



# Kent Academic Repository

**Snow, Elizabeth, Langdon, Peter E. and Reynolds, Shirley A. (2007) *Care staff attributions toward self-injurious behaviour exhibited by adults with intellectual disabilities*. *Journal of Intellectual Disabilities*, 11 (1). pp. 47-63. ISSN 1744-6295.**

## Downloaded from

<https://kar.kent.ac.uk/36142/> The University of Kent's Academic Repository KAR

## The version of record is available from

<https://doi.org/10.1177/1744629507073998>

## This document version

UNSPECIFIED

## DOI for this version

## Licence for this version

UNSPECIFIED

## Additional information

## Versions of research works

### Versions of Record

If this version is the version of record, it is the same as the published version available on the publisher's web site. Cite as the published version.

### Author Accepted Manuscripts

If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding. Cite as Surname, Initial. (Year) 'Title of article'. To be published in *Title of Journal*, Volume and issue numbers [peer-reviewed accepted version]. Available at: DOI or URL (Accessed: date).

## Enquiries

If you have questions about this document contact [ResearchSupport@kent.ac.uk](mailto:ResearchSupport@kent.ac.uk). Please include the URL of the record in KAR. If you believe that your, or a third party's rights have been compromised through this document please see our [Take Down policy](https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies) (available from <https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies>).

Snow, E., Langdon, P.E., & Reynolds S. (2007). Care staff attributions toward adults with intellectual disabilities who self-harm: Use of the Leeds Attributional Coding System. *Journal of Intellectual Disabilities*, 11, 47-63.

Care staff attributions toward self injurious behaviour exhibited by adults with intellectual disabilities.

**Elizabeth Snow**

School of Medicine, Health Policy and Practice, Institute of Health  
University of East Anglia  
&  
Older People's Mental Health Services  
Cambridge and Peterborough NHS Mental Health Partnership Trust

**Peter E Langdon\***

School of Medicine, Health Policy and Practice, Institute of Health  
University of East Anglia  
&  
Broadland Clinic Forensic Service  
Learning Difficulties Directorate  
Norwich NHS Primary Care Trust  
Little Plumstead Hospital

**Shirley Reynolds**

School of Medicine, Health Policy and Practice, Institute of Health  
University of East Anglia

\* Correspondence: Dr Peter E Langdon, Lecturer in Clinical Psychology, School of Medicine, Health Policy and Practice, University of East Anglia, Norwich, NR4 7TJ.  
Email: [P.Langdon@uea.ac.uk](mailto:P.Langdon@uea.ac.uk) WWW: <http://www.med.uea.ac.uk/psychology>

Abstract

*Background:* According to Hastings (2002), challenging behaviours may elicit negative emotional reactions within care staff which may increase staff stress. In the current study, the Leeds Attributional Coding System (LACS) was used to elicit spontaneous causal attributions of staff towards hypothetical clients with challenging behaviours. There were two hypotheses, a) that there would be a relationship between staff exposure to challenging behaviours (indexed by employment variables such as length of time working or number of clients cared for), and burnout, and b) that there would be a relationship between staff cognitions (causal attributions), and burnout.

*Method:* Using a cross-sectional correlational design, forty-one care staff took part in a ten-minute interview about two vignettes depicting self-injurious behaviour. The interviews were transcribed and coded using the Leeds Attributional Coding System. Staff also completed measures of demographic information and burnout.

*Results:* Participants made attributions toward self-injurious behaviour that were typically internal to the client, uncontrollable, unstable, and specific. There was no significant relationship between burnout and length of time having worked with people with learning disabilities. However, there was a significant association between number of clients cared for and emotional exhaustion. Staff who perceived self injurious behaviour to be unstable had higher levels of burnout, but there were no other associations between staff cognitions and burnout.

*Conclusions:* The study suggests that the LACS can be employed successfully to examine the attributions of care staff toward challenging behaviour, and this methodology may have some benefits over other methods. Some limited support was found for a relationship between cognition and staff burnout, suggesting that future research is required to further explore the relationship between cognition and burnout.

KEYWORDS: BURNOUT, LEEDS ATTRIBUTIONAL CODING SYSTEM,  
ATTRIBUTION THEORY, SELF HARM, LEARNING DISABILITIES, STAFF

Care staff attributions toward self injurious behaviour exhibited by adults with  
intellectual disabilities

It is generally accepted that challenging behaviour, such as self injurious behaviour (SIB), may provoke complex negative emotional, cognitive and behavioural responses within staff. Further, there is some evidence that staff themselves may play some role in the occurrence and maintenance of challenging behaviour. For example, Hastings & Remington (1994) argued that staff might inadvertently reinforce the occurrence of SIB by withdrawing demands if the function of the behaviour is to avoid demands. Similarly, Hall, Oliver and Murphy (2001) found that staff social interactions predicted the occurrence of SIB in children with intellectual disabilities over time.

Cognitive-behavioural theorists attempting to understand staff responses to challenging behaviour hypothesise that the behaviour of care staff is determined by their emotional responses, and their cognitions (i.e. their beliefs or perceptions) about the challenging behaviours. Some authors have attempted to use attribution theory to explain staff responses to incidents of challenging behaviour. Attribution theory, originally pioneered by Heider (1958), suggests that when a person observes an event they try to attribute responsibility, or find a cause for it. This process of attribution depends on several factors including the behaviours of the people involved in the event, the context in which the event occurred, the way in which it is perceived, and the observer's own pre-existing beliefs, characteristics and assumptions about the world. Weiner (1979) suggested that when an event is observed, people's causal explanations (or attributions) can be categorised or catalogued along 3 dimensions, *locus*, *stability*, and *controllability*. Weiner (1980) suggested that causal explanations

or attributions, together with associated emotional reactions, can determine behavioural responses. For example, the theory predicts that a staff member who attributes responsibility for an incident of challenging behaviour as internal to the client, stable and controllable by the client would experience a negative emotional reaction and therefore be less likely to offer help.

Many authors have attempted to explore the usefulness of attribution theory in understanding the behaviour of care staff in intellectual disability care settings. Hastings and colleagues (e.g. Hastings, 1996; Hastings, 1997;; Hastings, Reed & Watts, 1997; Hastings & Remington, 1994; Hastings & Remington, 1995; Hastings, Remington, and Hopper, 1995) have pioneered much of this work but not all studies support a link, as would be expected by theory, between attributions of stability and willingness to help, or between attributions of controllability and the carer's emotional response. Jones & Hastings (2003) reported that SIB attributed to external control was associated with depressive or angry emotional responses, while SIB attributed to internal control was associated with relaxed and confident emotional reactions. This is inconsistent with attribution theory, which posits that attributions of internality (control) should be associated with negative affect. Jones & Hastings (2003) suggested that this may have been because staff responses to challenging behaviour may vary depending on topography. Stanley & Standen (2000) also demonstrated that the more externalising forms of challenging behaviour (e.g. destructive behaviour) are associated with increased staff attributions of client control, negative staff affect and reduced propensity to help, while self-directed challenging behaviour (e.g. SIB) was associated with attributions of stability, positive staff affect and increased propensity to help.

Several other researchers have also explored staff reactions to challenging behaviour reporting results that offer partial support for the applicability of attribution theory to care staff responses to challenging behaviour (e.g. Cottle, Kuipers, Murphy & Oakes, 1995; Dagnan, Trower & Smith, 1998; Sharrock et al., 1990; Weigel, Langdon, Collins & O'Brien, 2006). Sharrock et al., (1990) demonstrated a positive correlation between self-reported 'optimism' about challenging behaviour and willingness to help, which was associated with attributions, but not affect, suggesting some limited utility for attribution theory as an explanatory model of professional care giving. Dagnan et al., (1998) attempted to repeat this study and demonstrated a link between negative affect, staff attributions about control, and optimism. Optimism was in turn related to helping behaviour, but they failed to find a relationship between positive affect, and optimism and helping behaviour, thus only finding some partial support for attribution theory.

Factors such as staff knowledge and experience appear to affect the utility of this theory. For example, Oliver et al., (1996) found that staff who attribute SIB to internal factors were more likely to respond in a manner that was likely to reinforce SIB. They proposed that this may be associated with lack of behavioural knowledge on part of the staff group. In another study, Hastings et al., (2003) used videos to depict challenging behaviour, and reported that staff who had more experience of working with SIB or challenging behaviour experienced less negative affect and were more likely to endorse behavioural explanations of challenging behaviour.

To complicate matters further, there are also methodological problems with these studies, especially their ecological validity. The majority of studies have attempted to manipulate variables using vignettes or hypothetical cases, so that the relationship between challenging behaviour, staff emotions and responses can be examined. This may reduce the ecological validity of the studies, and their results may not necessarily be generalisable to the 'real' world of having to respond to incidents of SIB and challenging behaviour. Other researchers have raised this concern (Grey, McClean & Barnes-Holmes, 2002). There is some evidence that staff respond differently to 'real' incidents of challenging behaviour compared to hypothetical scenarios depicted in vignettes (Lucas, Langdon, & Collins, 2004; Wanless & Jahoda, 2002). Further, the majority of studies have assessed attributions using forced choice questionnaires (e.g. Peterson et al., 1992), possibly reducing the approximation to 'real' world responses. Some authors (e.g. Joiner & Wagner, 1996) suggested using qualitative methods to capture data that is more representative of attributions and emotional experiences.

Whittington & Burns (2005) completed a qualitative study investigating the cognition and emotion of staff working with people who have intellectual disabilities and challenging behaviour. Making use of thematic analyses, they concluded that staff talked about trying to understand the causes of challenging behaviour which led to different emotional and behaviour reactions which they depicted in a model, which they acknowledge may not generalise to other settings. However, such studies appear to possess high ecological validity as the richness of the qualitative data cannot be dismissed in comparison to studies relying solely on questionnaires to assess attributions, emotions and behavioural responses.



Given the difficulties with applying attribution theory to professional care giving situations, alternative theoretical approaches to understand carer responses to working with challenging behaviour have been proposed by others (e.g. Jones & Hastings, 2003) including the Theory of Planned Behaviour (Ajzen, 1985, 1988, 1991). Hastings (2002) placed more emphasis on the role of staff negative emotional responses which he proposes to act as a mediator of staff stress and burnout. Hastings suggested that over time, having to work with challenging behaviour leads to negative emotional responses, which eventually results in burnout. There is some evidence that there may be a relationship between levels of challenging behaviour and subsequent staff burnout (Chung, Corbett & Cumella, 1996; Hastings & Brown, 2002)

There is evidence to suggest that a variety of factors may impact upon levels of staff stress within care settings for people with intellectual disabilities, and staff stress has been noted to affect both carers and people with intellectual disabilities (Rose, Jones & Fletcher, 1998a; Rose, Jones & Fletcher, 1998b). Factors such as levels of challenging behaviour (Bromley & Emerson, 1995; Hatton, Brown, Caine & Emerson, 1995; Jenkins, Rose & Lovell, 1997), social support and organisational support, (Alexander & Hegarty, 2000; Ford & Honnor, 2000; Hatton & Emerson, 1993; Stenfert Kroese & Fleming, 1992), along with a variety of organisational and work related factors, have been shown to be related to levels of staff stress (Bersani & Heifetz, 1987; Hatton & Emerson, 1993; Power & Sharpe, 1988; Rose & Schelewa-Davies, 1997).

However, the relationship between levels of burnout and stress, in addition to being mediated by emotional responses, as suggested by Hastings (2002), is also potentially affected by cognitive variables, and there is some evidence that cognitive variables, such as self-efficacy are related to emotional reactions when working with challenging behaviour (Hastings & Brown, 2002). However, not all studies have reported a relationship between cognition and burnout amongst care staff. Todd & Watts (2005) investigated the utility of attribution theory in predicting staff responses to clients with dementia and failed to find a relationship between attributions and helping behaviour in the predicted direction, although emotions were associated with helping behaviour. They also did not find a relationship between attributions and burnout, but they found a relationship between burnout and willingness to help, along with a relationship between emotional responses and burnout (Todd & Watts, 2005).

Given this, the present study was conducted to examine relationships between cognitive variables (specifically causal attributions) and burnout. There were two hypotheses, a) that there would be a relationship between staff demographic information, such as length of time working or number of clients cared for, and burnout, and b) there would be a relationship between carer's causal attributions and burnout. Additionally, we aimed to investigate the causal attributions of care staff toward self-injurious behaviour exhibited by adults with mild intellectual disabilities using the Leeds Attributional Coding System, a methodology that has been rarely used in this area.

## Method

### *Participants*

Forty-one ( $M$  Age=36.9,  $SD$ =10.31) direct care staff (qualified and unqualified nurses) were recruited from inpatient services for people with intellectual disabilities throughout East Anglia in the United Kingdom. All participants had experience of working within adult intellectual disability services and had current experience of working with self-injurious behaviour.

### *Design and Procedure*

The study made use of a cross-sectional correlational design. Participants completed a demographic questionnaire, the Maslach Burnout Inventory (Maslach & Jackson, 1986), read two vignettes (administered in random order) which depicted people with intellectual disabilities engaging in self-harm, and took part in a 10 minute semi-structured interview about the causes of SIB. All staff were interviewed within a quiet room within their workplace.

### Measures

#### Demographic Questionnaire

Participants were asked to complete a demographic questionnaire constructed purposely for the present study. Data regarding how long participants had been working in intellectual disability services, their qualifications, age, and experience of working with challenging behaviour were obtained.

#### Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986)

The MBI is constructed of three scales, a) emotional exhaustion, b) depersonalisation, and c) personal accomplishment, **which are not collapsed into a single score, but separately represent aspects of burnout being experienced by a respondent.** All three scales are scored in the same direction such that higher scores indicate more 'burnout'. This is potentially confusing for some, as higher scores on the personal accomplishment scale represent lower personal accomplishment, while higher scores on the other two scales represent more of the presence of the construct within an individual. **Staff within the study completed the MBI before they took part in the semi-structured interview.**

The MBI has good reliability (Maslach & Jackson, 1996), and adequate test-retest reliability (Jackson, Schwab & Schuler, 1986). Hastings, Horne & Mitchell (2004) have reported that this questionnaire a reliable and valid instrument for use with staff working in intellectual disabilities settings.

#### Leeds Attributional Coding System (Stratton et al., 1988)

Participants took part in a semi-structured interview after reading two vignettes depicting incidents of SIB (Appendix One). The interview was transcribed and coded using the methodology outlined by Stratton et al., (1988). The Leeds Attributional Coding System (LACS) provides a framework for identifying attributional beliefs in verbal material and for coding these attributions as binary data on five categories, a) Internal-External, b) Personal-Universal, c) Controllable-Uncontrollable, d) Stable-Unstable, and e) Global-Specific (see Table 1 for definitions). **Binary refers to whether or**

not the attribution belongs to a category or not. The number of attribution statements made by each participant was recorded and each statement was rated on the five categories.

(TABLE 1 ABOUT HERE)

The LACS is thought to have higher validity than some forced choice questionnaires as the ratings are performed on the actual speech used by the participants allowing for the collection data which is more complex and representative of staff attributions.

Inter-rater reliability was established by another blind rater using a random sample of 25% of the interviews. Kappa scores for each of the dimensions were established as follows, a) Internal-External  $k=0.82$ , b) Personal-Universal  $k=0.66$ , c) Controllable-Uncontrollable  $k=0.58$ , d) Stable-Unstable  $k=0.74$ , and e) Global-Specific  $k=0.79$ . The Kappa scores demonstrated that inter-rater reliability ranged from moderate to excellent.

### Vignettes

To develop the vignettes a questionnaire describing six forms of SIB was devised and given to 30 care staff working within inpatient services for people with intellectual disabilities. Staff were asked to indicate which types of SIB they had encountered as part of their work in order to identify the most frequent types of self harm that were occurring. The two most frequent reported by staff were head banging and skin picking/scratching.

Subsequently, two vignettes were developed and used as part of the current study. Both were administered to participants in a random order.

### *Statistical Analysis*

The number of attributions on each of the 5 binary categories in the LACS were compared using the Wilcoxon Sign Ranked Test given the related nature of the data points. As the data generated using the LACS is a frequency count of the number of times different attributions are coded into a particular attribution category, the relationship between attributions and burnout was examined using Spearman rho correlations. The relationships between staff demographic variables, attributions, and burnout were also explored using Spearman rho correlations.

### *Ethical Opinion*

This study received a favourable ethical opinion from the Norwich, Cambridge, West Suffolk, and Huntingdon Local Research Ethics Committees.

## Results

### *Descriptive Data*

The mean length of time participants reported having worked with people with intellectual disabilities was  $M=117.15$  months ( $SD=83.32$ ). Participants also reported that they had worked in their current post for  $M=44.52$  months ( $SD=48.10$ ) and had worked with people with intellectual disabilities who self-injure for  $M=82.29$  months ( $SD=82.64$ ). Participants currently provided care for  $M=2.20$  clients ( $SD=2.70$ ) who engage in SIB and had witnessed  $M=4.701$  incidents ( $SD=12.33$ ) over the last week.

A total of 440 attribution statements were extracted from the 41 ten minute semi-structured interviews. Staff members made an average of 10 spontaneous attributional statements about the incidents of self injury presented in the vignettes. As Table 2 shows, staff made significantly more internal, unstable, specific and uncontrollable attributions than external, controllable, stable and global attributions. Examples of some of the extracted attributions and their coding are shown in Table 3 and demonstrate that a single attributional statement can be coded more than once. The majority of the participants attributed SIB as internal and specific, with some participants suggesting the behaviour was an attempt to gain access to attention.

(Table 2 about here)

(Table 3 about here)

Descriptive data for the Maslach Burnout Inventory from the manual suggests that this sample of care staff were reporting ‘moderate’ levels of emotional exhaustion ( $M=18.73$ ,  $SD=10.63$ ), ‘low’ levels of depersonalisation ( $M=6.24$ ,  $SD=5.21$ ), and ‘high’ levels of personal accomplishment ( $M=8.17$ ,  $SD=5.34$ ). Together, these results suggest that the sample of participants were experiencing mild levels of burnout (Maslach & Jackson, 1996).

#### *Relationship between Demographics and Burnout*

Initial exploration of the relationship between the demographic data, and burnout revealed there was no significant relationship between age and emotional exhaustion, depersonalisation, or personal accomplishment (Table 4). There was also no significant relationship between length of time working with adults with intellectual disabilities and emotional exhaustion, depersonalisation or personal accomplishment, nor was there a significant relationship between length of time working with clients who engaged in SIB and emotional exhaustion, depersonalisation or personal accomplishment (Table 4).

In support of Hastings' model there was a significant positive correlation between the number of clients cared for, and two aspects of burnout; emotional exhaustion and personal accomplishment (Table 4). There was no significant association between number of clients cared for and depersonalisation (Table 4).

#### *Relationship between Demographic Data and Causal Attributions*

There was a correlation between length of time having worked with SIB and some causal attributions. Staff who had worked longer with SIB tended to make significantly more attributions in total along with significantly more internal and unstable attributions regarding SIB (Table 4). There was no relationship between age, or length of time having worked with people who have intellectual disabilities and causal attributions.

(Table 4 about here)

#### *Causal Attributions & Burnout*



Correlations between the scales of the Maslach Burnout Inventory and the attribution dimensions were examined. There were significant positive correlations between the Maslach Burnout Inventory sub-scales which would be expected (Table 4). There was a significant negative correlation between the frequency of stable attributions and emotional exhaustion (Table 4), suggesting that staff who reported higher levels of emotional exhaustion scores made fewer stable attributions for self injurious behaviours. None of the remaining correlations reached statistical significance (Table 4).

### *Discussion*

The results of the current study suggest that staff made causal attributions about SIB that were internal, uncontrollable, unstable and specific. **This means that staff tended to believe that SIB is being caused by factors that originate from within the individual, but beyond the control of the individual. Staff also tended to believe that SIB was caused by factors that are short-term and transitory, and specific; that is, causes which affect a specific outcome.**

Staff appeared to be experiencing moderate levels of emotional exhaustion, low levels of depersonalisation, and high levels of personal accomplishment. There was a positive relationship between emotional exhaustion and personal accomplishment and the number of clients who engaged in SIB. There was no relationship between burnout and other demographic variables such as age, or length of time having worked with people who have intellectual disabilities. Only one significant relationship between burnout and causal attributions was found; emotional exhaustion was associated with making few stable attributions about self injurious behaviour.

The lack of other significant relationships between attributions and burnout may be related to the finding that this sample of staff were not experiencing high levels of burnout. Additionally, this finding may relate to the use of vignettes within the current study which have been suggested by other authors to lack validity and contextual information (Grey et al., 2002; Weigel et al., 2006), while others have demonstrated that there are differences in staff responses to “real” incidents of challenging behaviour in comparison to vignettes depicting challenging behaviour (Lucas et al., 2004; Wanless & Jahoda, 2002).

Hastings (2002) has proposed that burnout or stress amongst care staff may develop as a consequence of having the negative emotional reactions which arise from work with challenging behaviour over a long period of time. However, in this study there was no evidence of a relationship between burnout and the duration of time carers had been working with clients who self injure. Additionally, there was no association between self-reported incidents of SIB experienced each week and burnout, which is counter to the suggestion of Hastings (2002). However, staff members were asked to self-report the frequency of SIB witnessed, and this data may not be entirely reliable.

There was limited evidence that workload may be associated with burnout, in that carers who worked with more clients with SIB tended to report higher levels of emotional exhaustion. It would seem likely that as number of clients cared for increased, exposure to challenging behaviour increases, therefore leading to an increase in burnout and stress. Workload, rather than experience of SIB, may be the main precursor of burnout, as staff resources are spread more thinly with increased caseloads. This may be representative of organisational issues within services.

The attributions extracted using the LACS in the current study are similar to that of Jones & Hastings (2003) who also reported staff making internal causal attributions regarding SIB which was associated with positive affect. As these results are not consistent with attribution theory, Jones & Hastings (2003) suggested that attributions may be topography specific. Staff in their study made internal attributions regarding SIB, as did the participants in the current study, as the opposite, external causal attributions, may mean that external factors, including staff themselves may be causing the SIB.

Cognitive-behavioural models broadly hypothesise that there is a relationship between cognitive events, emotion and behavioural responses. In relation to challenging behaviour, these relationships may not always be in the direction hypothesised by attribution theory, but a relationship between cognition, affect and behaviour does appear to exist. Hastings (2002) proposed that repeated exposure to challenging behaviour may lead to an increase in burnout over time, and that this is mediated by emotion. However, cognitive variables, including causal attributions, are likely to play a part in this relationship. The results of the current study demonstrated a negative association between emotional exhaustion and attributions of stability, that is, higher emotional exhaustion scores were associated with fewer attributions that the cause of the SIB is stable. An attribution that behaviour is not stable, may imply unpredictability. It may be that this unpredictability is associated with the development of learned helplessness (Peterson et al., 1993) and the subsequent development of emotional exhaustion and subsequent feelings of burnout.

A significant strength of the current study is the use of the LACS as a means to extract spontaneous staff attributions. The main benefit of this methodology is that it allows researchers to avoid the use of forced choice questionnaires, and code the speech of participants. The LACS has high face validity and may have high content validity, thus resulting in data that is more accurate in terms of the attributions that staff make toward challenging behaviour. The LACS has been rarely used to examine the attributions that staff make toward challenging behaviour exhibited by people with intellectual disabilities, and the authors know of only one other study (Noone, Jones, & Hastings, In Press).

The study also has several weaknesses. First, the use of vignettes to elicit attributions may be flawed, and **this has implications for the validity of the findings**. Recently Wanless & Jahoda, (2003) and Lucas, Langdon & Collins, (2004) compared attributions elicited by vignettes and those elicited from the discussion of real incidents of challenging behaviour. In both studies, there were **differences in the strength of the emotions** and attributions reported by staff when using the different methods.

A second concern is that the current study did not examine staff emotional responses or their willingness to help. Closer examination of these variables would have allowed us to comment further on how our findings compare to other studies that have investigated staff responses to SIB. Finally, the use of a correlational design in the current study, and indeed in the majority of studies in this area, limits the inferences we can draw from the data. **No conclusions about the causal relationship between attributions and burnout can be drawn, and other factors are known to contribute to**

the development of burnout (Alexander & Hegarty, 2000; Bersani & Heifetz, 1987; Bromley & Emerson, 1995; Ford & Honnor, 2000; Hatton, Brown, Caine & Emerson, 1995; Hatton & Emerson, 1993; Jenkins, Rose & Lovell, 1997; Power & Sharpe, 1988; Rose & Schelewa-Davies, 1997; Stenfert Kroese & Fleming, 1992). Well designed longitudinal studies are required to allow inferences to be made about causal relationships between cognition, emotion and behaviour.

We have demonstrated that the LACS can be employed successfully to examine the causal attributions staff make toward challenging behaviours exhibited by people with learning disabilities. Attribution theory cannot be applied in a straightforward manner to help predict staff responses to SIB, and modifications to the model, or alternative theories may have to be considered. This study, similarly to other studies investigating SIB, suggests that staff attribute SIB to internal causes, and there would appear to be a degree on consensus regarding this emerging within the literature. Additionally, there appears to be a relationship between staff burnout and attributions of stability, which offers some limited support of a relationship between cognition and burnout, **although there is no evidence to support a causal relationship**. Further relationships between cognition and burnout may not have been detected within this study as this staff group were not reporting experiencing high levels of burnout.

References

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

Ajzen, I. (1985). From intentions to action: A theory of planned behaviour. In J. Kuhl & J. Beckman (Eds.), *Action control: From cognitions to behaviours* (pp. 11-39). New York: Springer.

Ajzen, I. (1988). *Attitude, personality and behaviour*. Milton Keynes: Open University Press.

Ajzen, I. (1991). The theory of planned behaviour. *Organisation, Behaviour and Human Decision Processes*, 50, 179-211.

Bersani H.A. & Heifetz, L.A. (1987). Perceived stress and satisfaction of direct-care staff members in community residence for mentally retarded adults. *American Journal of Mental Deficiency*, 90, 289-295.

Bromley, J. & Emerson, E. (1995). Beliefs and emotional reactions of care staff working with people with challenging behaviour. *Journal of Intellectual Disability Research*, 39, 341-342.

Brunswik, E. (1956). *Perception and the Representative Design of Psychological Experiments (Second Edition)*. Berkeley, CA: University of California Press.

Cottle, M., Kuipers, L., Murphy, G., & Oakes, P. (1995). Expressed emotion, attributions and coping in staff who have been victims of violent incidents. *Mental Handicap Research*, 8, 168-183.

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.

Fenwick, A. (1995). On attribution theory: challenging behaviour and staff beliefs. *Clinical Psychology Forum*, May, 29 – 32.

Ford, J. & Honnor, J. (2000). Job satisfaction of community residential staff serving individuals with severe intellectual disabilities. *Journal of Intellectual and Developmental Disability*, 25, 343-362.

Grey, I.M., McClean, B., & Barnes-Holmes, D. (2002). Staff attributions about the causes of challenging behaviours: Effects of longitudinal training in multi-element behaviour support. *Journal of Learning Disabilities*, 6(3), 297-312.

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

Hastings, R.P. (1997a). Measuring staff perceptions of challenging behaviour: the Challenging Behaviour Attributions Scale (CHABA). *Journal of Intellectual Disability Research*, 41, 495 – 501.

Hastings, R.P. (1996a). Staff strategies and explanations for intervening with challenging behaviours. *Journal of Intellectual Disability Research*, 40, 166-175.

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, 268-273.

Hastings, R.P., Reed, T.S., & Watts, M.J. (1997). Community staff causal attributions about challenging behaviour in people with learning disabilities. *Journal of Research in Intellectual Disabilities*, 10, 238-249.

Hastings, R. & Remington, B. (1994). Staff behaviour and its implications for people with learning disabilities and challenging behaviours. *Journal of Clinical Psychology*, 33, 424 – 438.

Hastings, R.P. & Remington, B. (1995). The emotional dimension of working with challenging behaviour. *Clinical Psychology Forum*, 79, 11-16.

Hastings, R.P., Remington, B., & Hopper, G.M. (1995). Experienced and inexperienced health care workers' beliefs about challenging behaviours. *Journal of Intellectual Disability Research*, 39, 474-483.



Hastings, R. P., Tombs, A. K., Monzani, L. C. & Boulton, H. V. (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., Brown, R., Caine, A & Emerson, E. (1995). Stressors, coping strategies and stress related outcomes among direct care staff in staffed houses for people with learning disabilities. *Mental Handicap Research*, 8, 252-271.

Hatton, C. & Emerson, E. (1993). Organisational predictors of staff stress, satisfaction, and intended staff turnover in a service for people with multiple disabilities. *Mental Retardation Research*, 31, 388-395.

Heider, F. (1958). *The Psychology of Interpersonal Relations*. Oxford, England: Wiley & Sons Ltd.

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

Jackson, S. E., Schwab, R. L. & Schuler, R. S. (1986). Toward an understanding of the burnout phenomenon. *Journal of Applied Psychology*, 71, 630 – 640.

Jenkins, R., Rose, J. & Lovell, C. (1997). The psychological well-being of staff working with people who have challenging behaviour. *Journal of Intellectual Disability Research*, 41, 502-511.

Joiner, T. & Wagner, K. (1996). Parental child centred attributions and outcome: a meta-analytic review with conceptual and methodological implications. *Journal of Abnormal Child Psychology*, 24, 37 – 54.

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 (2), 189 – 203.

Lucas, V., Langdon, P.E. & Collins, S. (2004). *The attributions of teaching staff toward challenging behaviour exhibited by children with intellectual disabilities: A comparison of attributions elicited using real incidents of challenging behaviour and vignettes*. Paper presented at the 4<sup>th</sup> Seattle Club Meeting, Cambridge.

Maslach, C. & Jackson, S. E. (1986). *Maslach Burnout Inventory Manual, Second Edition*. Palo Alto, California: Consultant Psychological Press.

Maslach, C. & Jackson, S. E. (1996). *Maslach Burnout Inventory Manual, Third Edition*. Palo Alto, California: Consultant Psychological Press.

Mitchell, G. & Hastings, R. (1998). Learning disability care staff emotional reactions to aggressive challenging behaviours: development of a measurement tool. *British Journal of Clinical Psychology*, 37, 441 – 449.

Noone, S.J., Jones, R.S.P. & Hastings, R.P. (In Press). Care staff attributions about challenging behaviours in adults with intellectual disabilities. *Research in Developmental Disabilities*.

Oliver, C., Hall, S., Hales, J. & Head, D. (1996). Self-injurious behaviour and people with intellectual disabilities: assessing the behavioural knowledge and causal explanations of care staff. *Journal of Applied Research in Intellectual Disabilities*, 9 (3), 229 – 239.

Peterson, C., Semmel, A., Bayer, C., Abramson, L.Y., Metalsky, G.I., & Seligman, M.E.P. (1982). The attribution style questionnaire. *Cognitive Therapy and Research*, 6, 287.

Peterson, C., Maier, S., & Seligman, M.E.P. (1993). *Learned Helplessness: A Theory for the Age of Personal Control*. New York: Oxford University Press.

Power, K. & Sharpe, G. (1988). A comparison of sources of nursing stress and job satisfaction among mental handicap and hospice nursing staff. *Journal of Advanced Nursing*, 13, 726-736.

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

Rose, J., Jones, F. & Fletcher, B. (1998b). Stress management: The impact of an organisation intervention on staff well-being and performance at work. *Work and Stress*, 12, 112-124.

Rose, J. & Schelewa-Davies, D. (1997). The relationship between staff stress and team climate in residential services. *Journal of Learning Disabilities for Nursing, Health and Social Care*, 1, 19-24.

Sharrock, R., Day, A., Qazi, F., & Brewin, C. (1990). Explanations by professional care staff, optimism and helping behaviour: an application of attribution theory. *Psychological Bulletin*, 20, 849-855.

Stenfert Kroese, K.B. & Fleming, I. (1992). Staff's attitudes and working conditions in community-based group homes of people with mental handicaps. *Mental Handicap Research*, 5, 82-91.

Stanley, B. & Standen, P.J. (2000). Carers' attributions for challenging behaviour.

*British Journal of Clinical Psychology*, 39, 157-168.

Stratton, P., Munton, A. G., Hanks, H. G. I., Heard, D. & Davidson, C. (1988). *Leeds Attributional Coding System Manual*. Leeds: Leeds Family Therapy and Research Centre.

Tynan, H. & Allen, D. (2002). The impact of service user cognitive level of 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, 507-516.

Weigal, L., Langdon, P.E., Collins, S. & O'Brien, Y. (2006). Challenging behaviour and learning disabilities: The relationship between expressed emotion and staff attributions. *British Journal of Clinical Psychology*, 45, 205-216.

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

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

Weiner, B. (1985). An attribution theory of achievement, motivation, and emotion. *Psychological Review*, 92, 548-573.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. Springer: New York.

Weiner, B. (1993). On sin and sickness: A theory of perceived responsibility and social motivation. *American Psychologist*, 48, 957-965.

**Table 1:** Definitions of the Dimensions Rated using the Leeds Attributional Coding

System

<b>Dimension</b>	<b>Definition</b>
Internal-External	Internal causes are factors that originate from within the individual, such as a person’s emotions, beliefs, or personality characteristics. External causes are factors that originate within the environment, or as a result of circumstance, or as a result of the actions of other people (e.g. a family member failing to visit).
Personal-Universal	Personal factors must demonstrate that there is something special, unique or different about the agent or the target of the attribution (E.g. the person has difficulty making friends, they experience side effects of medication, they are experiencing a certain emotion). References to unique and unusual characteristics are coded as Universal (e.g. personal trauma, not having enough stimulation)
Controllable-Uncontrollable	The attribution is coded as controllable only when the person could have realistically affected the outcome. Attributions are rated Controllable when there is an indication that the person has chosen to act in a particular way. When a behaviour is thought to have been carried out due to factors that are beyond the person’s control, the attribution is rated as Uncontrollable.
Stable-Unstable	This dimension is applied to the cause element of attributions as to whether the cause of the outcome was due to Stable or Unstable factors. Stable factors are things that are unchanging about a person or set of circumstances, or factors that will continue to affect future outcomes (e.g. something that had happened in the past, or having a communication problem). Unstable factors are short term or transitory (e.g. being frustrated or bored).
Global-Specific	This dimension is applied to the cause element of attributions as to whether the cause of the outcome was due to Global or Specific factors. Global causes are coded when causes are likely to have an affect on more than one outcome (E.g. being bored, having a poor relationship with the members of the group home). Specific causes are things that affect one particular or specific outcome (e.g. having eczema).

Table 2: Frequency of attributions coded for each binary pole of the five dimensions examined by the Leeds Attributional Coding System.

<b>Dimension</b>	<b>Total Frequency</b>	<b>Percent</b>	<b>Wilcoxon Signed Rank Test (Z= ) and p=</b>
Internal	335	76.14	-5.25, p=0.000**
External	105	23.86	
Personal	201	45.68	-1.36, p=0.175
Universal	239	54.32	
Controllable	172	39.09	-2.88, p=0.004**
Uncontrollable	268	60.91	
Stable	79	17.95	-5.35, p=0.000**
Unstable	361	82.05	
Global	179	40.68	-2.09, p=0.037*
Specific	261	59.32	

\*p<0.05

\*\*p<0.01



Table 3: Examples of the statements extracted using the Leeds Attributional Coding System and the subsequent coding.

<b>Statement</b>	<b>Coding</b>
Sometimes I think when they do that they <u>need attention</u> .	Unstable, Specific, Internal, Universal, Controllable
She lives in a group home of females and sometimes <u>she wants a one-to-one relationship</u> and because she is not getting that she tends to do that. She does it to get <u>attention</u> .	Unstable, Specific, Internal, Personal, Controllable Unstable, Specific, Internal, Universal, Controllable
Because of frustration because of the way she is, <u>maybe she has got a bad past experience</u> , something happened to her whilst she was young...may be family, friends, anything at all It may allow her to <u>reflect</u>	Stable, Global, Internal, Universal, Uncontrollable Unstable, Specific, Internal, Universal, Controllable
<u>She thinks she has not got anything left in her life</u> so she thinks may be either end her life or injure herself.	Stable, Global, Internal, Personal, Controllable

Attributions toward self-injurious behaviour

	EE	D	PA	Age	Length of Time Working in ID Services	Length of Time Working with SIB	Number of Clients with SIB
EE		0.48**	0.39*	-0.17	-0.16	-0.09	0.32*
D			0.38*	-0.25	-0.03	-0.05)	0.23
PA				-0.16	-0.06	-0.08	0.36*
Internal	-0.07	0.02	-0.11	0.14	0.26	0.40**	0.19
External	0.03	-0.03	-0.10	0.04	-0.07	0.10	0.08
Personal	-0.16	0.14	-0.10	-0.13	-0.04	0.12	0.07
Universal	0.15	-0.11	0.12	0.14	0.17	0.27	0.25
Controllable	0.21	0.08	0.10	0.09	0.07	0.23	0.19
Uncontrollable	-0.19	-0.09	-0.12	0.19	0.15	0.28	-0.005
Stable	-0.30*	-0.04	0.02	-0.02	0.02	-0.17	-0.04
Unstable	0.06	-0.02	-0.01	0.12	0.10	0.35*	0.18
Global	-0.22	0.15	0.01	0.16	-0.04	0.04	0.02
Specific	0.15	-0.14	0.02	-0.03	0.15	0.31	0.15
Total	-0.04	-0.02	-0.01	-0.02	0.16	0.35*	0.18
Age					0.48**	0.45**	-0.42**
Length of Time Working in ID Services						0.76**	-0.29
Length of Time Working with SIB							-0.11

**Table 4:** Spearman's rank correlations of the number and type of attributions coded by the Leeds Attribution Coding System, the scales of the Maslach Burnout Inventory, and demographic variables. (\* $p \leq 0.05$  (Two Tailed); \*\* $p \leq 0.01$  (Two Tailed);  $N=41$ ; EE=Emotional Exhaustion; D=Depersonalisation; PA=Personal Accomplishment).

Appendix One: Vignettes presented to participants.

Vignette One

Jenny is 27 years old and has a mild learning disability. She lives in a community group home with four other females. Jenny is able to eat, wash, dress and toilet herself and carries out domestic chores around the group home. She does office work experience two mornings a week. She is able to read and write but is slow at doing so. She has made one friend at work. Jenny scratches and picks at her arms and legs on a daily basis. Her scratching and picking damages her skin and it often leads to infection. She can injure herself up to an hour at a time.

- Vignette Two

Sarah is 50 years of age. She has a mild learning disability and lives in a community group home with three other women. Sarah is able to hold conversations and is able to wash, dress and toilet herself. She has difficulty reading and writing. She has two close friends but it takes her a long time to develop friendships as she has poor social skills. Staff have noticed Sarah sitting on the floor and banging her head against the wall. She does this with significant force and this behaviour can last for up to half an hour, three times a day.