysis

A power analysis was performed, and according to Cohen's (1988) classification of effect sizes and Cohen's (1992) sample size calculation, in order to show a medium experimental effect size with a power of 0.8 and with an alpha level of 0.05 for two variables (challenging behaviour and cognitive variables) for regression analysis, the minimum sample size required would be 67, and the present study had a sample of 77.

Data analysis was performed using the statistical package SPSS Version 16.0 (2007). The data were checked for normal distribution using Kolmogorov Smirnov tests. The majority of the variables were not normally distributed and therefore the analysis was completed using Spearman's correlations for non-parametric data. Where there were significant correlations between a measure of challenging behaviour, burnout and a cognitive variable, regression analyses were then conducted on the three variables to determine the presence of a mediating relationship. It should be noted that there is no non-parametric alternative to regression analysis.

Where there was evidence of a mediating relationship, this was then tested for the significance of the mediation.

Correlations

Three sets of correlations were conducted; challenging behaviour and burnout (see Table 5), challenging behaviour and cognitive variables (see Table 6) and cognitive variables and burnout (see Table 7). Baron and Kenny (1986) state that in order to test for mediation, each variable must be significantly correlated with the other. In the present study there were 11 sets of variables which correlated with each other (see Table 8) and these were then entered into regression analyses. Tabachnick and Fidell (2001) suggest applying a Bonferroni correction where multiple comparisons are made in order to avoid a Type I error. However Clarke-Carter (1997) suggests that results not meeting the adjusted significance level need not be rejected altogether but should be considered cautiously. Nakagawa (2004) argues that the Bonferroni correction may risk Type II errors, thereby limiting research progress, and suggests that researchers attempt to identify what they consider to be relevant variables when designing a study. Although there are many variables in the present study, they can be condensed into a few measures and the study has clear hypotheses regarding the variables. Therefore it was decided that the Bonferroni correction was not necessary.

Table 5

Challenging Behaviour and Burnout

		EE	DP	PA
Aggressive Behaviours	Correlation Coefficient	**.364****	**.295***	**-.384****
	Significance (2-tailed)	.001	.011	.001
	N	74	74	73
Other Behaviours	Correlation Coefficient	**.329****	**.410****	-.184
	Significance (2-tailed)	.005	.000	.127
	N	71	71	70

Notes: ** Correlation significant at the 0.01 level (2-tailed)
* Correlation significant at the 0.05 level (2-tailed)

The results show significant positive correlations for Aggressive and Other Behaviours with both EE and DP, and a significant negative correlation between Aggressive Behaviours and PA. The strongest correlation was between Other Behaviours and DP (rho = .410, n = 71, $p < .001$) whereby the higher was the level of challenging behaviour the more depersonalization was experienced by staff.

Table 6

Challenging Behaviour and Cognitive Variables

		Aggressive Behaviours	Other Behaviours
Consequences Client	Corr. Coeff.	.219	**.345****
	Sig. (2-tailed)	.056	.003
	N	77	74
Consequences Carer	Corr. Coeff.	**.242***	**.311****
	Sig. (2-tailed)	.040	.009
	N	72	69
Control Carer	Corr. Coeff.	-.188	-.103
	Sig. (2-tailed)	.109	.393
	N	74	71
Timeline (Chronic / Acute)	Corr. Coeff.	-.105	-.133
	Sig. (2-tailed)	.368	.262
	N	76	73
Timeline Episodic	Corr. Coeff.	.154	.093
	Sig. (2-tailed)	.185	.432
	N	76	73
Emotional Representation	Corr. Coeff.	**.311****	**.383****
	Sig. (2-tailed)	.006	.001
	N	77	74
Controllability Beliefs Scale	Corr. Coeff.	.168	.140
	Sig. (2-tailed)	.144	.235
	N	77	74
Fear of Assault	Corr. Coeff.	**.560****	**.600****
	Sig. (2-tailed)	.000	.000
	N	77	74

Notes: ** Correlation significant at the 0.01 level (2-tailed)
* Correlation significant at the 0.05 level (2-tailed)

The only cognitive variables to correlate significantly with challenging behaviour are Consequences Client, Consequences Carer, Emotional Representation and Fear of Assault. The correlations suggest that the higher the level of challenging behaviour, the higher the negative emotions (Emotional Representation), the higher the fear of possible challenging behaviour, and the greater the belief that the challenging behaviour has negative consequences for the carer (and

the client with Other Behaviours). The strongest correlation was with Fear of Assault and Other Behaviours (rho = .600, n = 74, $p < .001$).

Table 7

Cognitive Variables and Burnout

		EE	DP	PA
Consequences Client	Correlation Coefficient	.148	.126	.000
	Significance (2-tailed)	.207	.286	.998
	N	74	74	73
Consequences Carer	Correlation Coefficient	.215	**.322****	-.054
	Significance (2-tailed)	.075	.007	.660
	N	69	69	68
Control Carer	Correlation Coefficient	.000	-.005	**.268***
	Significance (2-tailed)	.996	.969	.024
	N	72	72	71
Timeline (Chronic/Acute)	Correlation Coefficient	.027	.064	-.061
	Significance (2-tailed)	.822	.592	.612
	N	73	73	72
Timeline Episodic	Correlation Coefficient	-.203	.044	.083
	Significance (2-tailed)	.086	.713	.487
	N	73	73	72
Emotional Representation	Correlation Coefficient	**.334****	**.281***	-.107
	Significance (2-tailed)	.004	.015	.369
	N	74	74	73
Controllability Beliefs Scale	Correlation Coefficient	.077	.044	-.208
	Significance (2-tailed)	.516	.707	.077
	N	74	74	73
Fear of Assault	Correlation Coefficient	**.392****	**.465****	**-.275***
	Significance (2-tailed)	.001	.000	.019
	N	74	74	73

Notes: ** Correlation significant at the 0.01 level (2-tailed)
* Correlation significant at the 0.05 level (2-tailed)

The only cognitive variables which show a significant correlation with burnout are Consequences Carer, Control Carer, Emotional Representation, and Fear of Assault. Emotional Representation shows significant positive correlations with EE and DP. The Fear of Assault

shows significant positive correlations with EE and DP, and a significant negative correlation with PA. The strongest correlation is between Fear of Assault and DP (rho = .465, n = 74, $p <$ .001).

As can be seen from Table 8, the pattern of significant relationships shows that Fear of Assault correlates with a measure of challenging behaviour and all three forms of burnout; Emotional Representation correlates with a measure of challenging behaviour and EE and DP; and Consequences Carer with a measure of challenging behaviour and DP only.

Table 8

Sets of Variables which are Significantly Correlated

	Variable		
	Challenging Behaviour	**Cognitive Variable**	**Burnout**
1	Aggressive Behaviours	Fear of Assault	EE
2	Other Behaviours	Fear of Assault	EE
3	Aggressive Behaviours	Fear of Assault	DP
4	Other Behaviours	Fear of Assault	DP
5	Aggressive Behaviours	Fear of Assault	PA
6	Aggressive Behaviours	Emotional Representation	EE
7	Other Behaviours	Emotional Representation	EE
8	Aggressive Behaviours	Emotional Representation	DP
9	Other Behaviours	Emotional Representation	DP
10	Aggressive Behaviours	Consequences Carer	DP
11	Other Behaviours	Consequences Carer	DP

Regression Analysis

The 11 triads of variables in Table 8 were analysed using the model of mediation proposed by Baron and Kenny (1986) (see Figure 1), and the three-step regression procedure they describe. Baron and Kenny state that four conditions must be met for complete mediation. In the first step the mediator (cognitive variable) and predictor variable (challenging behaviour) are

entered into a regression equation. This step involves demonstrating that challenging behaviour is correlated with the cognitive variables (path a). If this is significant, this condition is met. In the second step the predictor variable (challenging behaviour) and the outcome variable (burnout) are entered into a regression equation to confirm that there is a relationship to test for mediation (path c). This condition must also be met in order to continue. The third regression equation tests if the mediator (cognitive variable) influences the outcome variable (burnout) while controlling for the predictor (challenging behaviour), which is path b. This should be significant, and the influence of the predictor (challenging behaviour) on the outcome (burnout) should now become non-significant (path c′). This is the third condition. In addition, the fourth condition states that for complete mediation to have occurred, the effect (beta value) of the predictor (challenging behaviour) on the outcome (burnout) while controlling for the mediator (cognitive variable) is required to be zero, and if not, only partial mediation has occurred.

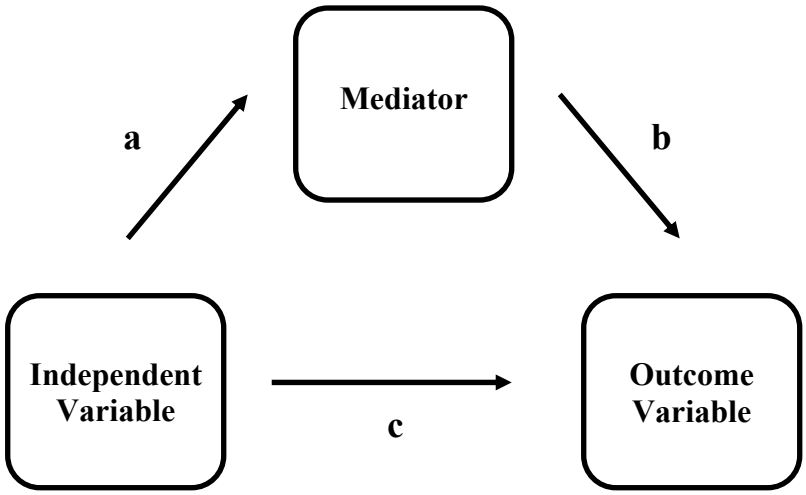

Figure 1. Model of Mediation Based on Baron and Kenny (1986, p.1176)

Eleven sets of regressions were conducted and it is not feasible to present them all. Therefore one regression analysis which showed a significant mediation is presented as an example, testing whether Fear of Assault mediates the relationship between Other Behaviours and EE (Table 9). See Appendices 2.9 - 2.19 for the SPSS output of all 11 regressions, and Table 10 for a summary of the results of all regressions.

Table 9

Three Step Regression Analysis to Test for Mediation (Other Behaviours, Fear of Assault and EE)

Regression & Path(s) Tested	**Predictor**	**Outcome**	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
			B	**Standard Error (SE)**	**Beta**		
1 Path a (N = 73)	Other Behaviours	Fear of Assault	1.858	.265	.637	7.018	.000
2 Path c (N = 70)	Other Behaviours	EE	6.353	1.788	.393	3.554	.001
3 Paths b & c′ (N = 70)	Fear of Assault (path b)	EE	2.062	.767	.364	2.688	.009
	Other Behaviours (path c′)	EE	2.688	2.189	.166	1.228	.224

Condition 1. The first regression testing path a shows that Other Behaviours and Fear of Assault are significantly correlated (Beta = .637, $p < .001$) and therefore the first condition is met.

Condition 2. The second regression testing path c shows that the Other Behaviours and EE are significantly correlated (Beta = .393, $p < .01$) and so the second condition is met.

Condition 3. Regression three shows that the third condition is met (path b) whereby Fear of Assault is significantly correlated with EE while controlling for Other Behaviours (Beta = .364, $p < .01$).

Condition 4. With regards to the fourth condition, this final regression shows that the relationship between Other Behaviours and EE is no-longer significant (path c′) and the Beta weight has reduced from regression 2 (B = 6.353, SE = 1.788, Beta = .393, $p < .01$) to regression 3 (B = 2.688, SE = 2.189, Beta = .166, $p > .05$) indicating it makes less of a contribution to EE when Fear of Assault (the mediator) is controlled for. However, because the Beta value (.166) is not zero, this indicates partial mediation as opposed to complete mediation.

From the part correlation coefficients and the adjusted R Square value ($R^2_{adj} = .213$) it can be seen that the model as a whole (including unique variance from both Fear of Assault (8.1%) and Other Behaviours (1.7%) and variance shared between the two) explains 21.3% of the variance in EE. (See Appendix 2.10 for SPSS output).

Significance of Mediating Relationships

Where there was evidence of mediating relationships, these mediations were then tested for significance. Baron and Kenny (1986) recommend the Sobel test (Sobel, 1982). The Sobel tests were conducted using a computer program accessed on-line (Preacher, 2003). There are

different versions of the test, although Preacher suggests using the Aroian version (which is also the version proposed by Baron and Kenny) and which is calculated by the equation:

$$\frac{ab}{\sqrt{b^2 s_a^2 + a^2 s_b^2 + s_a^2 s_b^2}}$$

For the example above (Table 9), the Sobel test shows that the partial mediation is significant ($z = 2.49$, $p = 0.013$). See Appendix 2.10 for the output of the Sobel test.

The remaining 10 triads were tested for mediation of cognitive variables and the Sobel test was conducted where appropriate. Table 10 presents a summary of the results of the regression analyses and Sobel tests. The five significant mediations are highlighted in bold. It should be noted that they are only partial mediations, as the Beta levels did not reduce to zero. See Appendices 2.9 - 2.19 for the SPSS and Sobel test output. See Figure 2 for a diagrammatic representation of the example given in Table 9. Heavier lines represent significant relationships.

Table 10

Summary of Results of Regressions

	Variable			Regression Analyses	Sobel Test
	Ch. Behav.	**Cog. Var.**	**B'out**		
1	Aggressive Behaviours	Fear of Assault	EE	Aggressive Behaviours not non-sig. but Beta reduced	**z=2.28* *p*=0.02**
2	Other Behaviours	Fear of Assault	EE	Other Behaviours became non-sig. Beta not zero but reduced	**z=2.49* *p*=0.01**
3	Aggressive Behaviours	Fear of Assault	DP	Aggressive Behaviours became non-sig. Beta not zero but reduced	**z=2.79* *p*=0.01**
4	Other Behaviours	Fear of Assault	DP	Other Behaviours not non-sig. but Beta reduced	**z=2.27* *p*=0.02**
5	Aggressive Behaviours	Fear of Assault	PA	Aggressive Behaviours sig. Fear of Assault not sig. Condition 3 not met; no mediation to test for significance	-
6	Aggressive Behaviours	Emotional Representation	EE	Aggressive Behaviours not non-sig. but Beta reduced	z=1.57 *p*=0.12
7	Other Behaviours	Emotional Representation	EE	Other Behaviours not non-sig. but Beta reduced	z=1.74 *p*=0.08
8	Aggressive Behaviours	Emotional Representation	DP	Aggressive Behaviours not non-sig. but Beta reduced	z=1.85 *p*=0.06
9	Other Behaviours	Emotional Representation	DP	Other Behaviours not non-sig. but Beta reduced	**z=2.14* *p*=0.03**
10	Aggressive Behaviours	Consequences Carer	DP	Aggressive Behaviours not non-sig. but Beta reduced	z=1.65 *p*=0.10
11	Other Behaviours	Consequences Carer	DP	Other Behaviours not non-sig. but Beta reduced	z=1.87 *p*=0.06

Notes: ** Correlation significant at the 0.01 level (2-tailed)
* Correlation significant at the 0.05 level (2-tailed)

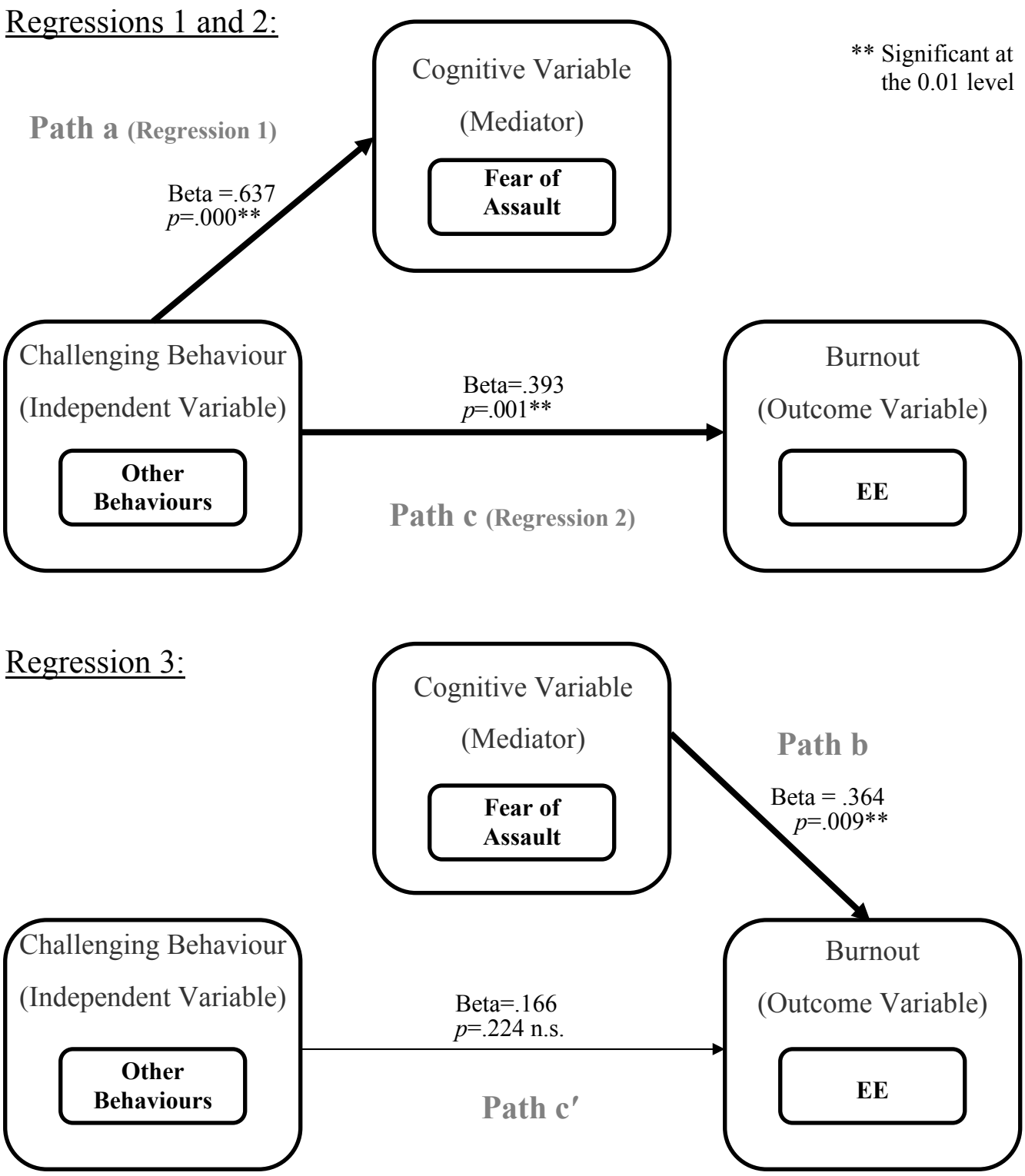

Figure 2. Diagrammatic Representation of the Three-Step Regression for Other Behaviours, Fear of Assault and EE

Discussion

With regards to Hypothesis 1, the Aggressive and Other Behaviours show that the higher the level of challenging behaviour reported by staff, the higher the burnout. This supports the findings of previous research (Chung & Harding, 2009; Freeman, 1994). Therefore Hypothesis 1 is supported. The average EE score reported in this study is within the average range for mental health workers as reported by Maslach, Jackson and Leiter (1996) shown in Table 3, although the DP score was slightly lower, and the PA score higher. A review of burnout rates by Skirrow and Hatton (2007) suggests that the rates of burnout are decreasing. Comparing the scores for the present study with that of the most recent study in their review (Mitchell & Hastings, 2001), the EE score in the present study (19.86) is slightly higher than that found by Mitchell and Hastings (16.54). However, the PA score for the present study (36.39) is also slightly higher than found by Mitchell and Hastings (33.55). The scores for the present study are also similar to that found by Chung and Harding (2009) shown in Table 3. It therefore appears that PA continues to increase as found by Skirrow and Hatton, although EE in this study is also relatively high compared to other recent studies.

The results also showed that higher levels of challenging behaviour were correlated with higher levels of fear of assault as found by Rose and Cleary (2007). The opposite was the case with a study by Howard, Rose and Levenson (2009) who found that staff in the group exposed to greater challenging behaviour experienced less fear. However, the Howard et al., study used vignette methodology to measure fear. In addition the authors found that self-efficacy moderated the relationship between challenging behavior and burnout, and suggested that the group

experiencing higher levels of challenging behaviour experienced less fear possibly due to the effects of staff training.

The cognitive variables of Consequences Carer, Control Carer, Emotional Representation, and Fear of Assault were the only variables to significantly correlate with burnout (Hypothesis 2). The pattern of results for the CBPQ showed that the higher the perceived negative consequences for the carer, the higher the DP; and the higher the perceived negative emotions in response to clients' behaviour, the higher the EE and DP. The Fear of Assault measure showed that the greater the fear, the greater the EE and DP, and the lower the PA. These relationships between negative emotions and burnout support that found in previous research (Mitchell & Hastings, 2001; Rose, Horne, Rose & Hastings, 2004). Interestingly the CBPQ also shows that the more control staff feel they have over the behaviour, the more personal accomplishment they feel. This does not support the hypothesis which was based on the findings of Williams and Rose (2007) that greater reported carer control was associated with less positive emotion. It should be noted however that it is possible, given the number of variables the present study is examining, that this may be a chance finding. There has been no other research examining perceptions of carer control. Further research is needed in this area, and there are issues with the reliability of the CBPQ which is not yet well developed. However the results of the present study would appear to make logical sense in that, if staff feel more able to manage the behaviour, this causes less stress, and they feel they have achieved something. In summary, Hypothesis 2 is supported only by the cognitive variables pertaining to negative emotions.

Fear of Assault mediated the relationship for two components of burnout; EE and DP with both Aggressive and Other Behaviours (Hypothesis 3). However, no mediation was present for PA. The only other cognitive variable to show mediation was Emotional Representation between

Other Behaviours and DP. However no other significant mediations were found for this scale, and none for the Consequences Carer scale. It could be argued that a single significant finding on a scale of the CBPQ may be a chance occurrence. There seems to be a pattern for fear which relates to the two types of behaviours and also to two elements of burnout (EE and DP) which could be considered to pertain to negative emotional reactions. In contrast, Emotional Representation only relates to one type of behaviour and one element of burnout. Hypothesis 3 is supported but only for Fear of Assault. This finding lends support to Hastings' (2002) proposal that negative emotions mediate the relationship between challenging behaviour and stress, or in this case elements of burnout. In relation to the specific emotion of fear of assault, the results also confirm that found by Leather, Beale and Lawrence (1997), although the Leather et al. study was with publicans. Thus further research is needed to confirm this hypothesis with this staff group.

Methodological Issues

The response rate for the study was low, although similar to that of Williams and Rose (2007) who also conducted a postal survey with intellectual disability care staff working with challenging behaviour in the same geographical region. The reason for this may have been time pressures on staff. Another reason may have been the sensitive nature of some of the questions which asked for views about clients and employment. Another sampling limitation is that questionnaire packs were only distributed to two geographical areas (the West Midlands and Oxfordshire) and there may be particular strategies employed by these services for dealing with challenging behaviour which may have impacted upon the results. However, the staff involved were from a range of services with different management structures, including both the NHS and the private sector, and from both community and secure services. In studies of this nature, there is

always the possibility of staff under-reporting on items deemed negative (burnout, negative emotions/attributions) because they do not feel comfortable with disclosing this. However, the levels of burnout in the present study appear to be comparable with previous studies, such as Chung and Harding (2009), and the present study shows staff reported greater levels of challenging behaviour than a previous study by Jenkins, Rose and Jones (1998) as shown in Table 3. Therefore it may be that the staff who experienced the greatest challenging behaviour and burnout were more inclined to complete the questionnaires in order to feel they have been heard and to try to change the situation.

There are also issues with the measures used. The alpha levels are very low for the Consequences Carer scale of the CBPQ (.58) and the Control Carer scale (.50). The alpha level for the Consequences Carer scale was found to be equally low in the study by Williams and Rose (2007). The results from this measure may not be reliable and should be interpreted with caution. These scales are only comprised of three and two items respectively, and so it is not feasible to remove items to improve internal consistency. However, the items either need to be reassessed or these scales removed from the questionnaire entirely before being included in future research. Also, for two of the questionnaires measuring cognitive variables and the questionnaire measuring levels of challenging behavior, staff were asked to report on a specific client; whereas the MBI and Fear of Assault measures are measuring general burnout and fear respectively, and there would therefore seem to be some incongruence with the constructs measured.

Another issue is the potential overlap between the constructs measured. For example, it could be suggested that the construct of burnout has similarities to the constructs of fear as measured by the Fear of Assault measure, and anxiety and anger as measured by the Emotional Representation scale of the CBPQ, in that they are all measuring negative emotional reactions.

Maslach (2003) referred to 'job burnout' as "a prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach, 2003, p. 189). This suggests that burnout is the effect of stress over a period of time. Lazarus and Folkman (1984) discuss the difficulties of defining the concept of stress, and the overlap between stress and anxiety. Therefore, the fear, anxiety and anger measured in the present study could be said to be related to the concept of stress, and ultimately burnout. Similarly, the Checklist of Challenging Behaviour forms a composite score comprised of the frequency, management difficulty, and severity of behaviour. It could be said that the management difficulty component of this measure is a similar construct to the 'Control Carer' scale of the CBPQ, in that both are measuring the carer's ability to deal with the behaviour.

In addition, as suggested by Hastings (2002), asking staff to report the challenging behaviour of one client is not likely to be an accurate measure of total exposure to challenging behaviour. However, it could be suggested that asking staff to refer to a particular client is a strength because it captures an authentic experience which staff can easily relate to. The measure of challenging behaviour was self-report, and perhaps incident forms may have provided a more accurate level of exposure, although it could be argued that subjective experience is more important from a psychological perspective. It is also not possible to determine cause and effect from the methodology of this study which used correlational and regression techniques which do not demonstrate evidence of causal relationships.

There are also issues with the analyses performed on the data. The data was not suitable for parametric analysis and therefore the mediation analyses should be viewed with some caution. An alternative to the Sobel test is bootstrapping which Kenny (2009) recommends on his website. The Sobel test has been found to be a very conservative test (MacKinnon, Warsi & Dwyer,

1995), requires a large sample size and assumes that the data is normally distributed (Preacher & Hayes, 2004). Preacher and Hayes explain that the bootstrapping approach can be used with nonparametric data, as it does not make any assumptions about data being normally distributed. It can also be used with small sample sizes. Several options are available for the use of bootstrapping. The program AMOS in SPSS uses a bootstrapping approach (Arbuckle, 2006). In addition, Preacher and Hayes (2004) provide macros for use with SPSS and SAS, and Shrout and Bolger (2002) offer syntax, to perform the bootstrapping technique.

This study did not take into consideration other client characteristics such as level of cognitive ability. Tynan and Allan (2002) found that staff perceived clients with mild intellectual disabilities to have greater control over their behaviour. Similarly the present study did not consider the perceived functions of the behaviours (Noone, Jones & Hastings, 2005) or the type of behaviour such as self-injury (Bailey, Hare, Hatton & Limb, 2006; Stanley & Standen, 2000). It is possible that staff may have held different views about clients exhibiting self-injury. However, the study did examine Aggressive and Other Behaviours and it is interesting to note that the Other Behaviours showed a greater correlation with DP than the Aggressive Behaviours. The Other Behaviours include unpleasant behaviours such as spitting, soiling, exposing oneself and eating inappropriate things. It could be hypothesised that, due to the unpleasantness of these experiences, staff feel they cannot relate to these clients and are unfeeling towards them. In a similar vein the characteristics of staff were not controlled for, such as age, level of experience, training and staff's personality types and coping styles.

Although there are various limitations with the study, a strength in the methodology is staff reporting on their real experiences of clients they work with as opposed to using vignettes, and this may have increased the ecological validity of the study. Although the sample size was

small, the demographics of the sample was a strength as there were six organisations involved from both community services and the independent sector, which improves the generalisability of the results. Also the Checklist of Challenging Behaviours provided a good broad measure of the level of behaviour as it included the frequency, management difficulty and severity of behaviours.

Implications for Clinical Practice

The association between challenging behaviour and burnout suggests that an intervention in the first instance might be useful to address the occurrence of challenging behaviour. However if levels of challenging behaviour are not reduced, then interventions focusing on staff should be considered such as putting in place a system to help staff cope better with the behaviour. This might involve practical strategies for managing the behaviour as well as ways to manage their fear, and might come in the form of staff training, debriefing after incidents and regular clinical supervision. In their theory of stress, appraisal and coping Lazarus and Folkman (1984) suggest cognitive-behavioural approaches in the treatment of stress, as they explain that these approaches focus on the way the person appraises the situation. The present study has shown that negative emotions about challenging behaviour do play some part in the stress experience, and therefore in line with what Lazarus and Folkman have suggested, helping staff modify their appraisals about the challenging behaviour they are exposed to may have an impact on the levels of stress they subsequently experience. Research has been conducted into interventions with staff and the effects on attributions and emotions. In a vignette study, McGill, Bradshaw and Hughes (2007) measured the knowledge, attributions and emotional responses of students following a training course aimed at improving assessment and intervention with challenging behaviour, and at

improving the accuracy of causal attributions about challenging behaviour. Following the training, McGill et al. found an increase in knowledge, greater accuracy in causal attributions, and a decrease in negative emotions. It could be argued that helping staff to better understand and manage challenging behaviour may result in less negative emotion and subsequently less staff stress and better care for clients.

Future Research

It would be useful to conduct longitudinal research into the experience of burnout and cognitive variables over time. Although it was not the scope of the present study to examine differences between self-injurious behaviour and other forms of behaviour, it would have been interesting to see whether there was a difference on any of the cognitive or burnout variables. Future research could also examine clients' level of cognitive ability, the function of behaviour and the impact of interventions involving staff training. Although the present study did not find evidence of causal attributions mediating the relationship between burnout and challenging behaviour, there was evidence of negative emotions mediating the relationship which would suggest this is a useful area for further investigation.

References

Arbuckle, J. L. (2006). *Amos 7.0 User's Guide.* Chicago: SPSS.

Bailey, B. A., Hare, D. J., Hatton, C., & Limb, K. (2006). The response to challenging behaviour by care staff: Emotional responses, attributions of cause and observations of practice. *Journal of Intellectual Disability Research, 50*(3), 199-211.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Barrowclough, C., Lobban, F., Hatton, C., & Quinn, J. (2001). An investigation of models of illness in carers of schizophrenia patients using the Illness Perception Questionnaire. *British Journal of Clinical Psychology, 40,* 371-385.

Bromley, J., & Emerson, E. (1995). Beliefs and emotional reactions of care staff working with people with challenging behaviour. *Journal of Intellectual Disability Research, 39*(4), 341-352.

Chung, M. C., & Harding, C. (2009). Investigating burnout and psychological well-being of staff working with people with intellectual disabilities and challenging behaviour: The role of personality. *Journal of Applied Research in Intellectual Disabilities, 22,* 549-560.

Clark-Carter, D. (1997). *Doing quantitative psychological research: From design to report.* Hove: Psychology Press, Ltd.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Cohen, J. (1992). Quantitative methods in psychology: A power primer. *Psychological Bulletin, 112(1),* 155-159.

Cox, T., Thirlaway, M., Gotts, G., & Cox, S. (1983). The nature and assessment of general well-being. *Journal of Psychosomatic Research, 27,* 353-359.

Dagnan, D., Grant, F., & McDonnell. (2004). Understanding challenging behaviour in older people; the development of the Controllability Beliefs Scale. *Behavioural and Cognitive Psychotherapy, 32,* 501-506.

Dagnan, D., Trower, P., & Smith, R. (1998). Care staff responses to people with learning disabilities and challenging behaviour: A cognitive-emotional analysis. *British Journal of Clinical Psychology, 37,* 59-68.

Emerson, E. (1995). *Challenging behaviour: Analysis and intervention in people with learning disabilities.* Cambridge: Cambridge University Press.

Fenwick, A. (1995). On attribution theory: Challenging behaviour and staff beliefs. *Clinical Psychology Forum, 79,* 29-32.

Freeman, M. (1994). The differential impact on carers dealing with clients with challenging behaviours. *Journal of Community and Applied Social Psychology, 4,* 181-187.

Harris, P., Humphreys, J., & Thomson, G. (1994). A Checklist of Challenging Behaviour: The development of a survey instrument. *Mental Handicap Research, 7*(2), 118-133.

Hastings, R. P. (2002). Do challenging behaviors affect staff psychological well-being? Issues of causality and mechanism. *American Journal on Mental Retardation, 107(6),* 455-467.

Hastings, R. P. Horne, S., & Mitchell, G. (2004). Burnout in direct care staff in intellectual disability services: A factor analytic study of the Maslach Burnout Inventory. *Journal of Intellectual Disability Research, 48*(3), 268-273.

Howard, R., Rose, J., & Levenson, V. (2009). The psychological impact of violence on staff working with adults with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 22,* 538-548.

Jenkins, R., Rose, J., & Jones, T. (1998). The Checklist of Challenging Behaviour and its relationship with the Psychopathology Inventory for Mentally Retarded Adults. *Journal of Intellectual Disability Research, 42*(4), 273-278.

Kalsy, S., Heath, R., Adams, D., & Oliver, C. (2006). Effects of training on controllability attributions of behavioural excesses and deficits shown by adults with Down Syndrome and dementia. *Journal of Applied Research in Intellectual Disabilities, 20*(1), 64-68.

Kenny, D.A. (2009). *Mediation.* Available from http://davidakenny.net/cm/mediate.htm

Lambrechts, G., Kuppens, S., & Maes, B. (2009). Staff variables associated with the challenging behaviour of clients with severe or profound intellectual disabilities. *Journal of Intellectual Disability Research, 53*(7), 620-632.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* New York, NY: Springer Publishing Company, Inc.

Leather, P., Beale, D., Lawrence, C., & Dickson, R. (1997). Effects of exposure to workplace violence and the mediating impact of fear. *Work and Stress, 11*(4), 329-340.

Leventhal, H., & Nerenz, D.R. (1985). The assessment of illness cognition. In P. Karoly (Ed.), *Measurement strategies in health psychology* (pp. 517-555). New York: Wiley.

Leventhal, H., Nerenz, D.R., & Steele, D.J. (1984). Illness representations and coping with health threats. In A. Baum, S.E. Taylor, & J.E. Singer (Eds.), *Handbook of psychology and health, Vol. 4* (pp. 219-252). Hillsdale, NJ: Erlbaum.

MacKinnon, D.P., Warsi, G., & Dwyer, J.H. (1995). A simulation study of mediated effect measures. *Multivariate Behavioral Research, 30*(1), 41-62.

Maslach, C. (2003). Job burnout: New directions in research and intervention. *Current Directions in Psychological Science, 12*(5), 189-192.

Maslach, C. & Jackson, S. E. (1986). *The Maslach Burnout Inventory Manual.* Palo Alto, CA: Consulting Psychologists Press, Inc.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory Manual (3rd ed.).* Palo Alto, CA: Consulting Psychologists Press, Inc.

McGill, P., Bradshaw, J., & Hughes, A. (2007). Impact of extended education/training in positive behaviour support on staff knowledge, causal attributions and emotional responses. *Journal of Applied Research in Intellectual Disabilities, 20,* 41-51.

Mitchell, G., & Hastings, R. P. (2001). Coping, burnout, and emotion in staff working in community services for people with challenging behaviors. *American Journal on Mental Retardation, 106*(5), 448-459.

Nakagawa, S. (2004). A farewell to Bonferroni: The problems of low statistical power and publication bias. *Behavioral Ecology, 15*(6), 1044-1045.

Noone, S. J., Jones, R. S. P., & Hastings, R. P. (2005). Care staff attributions about challenging behaviors in adults with intellectual disabilities. *Research in Developmental Disabilities, 27,* 109-120.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill, Inc.

Peterson, C., Semmel, A., Von Bayer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M. E. P. (1982). The Attributional Style Questionnaire. *Cognitive Therapy and Research, 6*(3), 287-300.

Preacher, K. J. (2003). *Calculation for the Sobel Test: An interactive calculation tool for mediation tests* [Software]. Available from http://people.ku.edu/~preacher/sobel/sobel.htm

Preacher, K.J., & Hayes, A.F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers, 36*(4), 717-731.

Raczka, R. (2005). A focus group enquiry into stress experienced by staff working with people with challenging behaviours. *Journal of Intellectual Disabilities, 9*(2), 167-177.

Rose, D., Horne, S., Rose, J. L., & Hastings, R. P. (2004). Negative emotional reactions to challenging behaviour and staff burnout: Two replication studies. *Journal of Applied Research in Intellectual Disabilities, 17,* 219-223.

Rose, J. L., & Cleary, A. (2007). Care staff perceptions of challenging behaviour and fear of assault. *Journal of Intellectual and Developmental Disability, 32*(2), 153-161.

Rose, J., Jones, F., & Fletcher, B. (1998). Investigating the relationship between stress and worker behaviour. *Journal of Intellectual Disability Research, 42*(2), 163-172.

Shrout, P.E., & Bolger, N. (2002). Mediation in Experimental and Nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*(4), 422-445.

Skirrow, P., & Hatton, C. (2007). 'Burnout' amongst direct care workers in services for adults with intellectual disabilities: A systematic review of research findings and initial normative data. *Journal of Applied Research in Intellectual Disabilities, 20,* 131-144.

Snow, E., Langdon, P. E., & Reynolds, S. (2007). Care staff attributions toward self-injurious behaviour exhibited by adults with intellectual disabilities. *Journal of Intellectual Disabilities, 11*(1), 47-63.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equations models. In S. Leinhart (Ed.), *Sociological Methodology,* 290-312. San Francisco: Jossey-Bass.

SPSS. (2007). *Statistical Package for Social Sciences* (Version 16.0 for Windows) [computer software]. Chicago: SPSS Inc.

Stanley, B., & Standen, P. J. (2000). Carers' attributions for challenging behaviour. *British Journal of Clinical Psychology, 39,* 157-168.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics (4th ed.).* Needham Heights, MA: Allyn and Bacon.

Tynan, H., & Allan, D. (2002). The impact of service user cognitive level on carer attributions for aggressive behaviour. *Journal of Applied Research in Intellectual Disabilities, 15,* 213-223.

Wanless, L. K. & Jahoda, A. (2002). Responses of staff towards people with mild to moderate intellectual disability who behave aggressively: A cognitive emotional analysis. *Journal of Intellectual Disability Research, 46*(6), 507-516.

Weiner, B. (1979). A theory of motivation for some classroom experiences. *Journal of Educational Psychology, 71*(1), 3-25.

Weiner, B. (1980). A cognitive (attribution) – emotion – action model of motivated behavior: An analysis of judgments of help-giving. *Journal of Personality and Social Psychology, 39*(2), 186-200.

Weinman, J., Petrie, K. J., Moss-Morris, R., & Horne, R. (1996). The Illness Perception Questionnaire: a new method for assessing the cognitive representation of illness. *Psychology and Health, 11,* 431-446.

Williams, R., & Rose, J. (2007). The development of a questionnaire to assess the perceptions of care staff towards people with intellectual disabilities who display challenging behaviour. *Journal of Intellectual Disabilities, 11*(2), 197-211.

PUBLIC DOMAIN

BRIEFING PAPER

The Relationship Between Challenging Behaviour, Burnout and Cognitive Variables in Staff Working with People who Have Intellectual Disabilities

The research study was carried out by Sophie Mills (Trainee Clinical Psychologist) in partial fulfilment of the degree of Doctor of Clinical Psychology (Clin. Psy. D.) at the University of Birmingham.

Background

Stress and burnout in staff who work with people with intellectual disabilities and challenging behaviour is an important issue as research has shown that stress affects the interaction between staff and the clients they work with. Rose, Jones and Fletcher (1998) found an association between increased staff stress and fewer interactions with clients. In addition, Hastings (2002) states that staff stress has implications for staff turnover and sickness.

A review of the literature on staff stress and challenging behaviour was conducted in 2002 by Hastings and there has been further research on this subject since then. Therefore a literature review was conducted from 2000 to 2010 to provide an update to Hastings' review. The search terms entered into the search were variations on the terms 'staff,' 'stress,' 'challenging behaviour' and 'intellectual disability,' and the search focused on paid staff working with adults. The search generated 29 journal articles relevant to the review. The findings of this updated review are similar to that found by Hastings in that it appears that staff may experience stress as a

result of the negative emotions associated with challenging behaviour. The review also suggests that the negative emotions may arise from the causal attributions staff make about challenging behaviour such as whether staff think the client can control the behaviour. Hastings (2002) highlighted the need for meditational analysis to test whether negative emotional reactions mediate the relationship between challenging behaviour and staff stress. There has been no such research specifically looking at mediation with negative emotions since Hastings' review, and the present research study aims to address this.

Aims

The aim of the study is to explore whether the level of challenging behaviour staff are exposed to affects their levels of burnout. In addition, the study aims to test whether the perceptions staff hold about challenging behaviour (cognitive variables) mediate the relationship between challenging behaviour and burnout.

Method

A total of 78 staff participated in the study, from a range of services including the NHS and independent sector. Staff were asked to complete questionnaires on burnout, levels of challenging behaviour they are exposed to, and their perceptions about/responses to challenging behaviour. The questionnaires asking about staff's perceptions specifically enquired about the timeline and pattern of challenging behaviour, whether staff feel they have any influence over the challenging behaviour, whether staff think the client has control of their own challenging

behaviour, and questions about staff's negative emotions concerning the behaviour including fear of assault.

Burnout was measured using the Maslach Burnout Inventory – Human Services Survey (Maslach, Jackson & Leiter, 1996). Maslach (2003) describes 'job burnout' as "a psychological syndrome" which involves "a prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach, 2003, p. 189). Levels of challenging behaviour were measured using the Checklist of Challenging Behaviour (Harris, Humphreys & Thomson, 1994). The cognitive variables were measured using the Controllability Beliefs Scale (Dagnan, Grant & McDonnell, 2004), the Challenging Behaviour Perception Questionnaire (Williams & Rose, 2007), and the Fear of Assault measure (Rose and Cleary, 2007).

The questionnaire pack contained the Participant Information Sheet, a consent form, the Demographic Information Questionnaire (including questions regarding age, gender, qualifications, training, length of time in current employment and time in intellectual disability services) and the questionnaires. It was explained to staff in the Participant Information Sheet that participation is voluntary and anonymous.

Summary of Research Findings

Correlational analyses showed that high levels of challenging behaviour were associated with greater levels of burnout. The only cognitive variables associated with both challenging behaviour and burnout were the Fear of Assault measure, and the 'Emotional Representation' and 'Consequences Carer' scales of the Challenging Behaviour Perception Questionnaire which measure negative emotions such as anxiety and anger, and negative consequences for the carer

respectively. Regression analyses demonstrated that Fear of Assault and Emotional Representation were found to significantly mediate the relationship between challenging behaviour and burnout. This means that the way in which staff perceive the challenging behaviour (with fear and negative emotions) contributes significantly to feelings of burnout.

Limitations of the Research

The response rate of questionnaires returned was very low, and the study therefore had a relatively small sample size. This may have been due to staff not having the time to complete the questionnaires, as the questionnaire pack was quite substantial requiring approximately 30 minutes to complete. It is possible that a larger sample size may have produced more significant results. Another limitation of the study is that the questionnaires were asking about how staff feel about a particular client they work with, and about their employment, and it is possible staff did not wish to disclose this information.

Implications for Clinical Practice

The results suggest that it is not only the level of challenging behavior, but also the way in which staff perceive challenging behaviour which impacts upon how burnt out they feel. There is a need for intervention which reduces levels of challenging behaviour. However, where challenging behaviour persists, there is a need to then focus on the effects on staff. Staff training in the management of challenging behaviour, supervision, and debriefing after incidents may all help staff to feel better able to cope with challenging behaviour which may lead to less fear, and in turn less burnout.

Future Research

There is little research into challenging behaviour and burnout over time, and so further research could take the form of a longitudinal study. The present study examined a variety of challenging behaviours. However, self-injurious behaviour has been found to elicit different emotions and beliefs in staff compared with other forms of challenging behaviour (Stanley & Standen, 2000), and therefore it would be beneficial to examine this form of challenging behaviour compared to other behaviours. The present study has revealed evidence that fear of assault influences burnout and therefore this area of staff perceptions warrants further investigation.

References

Dagnan, D., Grant, F., & McDonnell. (2004). Understanding challenging behaviour in older people: The development of the controllability beliefs scale. *Behavioural and Cognitive Psychotherapy, 32,* 501-506.

Harris, P., Humphreys, J., & Thomson, G. (1994). A checklist of challenging behaviour: The development of a survey instrument. *Mental Handicap Research, 7* (2), 118-133.

Hastings, R. P. (2002). Do challenging behaviors affect staff psychological well-being? Issues of causality and mechanism. *American Journal on Mental Retardation, 107* (6), 455-467.

Maslach, C. (2003). Job burnout: New directions in research and intervention. *Current Directions in Psychological Science, 12* (5), 189-192.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory Manual (3rd ed.).* California: Consulting Psychologists Press, Inc.

Rose, J. L., & Cleary, A. (2007). Care staff perceptions of challenging behaviour and fear of assault. *Journal of Intellectual and Developmental Disability, 32* (2), 153-161.

Rose, J., Jones, F., & Fletcher, B. (1998). Investigating the relationship between stress and worker behaviour. *Journal of Intellectual Disability Research, 42* (2), 163-172.

Stanley, B., & Standen, P. J. (2000). Carer's attributions for challenging behaviour. *British Journal of Clinical Psychology, 39,* 157-168.

Williams, R., & Rose, J. (2007). The development of a questionnaire to assess the perceptions of care staff towards people with intellectual disabilities who display challenging behaviour. *Journal of Intellectual Disabilities, 11* (2), 197-211.

Appendix 1.1

Descriptions of Searches for Individual Databases

Appendix 1.2

Summary of Studies Included in the Review

Appendix 2.1

Ethical Approval

Appendix 2.2

Participant Information Sheet

Appendix 2.3

Consent Form

Appendix 2.4

Demographic Information Questionnaire

(Including the Fear of Assault Questions)

Appendix 2.5

Checklist of Challenging Behaviour

Appendix 2.6

Challenging Behaviour Perception Questionnaire

Appendix 2.7

Controllability Beliefs Scale

Appendix 2.8

Maslach Burnout Inventory – Human Services Survey (MBI-HSS)

Appendix 2.9

SPSS Output for Regression Analyses and Sobel Test Results

(Aggressive Behaviours, Fear of Assault and EE)

Appendix 2.10

SPSS Output for Regression Analyses and Sobel Test Results

(Other Behaviours, Fear of Assault and EE)

Appendix 2.11

SPSS Output for Regression Analyses and Sobel Test Results

(Aggressive Behaviours, Fear of Assault and DP)

Appendix 2.12

SPSS Output for Regression Analyses and Sobel Test Results

(Other Behaviours, Fear of Assault and DP)

Appendix 2.13

SPSS Output for Regression Analyses

(Aggressive Behaviours, Fear of Assault and PA)

Appendix 2.14

SPSS Output for Regression Analyses and Sobel Test Results

(Aggressive Behaviours, Emotional Representation and EE)

Appendix 2.15

SPSS Output for Regression Analyses and Sobel Test Results

(Other Behaviours, Emotional Representation and EE)

Appendix 2.16

SPSS Output for Regression Analyses and Sobel Test Results

(Aggressive Behaviours, Emotional Representation and DP)

Appendix 2.17

SPSS Output for Regression Analyses and Sobel Test Results

(Other Behaviours, Emotional Representation and DP)

Appendix 2.18

SPSS Output for Regression Analyses and Sobel Test Results

(Aggressive Behaviours, Consequences Carer and DP)

Appendix 2.19

SPSS Output for Regression Analyses and Sobel Test Results

(Other Behaviours, Consequences Carer and DP)

Appendix 2.20

Instructions for Authors

(Journal of Applied Research in Intellectual Disabilities)