Stress, depression, workplace and social supports and burnout in intellectual disability support staff

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Abstract

Background Staff providing support to people with intellectual disabilities are exposed to stressful work environments which may put them at an increased risk of burnout. A small prior literature has examined predictors of burnout in disability support staff, but there is little consensus. In this study, we examined direct and indirect associations between work stressors (i.e. challenging client behaviour), staff emotional response to the behaviour (i.e. perceived stress, anxiety, depression), social and organisational support resources, and staff burnout. *Methods* A short survey examined client behaviour, staff psychological stress, anxiety, depression, social support (number, satisfaction), organisational support and burnout in 80 disability support staff in a community setting. *Results* Burnout levels were similar to or slightly lower than normed values for human services staff. Cross-sectional regression analyses indicated that depression symptoms and organisational support were related to worse emotional exhaustion and depersonalisation, whereas less social support was related to less personal accomplishment. Social support satisfaction (but not social support number or organisational support) moderated between high

psychological stress to less emotional exhaustion. *Conclusions* Taken together, these results suggest that depression symptoms and low organisational support were frequently concurrent with burnout symptoms. Furthermore, worker's personal and organisational supports may have helped bolster their sense of personal accomplishment, and buffered against the potential for emotional exhaustion.

Keywords burnout, depression, intellectual disability support staff, organisational support, social support

Introduction

Work stress is described as occurring when the perceived demands of a job exceed one's internal and external resources to do the job (Folkman *et al.* 1987). Work stressors typically reported by intellectual disability (ID) support staff include *challenging client behaviour* (see Skirrow & Hatton 2007 for review), interpersonal issues with colleagues (Alexander & Hegarty 2000) and organisational concerns (e.g. inadequate staffing; White *et al.* 2006). As a consequence, up to one-third of ID support staff report experiencing stress levels that are indicative of the presence of a mental health problem (Hatton *et al.* 1999). A proportion also report burnout symptoms, as assessed by the Maslach Burnout Inventory (MBI-HS; Hastings *et al.* 2004), the most

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widely used burnout measure (Maslach *et al.* 1996), although mean levels are slightly lower than those reported by other human services personnel (Shaddock *et al.* 1998).

Burnout is a psychological syndrome that occurs in response to chronic, uncontrollable work stress (Maslach *et al.* 2001). It is described as having three dimensions: emotional exhaustion (EE), depersonalisation (Dp) and a lack of perceived personal accomplishment (PA; Maslach *et al.* 1996). It is detected in a variety of workplace settings (e.g. schools, hospitals; Russell *et al.* 1987; Robinson *et al.* 2003), and in a variety of personnel including teachers and ambulance and military officers (Russell *et al.* 1987; Day & Livingstone 2001; van der Ploeg & Kleber 2003). It is thought to be especially common in workers who give of themselves emotionally (Maslach *et al.* 2001) or give out more than they get back (Hastings *et al.* 2004).

Staff burnout has implications for service providers, staff and their clients: affected staff often experience less job satisfaction, productivity and commitment to an organisation, and higher absenteeism and job turnover intentions (e.g. Lawson & O'Brien 1994; Maslach *et al.* 2001). They may also perform their work more poorly than non-affected peers (Shanafelt *et al.* 2002), for example, by providing lower-quality service, as evidenced by fewer positive interpersonal interactions and less assistance given to clients (Lawson & O'Brien 1994; Rose *et al.* 1998). Thus, ID clients may become the vicarious victims of staff burnout because of staff losses, financial pressures, poor work performance and less positive interactions with clients; and these factors may combine to create a decline in the *quality* of service provision given to clients (Shaddock *et al.* 1998; Shanafelt *et al.* 2002). Furthermore, the cost of burnout may be high for staff, as it is linked to the development of chronic illness (e.g. cardiovascular disease, Type-2 diabetes; Melamed *et al.* 2006), although the pathways to ill health are not well understood. Burnout is also linked to the experience of unpleasant emotions (e.g. fear, frustration), which may, in turn, contribute to the experience of psychological stress and burnout (Patton & Goddard 2003; Whittington & Burns 2005).

In the disability support literature, several putative causal antecedents of burnout have been described, although few have been empirically tested. *Work stressors* such as high job demands and a lack of key resources (e.g. social and organisational support) are described as possibly causing burnout in human services personnel, including ID support staff (Devereux *et al.* 2009a). For example, subjectively experienced workload (Kowalski *et al.* 2009; Devereux *et al.* 2009b) and the *interpersonal demands* of helping relationships are reported to be key sources of stress and EE in these staff (White *et al.* 2006). However, it is unclear which aspect(s) of these helping relationships are most stressful for ID support staff, for example, the challenging client behaviour or some other aspect of these relationships (e.g. type of support required by clients).

In the literature, ID clients are described as being dependent people who often require instrumental or emotional support (Maslach 1982), possibly with underdeveloped social or verbal communication skills, and/or who may communicate using challenging behaviour towards themselves and/or others. *Challenging behaviour* is the most frequently reported work stressor by disability support staff (Jenkins *et al.* 1997; Hastings 2002). It is described as including any behaviour of such intensity, frequency or duration that it places the physical safety of the client and/or others in jeopardy or seriously limits or denies their access to, or use of, community facilities (Emerson *et al.* 1988), such as actual or threatened aggression, self-injury, property damage or inappropriate sexual conduct (Emerson 2001).

Few studies have empirically tested challenging client behaviour as a predictor of burnout in disability support staff (for review, see Skirrow & Hatton 2007), and the few available studies report conflicting results. For example, two studies evaluated the relationship of client variables to burnout using the Aberrant Behavior Checklist, which assesses client disability and the presence of challenging behaviour, although neither study found an association between client characteristics and burnout in nurses (Chung *et al.* 1996; Chung & Corbett 1998). However, in a study of ID support staff, stressors including client behaviour were found to be related to worse EE (Devereux *et al.* 2009b). Thus, it is unclear if client behaviour contributes to burnout, or if some other aspect of the working environment (e.g. a lack of work support) is causing the symptoms.

Thus, in this study, we examined cross-sectional associations between client behaviour and burnout scores, using an alternative approach to assess this behaviour as the Aberrant Behavior Checklist (mentioned previously) did not detect an association in the previously mentioned studies. We examined different behavioural parameters in this study including frequency and type(s) of behaviour experienced, and the type of support provided to clients (i.e. physical, social).

In the general workplace literature, work stress and work stressors are related to more perceived *psychological stress* (Bourbonnais *et al.* 1999; Vermeulen & Mustard 2000), *anxiety* and *depression* (Strazdins *et al.* 2004), with depression found to be frequently co-morbid with burnout symptoms (Melamed *et al.* 2006). Similarly, client behaviour is reported to induce negative emotional responses in human services staff (Bromley & Emerson 1995); and these responses are related to worse EE and Dp in community services staff (Mitchell & Hastings 2001). Thus, in this study, we expected that challenging client behaviour would be directly related to greater staff psychological stress and affective symptoms (i.e. anxiety, depression), and indirectly related (i.e. mediator) to more burnout symptoms. Mediators are defined as variables that are affected by and can affect other variables.

We tested the hypothesis that staff emotional responses to challenging client behaviour (i.e. psychological stress) would *mediate* between client behaviour to worse burnout (Hastings 2002). As a proxy measure of this emotional response, we assessed recent experiences of stress, anxiety and depression, using a well-validated measure of the states in non-clinical populations [i.e. Depression, Anxiety and Stress Scales (DASS-21); Lovibond & Lovibond 1995].

In the general workplace literature, Eisenberger *et al.* (1986) have used *social exchange theory* to examine work social interactions. They propose that staff will form assumptions about how valuable they are to an organisation, and this combined with assessments of how the organisation cares about them, is referred to as *perceived organisational support* (POS). Recent research suggests that when staff feels supported in the workplace, they are better equipped to deal with everyday work stressors (Cropanzano *et al.* 1997), and they less commonly develop

burnout, especially high EE (Alexander & Hegarty 2000; White *et al.* 2006; Skirrow & Hatton 2007).

Similar results have been obtained using analogous support constructs; for example, supervisor interactions (e.g. recognition of work stress) were shown to be associated with less burnout, particularly Dp and EE (Maslach *et al.* 1996; Gibson *et al.* 2009), and POS was reported to *moderate* between high work demands to low PA in therapists of autistic children (Gibson *et al.* 2009). However, such associations have yet to be examined in ID support staff, and so we assessed them in this study. Moderators refer to variables that can affect the direction and strength of associations between other variables, but are not themselves affected by the variables. For a detailed discussion on mediation and moderation, see Baron & Kenny (1986).

Moreover, *individual support* resources have rarely been examined in disability support staff. According to *burnout theory*, workload and workplace interpersonal demands will be more closely linked to high EE and Dp, whereas low PA will be more strongly linked to less resources (e.g. social support; Leiter 1993). A perceived lack of *social support* in and outside the workplace is reported to contribute to stress and burnout in the general workplace literature (Frese 1999), although this is not a universal finding (e.g. Dormann & Zapf 1999). Similar contradictory reports are also found in the ID support literature; for example, Aitken & Schloss (1994) found a negative association between personal resources (e.g. recreation, self-care, social support, cognitive coping) and EE and Dp, whereas Devereux *et al.* (2009b) found that staff perceptions of workplace support were *un*related to burnout (EE and Dp), but they did *moderate* the association of high work demands to low PA.

Thus, in accordance with the limited available literature, we expect that high POS and social support will moderate between psychological stress to staff burnout symptoms. Furthermore, we expect that challenging client behaviour, psychological stress, anxiety and depression, and less POS and social support (i.e. number and satisfaction) will be related to worse burnout in ID support staff, using the MBI-HS; and we expect that psychological stress will mediate between challenging client behaviour and worse burnout. Specifically, we expect that:

Hypothesis 1: more psychological stress, anxiety and depression and less POS and social support (number, satisfaction) will be related to worse burnout (i.e. high EE and Dp, low PA);

Hypothesis 2: psychological stress will mediate between client behaviour to worse EE and Dp; and

Hypothesis 3: high social support (number, satisfaction) and POS will moderate (i.e. decrease) the association of psychological stress to burnout symptoms (i.e. EE, Dp, PA).

Method

Participants

This study was conducted with full human research ethics committee approval. Potential participants responded to an advertisement placed in staff rooms, reception areas and newsletters, or introductory emails sent via the human resource managers of 18 ID support organisations, in New South Wales, Queensland and Victoria, Australia. An advertisement was also placed in the *Link Disability Magazine*, which is distributed online and in print format to ID clients and support staff. Potential participants were informed of the voluntary nature of the participation and their right to withdraw at any time. They were eligible to participate if they were over 18 years of age and worked in the ID support sector.

Based on prior studies of stress, affective symptoms and burnout, an effect size of $f^2 = 0.20$ ($R^2 = 0.17$) was expected in this study. Assuming α of 0.05, directional hypotheses, five predictors and a target power of 0.80, a power analysis using G*Power 3.1.0 (Faul *et al.* 2007) indicated that a minimum of 70 respondents were required. Eighty staff responded to the advertisement; 27 returned a hard-copy survey and 53 completed an online version of the survey. No statistically significant ($P > 0.05$) differences were noted between the respondents who filled in a hard copy or online survey, for age, gender, occupation, marital status, education, stress, anxiety, depression, EE, Dp or PA (data not shown).

The response rate was difficult to determine because of the different indirect recruitment methods used in various organisations, although it is estimated that the advertisement was viewed by as many as 320 ID support staff over the 18 organisations, thus indicating a response rate of 25%, which is similar to the response rate for paper surveys (i.e. 30 out of 120, 25%). Of the 80 respondents, 58 (73%) were female, 21 were male and one did not specify gender. Mean age of respondents was 45.64 years (SD = 9.84, $n = 74$). Most were married or in a *de facto* relationship (64%, 51); with the remainder either divorced, separated or never married (28), and one not specifying marital status. Thus, one participant did not provide demographics or a work designation; but this case was retained.

Most support staff had either a trade certificate/diploma (44%, 35) or university degree (41%, 33), with the remainder indicating their highest level of education was the higher school certificate or equivalent (12). One-half (51%, 41) had specific ID support qualifications, one-third (33%, 26) had other allied health qualifications (e.g. nursing) and a minority (13) had no qualifications. They were either direct support staff (56%, 44) or management/administrative personnel (35): direct support staff worked 24-h rostered shifts in group homes of up to five persons, or provided drop-in support to ID clients in their homes or supported their attendance at day programme activities or supported employment; whereas management/administrative staff were office-based, but frequently provided direct and on-call support to ID clients. Most staff had worked in the ID sector for 5–10 years (44%, 35), 1–5 years (26%, 21) or more than 10 years (26%, 21), with the remainder employed for less than 1 year (3).

Materials

Approval was gained to use all study measures in an online format, except the MBI-HS, which was purchased and sent by mail to all respondents in a hard-copy format. Standard instructions were used to examine the variables using the measures described below. Staff were asked about their length of service in the ID sector, hours worked per week and work designation (i.e. support, administration).

Burnout was assessed using the MBI: Human Services Survey (MBI-HS, 3rd edition), a 22-item scale assessing burnout on three dimensions: EE,

Dp and PA. Staff rated their responses to statements on 7-point Likert scales, from 0 (*never*) to 6 (*everyday*), with high EE and Dp and low PA scores indicating burnout. Normative data are available for comparison with human services personnel (Maslach *et al.* 1996). Internal consistency reliabilities and confirmatory factor analyses have been computed in disability support staff, with the Cronbach's alphas ranging from 0.68 to 0.87 (Hastings *et al.* 2004).

Exposure to *challenging client behaviour* was assessed by asking staff 'how often do you face a situation where a person you support engages in challenging behaviour?', with responses ranging from 1 (*never*) to 5 (*always*). Staff were asked about the type of behaviour they experienced (i.e. threatened or actual violence, property damage, self-injurious behaviour, screaming/shouting, sexual behaviour); they could nominate more than one behaviour. Level of support provided to clients was assessed by evaluating the degree of *physical* (1-item) and *social support* (1-item) required by clients on a regular basis, using a 5-point scale ranging from 1 (*minimal*) to 5 (*very high*). These items were pilot tested prior to the study in a sample of six disability support staff, and they were revised according to the feedback provided.

Stress, anxiety and *depression* were assessed using the DASS-21 (Lovibond & Lovibond 1995), which is suitable for use in occupational healthcare settings (Nieuwenhuijsen *et al.* 2003). The self-report scale assesses emotional states of stress, anxiety and depression using three sub-scales, with 4-point scales ranging from 0 *(did not apply to me at all)* to 3 *(applied to me very much/most of the time)*, and high scores indicating more stress/distress. Internal consistencies for the sub-scales are high with Cronbach's alphas of 0.95 for stress, 0.92 for anxiety and 0.97 for depression. Factor analyses support the three-factor structure of the DASS, and sub-scales show adequate construct validity (Antony *et al.* 1998), although psychometrics have not been established in ID support staff.

Perceived organisational support was assessed using the eight-item version of the Survey of POS, which has been used as a measure of POS in a diverse range of workplaces (Eisenberger *et al.* 1990). The scale asks respondents to judge their organisation's support of staff on 7-point Likert rating scales,

ranging from 0 (*strongly disagree*) to 6 (*strongly agree*), with high scores indicating greater support. The scale has high internal consistency with a Cronbach's alpha of 0.93 (Eisenberger & Huntington 1986), and good construct validity (McFarlane Shore & Tetrick 1991).

Social support was assessed using the short version of the Social Support Questionnaire. This version has six questions assessing mean satisfaction (quality) with social supports and mean number of supportive individuals in relation to six questions. Satisfaction was measured on scales ranging from 1 (*very dissatisfied*) to 6 (*very satisfied*). Number of supports was measured by taking the mean of the number of supportive individuals listed on each of six questions; they could list zero to nine individuals for each question. The scale has high internal consistency (Cronbach's alpha 0.90 to 0.93) and good convergent and divergent validity (Sarason *et al.* 1987). The Social Support Questionnaire has not previously been used in studies of disability support staff.

Procedure

Staff currently providing support to ID clients were asked to respond anonymously to an advertisement, by completing a hard-copy or online survey. Completion of the survey took about 30 min, and its return was taken as indicating informed consent to participate in the study. Hard-copy surveys were either returned to service managers or placed in a sealed box in the reception areas of organisations. Online survey data was dumped to a password-protected data file on a networked computer. Participant login details were dumped to a separate file and used to verify that they had only participated once; the files could not be combined to identify individual participant responses.

Statistical analyses

SPSS (2010) was used for routine statistical analyses and missing values replacement using the expectation maximisation method. Missing value analysis indicated that data were missing completely at random (MCAR), Little's MCAR test, $\chi^2(169) = 163.28$, $P = 0.610$, see Table 1 for number of missing values. The pattern of data using the

Table 1 Means and standard deviations of key independent variables and burnout characteristics ($n = 80$)

Measure	Number of estimated values	M	SD	Minimum	Maximum
MBI emotional exhaustion	8	17.90	12.84	1	48
MBI depersonalisation	8	4.68	5.39	0	22
MBI personal accomplishment	8	34.71	9.17	0	52
Depression	2	3.32	4.46	0	19
Anxiety	2	2.51	3.46	0	17
Stress	2	5.95	5.01	0	20
Social support number	15	2.92	1.53	0	8
Social support satisfaction	15	5.22	0.98	0	6
Organisational support	15	29.88	11.53	1	48
Challenging behaviour	0	8.21	1.65	6	12

MBI, Maslach Burnout Inventory.

missing values replaced was generally *more* conservative (effect sizes a bit lower) than the pattern for raw data. Multiple linear regressions were used to determine potential moderators of the work stress to burnout relationship. Moderation was tested using centred moderators and independent variables to calculate an interaction term (i.e. independent variable by moderator), using SPSS and O'Connor's (1998) approach that splits the centred moderator variable into low, medium and high groups to plot the potential interaction in a graph. This interaction term was entered with the independent variable and moderator in the regression equation, with a significant interaction term indicating significant moderation.

Mediation was performed using the bootstrap method of Preacher & Hayes (2004). This method compares coefficients for the total effect, path c (effects of independent variable on the dependent variable without any mediators) with the coefficient for the direct effect c′ (effects of independent variable on the dependent variable with any mediators included). There was significant mediation if the c–c′ difference was larger than 0 based on a 95% confidence interval. The confidence interval was calculated using a bootstrap re-sampling method with 2000 samples. If c′ becomes non-significant after controlling for the mediator, full mediation is present. If c′ is significantly reduced from c, but still statistically significant, partial mediation is present.

Results

Mean scores and standard deviations of the variables for the overall sample and separate staff designations are presented in Table 1, and a correlation matrix is presented in Table 2. Using recommended cut-offs (Nieuwenhuijsen *et al.* 2003), 13 of 80 staff (16.25%, score ≥ 5) showed significant anxiety, and six (7.5%, score ≥ 12) showed significant depression. The EE score was similar to, Dp score was lower than and PA score was higher than, normed values provided for health services workers (Maslach *et al.* 1996). EE and Dp were positively correlated with psychological stress, anxiety and depression, and negatively correlated with POS, although the latter variable was only weakly correlated (missing values not replaced). Social support (number) was positively correlated with PA, but challenging client behaviour was *un*correlated with any study variable.

Two multiple regression analyses were conducted to examine whether staff emotional response (i.e. psychological stress, anxiety, depression) and workplace and personal supports (i.e. POS and social support) were associated with staff burnout (i.e. EE and Dp; see Table 3). Given the small sample size, a limit of five predictors was examined. We had hoped to test all seven predictors (and demographics), but given the sample size constraints, these variables were included only if they were significantly corre-

Table 2 Correlations between key independent variables and burnout characteristics ($n = 80$)

Measure	1	2	3	4	5	6	7	8	9	10
1. Gender ($n = 79$)										
2. Challenging behaviour	−0.17									
3. Depression	−0.15	−0.10								
4. Anxiety	−0.10	0.02	0.61**							
5. Stress	0.01	−0.01	0.74**	0.67**						
6. Support number	0.04	0.02	−0.22*	−0.15	−0.16					
7. Support satisfaction	0.10	−0.12	−0.36**	−0.13	−0.28**	0.39**				
8. Organisational support	−0.01	−0.02	−0.48**	−0.46**	−0.48**	0.21*	0.33**			
9. MBI emotional exhaustion	−0.09	−0.09	0.60**	0.51**	0.56**	−0.02	−0.06	−0.53**		
10. MBI depersonalisation	−0.31**	−0.11	0.52**	0.45**	0.37**	−0.12	−0.08	−0.41**	0.71**	
11. MBI personal accomplishment	0.19	0.04	−0.05	0.06	0.10	0.31**	0.06	0.15	0.01	−0.12

* $P < 0.05$ (one-tailed), ** $P < 0.01$ (one-tailed).
MBI, Maslach Burnout Inventory.

Table 3 Model prediction of emotional exhaustion and depersonalisation (adjusted R-square = 0.42)

Predictor	b	95% CI for b		β	r	sr
		Lower	Upper			
Emotional exhaustion (EE)						
Depression[†]	1.463**	0.519	2.407	0.456	0.643	0.270
Anxiety	−0.211	−1.257	0.835	−0.051	0.438	−0.035
Stress	0.400	−0.359	1.159	0.146	0.540	0.092
Organisational support[†‡]	−0.221*	−0.456	0.013	−0.200	−0.502	−0.164
Depersonalisation (Dp)						
Gender[†]	−2.973	−5.179	−0.768	−0.245	−0.311	−0.237
Depression[†]	0.439**	0.101	0.776	0.353	0.560	0.229
Anxiety	0.259	−0.130	0.648	0.165	0.474	0.117
Stress	−0.052	−0.377	0.273	−0.046	0.421	−0.028
Organisational support[‡]	−0.108*	−0.205	−0.011	−0.228	−0.440	−0.195

The semi-partial (*sr*) correlation given is the *Part* correlation in SPSS. The *r* given is for the zero-order correlation. Multivariate outliers were removed if they had Mahalonobis distance greater than 18.47 [χ^2 (4, 0.001)] and 20.52 [χ^2 (5, 0.001)] for the EE and Dp analysis respectively. Multiple searches for multivariate outliers were not employed.
* $P < 0.05$ (one-tailed), ** $P < 0.01$ (one-tailed).
[†] Results significant in analysis of support staff.
[‡] Results significant in analysis of administrative staff.

lated with burnout scores, *and* had a high theoretical importance. No regression was run for PA because it was only correlated with social support number ($r = 0.31$), indicating that the more social support that was provided to staff, the higher their PA.

Regarding *Hypothesis 1*, the regression for EE included stress, anxiety, depression and POS, and it indicated that the predictors explained 42% of the variance in EE (adjusted $R^2 = 0.42$, $F_{4,72} = 14.74$, $P < 0.001$), with high depression score and low POS

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shown to be related to worse EE. Similarly, the regression for Dp included the above variables and gender (which was correlated with Dp), and it indicated that the predictors explained 39% of the variance in Dp (adjusted $R^2 = 0.39$, $F_{5,73} = 11.14$, $P < 0.001$), with high depression score and low POS shown to be related to worse Dp.

Hypothesis 2 was not supported; psychological stress was not found to mediate between client behaviour to worse EE, b (unstandardised) $= -0.03$ (95% CI -1.04, 1.04), or Dp $b = -0.01$ (-0.29, 0.31). In *Hypothesis 3*, potential moderators (i.e. POS, support number, support satisfaction) of the psychological stress to burnout associations were assessed. The stress to EE relationship was shown to be moderated by social support satisfaction ($F_{1,76} = 4.10$, $P = 0.046$, R^2 change $= 0.035$). Thus, the higher the social support satisfaction, the stronger the association between psychological stress to EE [standardised $\beta = 0.46$ (95% CI 0.23, 0.69)], for below average satisfaction [M centred -0.98; 0.62 (0.42, 0.81)], average satisfaction [M centred 0.00; 0.77 (0.51, 1.04)], and above average satisfaction (M centred 0.98), defined as -1, 0 and 1 SDs above the mean satisfaction score respectively. Other potential moderators were not statistically significant ($P > 0.05$), including that of the high stress to Dp association.

Finally, we *compared* the pattern of responses across the two staff designations in two *post hoc* regression analyses (see Table 3). The pattern of results was similar in support and administrative staff, relative to the overall analyses: EE was related to low POS in both groups, and high depression score was related to EE in support staff (adjusted $R^2 = 0.55$, $P < 0.001$; and 0.30, $P = 0.006$ respectively). PA was correlated with social support number in both groups ($r = 0.22$, and $r = 0.54$ respectively); but Dp was related to depression and male gender in support staff, but it was only related to low POS in administrative staff (adjusted $R^2 = 0.40$, $P < 0.001$; and 0.43, $P = 0.001$ respectively).

Discussion

In disability support staff, levels of EE and Dp were similar to or slightly lower, and values for PA were higher than normed values for human services staff (Maslach *et al.* 1996), similar to the results of Shaddock *et al.* (1998). *Burnout theory* suggests that work stressors (e.g. challenging client behaviour), staff emotional response to the stressors and work and personal resources (e.g. POS and social support) will be related to burnout symptoms (Leiter 1993). However, in this study, only *staff emotional response* (i.e. depression) and *personal resources* (i.e. low POS) were related to worse EE and Dp, accounting for 40% or so of the variance in these scores, whereas low PA was only correlated with *personal resources* (i.e. less social support), which is somewhat in accordance with *Hypothesis 1*.

Thus, inconsistent with burnout theory, challenging client behaviour was not shown to be related to burnout, despite being the most frequently reported work stressor by disability support staff (Jenkins *et al.* 1997; Hastings 2002). In fact, neither the type(s) nor frequency of exposure to client behaviour, nor the type(s) of support provided to them were shown to be related to staff burnout, but the results are consistent with prior studies in nurses (e.g. Chung & Corbett 1998), although inconsistent with a prior study in ID support staff (Devereux *et al.* 2009b). Furthermore, we did not find that psychological stress mediated between client behaviour to staff burnout, in line with *Hypothesis 2*. Taken together, the results suggest that challenging client behaviour was not sufficient to induce significant stress or distress in disability support staff. However, a third explanation is that our measures of client behaviour and staff responding to the behaviour were less than optimal.

Nonetheless, these results are largely consistent with prior reports that depression (e.g. Melamed *et al.* 2006) and POS (Gibson *et al.* 2009) are related to worse EE and Dp, although the latter association has not been reported previously in disability support staff. Moreover, personal resources (e.g. social support) have been shown to be related to worse burnout (i.e. high EE and Dp) in ID support staff (e.g. Aitken & Schloss 1994), although in our study, less *personal* support was related to less PA, and less *workplace* support (POS) was related to greater EE and Dp. In addition, we found that age and years of work experience were uncorrelated with burnout, similar to other studies (e.g. Kowalski *et al.* 2009). These results suggest that

workplace and personal support may have exerted differential effects on the mental health of staff.

Regarding *Hypothesis 3*, more social support *satisfaction* (but not support number or POS) was shown to moderate between psychological stress to EE, but these support variables did not moderate between psychological stress to Dp or PA. The result indicates that the stress to EE association became stronger as support satisfaction increased; such that staff experiencing more stress and EE were more likely to be satisfied with the support they received. This result suggests that worker's utilisation of personal supports was quite effective in reducing the potential for EE. However, POS did not moderate between psychological stress to burnout, which is inconsistent with Gibson *et al.* (2009) who found that POS moderated between high work demands to low PA in therapists. Taken together, these results suggest that staff personal resources (i.e. number of social supports) may have helped bolster their sense of PA, whereas satisfaction with their supports may have helped to buffer against the potential for high EE.

Finally, we found the pattern of responses was slightly different across the two staff designations. In short, high EE and Dp was related to high depression, and Dp was related to male gender in direct support staff; whereas low POS was more strongly related to the outcomes in administrative staff. These differences may reflect that different staff was subjected to different types of uncontrollable work stressors, which may have resulted in differential burnout responses, particularly in relation to EE and Dp.

Study limitations

These results should be interpreted with caution given several limitations. First, the sample was small and multiple analyses may have led to inflation of the Type I error rate, but a power analysis indicated the sample was adequate given the planned analyses and the small number of predictors. Second, the response rate was low because of the indirect recruitment methods (i.e. advertisement) used in the study. Third, the pattern of missing data (i.e. demographics) suggests that some respondents lacked confidence in their anonymous disclosure of identifying information. Respondents were not asked to identify their workplace, but some completed hard-copy surveys which were later returned to work managers, and this procedure may have contributed to disclosure fears. Fourth, the client behaviour variables were not assessed using a well-validated scale, and they only had one-item each. However, an alternative approach to measurement (e.g. assessing *types* of behaviour) was sought as the prior literature had mostly failed to find an association between the behaviour and staff burnout in prior studies (e.g. Chung & Corbett 1998).

Fifth, emotional state (i.e. anxiety, depression) was assessed by survey rather than using a clinical interview, although the emphasis here was on affective symptoms rather than affective disorders. Nonetheless, the DASS-21 may not have been an appropriate measure of staff emotional response to client behaviour, as it measures *general* affective symptoms, rather than symptoms which are specific to a particular work stressor. Finally, the findings were only cross-sectional in nature, therefore precluding any causal inferences being made, although the findings may help build theoretical models that can then be used to guide the design of longitudinal and experimental studies (Maxwell & Cole 2007).

Conclusion

In disability support staff, burnout scores were similar, to or slightly lower than normed values in human services staff. Greater EE and Dp were associated with a higher depression score and less POS, whereas low PA was correlated with less social support. High social support satisfaction moderated between psychological stress to EE, but psychological stress did not mediate between challenging client behaviour to burnout symptoms. Taken together, the results suggest that depression and low POS were frequently co-morbid with EE and Dp in disability support staff. However, challenging client behaviour was not significantly related to burnout, suggesting there are more salient stressors (e.g. shift rosters, short staffing) contributing to burnout in these staff. Furthermore, the results suggest that worker's personal supports (i.e. work and social support) may have potentially helped improve their sense of PA, and alleviate their symptoms of EE.

References

Aitken C. J. & Schloss J. A. (1994) Occupational stress and burnout amongst staff working with people with intellectual disability. *Behavioral Interventions* **9**, 225–34.

Alexander M. & Hegarty J. R. (2000) Measuring staff burnout in a community home. *The British Journal of Developmental Disabilities* **46**, 51–63.

Antony M. M., Beiling P. J., Cox B. J., Enns M. W. & Swinson R. P. (1998) Psychometric properties of the 42-item & 21-item versions of the depression anxiety stress scales in clinical groups and a community sample. *Psychological Assessment* **10**, 176–81.

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**, 1173–82.

Bourbonnais R., Comeau M. & Vezina M. (1999) Job strain and evolution of mental health among nurses. *Journal of Occupational Health Psychology* **4**, 95–107.

Bromley J. & Emerson E. (1995) Beliefs and emotional reactions of care staff working with people with challenging behavior. *Journal of Intellectual Disability Research* **39**, 341–52.

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

Chung M. C., Corbett J. & Cumella S. (1996) Relating staff burnout to clients with challenging behavior in people with a learning difficulty: pilot study 2. *European Journal of Psychiatry* **10**, 155–65.

Cropanzano R., Howes J. C., Grandey A. A. & Toth P. (1997) The relationship of organizational politics and support to work behaviors, attitudes, and stress. *Journal of Organizational Behavior* **18**, 159–80.

Day A. L. & Livingstone H. A. (2001) Chronic and acute stressors among military personnel: do coping styles buffer their negative impact on health? *Journal of Occupational Health Psychology* **6**, 348–60.

Devereux J., Hastings R. & Noone S. (2009a) Staff stress and burnout in intellectual disability services: work stress theory and its application. *Journal of Applied Research in Intellectual Disabilities* **22**, 561–73.

Devereux J. M., Hastings R. P., Noone S. J., Firth A. & Totsika V. (2009b) Social support and coping as mediators or moderators of the impact of work stressors on burnout in intellectual disability support staff. *Research in Developmental Disabilities* **30**, 367–77.

Dormann C. & Zapf D. (1999) Social support, social stressors at work, and depressive symptoms: testing for main and moderating effects with structural equations in a three-wave longitudinal study. *Journal of Applied Psychology* **84**, 874–84.

Eisenberger R. & Huntington R. (1986) Perceived organizational support. *Journal of Applied Psychology* **71**, 500–7.

Eisenberger R., Huntington R., Hutchison S. & Sowa D. (1986) Perceived organizational support. *Journal of Applied Psychology* **71**, 500–7.

Eisenberger R., Fasolo P. & Davis-LaMastro V. (1990) Perceived organizational support and employee diligence, commitment, and innovation. *Journal of Applied Psychology* **75**, 51–9.

Emerson C., Cummings R., Barrett S., Hughes H., McCool C. & Toogood A. (1988) Challenging behavior and community services: 2. who are the people who challenge services? *Mental Handicap* **16**, 16–19.

Emerson E. (2001) *Challenging Behavior: Analysis and Intervention in People with Severe Learning Disabilities*. Cambridge University Press, Cambridge.

Faul F., Erdfelder E., Lang A. G. & Buchner A. (2007) G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods* **39**, 175–91.

Folkman S., Lazarus R. S., Pimley S. & Novacek J. (1987) Age differences in stress and coping processes. *Psychology and Aging* **2**, 171–84.

Frese M. (1999) Social support as a moderator of the relationship between work stressors and psychological dysfunctioning: a longitudinal study with objective measures. *Journal of Occupational Health Psychology* **4**, 179–92.

Gibson J. A., Grey I. M. & Hastings R. P. (2009) Supervisor support as a predictor of burnout and therapeutic self-efficacy in therapists working in ABA schools. *Journal of Autism and Developmental Disorders* **39**, 1024–30.

Hastings R. P. (2002) Do challenging behaviors affect staff psychological wellbeing? Issues of causality and mechanisms. *American Journal on Mental Retardation* **107**, 455–67.

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**, 268–73.

Hatton C., Emerson E., Rivers H., Mason H., Mason L., Swarbrick R. *et al.* (1999) Factors associated with staff stress and work satisfaction in services for people with intellectual disability. *Journal of Intellectual Disability Research* **43**, 253–67.

Jenkins R., Rose J. & Lovell C. (1997) Psychological well-being of staff working with people who have challenging behavior. *Journal of Intellectual Disability Research* **41**, 502–11.

Kowalski C., Driller E., Ernstmann N., Alich S., Karbach U., Ommen O. *et al.* (2009) Associations between emotional exhaustion, social capital, workload, and latitude in decision-making among professionals working with

people with disabilities. *Research in Developmental Disabilities* **31,** 470–9. doi: 10.1016/j.ridd.2009.10.021.

Lawson D. A. & O'Brien R. M. (1994) Behavioral and self-report measures of burnout in developmental disabilities. *Journal of Organizational Behavior Management* **14,** 37–54.

Leiter M. P. (1993) Burnout as a developmental process: consideration of models. In: *Professional Burnout: Recent Developments in Theory and Research* (eds W. B. Schaufeli, C. Maslach & T. Marek), pp. 237–50. Taylor & Francis, Washington, DC.

Lovibond S. H. & Lovibond P. F. (1995) *Manual for the Depression Anxiety Stress Scales*, 2nd edn. Psychology Foundation, Sydney. ISBN 7334 1423 0.

Maslach C. (1982) *Burnout – The Cost of Caring*. Prentice-Hall, New York.

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

Maslach C., Schaufeli W. B. & Leiter M. P. (2001) Job burnout. *Annual Review of Psychology* **52,** 397–422.

Maxwell S. E. & Cole D. A. (2007) Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods* **12,** 23–44.

McFarlane Shore L. & Tetrick L. E. (1991) A construct validity study of the survey of perceived organizational support. *Journal of Applied Psychology* **76,** 637–43.

Melamed S., Shirom A., Toker S., Berliner S. & Shapira I. (2006) Burnout and risk of cardiovascular disease: evidence, possible causal paths and promising research directions. *Psychological Bulletin* **132,** 327–58.

Mitchell G. & Hastings R. P. (2001) Coping, burnout and emotion in staff working in community services for people with challenging behavior. *American Journal on Mental Retardation* **106,** 448–59.

Nieuwenhuijsen K., de Boer A. G., Verbeek J. H., Blonk R. W. & van Dijk F. J. (2003) The Depression Anxiety Stress Scales: detecting anxiety disorder & depression in employees absent from work because of mental health problems. *Occupational and Environmental Medicine* **60,** i77–82.

O'Connor B. P. (1998) All-in-one programs for exploring interactions in moderated multiple regression. *Educational and Psychological Measurement* **58,** 833–7.

Patton W. & Goddard R. (2003) Psychological distress and burnout in Australian employment service workers: two years on. *Journal of Employment Counseling* **40,** 2–16.

van der Ploeg E. & Kleber R. J. (2003) Acute and chronic job stressors among ambulance personnel: predictors of health symptoms. *Occupational and Environmental Medicine* **60,** i40–6.

Preacher K. J. & Hayes A. F. (2004) SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers* **36,** 717–31.

Robinson J. R., Clements K. & Land C. (2003) Workplace stress among psychiatric nurses. *Journal of Psychosocial Nursing and Mental Health Services* **41,** 32–44.

Rose J., Jones F. J. & Fletcher B. (1998) Investigating the relationship between stress and worker behavior. *Journal of Intellectual Disability Research* **42,** 163–72.

Russell D. W., Altmaier E. & Van Velzen D. (1987) Job-related stress, social support and burnout among classroom teachers. *Journal of Applied Psychology* **72,** 269–74.

Sarason I. G., Sarason B. R., Shearin E. H. & Pierce G. R. (1987) A brief measure of social support: practical and theoretical implications. *Journal of Social and Personal Relationships* **4,** 497–510.

Shaddock A. J., Hill M. & van Limbeek C. A. (1998) Factors associated with burnout in workers in residential facilities for people with intellectual disabilities. *Journal of Intellectual & Developmental Disability* **23,** 309–18.

Shanafelt T. D., Bradley K. A., Wipf J. E. & Back A. L. (2002) Burnout and self-reported patient care in an internal medicine residency program. *Annals of Internal Medicine* **136,** 358–67.

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,** 131–44.

SPSS (2010) *SPSS (Version 18) [Computer Program]*. SPSS Inc., Chicago, IL.

Strazdins L., D'Souza R. M., Lim L. L., Broom D. H. & Rodgers B. (2004) Job strain, job insecurity and health: rethinking the relationship. *Journal of Occupational Health Psychology* **9,** 296–305.

Vermeulen M. & Mustard C. (2000) Gender differences in job strain, social support at work and psychological distress. *Journal of Occupational Health Psychology* **5,** 428–40.

White P., Edwards N. & Townsend-White C. (2006) Stress and burnout amongst professional carers of people with intellectual disability: another health inequity. *Current Opinion in Psychiatry* **19,** 502–7.

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