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Challenging behaviour and learning disabilities: The relationship between expressed emotion and staff attributions

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Challenging behaviour and learning disabilities: The relationship between
expressed emotion and staff attributions

Abstract

Objectives. Expressed emotion (EE) and attributions toward challenging behaviour (CB) were explored amongst a group of staff working within a residential and day service placement for people with learning disabilities.

Design. Using a cross-sectional related-samples design, EE and attributions were measured amongst all staff working with one client with CB, and one client without CB.

Methods. Fifteen staff members completed the attributional questionnaire and the five-minute speech sample (FMSS) to allow for EE ratings concerning staff relationships with two clients. One client exhibited CB, while the other did not, giving two samples. Attributional and EE ratings for each group were compared. This study did not employ vignette methodology.

Results. Staff working with a client with learning disabilities and CB attributed the CB as internal to the client and controllable by the client. Staff reported high levels of EE and made more critical comments toward the client with CB as

compared to the client without CB. Furthermore, staff who reported high EE attributed CB as internal to the client and controllable by the client.

Conclusions.

Staff working with a client with challenging behaviour appeared to be making the “fundamental attribution error”. The relationship between expressed emotion and attribution theory is discussed along with the methodological benefits of *not* relying on vignette methodology in research that examines challenging behaviour.

KEYWORDS: EXPRESSED EMOTION; ATTRIBUTION THEORY;
CHALLENGING BEHAVIOUR; LEARNING DISABILITIES;
INTELLECTUAL DISABILITIES; VIGNETTE METHODOLOGY

Introduction

Attribution theory is described as a process whereby people search for causal attributions concerning events that provoke emotion along the dimensions of locus, stability and controllability (Heider, 1958). These attributions may influence expectations, behaviour, and emotional responses, but may also be riddled with errors and biases (Heider, 1958). Errors, such as the ‘fundamental attributional error,’ occur when behaviour is attributed to internal and enduring states, such as personality variables, rather than environmental influences that may actually be producing the behaviour (Heider, 1958). Attribution theory has been furthered through the development of a theory of motivation and emotion which has been applied to aid our understanding of helping behaviour (Weiner, 1980; 1985; 1986), such that the emotions and cognitions experienced by carers as a result of interaction with clients within caring environments may impact the responses these carers have towards their clients.

Given the potential utility of Weiner’s (1980; 1985; 1986) work in our understanding of helping behaviour, researchers have attempted to use this theory to aid our understanding of staff behaviour, emotions, and reactions to various types of challenging behaviour (CB) exhibited by people with learning disabilities (Cottle, Kuipers, Murphy & Oakes, 1995; Dagnan, Trower & Smith, 1998;

Fenwick, 1995; Hastings, 1996a; Hastings, 1996b; Hastings, 1997a; Hastings, 1997b; Hastings, 1997c; Hastings, Reed & Watts, 1997; Hastings & Remington, 1994; Hastings & Remington, 1995; Hastings, Remington, and Hopper, 1995; Hill & Dagnan, 2002; Mitchell & Hastings, 2001; Oliver, Hall, Hales, & Head, 1996; Stanley & Standen, 2000).

Clearly, this line of research is important given that working with CB can provoke a variety of emotions including sadness, anger, fear and disgust (Bromley & Emerson, 1995) and impact levels of stress and burnout amongst staff groups (Bersani & Heifetz, 1985; Mitchell & Hastings, 2001). Given the emotional reactions staff have in response to working with CB, the attributions they make concerning this behaviour would be of interest, and some have suggested that attributions may lead to inconsistent care, or even maintain CB (Dunne, 1994), and hence impact intervention.

Previous studies, although not always supportive of the utility of attribution theory in understanding staff responses to CB, have reported that staff may attribute CB to internal and controllable aetiologies (Cottle, Kuipers, Murphy & Oakes, 1995; Dagnan, Trower & Smith, 1998; Sharrock, Day, Qazi & Brewin, 1990). As such, staff may be making the ‘fundamental attributional error’ described by Heider (1958). Importantly, when such an attributional style is

apparent, staff may be less willing to provide help to the client, suggesting a deleterious effect of such attributions on treatment provision (Dagnan *et al.*, 1998; Sharrock *et al.*, 1990). Indeed, it has been reported that staff who attribute CB to unstable, external, and uncontrollable aetiologies were reported to be more willing to help clients with CB (Sharrock *et al.*, 1990).

Another area of inquiry that is potentially related, but has received little attention within the learning disabilities literature, is expressed emotion (EE). This is surprising given the wealth of literature demonstrating a relationship between EE and outcome in psychosis (Kavanagh, 1992; Bebbington & Kuipers, 1994; Butzlaff & Hooley, 1998) and a variety of other illnesses, including depression (Hooley, Orley & Teasdale, 1986; Vaughn & Leff, 1976), bipolar disorder (Miklowitz, Goldstein, Nuechterlein, Synder & Mintz, 1988; Priebe, Wildgrube & Muller-Orlinghausen, 1989), and eating disorders (Szmukler, Eisler, Russell & Dare, 1985).

There is also a body of literature that suggests there may be a link between the behaviour of clients and EE and this has been demonstrated amongst children with behavioural disorders. For example, several authors have suggested a relationship between maternal levels of critical comments, positive remarks or warmth, and externalising behaviour (Hirshfeld, Biederman, Brody, Faraone &

Rosenbaum, 1997; McCarty & Weisz, 2002; McCarty, Lau, Valeri & Weisz, 2004; Vostanis & Nicholls, 1995; Vostanis, Nicholls, & Harrington, 1994). Recently, Caspi et al., (2004) conducted a large study of monozygotic twins where they suggested that twins who received more negative maternal emotion, as compared to their counterpart twin, who received more warmth, were more likely to display antisocial behaviour, suggestive of a relationship between expressed emotion and externalising behaviour. Further still, McCarty et al., (2004) have reported that parents who report a higher number of critical comments behave differently toward their children as compared to parents who score low, in that they are less responsive, and more antagonistic and negative towards their child. This study is potentially important as it lends weight to the validity of EE as a measure of the interaction which occurs between members of a family.

Although there has previous been a focus on carer behaviour and attributions towards people with learning disabilities and how this may impact levels of challenging behaviour, there have been very few studies using learning disabled participants and measures of EE. One study reported that staff who work with clients who have learning disabilities report higher levels of EE following a violent incident and attribute CB as internal to the client, although this study also made use of participants in mental health settings (Cottle *et al.*, 1995). Van Humbeeck *et al.*, (2003) measured EE amongst carers of people with moderate to

severe learning disabilities and found that 31% of the carers were classed as high EE, and that there was no relationship between EE and the Perceived Criticism Scale, while Greedharry (1987) conducted a small pilot study with carers of people with learning disabilities and suggested that levels of EE were similar to other carer groups. Others have examined EE amongst carers of children with learning disabilities and reported that 62% of the participants lived in high EE environments, with carers who reported high EE also reporting elevated stress and less social support (Lam, Giles & Lavander, 2003).

Theoretical considerations of EE have examined the utility of attribution theory in understanding the development and effects that EE has on illness and behaviour. For example, Brewin, MacCarthy, Duda & Vaughn (1991) in a study that did not include participants with learning disabilities reported that the perception of psychosis-related symptoms as internal and controllable was associated with a higher number of critical comments and a higher level of hostility, thus lending some support to attribution theory to aid our theoretical understanding of EE. Barrowclough & Hooley (2003) recently reviewed the literature pertaining to attribution theory and measures of EE. Hooley (1985; 1987) has previously published an attributional model of EE, and within their review conclude that there is some evidence to support Hooley's (1985; 1987) model, but conclusions are limited by the cross sectional and correlational nature of previous studies.

Given that within the learning disabilities literature there is a recognition that attribution theory is of relevance to helping understand staff reactions to difficult or challenging behaviour, while attribution theory has been used to help theoretically explain what EE is potentially measuring, it is surprising that there are so few studies to have used an EE methodology.

There is a literature that examines staff reactions to challenging behaviour exhibited by people with learning disabilities, which has taken attribution theory as its theoretical foundation to explain helping behaviour. Other literature has shown that characteristics of families and carers, as measured by EE, impacts illness relapse and the development of problematic behaviour amongst children, and some studies have demonstrated that the measure of EE may reflect carer/parental behaviour. Attribution theory has been put forward as one theory to help understand how EE is related to carer behaviour, and as already pointed out in the literature, there are relationships between the measure of EE and measures of attributions. However, none of this work has taken place with people with learning disabilities who display challenging behaviour.

Given this, it was decided to explore the relationship between attributions made by staff toward clients with learning disabilities with and without CB using a modified version of the attributional questionnaire (Peterson, Semmel, Bayer,

Abramson, Metalsky & Seligman, 1982) and a measure of EE. Staff employed within a residential and day service facility for persons with learning disabilities were recruited and completed the measures with respect to one client who displayed CB, and another who did not display CB. The specific aims of the current study were, 1) to compare the attributions staff made toward a client with and without CB, 2) to compare the EE measures with respect to a client with and without CB, and 3) to investigate associations between attributions and EE.

Method

Participants

A total of 15 staff members working with people who have learning disabilities took part in the study. Eight participants were staff members employed to work in a group home catering for people with learning disabilities and six staff members worked at a day placement facility providing services to those placed within the group home.

Additionally, two clients with learning disabilities living in the group home and participating in the day service facility were chosen. Both clients were well known to the staff members. One client displayed CB, while the other did not. The client with CB had a moderate learning disability and a significant visual impairment and displayed CB which included screaming, throwing objects and

items of furniture, along with obsessional-like behaviours including excessive washing, hoarding cleaning products, chair-rocking, and repeatedly speaking about rubber, the colour red, and pianos. The client without CB had Coffin-Lowry syndrome, a moderate learning disability, and severe epilepsy. However, there was no evidence or history of marked CB. This is possibly problematic in that the two clients may have not been equivalent on certain characteristics that may influence the attribution process. However, the non-equivalent nature of the client's challenging behaviour was necessary for the study design to allow an investigation of the differences that occur amongst the same staff group with respect to attributions and expressed emotion when working with and without severe challenging behaviour.

Procedure

There was no contact between the researchers and the clients, and they served to categorise the data collected into two types, 1) ratings about the client with challenging behaviour (CB Ratings), and 2) ratings about the client with no challenging behaviour (No CB Ratings). All staff members completed the attributional questionnaire, while one staff member was unable to provide a FMSS and attributional rating as part of the CB Ratings reducing this sample to 14.

Each staff member was seen individually to complete the attributional questionnaire (Peterson *et al.*, 1982) and provide a five-minute speech sample (FMSS) according to a method described elsewhere (Magana, Goldstein, Karno, Miklowitz, Jenkins & Falloon, 1986). Staff completed these measures twice and the administration was counter-balanced. They completed the questionnaire and interview with respect to the client with challenging behaviour, and with respect to the client with no CB.

Measures

The Attributional Questionnaire. The attributional questionnaire was developed by Peterson *et al.*, (1982) and a modified version was employed within the current study which has been used elsewhere (Cottle *et al.*, 1995). Participants are required to focus on a recent negative event and rate this event along five likert scales. These scales are, 1) internal *vs.* external to the client, 2) internal *vs.* external to the staff member, 3) personal *vs.* universal to the client, 4) controllable *vs.* uncontrollable by the client, and 5) controllable *vs.* uncontrollable by the staff member. This questionnaire has been reported as reliable (Peterson & Villanova, 1988). Clearly, given that one client exhibited CB, while the other did not, choosing an equivocal behaviour for both clients was problematic. However, all staff were asked to complete the ATQ in relation to the client without CB and with CB by asking them to focus on a recent event that they considered negative.

Expressed Emotion. All staff completed the FMSS according to the method described by Magana *et al.*, (1986). Interviews were transcribed and coded giving scores for criticism, hostility, emotional over-involvement and warmth according to the method described by Magana *et al.*, (1986). Three *blind*-raters with experience of coding EE ratings were used to code the FMSSs and inter-rater reliability was calculated at $\kappa=0.61$. One of these raters was very experienced with coding and rating EE interviews, while the two others had some experience. Before rating the FMSSs associated with the study, the inexperienced raters practiced coding a series of FMSSs, and their interrater reliability on the practice samples was $\kappa=0.74$.

Statistical Analysis

Given that same participants contributed to the CB Ratings and the No CB Ratings, non-parametric related-samples statistics were used. The Wilcoxon Sign Test for related samples was used to determine any differences between the attributions made by staff toward the client with CB as compared to the client without CB. One staff participant was removed from this analysis as they only provided ratings concerning the client without CB.

The McNemar Test was used to determine if any differences between the nominal data generated by the FMSS reached statistical significance.

In order to compare the EE categories of 'high' and 'low' with the data generated by the Attributional Style Questionnaire, The Wilcoxon Sign Test for related samples was again used. Staff made two sets of attribution ratings (CB or No CB Ratings) and these were split according to whether they rated either of the two clients as having 'high' or 'low' EE. The two resulting samples were related and not independent such that a single participant contributed to both groups. Two participants were removed from this analysis because both their EE ratings were categorised as 'high' or 'low' and hence their attribution ratings would have appeared twice in one group. One further participant was removed because they had only completed the FMSS for the client with No CB, but not the client with CB.

Results

Attributions

Comparing the CB and no CB attribution rating indicated that staff rated the behaviour of the client with CB as internal to the client ($Z = -2.166$; $p = 0.030$) and controllable by the client ($Z = -2.8005$, $p = 0.005$; Table One). There was also a trend for the staff to rate the behaviour of the client with CB as external to the

staff, although this did not quite reach statistical significance (Table 1).

Correlations between the different attribution types were examined for both the CB and No CB Ratings separately, rather than collapsing across both groups, given that these two groups were related. With respect to the CB Ratings, there was a significant positive correlation between the Personal-Universal to the Client attribution and the Internal-External to the Client Attribution ($r=0.57$, $p<0.05$) and a significant negative correlation between the Uncontrollable-Controllable to the Client attribution and the Personal-Universal to the Client attribution ($r=-0.46$, $p<0.05$). Considering the No CB Ratings revealed a significant positive correlation between the Personal-Universal to the Client attribution and the Internal-External to the Client attribution ($r=0.61$, $p<0.01$), and a significant positive correlation between the Personal-Universal to the Client attribution and the Internal-External to the Staff attribution ($r=0.52$, $p<0.05$).

Insert Table One Here

Expressed Emotion

There was a significantly greater number of staff who reported high EE when taking about the client with CB as compared to the client with no CB (McNemar Test; $p=0.001$; Figure One). Looking at the number of critical comments and positive remarks made by staff regarding the clients indicated that staff made significantly more critical comments about the client with challenging behaviour ($Z= -2.68, p=0.007$), while the number of positive remarks made between groups did not differ significantly ($Z=-1.50, p=0.135$; Figure One).

Insert Figure One Here

Expressed Emotion and Attributions

In order to consider any relationship between EE and attributions toward challenging behaviour, staff were grouped according to their EE rating (High vs. Low EE) separately for the client with CB and the client without CB and their attribution scores were compared.

There were significant differences between staff who reported high or low EE with respect to their attribution ratings of challenging behaviour. Specifically,

staff with low EE were more likely to attribute CB as external to the client ($Z=-2.376$, $p=0.018$; Table Two), while staff with high EE were more likely to attribute CB as internal to the client. Staff reporting low EE were also more likely to attribute challenging behaviour as uncontrollable by the client ($Z=-2.615$, $p=0.009$), while those reporting high EE were more likely to attribute challenging behaviour as controllable by the client. There were no other significant differences between the EE ratings of staff along the attributions dimensions (Table Two).

Insert Table Two Here

Discussion

The results of the current study suggest working with a client with learning disabilities who displays CB is associated with attributions about the CB as internal to the client and controllable by the client. Also, there would appear to be an association with working with a client with CB and high EE, and critical comments. Furthermore, there would appear to be an association between high EE and attributions that CB is internal to the client, and controllable by the client.

The results of the present study are similar, although this was not a replication, to those published by Cottle *et al.*, (1995) where they reported that staff were likely to attribute CB as internal and personal to the client, and external to staff and uncontrollable by staff. Additionally, staff reporting high EE were likely to attribute CB as internal, personal to the client, and uncontrollable, but these results did not reach statistical significance (Cottle *et al.*, 1995).

What sets the present study apart from the study of Cottle *et al.*, (1995) is the design. Instead of including staff members who work with a number of different clients exhibiting challenging behaviour of differing aetiology, frequency and intensity, we interviewed staff working with only two clients, one with CB and the other without CB. Additionally, the attributions made by staff reporting high EE reached statistical significance on some dimensions in the current study, whereas Cottle *et al.*, (1995) reported that their data concerning the relationship between EE and attributions did not reach statistical significance.

Attribution Theory and Expressed Emotion

The results of the study suggest that staff may be making the “fundamental attributional error” described by Heider (1958). This is of concern and may affect the quality and quantity of the treatment afforded to people with CB given that others have suggested that such an attributional style may have a negative impact

upon treatment provision (Dagnan *et al.*, 1998; Dunne, 1994; Sharrock *et al.*, 1990).

This also serves to highlight the attributional style of staff that report high EE and work with challenging behaviour. It may be the case that staff engage in “thinking” consistent with the “fundamental attributional error” as a result of experiencing an incident of challenging behaviour which subsequently affects the quality of the relationship they have with that client, leading to high EE. As such, attribution theory may help provide some explanation for the development of relationships characterised by high EE. However, it may also be the case that measures of EE and attributions are measuring a similar entity, however, attribution theory would appear to have some relevance to our understanding of EE. This conclusion is supported by previous research. Barrowclough & Hooley (2003) have reviewed thirteen studies which have investigated the utility of attribution theory in explaining or understanding EE. For example, they conclude that there is support to suggest that EE ratings of hostility and criticism are related to carers attributions that symptoms and difficulties are controllable by clients. As well, they suggest that EE ratings of hostility are related to carer attributions that symptoms and difficulties are internal to the client (see Barrowclough & Hooley, 2003).

Study Limitations

There are several limitations associated with the current study. For example, within this study staff completed attribution ratings concerning one client with and one without CB. We did not collect any data on the frequency and severity of the CB demonstrated by participants. This is methodologically problematic and further to this, other methodological limitations include the difficulty associated with matching the clients on variables such as attractiveness or other illnesses. Further to this, given that one client exhibited CB, while the other did not, choosing an equivalent behaviour for both clients was potentially problematic. Staff were therefore asked to rate a recent negative event/behaviour that was displayed by each client, however, obviously one client had a history of marked CB, while the other did not. This is a potential criticism of the study, and raises an internal validity problem. However, although the study was not as well controlled as some may desire, this lack of control may help to increase the ecological validity of the study.

Further to this, when completing studies that employ a related-samples design using real incidents of challenging behaviour, especially within this context, researchers may be plagued by small sample sizes, and this is a difficulty with the current study. However, it would have been very difficult to recruit a large sample

of staff who were very familiar with the two clients such that they were able to complete the FMSS and the attributional style questionnaire.

However, these difficulties have arisen as a result of conducting the study using 'real' clients rather than vignette methodology (e.g. Hastings et al., 1997; Hastings et al., 1995) or video presentations of challenging behaviour (Hastings et al., 2003). Given that the current study used actual clients and staff, the current study may have increased ecological validity over and above studies that are better controlled and employ vignette methodology. There are very few studies that have investigated the attributions of staff solicited using vignettes and compared them to attributions solicited by using 'real' challenging behaviour exhibited by clients known to staff. Wanless & Jahoda (2002) reported that staff experienced stronger emotional reactions towards real incidents of challenging behaviour and make more negative evaluations of real clients engaging in challenging behaviour as compared to vignettes depicting clients with challenging behaviour. This study is of particular interest in that, although vignette studies are useful in investigating staff attributions toward challenging behaviour, the study does question the validity of previous studies that have solely relied upon vignette methodology to assess staff attributions toward challenging behaviour. As such, studies that use "real" incidents of challenging behaviour may have increased ecological validity.

Furthermore, it would have been useful to have included additional information within the current study. For example, there is some evidence to suggest that there may be some relationship between level of training, work experience and attributions toward challenging behaviour (e.g. Hastings et al., 1995, Oliver et al., 1996; Hastings et al., 1997). However, it was not possible to collect this data during the current study, but the author's acknowledge that this data would have been useful.

Finally, it is important to note that this study is not a true experimental design, and employs a cross-sectional related-samples design. As such, conclusions about causality can not be made.

Future Research

The suggestion that the “fundamental attributional error” has a role in the development of high EE is clearly in need of further investigation. Previous authors have attempted to further our understanding of staff appraisals and reactions to challenging behaviour within learning disability services using attribution theory (e.g. Dagnan et al., 1998; Hill & Dagnan, 2002), while other than the current study, very few studies have attempted to employ an EE methodology . Researchers have attempted to tackle high EE through family

work given its associated link with relapse in those suffering from psychosis (Bebbington & Kuipers, 1994; Kuipers, Leff & Lam, 1997; Tarrier, Barrowclough, Porceddu & Fitzpatrick, 1994). An intervention may be valuable with staff who work with challenging behaviour within learning disability services given the potential impact attributions and EE may have on helping behaviour, treatment provision, and outcome (Cottle *et al.*, 1995; Dagnan *et al.*, 1998; Dunne, 1994; Sharrock *et al.*, 1990). It would also be of interest to examine whether or not family work interventions used to tackle high EE could be adapted and would have any utility with carers of people with learning disabilities. However, further research is required to understand measures of EE amongst people with learning disabilities and how this relates to treatment outcome, mental illness and challenging behaviour.

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References

Barrowclough, C. & Hooley, J.M. (2003). Attributions and expressed emotion: A review. *Clinical Psychology Review*, 23, 849-880.

Brewin, C.R., MacCarthy, B., Duda, K., & Vaughn, C.E. (1991). Attribution and expressed emotion in the relatives of patients with schizophrenia. *Journal of Abnormal Psychology*, 100, 546-54.

Bebbington, P. & Kuipers, L. (1994). The predictive utility of expressed emotion in schizophrenia: An aggregate analysis. *Psychological Medicine*, 24, 707-515-524.

Bersani, H. A. & Heifetsz, L. J. (1985). Perceived stress and satisfaction of direct care staff members in community residences for mentally retarded adults. *American Journal of Mental Deficiency*, 90, 289 – 291.

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

Butzlaff, R.L. & Hooley, J.M. (1998). Expressed emotion and psychiatric relapse: A meta-analysis. *Archives of General Psychiatry*, 55, 547-552.

Caspi, A., Moffit, T.E., Morgan, J., Rutter, M., Taylor, A., Arseneault, L., Tully, L., Jacobs, C., Kim-Cohen, J., & Polo-Tomas, M. (2004). Maternal expressed emotion predicts children's antisocial behaviour problems: Using monozygotic-twin difference to identify environmental effects on behavioral development. *Developmental Psychology*, 40, 149-161.

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.

Dunne, T. P. (1994). Challenging behaviour 'and there's more'. *Clinical Psychology Forum*, 67, 25-27.

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

Greedharry, D. (1987). Expressed emotion in families of the mentally handicapped: A pilot study. *British Journal of Psychiatry*, 150, 400-402.

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. (1997b). Staff beliefs about the challenging behaviour of children and adults with mental retardation. *Clinical Psychology Review*, 17, 775-790.

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

Hastings, R.P. (1997c). Staff strategies and explanations for intervening with challenging behaviours: A replication in a community sample. *Journal of Intellectual Disability Research*, 41, 258-263.

Hastings, R.P. (1996b). Staff training and management in services to people with learning disabilities. *British Journal of Clinical Psychology, 35*, 480-482.

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

Hastings, R.P. & Remington, B. (1994). Staff behaviour and its implications for people with learning disabilities and challenging behaviour. *British Journal of Clinical Psychology, 33*, 423-438.

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, 59 – 67.

Heider, F. (1958). *The Psychology of Interpersonal Relation*. New York: Wiley.

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.

Hirshfeld, D.R., Biederman, J., Brody, L., Faraone, S.V. & Rosenbaum, J.F. (1997). Associations between expressed emotion and child behavioural inhibition and psychopathology: A pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 205-213.

Hooley, J.M. (1985). Expressed emotion: A review of the critical literature. *Clinical Psychology Review*, 5, 119-339.

Hooley, J.M. (1987). The nature and origins of expressed emotion. In K. Hahlweg, & M.J. Goldstein (Eds.), *Understanding major mental disorder: The contribution of family interaction research* (pp. 176-194). New York: Family Process Press.

Hooley, J.M., Orley, J. & Teasdale, J.D. (1986). Levels of expressed emotion and relapse in depressed patients. *British Journal of Psychiatry*, *148*, 642-647.

Kavanagh, D. (1992). Recent development in expressed emotion and schizophrenia. *British Journal of Psychiatry*, *160*, 601-620.

Kuipers, L., Leff, L. & Lam, D. (1997). *Family work for schizophrenia: A practical guide*. London: Gaskell Press.

Lam, D., Giles, A. & Lavender, A. (2003). Carers' expressed emotion, appraisal of behavioural problems and stress in children attending schools for learning disabilities. *Journal of Intellectual Disability Research*, *47*, 456-463.

Magana, A.B., Goldstein, M.J., Karno, M., Miklowitz, D.J., Jenkins, J., & Falloon, I.R.H. (1986). A brief method for assessing expressed emotion in relatives of psychiatric patients. *Psychiatry Research*, *17*, 203-212.

McCarty, C.A., Lau, A.S., Valeri, S.M. & Weisz, J.R. (2004). Parent-child interactions in relation to critical and emotionally overinvolved expressed

emotion (EE): Is EE a proxy for behavior? *Journal of Abnormal Child Psychology*, 32, 83-93.

McCarty, C.A. & Weisz, J.R. (2002). Correlates of expressed emotion in mothers of clinically-referred youth: An examination of the five-minute speech sample. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 43, 759-768.

Miklowitz, D.J., Goldstein, M.J., Nuechterlein, K.H., Synder, K.S. & Mintz, J. (1988). Family factors and the course of bipolar affective disorder. *Achieves of General Psychiatry*, 45, 225-231.

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.

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.M. & Villanova, P.A. (1988). The expanded attributional style questionnaire. *Journal of Abnormal Psychology*, 97, 287.

Priebe, S. Wildgrube, C. & Muller-Orlinghausen, B. (1989). *Lithium prophylaxis and expressed emotion*, 154, 396-399.

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.

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

Szmukler, G.I., Eisler, I., Russel, F.M. & Dare, C. (1985). Anorexia nervosa, parental expressed emotion and dropping out of treatment. *British Journal of Psychiatry*, 147, 265-271.

Tarrier, N., Barrowclough, C., Porceddu, K. & Fitzpatrick, E. (1994). Salford intervention project relapse rates of schizophrenia at five and eight years. *British Journal of Psychiatry*, *165*, 829-832.

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

Van Humbeeck, G., Van Audenhove, C., Vertommen, H., Storms, G., de Hert, M., Peuskens, J., Pieters, G. & Heyman, J. (2003). Expressed emotion in professional caregivers' relation with residents with learning disabilities. Toward a new definition of emotional overinvolvement. *European Journal of Mental Disability*, *27*, 15-26.

Vaughn, C.E. & Leff, J.P. (1976). The influence of family and social factors on the course of psychiatric illness: A comparison of schizophrenic and depressed neurotic patients. *British Journal of Psychiatry*, *129*, 125-137.

Vostanis, P. & Nicholla, J. (1995). Nine-month changes of maternal expressed emotion in conduct and emotional disorders of childhood: A follow-up study. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *36*, 833-846.

Vistanis, P., Nicholls, J. & Harrington, R. (1994). Maternal expressed emotion in conduct and emotional disorders of childhood. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 35, 365-376.

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.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 2, 543-571.

Weiner, B. (1986). *An Attributional Theory of Motivation and Emotion*. Berlin: Springer-Verlag.

Weiner, B. (1980). A cognitive (attribution)-emotion-action model of motivated behaviour: An Analysis of judgements of help-giving. *Journal of Personality and Social Psychology*, 39, 186-190.