

Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding
Behaviour that Challenges

Christine Lowen

Supervised by Dr Peter Langdon

Doctorate in Clinical Psychology

University of East Anglia

2014

Word count: 38641 words

This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with the author and that use of any information derived there from must be in accordance with current UK Copyright Law. In addition, any quotation or extract must include full attribution.

Abstract

Aims

This project examined expressed emotion (EE) in paid dementia care staff, determining the proportion who expressed high EE and investigating whether high EE was more likely when the client displayed challenging behaviours (CB). The attributions made by staff regarding CBs and whether these were related to the construct of EE were investigated. The behaviour which staff rated as most challenging was identified.

Methodology

This project used a within subjects design, obtaining quantitative data from 47 staff participants. Each participant was asked to identify a client who displayed CB and one who did not. Participants completed a Five Minute Speech Sample, Modified Attributional Questionnaire and Challenging Behaviour Scale for each client.

Results

Overall 89.4% of staff participants expressed high levels of EE in at least one of their Five Minute Speech Samples. Significantly more staff displayed high EE in relation to clients with CB than without CB. More critical comments were made in relation to clients with CB, whilst significantly more positive remarks were made in relation to clients without CB. Participants rated the behaviours displayed by challenging clients as significantly more specific to them, whilst behaviours of the non-challenging group were rated as more controllable by staff. Positive remarks and perceptions of control by staff had a significant positive relationship. The behaviour rated by staff as most challenging was physical aggression.

Conclusions

The proportion of staff who displayed high EE in this study was higher than rates found to date in studies with family caregivers of people with dementia. This study did not provide support for the attributional theory of EE. The results are considered to be consistent with the state theory of EE and the stress-vulnerability model, and the context of the dominant philosophy of person centred dementia care is explored.

Contents

	Page
1. Introduction	16
1.1 Aims of the study	16
1.2 Overview of the Introduction	16
1.3 Dementia	16
1.3.1 Overview of dementia	16
1.3.2 Challenging behaviour in dementia	18
<i>1.3.2.1 Definitions of challenging behaviour</i>	18
<i>1.3.2.2 Understanding behaviours that challenge in dementia care</i>	21
<i>1.3.2.2.1 The unmet needs model</i>	22
<i>1.3.2.2.2 The 'Treatment Routes for Exploring Agitation' model</i>	22
<i>1.3.2.2.3 The consequences of need-driven dementia-Compromised behaviour model</i>	23
<i>1.3.2.2.4 The dialectical model</i>	24
<i>1.3.2.2.5 The Newcastle model</i>	25
<i>1.3.2.2.6 Overcoming barriers framework</i>	25
<i>1.3.2.2.7 The fixed and mutable factors model</i>	26
<i>1.3.2.2.8 Learning theory</i>	26
<i>1.3.2.2.9 Lowered stress threshold model</i>	27
<i>1.3.2.3 The impact of behaviours that challenge</i>	27
1.3.3 Summary	29
1.4 Expressed Emotion	30
1.4.1 The definition of expressed emotion	30

1.4.2	Early research into expressed emotion	30
1.4.3	Theories of expressed emotion	32
	<i>1.4.3.1 Stress-Vulnerability model</i>	32
	<i>1.4.3.2 State and trait hypotheses</i>	35
	<i>1.4.3.3 Attribution theory</i>	38
	<i>1.4.3.3.1 The fundamental attribution error</i>	38
	<i>1.4.3.3.2 Attribution theory and helping behaviour</i>	39
	<i>1.4.3.3.3 Attribution theory and expressed emotion</i>	41
	<i>1.4.3.3.4 Implications for interventions</i>	44
	<i>1.4.3.4 Alternative explanations of expressed emotion</i>	44
	<i>1.4.3.5 Summary of the theories of expressed emotion</i>	47
1.4.4	Measuring expressed emotion	47
	1.4.4.1 Summary	50
1.4.5	Research with staff caregivers	50
	1.4.5.1 Mental health	50
	1.4.5.2 Intellectual disabilities	53
	1.4.5.3 Summary	55
1.4.6	Reviewing the research in dementia care	55
	1.4.6.1 Summary	64
1.4.7	Rationale for the study	65
1.5	Research questions and hypotheses	66
	1.5.1 Research questions	67
	1.5.2 Hypotheses	68
2.	Methodology	69
2.1	Design	69
2.2	Participants	71

2.2.1	Inclusion and exclusion criteria	72
2.2.2	Power calculation	72
2.2.3	Recruitment	73
2.2.4	Participant demographics	75
2.3	Measures	77
2.3.1	The Five Minute Speech Sample	77
2.3.2	The Challenging Behaviour Scale	78
2.3.3	The Modified Attributional Questionnaire	80
2.3.4	Demographic questionnaire	81
2.4	Ethical Issues	81
2.5	Procedure	83
2.6	Plan of Analysis	85
2.6.1	Five Minute Speech Sample Coding	85
2.6.2	Descriptive statistics	85
2.6.3	Research question 1	85
2.6.4	Research question 2	85
2.6.5	Research question 3	86
2.6.6	Research question 4	87
2.6.7	Research question 5	88
3.	Results	88
3.1	Overview of the Data, Descriptive Statistics and Distribution of the Data	89
3.1.1	The Five Minute Speech Samples	89
	<i>3.1.1.1 Critical comments</i>	89
	<i>3.1.1.2 Positive remarks</i>	89

3.1.2	The Challenging Behaviour Scale	90
3.1.3	The Modified Attributional Questionnaire	90
3.1.4	Research participants and demographic questionnaire	91
3.2	Inter-Rater Reliability of the Five Minute Speech Samples	91
3.3	Statistical Analyses	95
3.3.1	Expressed emotion in paid dementia care staff	95
3.3.2	Research question 1: Expressed emotion and challenging behaviour	95
3.3.3	Research question 2: Challenging behaviour and the components of expressed emotion	97
	3.3.3.1 <i>Critical comments</i>	97
	3.3.3.2 <i>Positive remarks</i>	98
	3.3.3.3 <i>Quality of relationship</i>	98
	3.3.3.4 <i>Emotional over-involvement</i>	99
3.3.4	Research question 3: Attributions and expressed emotion	99
	3.3.4.1 <i>Comparing attributions according to challenging behaviour</i>	100
	3.3.4.2 <i>Comparing attributions according to expressed emotion</i>	101
	3.3.4.3 <i>Comparing attributions according to expressed emotion and challenging behaviour</i>	102
3.3.5	Research question 4: Challenging behaviour, dimensions of attribution and components of expressed emotion	104
	3.3.5.1 <i>Critical comments and attributions</i>	104

3.3.5.2	<i>Critical comments and attributions according to challenging behaviour</i>	105
3.3.5.3	<i>Positive remarks and attributions</i>	106
3.3.5.4	<i>Positive remarks and attributions according to challenging behaviours</i>	107
3.3.6	Research question 5: Challenging behaviours	108
3.3.6.1	<i>Behaviours with the highest mean CBS scores</i>	108
3.3.6.2	<i>CBS scores according to level of expressed emotion</i>	108
3.3.6.3	<i>CBS scores according to challenging behaviour group</i>	109
3.3.7	Supplementary data analyses	109
3.3.7.1	<i>Attributions and challenging behaviours</i>	109
3.3.7.2	<i>Length of time known</i>	111
3.3.8	Summary of statistical analyses	111
3.3.8.1	<i>Ratings of expressed emotion and challenging behaviour</i>	111
3.3.8.2	<i>Attributions</i>	112
3.3.8.3	<i>Correlations</i>	112
3.3.8.4	<i>CBS scores</i>	112
3.3.8.5	<i>Attributions and challenging behaviours</i>	112
3.3.8.6	<i>Length of time known</i>	112
4.	Discussion	113
4.1	Overview and Interpretation of the Results	113
4.1.1	Expressed emotion in dementia care	113
4.1.2	Research question 1	116

4.1.3	Research question 2	117
4.1.4	Research question 3	118
4.1.5	Research question 4	122
4.1.6	Research question 5	123
4.7.1	Supplementary analyses	124
4.2	Clinical Implications of the Research Findings	125
4.2.1	Expressed emotion and challenging behaviour	126
4.2.2	Staff client relationships	126
4.2.3	Clinical outcomes	127
4.2.4	Clinical interventions	128
4.2.5	Summary	129
4.3	Theoretical Implications of the Research Findings	129
4.3.1	Attribution theory of expressed emotion	130
4.3.2	State and trait hypotheses	130
4.3.3	Stress-vulnerability model	131
4.3.4	Person centred dementia care	131
4.3.5	Summary	133
4.5	Strengths and Weaknesses of the Research Design	133
4.5.1	Strengths	133
	4.5.1.1 <i>Expressed emotion and dementia care staff</i>	133
	4.5.1.2 <i>Generalisability</i>	134
	4.5.1.3 <i>Ecological validity</i>	134
	4.5.1.4 <i>Relevance to current NHS climate</i>	134
	4.5.1.5 <i>Summary</i>	134
4.5.2	Weaknesses	135
	4.5.2.1 <i>Limitations of the study design and methodology</i>	135

4.5.2.1.1	<i>Ecological validity</i>	135
4.5.2.1.2	<i>Comparing degrees of challenging behaviour</i>	135
4.5.2.1.3	<i>Typography of challenging behaviour</i>	136
4.5.2.1.4	<i>Transfer of clients between wards</i>	137
4.5.2.1.5	<i>Selection of clients by staff participants</i>	138
4.5.2.1.6	<i>Client demographics</i>	139
4.5.2.1.7	<i>Length of time the client was known</i>	140
4.5.2.1.8	<i>Diagnoses</i>	140
4.5.2.2	<i>Limitations of the research measures</i>	141
4.5.2.2.1	<i>Demographic questionnaire</i>	141
4.5.2.2.2	<i>MAQ</i>	142
4.5.2.2.3	<i>Likert scales</i>	142
4.5.2.3	<i>Other potential limitations of the research</i>	143
4.5.2.3.1	<i>Current NHS climate</i>	143
4.5.2.3.2	<i>Training</i>	143
4.5.2.3.3	<i>Social desirability</i>	144
4.5.2.4	<i>Summary</i>	144
4.5.3	Summary of the strengths and limitations of the study	145
4.6	Areas for Further Research	145
4.6.1	Diagnosis	145
4.6.2	Cognitive ability	145
4.6.3	Training	146
4.6.4	Impact on outcomes	146
4.6.5	Impact on clinical practice	147
4.6.6	Impact on the organisation	148

4.6.7	Other variables related to expressed emotion	148
4.6.8	Summary	150
4.7	Overall Conclusions	150
Appendices		151
A	Participant Information Sheet	152
B	Participant Consent Form	156
C	FMSS Standardised Instructions	157
D	Modified Attributional Questionnaire	158
E	Demographic Questionnaire	159
F	Ethical Approval Letters	160
G	Research and Development Approval Letters	165
H	Indemnity Certificate	174
I	Ward Managers' Information Sheet	176
J	Poster advertisement	179
K	Feedback to Staff Participants	180
L	Declaration of the End of Study and Summary Report for NHS Ethics and R&D Departments	182
M	Supplementary Tables	201
Table 1	The Distribution of the Differences between Critical Comments and Positive Remarks for CB and nCB Groups	201
Table 2	The Distribution of the Differences between MAQ Items for high and low EE Groups, Based on 23 Data Pairs	201
Table 3	The Distribution of the Differences between MAQ Items for CB and nCB Groups	202
Table 4	The Distribution of Attribution Ratings on the MAQ for CB and nCB Groups according to Staff EE Level	202

Table 5	The Distribution of Critical Comments in both CB and nCB Groups	203
Table 6	The Distribution of Positive Remarks in both CB and nCB Groups	203
Table 7	The Distribution of the Differences between CBS Scores for High and Low EE Groups Based on 23 Data Pairs	203
Table 8	The Distribution of Challenge Scores on the CBS According to Challenging Behaviour Group	204
Table 9	The Distribution of the Differences between CBS Challenge Scores for CB and nCB Groups	204
Table 10	The Minimum, Maximum, Mean and Standard Deviation of Challenge Scores of Each Behaviour on the CBS	205
Table 11	The Skew and Kurtosis of Ratings on the MAQ for the CB and nCB group	207
References		208

List of Figures

Figure 1	A Consort Diagram to Outline the Process by which 47 Staff were Recruited to take part in the Project	74
Figure 2	A Graph to Show the Proportion of FMSS Rated as High and Low EE, for both CB and nCB Groups	97

List of Tables

Table 1	The Number and Percentage of Participants in Each of the Age Categories	75
Table 2	The Number and Percentage of Participants Reporting Different Levels of Education	76

Table 3	The Number of Years Experience of Working with People with Dementia Reported by Participants	77
Table 4	The Inter-Rater Reliabilities Calculated for the Initial Sample of 20 FMSS	92
Table 5	The Inter-Rater Reliability Data for a Second Sample of FMSS	93
Table 6	The Inter-Rater Reliability Data for a Third Sample of FMSS	94
Table 7	Reliability Data for a Fourth Sample of FMSS	94
Table 8	The Number of FMSSs Rated as having Positive, Neutral and Negative Relationships for each CB Group	98
Table 9	The Number of FMSSs with Neutral and High EOI for each CB Group	99
Table 10	The Mean and Standard Deviation of MAQ Ratings in Relation to Clients in the CB and nCB Group	100
Table 11	The Mean and Standard Deviation of MAQ Ratings made by Staff Participants Rated as High or Low EE	102
Table 12	The Mean and Standard Deviation MAQ Ratings for the CB Group of Clients according to whether Staff were Rated as High or Low EE	103
Table 13	The Mean and Standard Deviation MAQ Ratings for the nCB Group of Clients according to whether Staff were Rated as High or Low EE	104
Table 14	Coefficients for Correlations between Critical Comments and Attribution Ratings on the MAQ	105
Table 15	Coefficients for Correlations between Critical Comments and Attribution Ratings on the MAQ for both CB and nCB Groups	106

Table 16	Coefficients for Correlations between Positive Remarks and Attribution Ratings on the MAQ	107
Table 17	Coefficients for Correlations between Positive Remarks and Attribution Ratings on the MAQ for CB and nCB Groups	108
Table 18	The Mean and Standard Deviation of MAQ Ratings for the CB Client Group according to the Behaviour	110
Table 19	The Length of Time Participants Reported having known the Client they were considering in both the CB and nCB Groups	111

Acknowledgements

Thank you to all the members of staff who participated in this research and to all the managers and senior members of staff who supported the project.

I would also like to thank my supervisor, Dr Peter Langdon, and my secondary supervisor Professor Malcolm Adams who passed away unexpectedly in January 2013.

Thank you David, Mum and Dad for all your support and encouragement throughout the last three years.

1. Introduction

1.1 Aims of the Study

This study aimed to examine the expressed emotion (EE) of paid care staff working with people who have dementia. It also explored the differences in EE levels and staff attributions according to whether or not clients displayed behaviours that are challenging.

1.2 Overview of the Introduction

This introduction will provide an overview of dementia and some of the behaviours which can be displayed by people with dementia. The research literature exploring EE, together with the theories used to explain this construct and how it appears to be related to challenging behaviours (CB), will be reviewed. In addition research exploring these factors which has been conducted with different client populations will be presented. The implications for future research will be discussed, leading to the research questions and hypotheses for this study.

1.3 Dementia

This section will begin with an overview of the condition of dementia, initially considering its definition and both its current and predicted prevalence in the population. This section will then consider the behaviours which can be displayed by people with dementia that can be challenging for caregivers, together with the consequences these behaviours can have on care arrangements.

1.3.1 Overview of dementia. Dementia is an overall term which refers to a group of progressive and degenerative organic conditions, including Alzheimer's Disease; Vascular Dementia; Lewy-Body Dementia; Fronto-temporal Dementia and Parkinsons Dementia (Downs & Bowers, 2008). The Department of Health (2009) defined dementia as a term "used to describe a syndrome which may be caused by a number of illness in which there is a progressive decline in multiple

areas of function including decline in memory, reasoning, communication skills and the ability to carry out daily activities” (p.15). They further outline that dementia leads to changes in both the structure and chemical composition of the brain, which ultimately results in the brain tissue dying.

Criteria for the diagnosis of dementia are presented within the International Classification of Diseases, 10th Revision (ICD-10, WHO, 1992) and the Diagnostic and Statistical Manual of Mental Disorders Version Four (DSM-IV; American Psychiatric Association, 1994), although these two diagnostic systems are reported to differ in their diagnostic criteria (Downs & Bowers, 2008). The recently published DSM-5 (American Psychiatric Association, 2013) has introduced new diagnostic terminology for the condition of dementia detailing criteria for mild and major neurocognitive disorders, where a major disorder would represent those individuals experiencing more pronounced cognitive and functional difficulties.

The importance of receiving an early diagnosis of dementia has been emphasised by the recent publication of *Living Well with Dementia: A National Strategy* (Department of Health, 2009). This initial dementia strategy highlighted the need for care staff that support people with dementia to be knowledgeable about the condition and also acknowledged the need for considerable research into dementia care.

The new dementia strategy was produced within the context of an overall aging population and a predicted rise in the numbers of people experiencing dementia over the coming years (Department of Health, 2009; Downs & Bowers, 2008). It is predicted that there will be more than 1.7 million people with dementia in the UK by 2051 (Alzheimer’s Society, 2011), and it is estimated that there may be approximately 81.1 million people worldwide with dementia by 2040 (Ferri et al., 2005).

A considerable rise in the number of people with dementia is likely to correspond with an increased need for care and support. Whilst some informal care may likely come from family and friends, it is likely that there will be an increased need for formal paid dementia care staff. As the dementia progresses, and the person experiences increasing difficulties, it becomes increasingly difficult for some relatives to care for the person at home. Research has reported that people with dementia are eight times more likely to be placed in a residential care environment than older people who do not have dementia (Philip et al., 1997), whilst aggressive and challenging behaviours are one of the most frequent reasons for admission to a care environment or referral to a psychiatric hospital (Margo, Robinson & Corea, 1980; Patel & Hope, 1993).

1.3.2 Challenging behaviour in dementia. This section will consider definitions of ‘challenging behaviour’ (CB) in dementia care and outline those behaviours displayed by people with dementia which are considered to be more difficult to manage. Further, an outline will be provided of some of the main psychological models which have been proposed to try to understand and reduce difficult behaviours in dementia care, before considering the potential impact that CBs can have.

1.3.2.1 Definitions of challenging behaviour. The term ‘challenging behaviour’ (CB) originated in the intellectual disability literature and has been defined by Emerson (1995) as “culturally abnormal behaviour(s) of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities” (p. 4). This term has also been incorporated within dementia care

literature to describe behaviours and non-cognitive symptoms of dementia which are problematic for carers (Moniz-Cook et al., 2001).

Another term which has been used to refer to the behavioural symptoms sometimes displayed by people with dementia is 'behavioural and psychological signs and symptoms of dementia' (BPSD) which is defined as "signs and symptoms of disturbed perception, thought content, mood, or behaviour that frequently occur in patients with dementia" (Finkel, Costa E Silva, Cohen, Miller & Sartorius; 1997, p.1060). Lawlor (2002) stated that BPSD is a wide definition which encompasses a range of different behaviours that can be displayed by people with dementia.

Finkel et al. (1997) suggested that the BPSD could be categorised in several ways, for example into behaviours, functions, or symptoms of psychological difficulties; or by considering the difficulties as either cognitive difficulties or as psychological and behavioural symptoms. A study by Margallo-Lana et al. (2001) reported that clinically significant levels of BPSD were present in 79% of a large sample of people with dementia who were residing in social or nursing care environments.

More recently, James (2011) suggested that challenging behaviours displayed by people with dementia can be referred to as 'behaviours that challenge (BC)'. James defined these behaviours as "actions that detract from the well-being of individuals due to the physical or psychological distress they cause within the settings they are performed" (p.12). James further outlined that different individuals and care environments will have a different perspective on what is challenging and therefore the understanding of these behaviours is socially constructed. As a result, James explained that this can result in an inconsistent understanding of what constitutes a behaviour that is challenging.

The Department of Health (2009) outlined that as people with dementia experience a decline in their level of functioning, they may also develop additional behavioural symptoms which may include aggression or continuous walking. These difficult behavioural symptoms displayed by some people with dementia have been termed ‘non cognitive features’ of dementia (Donaldson, Tarrier & Burns, 1998), or ‘challenging behaviour’ (Moniz-Cook, Woods & Gardiner, 2000).

Andrews (2006) outlined that CBs displayed by people with dementia can include throwing items, biting, shouting, destroying items, talking repetitively, showing anger, agitation or physical aggression. James (2011) also provided a list of behaviours that are challenging, dividing these into aggressive (for example pushing, grabbing, spitting and hair pulling) and non-aggressive behaviours (including apathy, pacing, asking repetitive questions and non-compliance). James highlighted that whilst these behaviours are challenging, they are not solely displayed by people with dementia and can be seen to be displayed by many people in the population. James further stated that using lists of behaviours to define CB is problematic since it does not lead people to think about what might be causing the behaviour.

James (2011) reported an alternative way of categorising behaviours that challenge into “non-active and active” behaviours (p.16), focusing on the potential cause of the behaviour. He proposed that they are four categories of active behaviours: those which are triggered by difficult situations which cause stress, those characterised by walking or over-involvement with others due to orientation problems, difficulties with inhibition, and difficulties between the person and their care setting. James suggested that by categorising behaviours in this way, it can help to understand the origins of behaviours and therefore suggest potential ways of reducing them.

In 2008, Cohen-Mansfield asked staff working in 11 nursing homes to rate the frequency and disruptiveness of agitated behaviours in 191 clients with dementia. She classified agitated behaviour into four types: verbal or physical non-aggressive behaviour and verbal or physical aggressive behaviour. Cohen-Mansfield stated that verbal non-aggressive behaviour was reported to occur most often, whilst verbal aggression was reported to be most disruptive. When controlling for the frequency of the behaviour, physical aggression was found to be the behaviour rated by staff as the most disruptive.

Therefore, in summary, defining CB in the field of dementia care has been problematic given that it has a socially constructed meaning which will therefore vary (James, 2011). Whilst CB has been explained in terms of lists of behaviours, or categories of behaviours, these have been criticised for not encouraging consideration of the causes of the CB.

1.3.2.2 Understanding behaviours that challenge in dementia care. A number of psychological models have been proposed to try to understand the expression of CBs by people with dementia. This section will outline some of those models in order to provide a further understanding of the approach towards CBs in dementia care.

CBs can be understood through the construction of a psychological formulation, which then identifies relevant interventions which can be employed to reduce these behaviours in people with dementia (James, 2011). However, understanding some of the difficult behaviours displayed by a person with dementia can be considerably complex, given that these behaviours can have both biological and psychosocial explanations (Moniz-Cook, Stokes & Agar, 2003). James (2011) suggested that there are often several explanations for behaviours displayed by people with dementia such as neurological causes, mental and physical reasons and

environmental explanations. James suggested that whilst some difficulties can be resolved, others may become increasingly problematic requiring specialist intervention.

1.3.2.2.1 The unmet needs model. Cohen-Mansfield (2008) explained that whilst there are arguments for a neuropathological understanding of people's behaviours there is increasing evidence that behaviours may be an attempt by the person to communicate their needs

Cohen-Mansfield (2000a) proposed a model of CBs arising as a consequence of an individual's unmet needs, stating that "problem behaviours result from an imbalance in the interactions among lifelong habits and personality, current physical and mental states, and less than optimal environmental conditions. This imbalance produces unmet needs in the individual" (p.375). Cohen-Mansfield suggested that individuals with dementia, and consequently a reduced level of ability, may be less able to act to meet their own needs. Therefore she proposed that behaviours are an attempt by the individual to either: demonstrate and express their needs to others; meet their own needs; or they occur as an outcome of the unmet need.

Cohen-Mansfield (2000a) suggested that by knowing about the individual's biography and current life, those working to care for them should recognise what the person's need is and consequently be able to find ways to meet the need, thus reducing the difficult behaviour. She further suggested that the unmet needs model is therefore an individualised model, highlighting and incorporating the importance of personal factors. James (2011) suggested that Cohen-Mansfield's unmet needs model "is currently the best known conceptualisation for BC" (p.92).

1.3.2.2.2 The 'Treatment Routes for Exploring Agitation' model. Cohen-Mansfield (2000a, 2000b) expanded upon the unmet needs model by further

dividing behaviours that challenge into: physical aggression; physical non-aggressive behaviour; and behaviours which are verbally disruptive. She proposed a decision tree approach which can be used to hypothesise about possible triggers for a person's behaviour and will also provide suggestions for how to manage it, called 'Treatment Routes for Exploring Agitation' (TREA). James (2011) explained that the TREA decision tree generates several options for possible interventions which are based on the person's hypothesised unmet need, which can then be tried and reviewed.

Cohen-Mansfield and Libin (2005) explored verbal agitation and physical non-aggressive agitation in cognitively impaired older people. They reported that verbal agitation was significantly related to cognitive decline, impairment in activities of daily living (ADL) and depressed mood; whilst physically non-aggressive behaviours were also related to cognitive decline, but were not related to ADL functioning or affect. This study therefore suggests that these different sorts of behaviours displayed by people with dementia may have differing causes and potentially these could lead to a different understanding and response by caregivers.

A study by Cohen-Mansfield, Libin and Marx (2007) aimed to test the effectiveness of the TREA in identifying treatments for agitation. By comparing the outcomes of an intervention (TREA) and control group, Cohen-Mansfield et al. concluded that individuals in the intervention group for which the TREA was used displayed a significantly greater reduction in agitation. They therefore suggested that non-pharmacological interventions, such as the TREA, could successfully reduce agitation displayed by people with dementia and that training care staff in such interventions would have a beneficial effect.

1.3.2.2.3 The consequences of need-driven dementia-compromised behaviour model. Kovach, Noonan, Schildt and Wells (2005) explained that their

consequences of need-driven dementia-compromised behaviour model (C-NDB) extended upon an original model proposed by Algase et al. (1996). The C-NDB considered that when the needs of a person with dementia remain unmet, potentially because the behaviour has not been identified as an expression of need or the unmet need has not been identified, then the consequences of this can be the production of further unmet needs which are expressed through further behaviours. Kovach et al. explained that it can then become challenging for care staff to determine the primary and secondary unmet needs. Further, they suggested that with the introduction of further needs this might potentially result in the individual requiring a higher level of care, something which might be managed by transitioning the person to another care environment.

1.3.2.2.4 The dialectical model. Kitwood (1997) proposed a dialectical model of dementia, in which an individual's experience of dementia is influenced by both their neurological impairments and the 'malignant social psychology' which surrounds them. Kitwood explained that "malignant signifies something very harmful, symptomatic of a care environment that is deeply damaging to personhood..." (p.46), however he stated that this is often not intended and arises out of cultural norms. Kitwood also proposed that people with dementia have six main psychological needs: comfort; occupation; attachment; inclusion; identity and love. Further, Kitwood suggested that caregivers can help an individual with dementia to maintain their personhood by meeting these psychological needs, but where these needs remain unmet a person may experience fear, anger or sadness. The extent to which these psychological needs are met will depend upon the social psychology surrounding the person (Brooker & Surr, 2005).

Therefore, from the dialectical model it can be understood that an individual displaying CBs may be communicating that their psychological needs are unmet,

sharing some similarity with the later model of unmet needs developed by Cohen-Mansfield (2000a). James (2011) suggested that although Kitwood's model can be helpful, it does not provide an indication for what treatment might be beneficial.

1.3.2.2.5 The Newcastle model. James (2010) proposed a model which is used in the Newcastle Challenging Behaviour Service to understand behaviours displayed by people with dementia. The Newcastle model highlights the importance of working with the individual's care setting to try to reduce CBs, using a systemic approach described as "staff-centred, person-focused" (p. 163), led by a psychological formulation which also includes elements of cognitive behavioural therapy (James, 2010).

James (2010) outlined that this approach involves working with the individual's care team to create a shared formulation which acknowledges the individual's life story and personality as well as medical factors and their social environment, drawing these factors together to understand a person's needs and then creating a care plan to target these needs in order to reduce CBs. The model has a series of stages which together comprise the full 14 week approach to assessment and intervention (James, 2010; James, 2011).

James (2010) explained that the Newcastle model incorporates elements of Cohen-Mansfield's (2000a) needs-based framework for understanding behaviours that challenge. James (2011) acknowledged that the Newcastle approach has been criticised for the large amount of resources it requires to conduct all stages of the process, but as a defence highlighted the model's ability to work with difficulties which are highly complex or chronic.

1.3.2.2.6 Overcoming barriers framework. Stokes (2000) stated that the medical model, which has largely been dominant in understanding dementia, has failed to acknowledge the individual person and therefore does not recognise the

potential psychological explanations for behaviours displayed by people with dementia. Stokes proposed that whilst the cognitive symptoms of dementia might represent a barrier to trying to understand behaviours and the person's experiences, one way of trying to overcome this is to make contact and identify with the individual experiencing dementia. Moniz-Cook, Stokes and Agar (2003) summarised that Stokes' view is holistic in including all aspects of the individual in understanding behaviour.

1.3.2.2.7 The fixed and mutable factors model. Another way of understanding CBs displayed by people with dementia has been proposed by Kunik et al. (2003) in their model of fixed and mutable factors. Kunik et al. proposed that there are three causes of CBs: the individual themselves; the care setting, and the person providing care. They suggested that each of these three factors has characteristics which are fixed and therefore explain the person's context, as well as characteristics which are mutable and can be altered and improved. Kunik et al. suggested that their model allows for both an understanding of why behaviours may have arisen as well as providing indications for potential interventions. James (2011) suggested that this model is helpful as it identifies those factors that can be changed in interventions aiming to reduce CBs.

1.3.2.2.8 Learning theory. Cohen-Mansfield (2001) explained that learning theory has also been used to try to understand the occurrence of CB in dementia care, with the possibility that behaviours become reinforced by care staff, for example by the attention they may receive. Consequently, Cohen-Mansfield summarised that learning theory can be used to reduce CBs by understanding and changing the relationship between the behaviour and its antecedents. However, Cohen-Mansfield (2003) later critiqued the use of learning theory in explaining CBs in dementia care, stating that "this model relies on the assumption that learning

can occur in dementia, when the mechanisms responsible for learning are those specifically impaired in dementia” (p.15).

Further, Moniz-Cook et al. (2003) suggested that using a traditional approach of applied behavioural analysis to understand and reduce CBs in dementia care is not always successful because it does not incorporate a unique understanding of the person and their history from a person centred approach. Moniz-Cook et al. suggested that in order to be a useful approach to understanding CBs in dementia care, a functional behavioural approach needs to be more inclusive of other factors, such as unobservable factors.

1.3.2.2.9 Lowered Stress Threshold model. It has also been proposed that behaviours displayed by people with dementia can be understood in the context of their increased vulnerability to overstimulation by the stimuli in their environment given their reduced cognitive ability (Hall & Buckwalter, 1987). Cohen-Mansfield (2001) explained that this hypothesis considers that as a person’s cognitive ability declines their threshold for experiencing stress also decreases. As this happens, a person may become anxious in their presentation and when they experience overstimulation they might then display behaviours which others find challenging to manage.

However, Cohen-Mansfield (2003) expressed opposition to this hypothesis. She reported that research has demonstrated that CBs can result from an individual being under stimulated. She explained that a person with dementia may not have the ability to obtain the stimulation they require and therefore they are expressing this unmet need through their behaviour.

1.3.2.3 The impact of behaviours that challenge. Goldsmith (2002) explained that if a person with dementia is displaying behaviours that challenge and is living at home with family carers, this can have a number of consequences.

Goldsmith highlighted that if a carer is disturbed during both the day and night, this may lead them to feel upset and experience high levels of stress. Further, Goldsmith reported that there may be an impact on the relationships between the person with dementia and their family, something which could be triggered for example by the family feeling embarrassed by the person's behaviour.

CB displayed by people with dementia can lead to individuals experiencing a transition from home to a residential care environment. For example, a study by Steele, Rouner, Chase and Folstein (1990) investigated whether symptoms, including behavioural symptoms, displayed by people with Alzheimer's disease predicted admission into a care setting. They concluded that those individuals admitted into care had higher scores on measures of difficult behaviours, including resisting care and continuous walking.

A further study by O'Donnell et al. (1992) which sought to identify the clinical features of a person with dementia which could best predict future admission into a care environment, concluded that disturbance in behaviours (which included aggressive behaviours, paranoia, incontinence, inappropriate sexual behaviour, emotional lability, reduced awareness of others, disordered ideas) were associated with a more rapid admission to residential care.

In addition to family caregivers experiencing difficulties, paid care staff can also find situations too difficult to manage. Consequently, a person with dementia may move from one residential care environment to another, or in a crisis they may be transferred into a psychiatric inpatient ward (Mace, 1990; cited in Moniz-Cook et al., 2001). This can be understood within the C-NDB model (Kovach et al., 2005), as if an individual's initial unmet needs are not recognised and met, the individual can develop further unmet needs and CBs, therefore potentially resulting

in a perceived need for a higher level of care, resulting in a transition to an alternative care environment.

Further, by considering the frameworks used to understand CB that can be displayed by people with dementia, such as the C-NDB model (Kovach et al., 2005), the unmet needs model (Cohen-Mansfield, 2000a) and the dialectical model (Kitwood, 1997), it can be understood that CBs can be an expression of distress by the person with dementia. Therefore, CBs reflect a negative state experienced by the individual person themselves, something which can be perpetuated and continuous if behaviours are not formulated and appropriate interventions are not developed using one of the models or frameworks described, resulting in ongoing distress for the individual.

1.3.3. Summary. It seems that people with dementia can display a number of behaviours, which may be understood neurologically as related to their dementia or psychologically, for example as an attempt to express an unmet need. A number of psychological models and frameworks have been developed to try to understand behaviours that challenge which are displayed by some people with dementia, including those by Kitwood (1997); Stokes (2000); Cohen-Mansfield (2000a) and James (2010), which have been outlined. Cohen-Mansfield (2001) summarised that “different models may account for different behaviours in different people” (p.362) and that “different models provided the basis for different interventions” (p. 362). In addition “models are not mutually exclusive and can be interactive” (p.10; Cohen-Mansfield, 2003).

Behaviours can be challenging for carers to understand and manage, and may potentially lead to a breakdown in the care environment, as can be understood through the C-NDB model (Kovach et al., 2005). This therefore highlights the importance of trying to understand more about how caregivers understand these

behaviours displayed by people with dementia, and how these understandings influence the relationship between caregiver and care-recipient. By gaining an understanding of these issues it may be possible to tailor interventions to reduce the likelihood of a breakdown in care placements.

1.4 Expressed Emotion

This section will introduce the construct of EE, giving an overview which will begin with the definition and development of the construct, exploring the early research including the relationship between EE and client outcomes. The theories which have been used to try to explain the findings of EE research will then be presented and critiqued, before considering the methodology used for measuring EE. Finally, research exploring EE with both relatives and staff working with different client groups will be outlined.

1.4.1 The definition of expressed emotion. Wearden, Tarrier, Barrowclough, Zastowny and Armstrong-Rahill (2000) explained that the psychological construct of EE has been used to measure the quality of relationships between a care-recipient and their caregiver and that it is also understood to represent important aspects of the interpersonal relationship between them. Hooley and Parker (2006) stated that EE is “well established as an important measure of the family environment”.

The construct of EE is measured by focusing on the warmth, positive comments, criticism, hostility and emotional over-involvement in the relationship between caregivers and care-recipients (Wearden et al., 2000).

1.4.2 Early research into expressed emotion. Research exploring the concept of EE first occurred with families of people with schizophrenia. Initial work conducted by Brown, Carstairs and Topping (1958) explored the outcomes of male clients with a diagnosis of schizophrenia when they were discharged from

hospital. This research led to the conclusion that those who had less contact with relatives following their discharge from hospital had more positive outcomes. This study led to further research by Brown, Monck, Carstairs and Wing (1962) who aimed to classify the relationships between family members and individuals with schizophrenia using scales measuring EE, hostility and dominance to capture 'emotional involvement'. Brown et al. reported that 56% of clients from families of high emotional involvement, and 21% from families of low emotional involvement, were readmitted to hospital. This indicated a need to explore these relationship factors within families more fully and to understand how they related to client outcomes.

Brown and Rutter (1966) progressed to develop an interview which aimed to measure objectively the EE between clients and their relatives by recording the critical comments, dissatisfaction, hostility, warmth and positive remarks which were expressed.

Following these early studies by Brown and his colleagues, further research has continued to investigate the EE in families of individuals with schizophrenia. Kavanagh (1992) reviewed 23 such studies and reported that only three had not found a greater relapse rate in those individuals who had received treatment for schizophrenia and then returned to live in environments with high levels of EE; therefore suggesting a strong relationship between high levels of EE and a poorer outcome for the individual. Attempts to understand the way in which EE and client outcomes are related have been proposed through several theories which will be considered later in this introduction.

Following on from the initial research with families of people with schizophrenia, the concept of EE has been studied more widely (Wearden et al., 2000) with studies investigating EE in family carers of people experiencing a

variety of mental health and medical conditions, including depression (e.g. Vaughn & Leff, 1976) and eating disorders (e.g. Szmukler, Eisler, Russell & Dave, 1985). Whilst Wearden et al. concluded that across research studies a relationship has been found to exist between EE and outcomes in a number of health conditions, they highlight that as most of the studies investigating EE are cross-sectional it is difficult to understand the direction of causality.

In summary, it seems that the early research studies which reported high levels of EE in relatives as being associated with greater rates of relapse in clients, have largely been replicated in relation to schizophrenia, and also increasingly in other physical and mental health conditions. It is therefore important to try to understand theoretically what factors might be underpinning the expression of high EE and may explain how EE relates to client outcomes.

1.4.3 Theories of expressed emotion. This section will outline the main theories which have been proposed to explain the levels of EE found in some relationships between caregivers and care-recipients. The theories considered will be the stress-vulnerability model, state and trait hypotheses and attribution theory. Further discussions of attribution theory will outline how attributions are considered to be subject to bias, and are potentially relevant to helping behaviour, and how attribution theory has been specifically linked to EE in the literature.

1.4.3.1 Stress-Vulnerability model. Wearden et al. (2000) explained that the evidence of high relapse rates in people with schizophrenia who resided with families displaying a high level of EE, was considered in the context of a modified stress-vulnerability model (Zubin & Spring, 1977). Zubin and Spring (1977) proposed that a vulnerability model could explain the onset of symptoms of schizophrenia. They suggested that individuals differ in their level of vulnerability to illness, with each person's inborn vulnerability determined by multiple factors

including genetics and personality, whilst acquired vulnerability is determined by external events and life experiences, or stressors. Zubin and Spring proposed that when levels of stress are above an individual's personal threshold they are more likely to experience illness symptoms. In this model, a person's illness symptoms will reduce when their stress levels decrease to below their individual vulnerability threshold.

Wearden et al. (2000) suggested that relatives expressing high amounts of criticism and hostility, as is characteristic of high levels of EE, may themselves generate a high level of stress in the family environment. This may therefore constitute acquired vulnerability in the client. When this stressor of high EE (acquired vulnerability) interacts with a person's inborn vulnerability, and exceeds the individual's personal threshold level, they may experience illness symptoms or a relapse of illness symptoms. Hooley and Richters (1995) summarised this, stating that the relative's high levels of EE may "constitute a psychosocial risk factor for relapse" (Hooley & Richters, 1995, p.134). Therefore this vulnerability model could explain the relationship between high levels of EE in relative caregivers and high levels of relapse in care-recipients.

However, Hooley and Richters (1995) proceeded to challenge this perspective, highlighting the possibility that rather than high EE impacting on client symptoms, it is possible that these symptoms also impact on the caregivers' EE levels. They suggested that the interaction between the caregivers' EE and the clients' symptoms may be bi-directional, with them impacting on one another.

Hooley and Richters (1995) reported that as the length of the client's illness increased, the number of critical and hostile remarks made by family carers also increased over the first five years of illness. In conjunction with these findings, Hooley and Richters noted that overall EE in family carers also increased over time,

with 83% of relatives having high EE levels after the client had been unwell for five years. In contrast, almost 29% of relatives caring for clients with recent onset of symptoms had high levels of EE. This therefore suggested a relationship between the length of the individual's illness and caregiver EE levels.

Further, when Hooley and Richters (1995) re-examined past research data they reported that individuals with high EE relatives had greater rates of relapse if they themselves had previous hospital admissions, compared to clients experiencing their first onset of symptoms. They reported that the relationship between EE level and relapse overall had a large effect size, but for clients with a first onset of symptoms the effect size was lower. From this, Hooley and Richters suggested that the strength of the relationship between EE and relapse increased alongside the chronicity of the client's illness. Whilst this demonstrates a relationship between symptoms and high EE, it is unclear what additional factors may impact on how EE changes over time.

Whilst the stress-vulnerability model proposed that high levels of EE constituted an environmental stress factor which potentially interacted with a client's vulnerabilities to trigger illness symptoms, research by Hooley and Richters (1995) challenged this by demonstrating that the relationship between EE levels and relapse was stronger as illness duration increased. Hooley and Richters therefore proposed a bi-directional model for understanding the relationship between caregivers' EE and client relapse, which could still potentially be used to explain the development of high EE in family caregivers. Potentially the client's symptoms may act as an environmental stress factor for the family caregivers, interacting with their own vulnerabilities to express criticism and hostility. This might therefore lead some relatives to develop high levels of EE in their

interactions with the client. This perspective has also been considered in the literature (Hooley & Richters, 1995).

Further, the bi-directional model (Hooley & Richters, 1995) could present as a feedback loop between the client and caregiver in which high EE and illness symptoms continue to influence one another. Whilst this theory can be used to suggest how the difficulties may be being maintained, it remains difficult to clarify whether high EE is a trigger for illness symptoms or a response to them.

Therefore overall, the explanation proposed by the stress-vulnerability model, that illness relapse might occur as a result of caregivers' high EE, has been challenged. However, the model may still be relevant, and given the findings of Hooley and Richters (1995) may potentially be useful in explaining the development of high EE in relatives and an ongoing feedback loop between clients and their caregivers.

1.4.3.2 State and trait hypotheses. It has also been proposed that EE can be explained by the psychological state and trait hypotheses. The state hypothesis considers EE to be a reaction by the caregiver in which they demonstrate hostility and criticism in response to care-recipients who may themselves be hostile or uncooperative (Hooley & Richters, 1995), suggesting their EE reaction is dependent on their care-giving context.

Hooley (1987) reported that those individuals who had high EE spouses caring for them were themselves less expressive compared to individuals with low EE spouses. Hooley also noted that the critical comments made by high EE caregivers were related to the person's reduced communication and therefore suggested that relatives may have developed high levels of EE in response to this reduced communication which they received from their unwell spouse. Such findings can be considered to be consistent with a state perspective in

understanding levels of EE, supporting the idea that EE levels may be dependent on the care-giving context.

In contrast, the trait hypothesis suggested that the levels of EE displayed by a caregiver were a reflection of their individual traits (Leff & Vaughn, 1985). They suggested that the underlying traits reflected by the concept of EE included tolerance, sensitivity to others' needs, flexibility and intrusiveness. This theory proposed that the high EE traits of the caregiver were present before the onset of the client's illness (Cheng, 2002) and therefore the measurement of EE can be seen as reflecting the measurement of these traits.

The trait hypothesis of EE has been challenged by research (e.g. Moore, Ball & Kuipers, 1992; Cottle, Kuipers, Murphy & Oakes, 1995) which has demonstrated that a member of care staff can have different EE ratings when talking about different clients (Hooley & Richters, 1995). Moore, Ball and Kuipers reported that EE levels were less dependent on the characteristics of the staff member and more dependent on the characteristics of the individual clients, which they suggested challenged a trait perspective of EE.

In addition, research by Schreiber, Breier and Pickar (1995) investigated the state and trait hypotheses in family caregivers of people with schizophrenia by comparing parents' EE levels towards their child with schizophrenia and a healthy sibling. They reported that parents showed significantly more EOI and warmth in response to the healthy sibling compared to the child with schizophrenia. Therefore the same parent could display different levels of EE components when talking about their two children, which would not be expected to occur if high EE were related to an individual's traits. These findings therefore also challenged the trait hypothesis and suggested that a state perspective might be more appropriate.

However, in contrast, research by Tattan and Tarrier (2000) found a significant relationship between case managers and their levels of EE. Tattan and Tarrier suggested that case managers were demonstrating an overall style of response to the clients they were working with, rather than an individual response to each client's difficulties. Given these findings it is possible that a caregiver's traits may impact to some extent on their level of EE; however due to the inconsistency in the literature it seems unlikely that individual traits can fully account for differences in EE levels and a state perspective may be relevant.

This theory has been criticised for not providing an explanation for the development or continuation of high levels of EE in caregivers (Barrowclough & Hooley, 2003). Further, it would not seem able to account for changes in a caregiver's EE level. Hooley and Richters (1995) reported that as a client's period of illness increased, more relatives displayed high EE, which they proposed was a consequence of a reduction in relatives' tolerance and a change in their attitudes. If an individual's traits impacted on their EE level, this would be anticipated to be relatively stable over time, and therefore the findings of Hooley and Richters further challenge the trait perspective of EE and potentially support and state theory of EE, with EE levels changing in response to the situation.

Overall it seems that whilst research has demonstrated a link between individual caregivers and their level of EE (Tattan & Tarrier, 2000), this is not consistently reported and research findings have explicitly challenged the trait hypothesis of EE (e.g. Hooley & Richters, 1995; Moore, Ball & Kuipers, 1992; Schreiber et al., 1995). Whilst it therefore seems unlikely that the trait hypothesis can completely account for differences in caregivers' EE levels, it may be a contributory factor and it is possible that both state and trait perspectives could be

incorporated into an explanation of EE. Another theory which could incorporate the research findings is attribution theory, which will now be discussed.

1.4.3.3. Attribution theory. Heider (1958) proposed that people try to make sense of the behaviours of those around them, considering what caused the behaviour and how it can be explained. Heider suggested that individuals generate attributions about another person's behaviour based on what they have observed or been told, the perceived intent and motive of the behaviour, and perceived level of exertion of the individual. Heider explained that the attributions made may be based on the perceiver's cognitive biases and not always based on objective reality.

Heider (1958) suggested that an attribution is made according to whether an individual's behaviour is understood as arising due to a factor within the environment or due to the person themselves (their characteristics and personality) and the extent to which the outcome was under the control of the person.

1.4.3.3.1. The fundamental attribution error. It has been suggested that the way in which attributions are made may be subject to bias, with the term 'fundamental attribution error' (FAE) used to refer to "the tendency for attributors to underestimate the impact of situational factors and to overestimate the role of dispositional factors in controlling behaviour" (Ross, 1977; p. 183). In proposing the FAE, Ross highlighted earlier research by Jones and Harris (1967) in which participants assumed that individuals writing pro-Castro information had similar personal views, even though they were informed that the writers had been instructed to write in this way. Participants in this study were therefore considered to have been employed the FAE in their judgements. Further, Ross (1977) suggested that professionals, including psychologists, are also susceptible to making the FAE.

1.4.3.3.2 Attribution theory and helping behaviour. Further, Weiner (1980) proposed a link between the attribution a person makes about the cause of an event, the emotion this generates, and helping behaviour. Participants were required to rate their attributions and judgment of helping behaviour in response to scenarios. Weiner reported that causal attributions were related to emotion, such that attributions of the behaviour being drunk, were understood as being in the person's control, and were related to negative emotions and negative judgments of helping behaviour. In contrast, the behaviour being ill, was considered outside of the person's control and was related to positive emotions and positive judgements of providing helping behaviour. Weiner concluded that causal attributions of behaviour are strongly associated with emotion, and these emotions are strongly associated with the judgments about likely helping behaviour. Therefore, whilst this theory of helping behaviour clearly links attribution with the likelihood of helping, it also emphasises the importance of emotion.

Weiner's (1980) theory of helping behaviour has been explored in the context of professionals working with individuals with mental health difficulties and intellectual disabilities, generating mixed findings. Support for the theory has come from Dagnan, Trower and Smith (1998) who concluded from their study that helping behaviour in professionals working with individuals with intellectual disabilities and CB was most predicted by staff optimism, which was itself most predicted by staff emotion, which was in turn predicted by attributions of controllability. Dagnan et al. suggested that it would therefore be important for interventions with staff to target and aim to change attributions of controllability.

In addition, other research (e.g. Stanley & Standen, 2000; Whitehouse, Chamberlain & Tunna, 2000) has also found support for Weiner's theory. Whitehouse et al. (2000) reported that when staff working with people with

intellectual disabilities and dementia attributed behaviours as due to dementia and out of the client's control, they indicated that they would help the person as much as possible, despite having low optimism about the potential outcome of this.

However, it is noted that these studies (Dagnan et al., 1998; Whitehouse et al., 2000; Stanley & Standen, 2000) have used methodology involving participants rating hypothetical situations, case studies and lists of behaviours rather than situations which they have themselves observed, which is potentially problematic and reduces ecological validity (Wanless & Jahoda, 2002).

However, research exploring Weiner's (1980) theory of helping behaviour has not demonstrated consistent findings. For example, Bailey, Hare, Hatton and Limb (2006) explored Weiner's (1980) model with care staff working with individuals with intellectual disabilities, comparing their attributions for self injurious behaviours and other CBs. They reported that the relationships between staff attributions, emotions, willingness to help and actual helping behaviour were not consistent with Weiner's model. Bailey et al. explained that although there were associations between the attributions of behaviour as due to stable, internal and uncontrollable causes with negative emotions in staff, this was not related to the willingness of staff to provide help.

Sharrock, Day, Qazi and Brewin (1990) highlighted that the attributions that staff make about a clients' difficulties are important in determining staff reactions. Sharrock et al. reported that staff participants working on a medium secure unit attributed clients' behaviours generally as internal, controllable, stable and global to the person, with controllability being negatively associated with staff optimism, which was itself significantly associated with helping behaviour. This study reported no relationship between participants' emotional reactions and helping

behaviour, therefore challenging Weiner's theory, but did demonstrate that staff made the FAE when considering their clients.

Todd and Watts (2005) also explored Weiner's theory in dementia care by examining the attributions made by staff (nurses and psychologists) about a CB they had witnessed. They concluded that "no consistent or robust role for attributions was found overall" (p. 78) in relation to participants' responses to behaviours. Although they also suggested that the staff participants did appear to have a tendency to attribute behaviours as uncontrollable, stable and internal to the client, potentially suggesting partial support for the FAE in relation to understanding CB displayed by people with dementia. Todd and Watts suggested that their findings supported previous research which indicated optimism to be more related to helping behaviour, but not for physically aggressive behaviour. However they did not investigate the extent of the CBs displayed by the clients who were being considered.

Willner and Smith (2008) reviewed the studies which have explored Weiner's (1980) theory of helping with care staff supporting individuals with intellectual disabilities. They concluded that the findings were inconsistent and therefore could not provide robust support for the theory. It therefore remains unclear whether attributions do impact on emotions and in turn whether these factors can reliably predict helping behaviour.

1.4.3.3. Attribution theory and expressed emotion. It has also been proposed that attribution theory can explain the differences in levels of EE found in caregivers (Hooley, 1987). Hooley suggested that "When faced with the abnormal behaviour of a family member, relatives have two choices; they can make either an internal or an external attribution about the cause of the change. The latter involves blaming the illness. The former results in blaming the patient" (p. 180).

Considering this in the context of her previous research, Hooley stated that high EE spouses had tended to make attributions of clients' behaviours as being internal to the person and at times appeared to imply they were responsible for their symptoms. Hooley (1987) suggested that the attributions made by caregivers may be due to both the symptoms being observed and the carers' individual personality traits, therefore suggesting that their attributions may arise from both state and trait factors.

This model of EE is proposed to allow for caregivers to move from high EE to low EE (Hooley, 1987); since with time some caregivers may acknowledge that the behaviour is not under the control of the client, leading them to alter their own perceptions of the symptoms as being part of the illness. Therefore caregivers could alter their attributions and consequently move from expressing high EE to low EE.

Further, Hooley (1987) proposed that positive and negative symptoms of illness would relate differently to a caregiver's attributions. Hooley suggested that negative symptoms, which involve the care-recipient not engaging in behaviours which would otherwise be considered normal, may be more difficult for families to understand as related to the illness. In this situation a family caregiver may attribute the symptoms as under the control of the person, leading them to have high levels of EE. In contrast, Hooley proposed that positive symptoms (an excess of behaviours which are not normally displayed) may be easier for families to understand as they may appear more related to the illness; therefore these symptoms will be attributed as uncontrollable by the care-recipient, and result in expression of a low level of EE.

Research investigating EE has increasingly found that how caregivers view the person's difficulties is related to their level of EE (Wearden et al., 2000), with for example, Brewin, MacCarthy, Duda and Vaughn (1991) reporting that critical

and hostile relative caregivers attributed the care-recipients' difficulties as controllable by them.

Further support for the attributional theory of EE has also come from Hooley and Campbell (2002), who reported that relatives of individuals experiencing depression or schizophrenia who expressed high EE were more likely to rate the client as in control of their illness than those relatives who expressed low EE. In addition, Wearden, Ward, Barrowclough and Tarrrier (2006) reported that 17% of relatives of clients with diabetes expressed high levels of EE, and that these relatives were more likely to attribute events related to diabetes as internal to the client and other events as personal to, and under the control of the client.

In dementia care, Tarrrier et al. (2002) explored attributions in family carers of people with dementia, which found high EE relatives made attributions of behaviour as controllable by and personal to the client. This suggests that the attributional theory of EE may also be applicable in dementia care.

Whilst there appears to be considerable evidence in support of an attributional theory of EE, with the occurrence of the FAE being associated with high EE levels, it is acknowledged that the relationships reported are largely correlational and it is therefore difficult to infer a causal relationship between the FAE and EE (Barrowclough & Hooley, 2003). Consequently, it remains possible that the relationship between these two factors could exist in either direction, with high levels of EE predisposing the individual to make the FAE, or alternatively the interpretation of events through the FAE may lead an individual to express high levels of EE. It is also possible that both directions of causality exist with the two factors affecting one another in a circular pattern.

Although the direction of the relationship between EE and attributions is currently unclear, a review of the literature in this area conducted by Barrowclough

and Hooley (2003) concluded that relatives who displayed high EE consistently made attributions that the person's symptoms were more controllable by them, in comparison to relatives who displayed low levels of EE. Therefore the relationship between attributions and levels of EE appears to be a relatively stable research finding.

1.4.3.3.4 Implications for Interventions. Given the relationship between EE and the FAE, it is possible that interventions targeting attributions such as the FAE, may reduce high levels of EE, or similarly that interventions targeting high EE may impact on attributions. Research has to date explored the impact of training on attributions made by staff about CBs, with Kalsy, Heath, Adams and Oliver (2007) reporting that increasing the knowledge of staff through training, led to a reduction in attributions of behaviour as controllable by the clients, although they did not extend this study to measure and report on EE levels. Similarly, Grey, McClean and Barnes-Holmes (2002) reported that after attending training in 'multi-element behavioural support', staff made different attributions about CBs in people with intellectual disabilities, although this study also did not explore EE.

Interventions targeted at reducing EE have been explored by Pharoah, Mari and Steiner (1999), who are reported to have reviewed interventions used with families of people with schizophrenia to reduce EE levels, finding that these treatments had reduced the relapse frequency in clients (Barrowclough & Lobban, 2007). However, the effect of these interventions on the attributions of caregivers was not recorded. It seems that whilst the attributional theory is proposed as a theoretical basis for understanding differences in levels of EE, the effect of interventions on both factors has not yet been tested.

1.4.3.4 Alternative explanations of expressed emotion. Whilst the association between EE and the FAE may be important in understanding the

relationship between caregivers and care-recipients, it is possible that other factors may be important in understanding levels of EE. Some other factors, such as staff stress and burnout levels, have been explored in the literature with contradictory findings. For example, whilst Moore, Ball and Kuipers (1992) reported that the level of stressors reported by staff caregivers was not related to their level of EE when discussing their client care-recipients, Langdon, Yaguez and Kuipers (2007) reported that staff who demonstrated a high level of EE also scored as high in burnout and their reported levels of personal accomplishment were lower than in those staff who expressed low levels of EE.

Moore, Ball and Kuipers (1992) suggested that other factors which could be important in understanding EE “may include the ‘guiding philosophy’ of the service, how well informed the carer is, and the expectations they have of client progress” (p. 806). It is therefore important to consider that the recommended person centred approach to dementia care (NICE Guidelines for Dementia, 2006) might impact on the attributions of dementia care staff. Care staff are likely to have received training highlighting the enriched model of dementia proposed by Kitwood (1993), which outlined how the presentation of a person with dementia is due to a combination of their personality, neurological factors, their physical health, biography and the social psychology surrounding them. It is therefore possible that care staff might consider a wide range of potential factors as impacting on an individual’s behaviour.

Similarly, Dilworth, Philips and Rose (2011) reported that organisational factors appeared to have an impact on the way in which staff made attributions about CBs related to control, stating that when the organisation was a better quality, staff made attributions of behaviours as less under the control of the client. In further considering the care environment, Moniz-Cook et al. (2000) reported that

support for staff from supervisors, levels of staff anxiety and the ability of the environment to employ a person centred care approach were all related to the extent to which staff understood behaviours to be challenging. These studies therefore demonstrate that whilst the FAE may be related to high EE, it is likely that other factors may also be involved.

In addition, other factors such as the wider social perceptions of behaviours, or the stigma attached to a condition by wider society, may potentially be associated with high EE and the FAE. For example, it is possible that an individual's attributions about the behaviour of a person with a mental or physical health condition may be subject to the FAE if the condition remains stigmatised in wider society. It may be that when a condition is stigmatised an individual may wish the behaviours to be attributed to the person, rather than the situation or environment, since this explanation may provide the individual with a way of distinguishing themselves as different from the person who has the condition. This could be understood as employing social distancing, a term outlined by Stokes (2000) as "the distance we place between ourselves and any group of people we fear, or feel threatened by" (p. 48). Stokes described how this social distancing leads to the development of stereotypes and prejudices towards people with dementia, which may potentially explain the possibility of CB being understood within the FAE.

Further, the possibility that staff may cope with CB using detachment has also been proposed in the literature by Hastings (1995) who highlighted that such a strategy could impact on a professional's approach to the behaviour. In addition, this detachment could potentially be understood through the proposed ego-defensive bias which suggests that when interpreting events individuals strive to maintain their own self esteem (Heider, 1958). An ego-defensive bias may also be

particularly relevant in considering the attributions of those who provide care for individuals with mental or physical health problems, whether formally or informally.

1.4.3.5 Summary of the theories of expressed emotion. In summary, the research literature has particularly challenged the trait hypotheses of EE and the stress-vulnerability model, highlighting their limitations. It seems that the state perspective has some support in the literature, with more recent research providing considerable support for the attributional theory of EE.

It has been proposed that attributions are subject to the FAE, and impact on our emotions and subsequent helping behaviour; whilst also affecting the levels of EE in caregivers. The literature therefore suggests that an individual making the FAE is less likely to help another and more likely to have high levels of EE, which highlights the importance of understanding the attributions made by caregivers.

Whilst associations between these factors are reported in the literature, a casual relationship between these variables cannot be inferred, and there appear to be other factors which may also be related to EE and attributions.

Following an understanding of the possible theories explaining EE, it is also important to consider how to measure the construct in a reliable way. Some of the measures developed for measuring EE will be considered in the next section.

1.4.4 Measuring expressed emotion. The development of methods used to measure EE will now be explored, considering the subsequent measures that have been proposed, alongside their strengths and limitations. Finally the most useful measure, in the context of this study, will be proposed.

The measurement of EE was initially developed using a semi-structured Camberwell Family Interview (CFI; Brown & Rutter, 1966). The CFI has been described as the ‘gold standard measure of EE’ (Hooley & Parker, 2006), involving

the client's family caregivers being interviewed about their relationship with the client, taking up to 2 hours to complete. Following the interview, the comments are rated on the dimensions of criticism, hostility, emotional over-involvement (EOI), warmth and positive remarks, with the dimensions of criticism, hostility and EOI highlighted as the most important (Hooley & Parker, 2006).

Given that the initial CFI required a considerable amount of time to administer, and considerable training, several additional measures of EE have since been developed. As a briefer way of measuring EE, whilst still using an interview format, Magana et al. (1986) developed the Five Minute Speech Sample (FMSS). This required caregivers to talk about their relationship with the care-recipient for five minutes. This interview is then rated on the dimensions of critical comments; positive comments; emotional over-involvement; the initial statement, and quality of the relationship, as well as generating an overall rating of EE level as either high or low. Magana et al. reported that the FMSS produced similar ratings of EE to the CFI, suggesting it to be a valid measure of EE, although some studies have reported the FMSS to be conservative in its detection of high levels of EE (Hooley & Parker, 2006).

Research by Moore and Kuipers (1999) compared the use of a modified CFI and FMSS with staff participants talking about their clients. They added instructions to the FMSS to make it relevant to staff and to encourage them to consider their relationship with the client, rather than to talk about the client's difficulties. From their comparison of the two measures, Moore and Kuipers reported an overall agreement of 89.7%, with no false high EE ratings identified. Further, they stated that whilst the FMSS may potentially falsely identify high EE due to its low threshold for critical comments, it remains a reliable measure requiring brief training which can be completed in less time than the CFI. Similarly,

Tattan and Tarrier (2000) reported that an advantage of the FMSS is its “extreme brevity of administration and rating” (p. 196).

Questionnaire measures designed to capture the key components of EE, include the Patient Rejection Scale (PRS; Kreisman, Simmons & Joy, 1979) which is an eleven item self report scale administered to family caregivers. Rist and Watzl (1989) are reported to have found to have a significant correlation between the PRS and the components of hostility and criticism (Bailer, Rist, Brauer & Rey, 1994). However, Hooley and Parker (2006) highlighted that the PRS has not been validated against the CFI, which is therefore problematic as the PRS cannot be assumed to be measuring the construct of EE and may be representing other aspects of relationships.

The Level of Expressed Emotion (LEE) Scale was developed by Cole and Kazarian (1988) to capture client’s perceptions of their family relationships and levels of EE (Startup, 1999). Whilst this scale is reported to have good psychometric properties, it is challenged for not including response items related to the dimension of criticism (Startup, 1999). This is problematic given that some have argued the component of criticism to be the most important element of EE (Vaughn & Leff, 1976), and in paid care staff high EE is reported to be characterised by high levels of criticism (Barrowclough et al., 2001).

The Perceived Criticism Scale (PCS; Hooley & Teasdale, 1989) consists of measures of criticism completed by both the care-recipient and their caregiver. In a review of the measures of EE, Hooley and Parker (2006) described this scale as the simplest measure of EE, although stated that its ratings cannot be substituted for the CFI. Whilst this measure is brief it does not incorporate the other elements of EE. Further, whilst it may be possible for some care-recipients to complete the

corresponding part of the measure, this is likely to be variable and may not be possible with individuals who experience cognitive impairments.

1.4.4.1 Summary. Overall the measure which captures the most elements of EE, in a practical brief way, whilst also maintaining a good level of validity appears to be the FMSS. In addition, when considering a measure for use with staff caregivers, the FMSS has been found to be acceptable and relevant with appropriate modifications made specifically for recording EE levels in staff (Moore & Kuipers, 1999).

Given that the measurement of EE has been found to be possible and acceptable in staff caregivers, it is important to consider the literature further exploring the findings of EE levels in paid staff carers.

1.4.5 Research with staff caregivers. Given that the concept of EE was initially developed to explain relationships between relatives and clients with schizophrenia (e.g. Brown, Carstairs & Topping, 1958), it is important to consider research exploring the relevance of this concept with paid staff caregivers. As this study aims to explore EE levels in staff providing care for people with dementia it is important to understand the research which has already taken place with staff working with other client groups which sets the context for the extension of the research into dementia care. This section will therefore outline the research exploring EE in staff who provide care for individuals with mental health difficulties and intellectual disabilities, demonstrating how the concept of EE has been transferred to measuring care relationships between professionals and clients. Links between staff EE levels, attributions and CBs will also be outlined.

1.4.5.1 Mental health. Research initially transferred from family relationships to those between paid mental health professionals and their service users with a study by Moore, Ball and Kuipers (1992). Moore, Ball and Kuipers

explained that professional care staff may demonstrate different relationships with the clients compared to family caregivers, given that they have received specialist training and would not spend as much time with the client.

Moore, Ball and Kuipers (1992) examined the relationship between staff and individuals with mental health problems in a long term care environment, using a modified form of the CFI to measure levels of EE. This study reported that the criticism expressed by staff was associated with the clients' behaviours, which included aggressive behaviour and behaviour described as attention-seeking. In total 43% of staff were classified as high EE, demonstrating the existence of relationships characterised by high EE between paid staff and clients. Moore, Ball and Kuipers reported this rate to be comparable to that in families. This research was also central to challenging the trait theory of EE, as previously stated by Hooley and Richters (1995), since it demonstrated that the same member of staff could display different levels of EE in relation to different clients.

Further research has also demonstrated the applicability of the construct of EE in paid care staff. Tattan and Tarrier (2000) explored EE levels in community case managers working with individuals with a diagnosis of psychosis. They reported high EE levels in 27% of case managers, further demonstrating the existence of high EE in staff caregivers.

In support of the relationship between attribution theory and EE in paid care staff, Moore, Kuipers and Ball (1992) reported that when staff made attributions of a client's difficulties as being under the client's control this was significantly related to high levels of criticism by staff.

Further research by Ball, Moore and Kuipers (1992) reported relapse rates in people with mental health problems were higher when staff working in their hostel displayed high levels of EE. Similarly, Snyder, Wallace, Moe and Liberman

(1994) reported that residents with schizophrenia displayed more symptoms, experienced lower quality of life and critical relationships with staff when the staff members expressed high levels of EE.

Whilst these studies provide evidence in support of a relationship between EE levels expressed by staff and client outcomes, the literature is not consistent. Tattan and Tarrier (2000) reported finding no difference in client outcomes according to whether their case manager was rated as high or low in EE. However, the measure of overall quality of the relationship between case managers and clients was found to have a significant relationship with the clients' clinical outcome.

Research findings have demonstrated mixed rates of high EE in staff caregivers, as outlined by Barrowclough et al. (2001), with their own study finding that no care staff displayed high EE. In contrast other research has produced rates of up to 43% expressing high EE (Snyder et al., 1994). Barrowclough et al. discuss their research findings and queried whether their findings were the effect of a small sample size, interviewing staff from a new unit, or due to interviewing staff about clients they had key worker responsibility for. It seems that the rates of high EE displayed by staff working in mental health settings is variable and it is difficult to draw firm conclusions about these.

Further, EE in paid care staff is reported to differ in its composition, with high levels of EE reported to be most characterised by high levels of criticism, rather than EOI (Barrowclough et al., 2001). It has been suggested that EE in staff caregivers differs from EE in relatives because as professionals staff may be more cautious in how they respond when asked to talk about their relationships with clients (Tattan & Tarrier, 2000). From their research with community case managers, Tattan and Tarrier suggested that "an absence of positive attitude and

affect in staff is more representative of the environment created by high EE relatives” (p. 202).

When comparing relatives and professional paid care staff, it has been proposed that staff spend less time with the client, which may therefore lessen the impact which a negative attitude may have on the client (Tattan & Tarrier, 2000). Previous research by Moore, Ball and Kuipers (1992) reported that those staff who expressed high levels of EE when talking about their clients spent greater time with them than those staff who were rated low in EE. It is possible that those clients who generate high levels of EE in staff are those who require higher levels of staff input.

1.4.5.2 Intellectual disabilities. The construct of EE has also been investigated with staff caregivers within the intellectual disabilities literature. Cottle et al. (1995) explored levels of EE in staff following a violent incident in a care setting and measured staff attributions towards the perpetrator of the incident. Cottle et al. reported that a month after the incident 66.6% of staff expressed high EE and those staff with high levels of EE were more likely to attribute the event as being due to factors internal and personal to the client.

Similarly, Weigel, Langdon, Collins and O’Brien. (2006) also demonstrated a relationship between the attributions made by staff about CBs and the level of EE they displayed when talking about inpatients with intellectual disabilities. They reported that significantly more staff participants demonstrated a high level of EE when they spoke about a client who displayed CB in comparison to a client without CB. In addition, they found that staff who had high levels of EE made more attributions of CB as being internal to the client, concluding from the results that staff appeared to have made the FAE when understanding CB.

Recent studies in the intellectual disability literature have attempted to explore in more detail the different behaviours that compose the term ‘challenging

behaviour' together with staff attributions of these, (for example Dilworth et al., 2011; Grey, McClean & Barnes-Holmes, 2002; Hastings, Reed & Watts, 1997). Dilworth et al. (2011) reported that members of staff rated a care-recipient's CB as more under their control if it was "physically aggressive behaviour", and rated the behaviour as less under the person's control if it was "self-injurious behaviour". Further, Grey et al. (2002) also reported differences in the attributions made by staff when understanding behaviours deemed to be aggressive and those considered self-injurious. In addition, Hastings et al. (1997) concluded that staff were more likely to view behaviours deemed to be aggressive as either a response to others or a method of seeking attention compared to stereotypy behaviours. These studies indicate that different behaviours, whilst all deemed to be challenging, may be understood within the context of different attributions, and therefore may also result in different levels of EE. It therefore appears that potentially the relationship between attribution theory and the construct of EE may depend on the type of CB the care-recipient displays.

Further from the intellectual disability literature, Whitehouse, Chamberlain and Tunna (2000) concluded from their pilot study that when a change in behaviour in a person with a learning disability was attributed by care staff as being due to a dementia, it was considered to be "stable, global and not under the control of the person" (p.150). It appeared that the consideration of dementia had potentially impacted on the attributions made by staff caregivers, potentially reducing the FAE. This raises the possibility that different diagnoses may have an impact on the attributions which staff make about care-recipients' CB, and potentially staff members' level of EE.

Further, it is important to consider the methodology used in the studies. For example, Weigel et al. (2006) highlighted that their study did not involve the use of

vignette methodology, which had previously been employed in some studies investigating the attributions of CBs. The importance of using real clients rather than vignettes was highlighted by Wanless and Jahoda (2002), who reported that “evaluations of clients engaging in the behaviour were significantly more negative when they were made regarding a real as opposed to a hypothetical client” (p. 514). This illustrates that using real clients rather than vignettes is likely to produce more ecologically valid results.

1.4.5.3 Summary. This section has outlined some of the research exploring EE with staff working with clients with mental health difficulties and intellectual disabilities. This has demonstrated that the concept of EE, originally developed to measure the quality of relationships between relatives, has been successfully measured in staff-client relationships. Further, the literature demonstrates that EE in staff is also potentially linked to client outcomes (for example, Snyder et al., 1994), although this finding is not consistent (Tattan & Tarrier, 2000). It has also been suggested that in relationships between professionals and clients, it may be the absence of positive attitudes that is more important than the presence of negative attitudes (Tattan & Tarrier).

In addition, this section has demonstrated that the construct of EE in care staff is potentially understandable through the attributional theory and the FAE (for example, Moore, Kuipers & Ball, 1992). However, the applicability of an attributional theory of EE in understanding behaviours displayed by people experiencing a dementia appears unclear at the current time.

1.4.6 Reviewing the research in dementia care. This section will give an overview of the literature exploring the construct of EE in dementia care. It will outline the extent to which the attributional theory of EE is supported in carers of

people with dementia and the links made between EE, attributions and behaviours that challenge carers.

In order to establish to what extent EE has previously been explored in dementia care, a review of the current literature was conducted, using the search databases PsycINFO, CINAHL, MEDLINE, and the search terms “expressed emotion”, “dementia” and “alzheimer*”. Search terms were exploded, where databases allowed. Excluding review papers, this identified 14 studies investigating the concept of EE in caregivers of people with dementia. All identified studies had recruited family caregivers of people with dementia, with none recruiting paid care staff.

The quality of research studies can be evaluated using standardised criteria. The Consolidated Standards of Reporting Trials (CONSORT) have produced guidelines which can be used in both the reporting and appraising of randomised controlled trials (RCTs), recently updated in 2010 (Schulz, Altman & Moher, 2010; Moher et al., 2010). However, these criteria have been designed for RCTs. The majority of studies exploring EE in family members of people with dementia are not research trials, and as such are not necessarily reported according to CONSORT guidelines.

The Critical Appraisal Skills Programme (CASP) have also produced checklists which can be used when appraising a research paper, with different checklists available depending upon the type of research study being reported.

It would seem that the studies which are to be presented here, which have explored EE in dementia care, may be best considered using the CASP framework for case control studies (CASP, 2013) which consists of eleven questions to be answered for each study. Criteria taken from this framework will therefore be considered in relation to the following studies.

An initial study by Orford, O'Reilly and Goontailleke (1987) used interviews and questionnaires to measure EE in 12 relative caregivers of people with dementia, and comparison groups of relatives of psychiatric clients who were younger, older and physically unwell. This study therefore addressed a clear issue using between groups methodology, providing a clear explanation of the criteria for recruitment into each group. It is noted that 25% of the individuals who were approached to participate in the younger and older psychiatric groups declined to take part, and only 55% of potential younger psychiatric clients were approached about the study, all potentially impacting upon the extent to which these sample groups are representative of the population. The sizes of the sample groups are also uneven, making comparisons between them problematic. Orford et al. reported that EE ratings were made by one trained rater and two researchers untrained in scoring EE but using a manual. It is not suggested that the raters had been blinded to the type of comparison group. They reported modest inter-rater reliability. Therefore, whilst Orford et al. reported high EE in 8% of relatives of people with dementia, it is possible given the small sample size and absence of training in rating EE, this may be an underestimation of the rate of high EE in relative caregivers of people with dementia.

Alternatively, considering the findings in accordance with the attribution theory of EE, it is possible that carers were not making the FAE regarding the care-recipient's behaviour. Subsequent studies have reported varying rates of high EE in relative caregivers of people with dementia, reporting contrasting findings and with varying support for the attributional theory of EE.

The literature has reported rates of high EE as highly variable, for example, Bledin, MacCarthy, Kuipers and Woods (1990) reported that 56% of daughters caring for their parent with dementia had high levels of EE. Bledin et al. also

compared high and low EE daughters, reporting that daughters with high levels of EE reported experiencing more strain and higher distress. However, as acknowledged by Bledin et al., the daughters recruited in their study were caring for parents who were in receipt of services such as day care, and consequently might represent a population experiencing higher levels of stress and carer demand than those who are not in contact with services. Further, the majority of parents (84%) were mothers, and the results are therefore potentially more representative of mother-daughter relationships. However Bledin et al. do not appear to have considered whether the gender of the parent had an impact on EE or the other variables being investigated. Whilst Bledin et al. used a brief CFI to measure EE levels, no details are provided about how the CFI was reduced or the potential impact of this on the reliability of the measurement of EE.

Whittick (1992) concluded that high EE exists among relatives caring for people with dementia, although no statistics were provided and EE level was reported to be rated based on subjective judgements of the researcher, which are potentially subject to bias given that the researcher does not appear to have been blinded to the other data collected. Whittick adapted the Patient Rejection Scale for the study, however does not detail the adaptations which were made or consider their impact on the reliability or validity of the scale. Given that this study does not detail many important alterations made to measures, or make use of standardised criteria, the conclusions made are potentially subject to bias.

A subsequent study by Fearon, Donaldson, Burns and Tarrier (1998) reported that 34% of relative caregivers displayed high levels of EE on the CFI, rated using trained raters. This study used a regression model to explore EE status as a function of intimacy and also compared EE between high and low intimacy groups. An intimacy questionnaire was completed by caregivers, which was

appropriate for the older population although relied heavily on memory.

Consequently the intimacy data obtained in this study are potentially subject to some error or bias.

A similar rate of 40% high EE in a sample of English relative caregivers was reported by Nomura et al. (2005), compared to 5% of caregivers in Japan. This study compared EE levels in carers of people with dementia and schizophrenia, whilst also comparing between English and Japanese carers. Whilst Nomura et al. suggested that criticism varied between the samples potentially due to cultural differences, the samples differed regarding the severity of dementia experienced by the care-recipients and measures also differed, making it difficult to conclude whether culture was a factor.

Research by Wagner, Logsdon, Pearson and Teri (1997) potentially challenged the attributional theory of EE. Whilst they reported 40% of caregivers had high levels of EE, they found no significant relationship between the level of EE in the relative and the behaviours of the care-recipient. Given that Wagner et al. did not measure the attributions made by caregivers about their relatives' behaviour it is not possible to know how they understood the behaviours. However, it is possible that those relatives with high EE were not making the FAE when considering difficult behaviours, therefore potentially explaining the absence of a relationship between behaviours and EE. Alternatively, it is also possible that some relatives of care-recipients displaying low levels of difficult behaviours actually understood this lower level of problems in the context of the FAE, as did some caregivers of people with more difficult behaviours. Therefore, it is possible that the attributional theory of EE is supported, but that attributions can be related to low levels of behaviours that challenge and not solely to high levels of difficult behaviours. Wagner et al. (1997) used between groups comparisons, comparing

high and low EE carers on levels of depression and burden. The FMSS was used to rate levels of EE, and coded by one of the authors of the measure who was blind to the additional data. When measuring symptoms of depression, the cut-off scores for older people were used with younger adult caregivers. Further, the caregivers participating in the study rated both their own and their care-recipient's symptoms of depression, which are therefore potentially subject to bias. Therefore, whilst Wagner et al. reported no significant relationship between EE, client levels of depression, functioning, cognitive functioning and behaviours there are limitations to this study, which are recognised by the authors. The study limitations also include the recruitment of participants from a University clinic, which potentially limits the representativeness of the sample.

In contrast a study by Vitaliano, Young, Russo, Romano and Magana-Amato (1993) using the FMSS which reported that 22% of carers displayed high levels of EE, also stated that high EE caregivers were living with individuals who displayed significantly more negative behaviours. Whilst attributions about these behaviours were not measured, it is possible that the FAE was made in relation to CBs, and could explain the relationship between these behaviours and high EE. EE was measured using the FMSS which was rated by a trained rater who was blind to the other data collected. This study used a repeated measures design to compare caregivers' data at two points in time and also made comparisons between the groups of high and low EE caregivers.

Gilhooly and Whittick (1989) conducted an exploratory study in which they compared EE levels between relatives who lived with the care-recipient and those who did not. However, due to differences in the severity of the dementia experienced by the care-recipients, comparisons between the groups are difficult to interpret. The sample of caregivers were recruited through a day centre, and

therefore may also represent carers in receipt of services. In addition, in order to measure care-recipient's cognitive ability, Gilhooly and Whittick reported making adaptations to the standardised measure, however these are not detailed and it is unclear to what extent they impact on the reliability of the data obtained. Further, it is noted that the quality of the relationship between the caregiver and care-recipient was rated by the authors on a five point scale which appeared to be based on the subjective judgement of participants' answers to various questions, therefore this may be subject to some bias. They reported that there was no significant relationship between the caregivers' level of EE and the care-recipients' level of cognitive and physical functioning, which may indicate that difficulties in people with dementia were not attributed as internal to them and controllable by them, and were therefore not associated with high levels of EE. However, as this study did not specifically measure behaviours that caregivers find challenging, the relationship between these variables is uncertain. Whilst Gilhooly and Whittick reported a significant relationship between the number of critical comments made by caregivers and the quality of relationship between them and their care-recipient, the reliability of the ratings of relationship quality appear unclear.

It is noted that the findings of Gilhooly and Whittick (1989) contrast those by Vitaliano, Becker, Russo, Magana-Amato and Maiuro (1988) who reported that 22% of spouse caregivers had high levels of EE. Vitaliano et al. (1988) used the FMSS to measure EE, using the original criteria. This study compared high and low EE caregivers' depression, anger and coping, and ratings of the care-recipients' functioning. Care dyads were recruited from the community. It is reported by Vitaliano et al. that all care-recipients completed the patient measures of depression and cognitive ability, with the functional measure being completed separately by the rater and spouse carer. This is likely to minimise any potential bias, although it

may also suggest that the results of this study are more representative of a sample of people with dementia who are not significantly impaired. Vitaliano et al. suggest that by excluding people with dementia with lower cognitive abilities, they created a more homogeneous group facilitating more reliable comparisons.

Vitaliano et al. (1988) reported that in 75% of their analyses EE level accounted for differences in levels of functioning, such that spouses with high levels of EE rated their care-recipient partners as having higher levels of impairment. Therefore, it seems difficult to conclude how levels of impairment relate to levels of EE.

Studies supporting the attributional theory of EE in relation to dementia care include Spruytte, Van Audenhove, Lammertyn and Storms (2002), who reported that 18% of relatives caring for people with dementia had high EE levels, although the researchers recognised that diagnoses of dementia were unconfirmed. In support of the attributional theory, higher levels of criticism were found to be related to internal attributions about the care-recipients' behaviours, indicating that critical relatives may have been making the FAE. In this study, Spruytte et al. aimed to compare the relationships between caregivers and care-recipients with dementia and those with mental health difficulties; however the number of participants recruited to each group were considerably different, making comparisons problematic. In order to rate warmth and criticism, Spruytte et al. dichotomised caregivers responses on two questionnaires to determine how many had 'poor' quality relationships. However, it is unclear why the responses were dichotomised or the rationale for the thresholds chosen. It is therefore unclear to what extent the classification of 'poor' relationships is reliable or valid. Further, all interviews were conducted by the researchers, potentially introducing some bias. Spruytte et al.

recognised the limitations of their study, including the absence of a confirmed diagnosis of dementia for the care-recipients.

Further support for the attributional theory of EE comes from research by Tarrier et al. (2002) who explored EE in caregivers and how this related to the symptoms and behaviours of the person with dementia and the beliefs that the caregiver held about these using a cross sectional design. EE was measured using an adapted CFI, with attributions rated from transcripts of the interviews by blinded researchers. Ratings for attributions were reported to achieve inter-rater reliabilities between .76 and 1.00, indicating a high level of agreement. 41% of relative caregivers were rated as having high levels of EE using a modified and reliable form of the CFI, with high EE caregivers making significantly more attributions of behaviour as personal to and controllable by the care-recipient. In addition those carers displaying high EE reported significantly more behavioural disturbances in their care-recipient. These findings indicate a relationship between the FAE and high levels of EE, supporting an attributional theory of EE, and a relationship with behaviours that challenge in people with dementia. In addition, similarly to Bledin et al. (1990), Tarrier et al. reported that those relative caregivers who expressed high levels of EE also reported more distress.

Tarrier et al. (2002) recruited 100 care dyads through local services, with a confirmed diagnosis of dementia for the care-recipient. Tarrier et al. considered that their finding of 41% of caregivers rated as high EE was actually low in comparison to rates reported in schizophrenia research. However they did not acknowledge the potential impact of generational factors or relationship status on EE rates.

A subsequent study by Hanson and Clarke (2013) used a cross sectional design to investigate the extent to which people with dementia and their spouses differed in their ratings of the person's ability and how this was related to the

caregiver's level of EE. Participants were recruited through local NHS services, and care-recipients were included if they were diagnosed with Alzheimer's disease, vascular dementia or mild cognitive impairment (MCI). Hanson and Clarke identified high EE in 39% of spouse caregivers and reported that a high level of EE was related to less concordance between the caregiver and recipient in ratings of the person's cognitive functioning.

Hanson and Clarke (2013) acknowledged that their study incorporated both individuals with dementia and MCI and that these diagnoses have different implications and symptoms associated with them, which may therefore impact upon the study data. Consequently, Hanson and Clarke completed their analysis both including and excluding the MCI participants. On excluding the MCI group they reported that level of distress was no longer a significant factor in the level of discrepancy between caregiver and care-recipient ratings of cognitive ability. In addition, Hanson and Clarke reported that high EE was not related to level of distress in the caregiver and that this therefore challenged the findings of previous research by TARRIER et al. (2002) and also BLEDDIN et al. (1990).

1.4.6.1 Summary. Overall, the research exploring EE in dementia care has demonstrated that high levels of EE are found in family caregivers of people with dementia, with reported rates of high EE varying from 8% (Orford et al., 1987) to 56% (Bledin et al., 1990). Research by TARRIER et al. (2002) explicitly supported an attribution theory explanation of high EE in caregivers, indicating that carers who make attributions that are internal to the care-recipient are also likely to display high levels of EE. This study also supported a link between high EE and CBs displayed by the client. The findings of the other studies can largely be understood within the context of an attribution theory of EE, although WAGNER et al. (1997)

potentially challenges this, given that they reported no relationship between EE levels and CB of the care-recipient.

1.4.7 Rationale for the study. In searching the literature, no published research has been identified to date which has investigated EE levels in paid dementia care staff, and this therefore appears to be a significant gap in the current research literature. Given that the number of people with dementia is predicted to rise in the future (Alzheimer's Society, 2011; Ferri et al., 2005) and the demand for paid caregivers is therefore also likely to increase, it is important to explore whether high EE levels are present in paid care staff and whether this is related to how care staff understand CB displayed by people with dementia.

If high EE levels are found in paid dementia care staff, and these levels are related to the attributions staff make about CB this will provide an important theoretical understanding, which will be useful clinically in considering how best to intervene to reduce EE levels. It is important that interventions to reduce EE are based on a theoretical understanding of the construct obtained from the research, enabling evidence based practice. Reducing high EE levels is potentially of clinical importance given that we know from research with other psychiatric and medical conditions that high levels of EE can be significantly related to negative outcomes for the care-recipient (Wearden et al., 2000).

It has also been proposed by Weiner's (1980) theory of helping behaviour that attributions have an impact on caregivers' emotions and ultimate helping behaviour. Whilst the research evidence for Weiner's theory of helping appears mixed (Willner & Smith, 2008), little research has so far been conducted in dementia care. Therefore it is possible that by developing an understanding of the attributions dementia care staff make in relation to CBs, this may provide an indication of likely behaviour in dementia care practice.

Whilst the relationship between EE and outcomes for people with dementia is still to be determined by research, high EE could be considered to generate a negative care environment, representing the concept of ‘malignant social psychology’ (Kitwood, 1997), an atmosphere of care which is likely to have a detrimental impact on the person.

It would also be important to consider which behaviours staff find most challenging and mostly attribute as internal and controllable by the care-recipient. This may enable specific interventions to be developed which can support staff in managing these particular behaviours whilst also developing their understanding of the behaviour in the context of the experience of the person with dementia. This may reduce the FAE, consequently reducing EE, and overall supporting more positive outcomes for the person with dementia.

As well as providing an initial study into EE and attributions with staff working in dementia care, this study will add to the wider literature which has begun to explore the attributional theory of EE. Should differences be found in the EE levels or attributions made by dementia care staff compared to other staff groups, this may have important implications for the overall understanding of these constructs.

Therefore, overall given that the number of people experiencing dementia is predicted to increase substantially over the coming years, research into these concepts at the current time, could potentially help inform the future training of dementia care staff and impact upon the care received by future clients.

1.5 Research Questions and Hypotheses

This section will outline the aims of the research and detail the specific research questions in turn. This will be followed by the hypotheses which are made in relation to each of these questions.

Given the identified gaps in the research literature and the highlighted clinical relevance of these concepts, this research aims to establish whether high levels of EE are present in paid dementia care staff working in inpatient environments and what proportion display high levels? Following on from this five main research questions will be examined.

1.5.1 Research Questions. The research aimed to answer five main research questions. Firstly, do the observed frequencies of high and low EE ratings for clients displaying CB and without CB differ significantly from the expected frequencies?

Second, do the individual components of EE (critical comments; emotional over-involvement; positive remarks; quality of relationship) differ significantly according to the client's level of CB?

In addition, a third main research question will determine whether the attribution ratings (internal-external to client; internal-external to staff; global-specific to client; uncontrollable-controllable by client; uncontrollable-controllable by staff) differ significantly according to CB level, and also whether attribution ratings differ according to EE level? This question will be expanded by comparing attributions made by high and low EE staff within each of the two CB groups.

Following on from this, additional analyses can be conducted to explore research question four: do attribution ratings differ significantly according to the number of critical comments and positive remarks made for the CB and nCB groups?

Finally, research question five will examine which behaviours on the CBS have the highest overall challenge scores, and therefore might staff find most challenging in people with dementia? Do the overall challenge scores differ

according to CB level? Do the ratings of behaviour frequency, difficulty or overall level of challenge on the CBS differ significantly according to EE level?

1.5.2 Hypotheses. Based on the research which has been undertaken with family carers it was hypothesised that between 30 and 50% of staff participants would display high levels of EE.

In relation to the first research question, it is hypothesised that the observed frequency of high EE ratings made by staff participants will differ significantly from the expected frequency. It is considered that there will be a significantly higher observed frequency of high EE ratings made in relation to clients with CB compared to clients without CB.

In relation to the second research question, it is hypothesised that staff participants will display more critical comments, more emotional over-involvement, fewer positive remarks and a lower quality of relationship, in relation to CB clients compared to the clients without CB.

It is also hypothesised that staff with high EE ratings, and staff considering CB clients, will give higher attributional ratings of behaviour as internal, specific and controllable by the client, compared to staff with low EE ratings and staff considering nCB clients respectively. In addition, within the CB group, those staff who are rated as expressing high EE will be more likely to attribute behaviour as internal, specific and controllable by the client compared to those staff rated low EE.

As critical comments increase in number, it is hypothesised that attributions of behaviour will be significantly more internal to the client; specific to the client and controllable by the client. Whilst as positive remarks increase in number, attributions of behaviour as internal to the client; specific to the client and controllable by the client will significantly decrease.

If CBS scores are highest for the CB group compared to the nCB group this can be used to validate the difference between the two groups of clients.

2. Methodology

2.1 Design

This research used a within subjects design to generate quantitative data obtained from one group of participants who were asked to complete the research procedures at one time point. Each staff participant was asked to complete the research measures and to speak about two clients with dementia, one who displayed CB and one who did not, generating two Five Minute Speech Samples (FMSS). The factors investigated were level of CB and EE level. Both factors have two levels. Given that each staff participant spoke about two clients, one with CB and one without (nCB), CB level was a within subjects factor. Further, it was anticipated that high and low ratings of EE could be compared. EE would be a dependent variable, with ratings obtained through the research procedure. It was anticipated that EE levels would also be compared using within subjects comparisons.

Therefore, this research design involved data being collected from one group of staff participants, with each participant speaking about two clients, one with and one without CB. Each client on a ward could only be selected once in order to ensure that they were only represented once in the data, therefore maintaining the independence of the data. It was anticipated that the data would also be grouped for analysis according to whether staff participants displayed high or low levels of EE. Therefore, the terminology CB group and EE group will be used to refer to these data groupings. These groupings were used for analysis and did not reflect independent groups of staff participants. By grouping the data in this way it was anticipated that the independence of the data would be maintained for

the analyses, with each staff member contributing only one set of data to each CB group and each EE group.

Whilst it was anticipated that each staff participant would provide paired data in relation to two clients, one with CB and one without CB, it was recognised that some staff might not be able to select both clients from their ward. Given that each client on the ward could only be selected once to maintain the independence of the data, potentially staff participants might find that no clients remained unselected who did or did not display CB. It was therefore planned that in these circumstances staff would be able to select only one client to refer to. When staff participants contributed only one data point, this would be excluded from all analyses which relied on comparisons of paired data.

This research aimed to find differences and relationships between groups of data, employing contingency tables, t-tests and correlational analyses and did not aim to find causal relationships.

The design of this research incorporated some of the methodology and analysis used by Weigel et al. (2006) who explored EE and attributions made by staff towards people with and without CBs who had an intellectual disability. However, Weigel et al. selected two clients from one care setting, one displaying CB and one who did not, which all staff participants considered. In contrast this study allowed staff to choose the client they wished to discuss. This was necessary given that the study took place over a number of ward sites, and using this design enabled the data to remain independent, with each client with dementia only being considered once.

Whilst it might have been possible to replicate Weigel et al.'s design and select one care environment to participate in the study, this would not have allowed for the identification of which behaviour care staff find most challenging,

something which could only be explored by care staff selecting and rating different clients.

Further, by considering a number of ward environments, rather than one individual setting, it was anticipated that the results may be more generalisable to the overall population of dementia care staff, and less specific to a particular ward and staff team. In addition, conducting the study over a number of ward environments was anticipated to result in the recruitment of a greater number of staff participants, which would further assist with generalisability of the results.

In addition to the FMSS and attribution questionnaire which were used by Weigel et al. (2006), this study also incorporated the Challenging Behaviour Scale for Older People Living in Care Homes (CBS; Moniz-Cook et al., 2001) in order to measure the behaviours displayed by the client with dementia from the perspective of the staff participant. This was added to explore which behaviours staff found most challenging, whilst also validating that the two client groups (CB and nCB) did differ in the extent to which they displayed CB.

2.2 Participants

Participants in this study worked on NHS inpatient wards for older people with dementia as either qualified or unqualified nursing staff. This study recruited staff working in NHS inpatient dementia care wards because it was considered that the clients admitted to these wards were likely to be the most unwell and distressed individuals, and therefore they would potentially display higher levels of CB than individuals in residential care. This would make it possible for staff participants to select a client to represent the CB group who truly displayed high levels of CB, something which may be more difficult within a private residential care setting. However it is acknowledged that some residents in these settings may also display CB.

2.2.1 Inclusion and exclusion criteria. In order to participate in the research, it was considered important for participants to have some experience of working with people with dementia in order to have formed understandings of the different behaviours they witnessed and the condition of dementia. Therefore participants were required to have at least six months experience of working with people with dementia. It was hoped that this minimum period would ensure that staff participants had begun to develop knowledge and experience of people with dementia, and would be able to identify both a client with CB and a client without, something which would be more difficult without experience to set this in context.

In addition, it was necessary for all participants to either work closely with people with dementia on the ward, or key work clients with dementia. This was to ensure that all participants would have sufficient knowledge and experience of the clients they selected for the study to be able to rate their behaviour, to have made attributions about their behaviour and to have a relationship with the person which they could talk about in the FMSS.

No specific exclusion criteria were specified. It was anticipated that in order to work on a dementia care ward all staff would have sufficient ability with the English language to be able to participate.

2.2.2 Power calculation. Power calculations were conducted using G*Power, based on obtaining a power of .80. A number of previous studies have explored some or all of the factors of EE, CB and attributions with several client groups, finding a range of effect sizes.

In summary, for the relationship between high EE with the attributional dimensions of controllable by and personal to the client, TARRIER et al. (2002) found effect sizes of .21 and .36 respectively. Moore, Ball and Kuipers (1992) found effect sizes of .27 and .31 for the relationship between criticism with aggression

and attention seeking behaviour respectively; whilst Barrowclough et al. (2001) found an effect size of .44 for the relationship between criticism and stable attributions, and increased effect sizes of .44 and .56 for criticism with internal and stable attributions respectively, depending on cut-off criteria. Further, Hooley and Campbell (2002) found effect sizes of .66 for the relationship between high EE and controllability attributions in relation to clients with schizophrenia, and .45 in relation to clients with depression. In addition, the literature has overall indicated relatively consistent support for the attributional theory of EE (Barrowclough & Hooley, 2003). Therefore, taking into account the previous research literature, it was considered that a medium to large effect size might be found in this study.

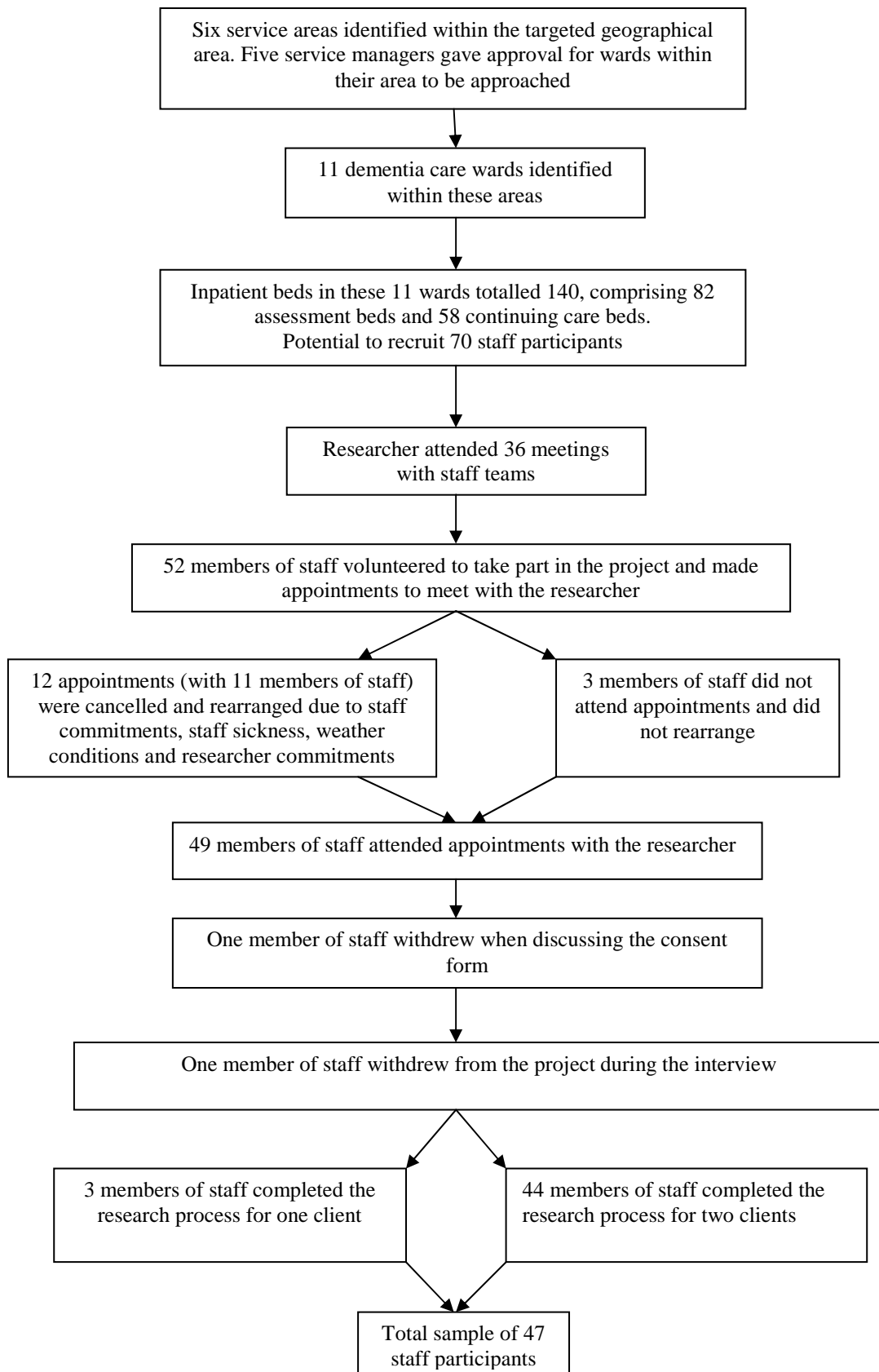
Power calculations were made for the correlation analysis used for research question 5 based on one-tailed hypotheses, an effect size of .40 and power of .80, indicating a required total sample size of 37 staff participants. Power calculations were also made for the main analyses of one-tailed dependent t-tests, based on an effect size of .40, power of .80, indicating a required total sample size of 41 staff participants.

2.2.3 Recruitment. All participants were employed by the NHS and were working on inpatient wards for people with dementia in the East of England region. This region was selected for practical reasons in order to allow the researcher to be able to meet with staff participants to complete the research process. All potential participants were provided with an information sheet about the study (see Appendix A), and the opportunity to ask any further questions, before signing a consent form if they wished to participate (see Appendix B).

In total 47 members of staff participated in the study, with participants recruited from a total of 11 ward settings. A consort diagram, shown in Figure 1, summarises the process by which 47 participants came to be part of the study.

Figure 1

A Consort Diagram to Outline the Process by which 47 Staff were Recruited to take part in the Project



In total 47 participants took part in the study speaking about a total of 91 inpatients with dementia, 44 deemed to display CB and 47 who did not display CB. It was not possible for three participants to select a client who displayed CB on their ward who had not already been selected by another staff participant. Therefore data were collected from these three staff participants in relation to only one client, rather than two.

2.2.4 Participant demographics. All 47 staff who participated in the research completed the demographic questionnaire. The majority of the participants were female (n = 33; 70.2%).

The ages reported by female participants were 18 – 25 years (n = 3); 25 – 40 years (n = 14); 40 – 55 years (n = 15) and 55 years and over (n = 1). Fourteen participants were male (29.8%). The ages reported by male participants were 25 – 40 years (n = 5); 40 – 55 years (n = 6) and 55 years and over (n = 3). The age ranges reported by all the participants can be seen in Table 1.

Table 1

The Number and Percentage of Participants in Each of the Age Categories

Age Range	Number of Participants	Percentage of Participants
18 – 25 years	3	6.4
25 – 40 years	19	40.4
40 – 55 years	21	44.7
55 + years	4	8.5

Twenty eight participants (59.6%) were qualified nursing staff, whilst 19 participants had unqualified roles (40.4%). The levels of education reported by participants can be seen in Table 2. As a number of participants added NVQ

qualifications to the qualification options, these were also incorporated as an educational category.

Table 2

The Number and Percentage of Participants Reporting Different Levels of Education

Education Level	Number of Participants	Percentage of Participants
GCSEs	5	10.6
A Levels	4	8.5
Diploma	18	38.3
Degree	11	23.4
Higher Degree	2	4.3
Other, NVQ2, NVQ3	5	10.6
Not Applicable/ None	2	4.3

The number of years of experience of working with people with dementia reported by all staff participants can be seen in Table 3. As demonstrated by the data in Table 3 the majority of participants had more than ten years of experience of working with people with dementia (n = 25, 53.2%).

Table 3

The Number of Years Experience of Working with People with Dementia Reported by Participants

Number of Years Experience	Number of Participants	Percentage of Participants
Less than 1	4	8.5
1 – 5	11	23.4
5 – 10	7	14.9
10 +	25	53.2

Overall, participants’ personal experience of a friend or relative having dementia was approximately equally divided, with 24 participants (51.1%) reporting having this experience, whilst 23 participants (48.9%) reported that they did not.

Therefore in summary, of the 47 staff who participated in the research, the majority were female (70.2%); qualified members of staff (59.6%); had diploma level education (38.3%) and had ten or more years of experience of working with people with dementia (53.2%).

2.3 Measures

2.3.1 The Five Minute Speech Sample. In order to measure level of EE, the FMSS (Magana et al.,1986) was selected. This measure has been developed to be a shorter measure of EE than the traditional CFI (Rutter & Brown, 1966; Wearden et al., 2000), obtaining reasonable concordant validity of 61% (Goldstein et al., 1989; cited in Moore & Kuipers, 1999).

The FMSS involves the participant speaking uninterrupted for 5 minutes about their relationship with a client. This speech sample is audio recorded for later coding. The FMSS is coded using standardised criteria, which involves coding the

initial statement made by the participant as positive, neutral or negative. Further, the number of critical comments and positive comments made by the participant are counted, the level of emotional over-involvement is rated, and the quality of the relationship is coded as positive, neutral or negative. These factors are combined to produce an overall rating of EE as high or low. Participants were rated as high EE if either one or more critical comment was made; the initial statement was coded as negative; the quality of the relationship receives a negative rating; they are coded as high in emotional over involvement; or the participant interview contains 2 of the following: exaggerated praise for the client, more than five positive comments, excessive detail about the past, a statement indicating high emotional over involvement.

The FMSS has been used previously with staff participants generating information about their relationships with their clients (e.g. Moore et al., 2002; Dennis & Leach, 2007; Langdon, Yaguez & Kuipers, 2007). Revised directions for staff participants completing the measure have been outlined by Moore and Kuipers (1999), who concluded that the correspondence between the FMSS used with staff participants, and a modified version of the CFI, was high. These standardised instructions were incorporated into this research and presented to all participants verbally and visually. A copy of these instructions can be seen in Appendix C.

In order to ensure reliable ratings are made from the FMSS, inter-rater reliability can be calculated by taking a sample of FMSSs and comparing the rating made by an expert and a novice rater.

2.3.2 The Challenging Behaviour Scale. Participants' perceptions of CBs were measured using the CBS (Moniz-Cook et al., 2001). To complete this measure participants were required to rate each of the 25 listed behaviours over the previous eight weeks according to their incidence (yes or never); their frequency ('daily or

more often', 'several times a week', 'several times a month', 'occasional'); and how difficult each behaviour is to cope with ('causes a lot of problems', 'causes quite a lot of problems', 'is a bit of a problem', 'is not a problem'). This measure generates subscale scores for incidence, frequency and difficulty together with an overall challenge score ranging from 0 to 400, which is calculated by multiplying the frequency and difficulty score for each of the listed behaviours and adding these together.

Moniz-Cook et al. (2001) explained that incidence and frequency subscales of the measure can be understood as related to the client's quality of life, whilst the subscales recording the difficulty and challenge of the behaviour may be more related to the perception of the care staff.

In order to try to reduce the influence of subjectivity on the ratings of difficulty and challenge, Moniz-Cook et al. (2001) recommended that the scale be completed by pairs of staff. However, the current research explored how staff members' EE and attributions towards a client are related to their ratings of how difficult and challenging client behaviours are, and therefore these perceptions of which behaviours staff find challenging are of interest. In addition, in order to maintain a between subjects comparison of EE, it is necessary that each person with dementia is only rated and represented once in the data, and therefore it would also not be practical for multiple participants to rate the same individual on the CBS. Staff participants therefore completed this measure individually.

The CBS has been reported to have good internal consistency for each of its subscales (.82 for the frequency scale; .85 for the incidence and challenge scales; .87 for the difficulty scale) and test-retest reliability ranging between .97 and .99 (Moniz-Cook et al., 2001). Two studies are reported to have found a moderately strong correlation between observations of a person's behaviour and

scores on the CBS ($r = .61, p = .05$ and $r = .41, p = .05$; Moniz-Cook et al., 2001). Concurrent validity of the CBS in relation to The Clifton Assessment Procedures for the Elderly (CAPE-BRS; Pattie & Gilleard, 1979), is also reported with the CBS correlating with the subscales of social disturbance ($r = .08, p \leq .001$); physical disability ($r = .02, p \leq .845$); apathy ($r = .36, p \leq .001$); communication difficulties ($r = .08, p \leq .426$) and the CBS is summarised as having adequate concurrent validity (Moniz-Cook et al., 2001).

Whilst other scales are available to measure the CBs of older people with dementia, the CBS has been designed to be completed by paid care staff and to rate the degree of challenge they experience, and is therefore suitable for use in this research.

2.3.3 The Modified Attributional Questionnaire. To rate participants' attributions of CBs exhibited by people with dementia, this research used the Modified Attributional Questionnaire (MAQ; Cottle et al., 1995) developed from the Attributional Style Questionnaire developed by Peterson et al. (1982). This questionnaire can be seen in Appendix D. This questionnaire consists of five likert scales which require the participant to consider and rate their attributions about a client's behaviour on the dimensions of controllability; globality and internality, by rating the extent to which the behaviour was uncontrollable-controllable by the client; uncontrollable-controllable by themselves; specific-global to the client; internal-external to the client; internal-external to themselves.

The MAQ (Cottle et al., 1995) generates mean rating scores for each attributional dimension, with scores ranging between a minimum of 1 and a maximum of 7 (lower scores indicating an attribution towards the left of the dimension, higher scores indicating an attribution towards the right of the dimension). This questionnaire has previously been used to measure staff members'

attributions regarding the behaviour of clients with intellectual disabilities (e.g. Cottle et al., 1995; Dagnan et al., 1998; Rose & Rose, 2005; Weigel et al., 2006) and clients with intellectual disabilities and dementia (Whitehouse et al., 2000). This measure has been reported as reliable, with internal consistencies for the scales ranging from .66 to .88 (Peterson & Villanova, 1988) and reliabilities ranging .70 to .86 when the measure is used with staff participants (Sharrock et al., 1990).

Whilst an alternative measure is available to measure the attributions of staff specifically towards the CBs demonstrated by older people with dementia, (The Controllability Beliefs Scale; Dagnan, Grant & McDonnell, 2004), this scale only measures beliefs about the dimension of controllability and does not provide information regarding the additional attributional dimensions. For this reason, this study employed the MAQ (Cottle et al., 1995).

2.3.4 Demographic questionnaire. In order to collect basic demographic information about staff participants, they were each asked to complete a demographic questionnaire (see Appendix E). This recorded information including participants' age, gender, level of education and both professional experience of working with people with dementia as well as whether they have personal experience of dementia.

2.4 Ethical Issues

Ethical approval was obtained for this research from the South Cambridge NHS Ethics Committee (Appendix F). In addition, approval was gained from Cambridgeshire and Peterborough NHS and Norfolk and Suffolk NHS Research and Development services (Appendix G) and indemnity obtained from the University of East Anglia (Appendix H).

In order to ensure that all participants provided informed consent to participate, they were provided with a participant information sheet (Appendix A)

and the opportunity to ask the researcher any questions they had about the study. In addition, all participants were able to consider the information provided and arrange a convenient time to meet with the researcher to participate, either in person or through email communication. Depending on the ward situation, it was possible in some cases for staff to express to their manager that they would like to take part in the study, with managers passing this information on. It was hoped that this reduced any potential for the participant to feel coerced into taking part.

All participants were asked to sign consent forms (Appendix B) to demonstrate that they agreed to take part in the research and understood the requirements.

All data were treated confidentially, with raw data only disclosed to supervising members of staff at the University of East Anglia to discuss appropriate statistical analysis. Audio data were stored on an encrypted memory stick and paper questionnaires were stored in a locked box. All participant data were coded and entered into a computer file for statistical analysis and stored on an encrypted memory stick. The completed data set were also stored on a password protected CD and password protected laptop.

All participants were made aware in the participant information sheet that their information would be treated confidentially, with the exception that should any potential safeguarding concerns arise during the course of the research confidentiality could be broken and advice sought from the local safeguarding professionals.

It was possible that staff might exhibit high levels of emotion during the research process, as they were asked to highlight the challenges of their role in caring for people with dementia. Consequently, all participants were encouraged to seek additional support if necessary through their line manager or clinical

supervision. In addition, participant information sheets contained the website details for Wellbeing Support Services and participants were made aware that these could be accessed through their G.P.

2.5 Procedure

Following ethical approval and agreement from Research and Development services, contact was made with ward managers within the region and the research was outlined to them. Ward managers were provided with an information sheet (Appendix I) and an opportunity to ask questions about the study. Ward managers were asked permission for the researcher to attend staff meetings to briefly outline the project, at which time potential staff participants were also provided with an information sheet (Appendix A) and an opportunity to ask questions about the study. Any members of staff who wished to participate were able to arrange a time with the author in person, or at a later date by email communication either direct with the researcher or through their ward manager. With the ward managers' consent a poster advertising the project was left for display in staff areas on the ward (see Appendix J). Where it was not possible to attend staff meetings due to the individual situation of the ward, the participant information sheet was disseminated by the ward manager. Ward managers were also asked to provide a list of the first names of all clients on the ward, with each allocated a code number.

All participant interviews were arranged to take place at a mutually convenient time at the site in order to ensure confidentiality was maintained. Prior to commencing the research, any questions were answered and participants were asked to sign a consent form (Appendix B).

Participants were initially asked to choose two clients with dementia on the ward who they knew well from the ward list, one with CB and one without. When clients were selected from the list they were crossed out, ensuring that each client

was spoken about only once in the research process, therefore maintaining the independence of the data collected from participants. In order to minimise any order effects counterbalancing was used ensuring that alternate participants focused initially on the client who displayed challenging behaviour before considering the other client.

Participants were asked to complete a FMSS (Magana et al., 1886) and were provided with written instructions (Appendix C) which were also read aloud. Each FMSS was audio recorded in order to be coded later. The FMSS was selected as the initial measure for all participants in order to avoid any priming that may occur from the completion of the other measures first.

Following each FMSS, participants were then asked to complete the CBS (Moniz-Cook et al., 2001). Further, participants were then asked to complete the MAQ (Cottle et al., 1995) considering a recent occurrence of the behaviour which was rated as most challenging on the CBS. Where two behaviours had equal challenge ratings staff were asked to select a behaviour which had occurred recently which they found challenging, and rated this using the MAQ. This is potentially problematic, since participants were rating different behaviours on the MAQ, however this was necessary to enable identification of which behaviours staff find most challenging and their attributions about these.

Each participant was asked to estimate how long they had known each of the two clients they had spoken about; information which was also incorporated within the data set.

Finally, participants were asked to complete the demographic questionnaire (Appendix E). All participants were thanked and reminded that the contact details for the researcher were available on their information sheet should they need them.

After the data had been analysed, a summary report of the findings was posted out to each ward setting that had participated in the project (Appendix K). In addition a declaration of the end of the study and a summary report were sent to the South Cambridge NHS Ethics Committee, with the summary report also sent to Cambridgeshire and Peterborough NHS and Norfolk and Suffolk NHS Research and Development services (Appendix L).

2.6 Plan of Analysis

2.6.1 Five Minute Speech Sample coding. The FMSSs (Magana et al., 1986) were coded according to standardised criteria, with a sample of the coding checked for inter-rater reliability.

2.6.2 Descriptive statistics. In order to report the proportion of staff expressing high and low levels of EE in their FMSS descriptive statistics will be used. Based on previous research findings it was anticipated that high EE would be found in approximately 30 – 50% of the sample.

2.6.3 Research question 1. To establish whether the observed and expected frequencies of high and low EE in relation to people with dementia displaying CB or not (nCB) differed significantly, a contingency test such as the McNemar Test would be used based on a two-by-two data table containing within subject categorical and therefore nominal data.

To answer the remaining research questions it was necessary to compare within subjects data for which paired t-tests, contingency tables and correlational analyses were used. It was necessary to first establish whether the assumptions are met for parametric analyses.

2.6.4 Research question 2. Research question two asked whether the components of EE differed significantly according to the CB rating of the client being discussed (CB or nCB). The continuous variables (critical comments and

positive remarks) were analysed using paired t-tests as the distribution of the differences are all normal (Appendix M, Table 1), a required assumption for such analysis (Field, 2009). Given that the same staff participants contributed the EE ratings regarding both the CB and nCB clients, the data would not meet the assumption of independence required for an independent t-test. Scores are considered to meet the assumption of independence when the data are obtained from different people (Field, 2009). As the assumption of independence is not met a paired t-test is appropriate.

The categorical variables of quality of relationship and emotional over-involvement were analysed using contingency tables. Given that the quality of relationship variable has three levels and consists of within subjects data, this was analysed using three separate McNemar Tests. This analysis was also planned for the EOI data using a two-by-two contingency table.

2.6.5 Research question 3. In order to determine whether the attributions made by staff participants differed according to their EE level, as asked in research question three, the MAQ item ratings were compared according to high and low EE groups. EE can be considered to be a dependent variable in this study, and the participants contributing to the high and low EE groups in the raw data set are not completely independent but also not completely paired. Therefore in order to facilitate comparison of the data between the high and low EE groups, any data which did not form a within subjects paired data set were excluded in order to allow paired t-tests to reliably be computed. Twenty three pairs of data were therefore identified in which the same staff participant contributed to both the high and low EE groups of data. Given that the same staff participant contributed data to both the high and low EE groups, the data would not meet the assumption of independence required for an independent t-test, as outlined by Field (2009). As the assumption of

independence is not met a paired t-test is appropriate. Further, a paired t-test was used appropriately given the normal distribution of the difference of MAQ item ratings for low and high EE groups (Appendix M, Table 2).

Similarly, research question three also asked whether MAQ ratings differed significantly between the two CB groups, for which a paired t-test was also appropriate given that the difference of the scores was normally distributed (Table 3, Appendix M) and given that the same staff participants produced the two sets of MAQ ratings which were being compared. Within subjects comparisons were used, since the data were not independent, because a single staff participant rated two different clients.

Extending from this, research question three also considered whether attribution ratings differed within the CB group and also within the nCB group according to the EE level of staff. In order to compare the attribution ratings made for internal to the client, specific to the client, controllable by the client and controllable by the staff, independent t-tests were appropriate given that the data were normally distributed (Table 4, Appendix M). However, data for the attribution of internal to staff were significantly skewed (Table 4, Appendix M) and therefore Mann-Whitney U tests were appropriate to compare these. In these analyses the data were completely independent, with a staff participant contributing only one set of data to either the high or low EE groups. As the assumption of independence is met the use of independent t-tests is appropriate for this analysis.

2.6.6 Research question 4. Research question four asked whether ratings on the attributional dimensions alter significantly alongside ratings of EE components (critical comments and positive remarks) and level of CB. In order to determine how both critical comments and positive remarks are related to attributions, correlations were calculated. Both critical comments and positive

remarks have a skewed distribution and therefore non-parametric correlations were appropriate (Appendix M, Tables 5 and 6).

2.6.7 Research question 5. In addition, descriptive statistics were reported from the CBS to identify the behaviours generating the highest rating scores for frequency, difficulty and challenge, potentially indicating the behaviours which staff find most challenging to manage. In order to look for differences in the CBS scores made by high and low EE staff, it was necessary to use the paired data set from 23 staff participants which represents 23 pairs of high and low EE data. Given that the distribution of the difference of CBS scores is normally distributed (Appendix M, Table 7), and that the data in both groups were obtained from the same set of staff participants and were therefore not independent, paired dependent t-tests were used to compare the CBS scores between the high and low EE data groups.

To determine whether the CBS overall challenge scores differ between the CB and nCB groups a paired t-test was again utilised. Whilst the nCB group's CBS scores are significantly skewed (Appendix M, Table 8), the differences of the CBS challenge score between the CB and nCB group are not significantly skewed and do not have significant kurtosis (Appendix M, Table 9). Further, given that the same staff participant contributed data to both the CB and nCB group, the data do not meet the assumption of independence required for an independent t-test. Therefore a paired dependent t-test was appropriately used to compare the CBS challenge scores between the CB and nCB groups.

3. Results

This results section will provide an overview of the data, reporting descriptive statistics obtained from each of the research measures. A summary of the demographic characteristics of the study participants will then be presented.

Following this, the calculations of inter-rater reliability for the FMSS will be described. This section will then progress to present the outcome of statistical analyses used to answer each of the research questions.

3.1 Overview of the Data, Descriptive Statistics and Distribution of the Data

This section will provide an overview of the data by reporting the descriptive statistics in relation to each of the research measures in turn, highlighting the distribution of the data.

3.1.1 The Five Minute Speech Samples. In total 91 FMSSs were completed by the 47 staff participants, 44 in relation to clients which they reported finding challenging (CB) and 47 in relation to clients who staff did not report to be challenging (nCB). The duration of the speech samples ranged from one minute and 25 seconds to five minutes, whilst the word length ranged from 136 words to 930 words, with a mean length of 507 words (SD = 199).

3.1.1.1 Critical comments. Data were obtained from the 44 staff participants who provided data for clients from both CB and nCB groups, and excluded the data collected from three participants who only provided data regarding a client from the nCB group. The mean number of critical comments made by staff participants in relation to clients with CB was 2.20 (SD = 1.81), whilst for the nCB group of clients the mean number of critical comments made was .41 (SD = 1.06). The distribution of the critical comments in both CB and nCB groups were found to be significantly skewed ($p < .05$), with data in the nCB group also having significant kurtosis ($p < .05$) (Appendix M, Table 5).

3.1.1.2 Positive remarks. In order to explore the distribution of the positive remarks made by staff participants, data were again excluded from the three participants who provided data for only the nCB group. The mean number of positive remarks made by staff participants in relation to clients with CB was .95

(SD = 1.10), whilst for the nCB group the mean number of positive remarks was 2.91 (SD = 2.16). The distributions of positive comments were significantly skewed in both the CB and nCB groups ($p < .05$) (Appendix M, Table 6).

3.1.2 The Challenging Behaviour Scale. Overall 91 CBS were completed, 44 in relation to clients with CBs and 47 in relation to clients without CBs. For each of the 25 behaviours listed on the scale a challenge score was calculated for each of the 91 clients spoken about by the participants. Challenge scores were calculated by multiplying the frequency of the behaviour by its difficulty rating, according to the scale instructions. Higher scores indicate higher levels of challenge, with a minimum possible challenge score of zero and maximum possible score of 16.

A table showing the minimum, maximum, mean and standard deviation of challenge scores for each of the 25 behaviours listed in the CBS, according to whether the client being spoken about was in the CB or nCB group, can be seen in Appendix M, Table 10. The highest mean challenge score for the CB group was 8.95 for the behaviour of 'physical aggression'. In contrast the highest mean score for the nCB group was 3.40 for the behaviour of 'lack of self care'.

For the CB group of clients ($n = 44$), the mean CBS challenge score was 103.27 (SD = 57.14), whilst for the nCB group ($n = 44$) the mean challenge score was 31.93 (SD = 27.39). The distribution of the CBS scores in the nCB group was significantly skewed ($p < .05$), as shown in Appendix M, Table 8.

3.1.3 The Modified Attributional Questionnaire. The MAQ was completed for each of the 91 clients represented in the study. The questionnaire contains likert scales rating to what extent the behaviour was internal to the client and internal to the member of staff; global versus specific to the client; controllable by the client and controllable by the member of staff.

The distribution of the data for the attributional domain of internal to staff were significantly skewed ($p < .05$) in the CB group only (Appendix M, Table 11).

3.1.4 Research participants and demographic questionnaire. In

summary, 47 members of staff participated in the study, recruited from a total of 11 ward settings. In total all 47 staff who participated in the research completed the demographic questionnaire. The majority of the participants were female ($n = 33$; 70.2%), qualified nurses (59.6%) with an educational level of diploma (38.3%). The majority were aged between 40 and 55 years (44.7%), and with more than ten years experience of working with people with dementia (53.2%). There was a roughly equal distribution, with 24 participants (51.1%) having experience of a friend or relative experiencing dementia, whilst 23 (48.9%) did not.

3.2 Inter-Rater Reliability of the Five Minute Speech Samples

This section will outline the process of calculating inter-rater reliability for the FMSS components, comparing the ratings of the researcher and an expert rater.

In order to ensure that the ratings of each FMSS were reliable, it was necessary first for the researcher to receive some guidance about the standardised procedure for scoring the FMSS from an experienced expert rater. All FMSSs were rated for the overall level of EE (high or low), the quality of the initial statement (positive, neutral or negative), the number of critical comments, the number of positive remarks, the level of emotional over-involvement and the quality of the relationship (positive, neutral or negative).

Following initial guidance regarding the scoring criteria, the researcher and expert rater independently rated an initial sample of 20 FMSSs in order for inter-rater reliability to be calculated. Given that the positive remarks and critical comments components produced continuous data, inter-rater reliability calculations were made using intra class correlations. Multon (2010) stated that the intra class

correlation is “the best measure of inter rater reliability available for ordinal and interval data...” (p. 628), with the minimal value which is considered to be acceptable as .60.

As the overall rating of EE level, the quality of the initial statement and quality of relationship all produce categorical data, the inter-rater reliability calculations were made using Cohen’s kappa. Multon (2010) reported that a Cohen’s kappa value of .50 is considered acceptable when measuring inter rater reliability.

For the initial sample of 20 FMSSs, the calculated inter-rater reliabilities can be seen in Table 4.

Table 4

The Inter-Rater Reliabilities Calculated for the Initial Sample of 20 FMSS

Component of FMSS	Intra Class Correlation (ICC)	Cohen’s Kappa
EE Level	--	.76
Initial Statement	--	.89
Critical Comments	.90	--
Positive Remarks	.88	--
Quality of Relationship	--	.91

The researcher and expert rater conducted a comparison of the FMSS ratings which were used to generate reliabilities presented in Table 4. This comparison suggested that the researcher was rating statements which could be considered to be repetition and elaborations of previous statements made by the participant earlier in the FMSS, and which therefore should not be coded a second time. It was therefore decided to try to learn from this and to independently rate a

second sample of 20 FMSSs and again compare inter-rater reliability. The reliability statistics from a second sample of FMSSs can be seen in Table 5.

Table 5

The Inter-Rater Reliability Data for a Second Sample of FMSSs

Component of FMSS	Intra Class Correlation (R)	Cohen's Kappa
EE Level	--	.83
Initial Statement	--	.73
Critical Comments	.76	--
Positive Remarks	.81	--
Quality of Relationship	--	.79

The second comparison of inter-rater reliabilities indicated that whilst agreement for the overall level of EE had increased, agreement on the remaining components had decreased. Therefore it was decided to conduct a further inter-rater reliability analysis on a further sample of 20 FMSSs. The comparison of a third set of 20 FMSSs allowed for further differences in scoring to be recognised and discussed between the researcher and expert rater. It was highlighted that the researcher needed to continue to avoid rating repetitions and elaborations of previous statements, avoid coding qualified statements and to not code descriptive information, being more conservative and avoiding coding information when unsure. When mistakes regarding the coding of repetitions and qualifications were discussed and rectified, some disagreements remained. The reliability analyses from this corrected third set of 20 can be seen in Table 6.

Table 6

The Inter-Rater Reliability Data for a Third Sample of FMSSs

Component of FMSS	Intra Class Correlation (R)	Cohen's Kappa
EE Level	--	.70
Initial Statement	--	.78
Critical Comments	.93	--
Positive Remarks	.72	--
Quality of Relationship	--	.69

It was therefore agreed that a further set of 20 FMSSs would be coded independently by the researcher and expert rater and inter-rater reliabilities would again be calculated. All ratings made by the researcher and expert rater for this fourth set of FMSSs were compared. Any immediately obvious oversights were amended on discussion, but some disagreements remained. Calculations of inter-rater reliability for this fourth set of data can be seen in Table 7. At this time all reliability calculations produced agreement levels above .80 indicating a substantial level of inter-rater agreement.

Table 7

The Inter-Rater Reliability Data for a Fourth Sample of FMSSs

Component of FMSS	Intra Class Correlation (R)	Cohen's Kappa
EE Level	--	.90
Initial Statement	--	.89
Critical Comments	.94	--
Positive Remarks	.95	--
Quality of Relationship	--	.83

Therefore, in summary, following the calculation of inter-rater reliability for four samples of 20 FMSSs, a level of substantial agreement was achieved between the researcher and expert rater for all components of the EE rating.

3.3 Statistical Analyses

This section will report the statistical analyses conducted in order to answer each of the proposed research questions in turn, stating whether the obtained result is consistent with the research hypotheses. Finally, a brief summary of the overall research results will be presented.

3.3.1 Expressed emotion in paid dementia care staff. It was hypothesised that 30 -50 % of staff would display high levels of EE. In total 91 FMSS were completed by 47 participants. 55 interviews were rated as high EE (60%), whilst 36 interviews were rated as low EE (40%), indicating the presence of high EE in staff working in dementia care inpatient settings. Overall, of the 47 members of staff who participated in the study, five (10.6%) did not obtain any high EE ratings in relation to either of their FMSS, whilst sixteen (34%) were rated as displaying high levels of EE in both their FMSS. Therefore overall, 42 (89.4%) of staff participants who took part in the study were rated as high EE in at least one of their FMSS. This therefore suggested that the proportion of staff who displayed high EE in this study was 89.4%, which was higher than the hypothesised proportion.

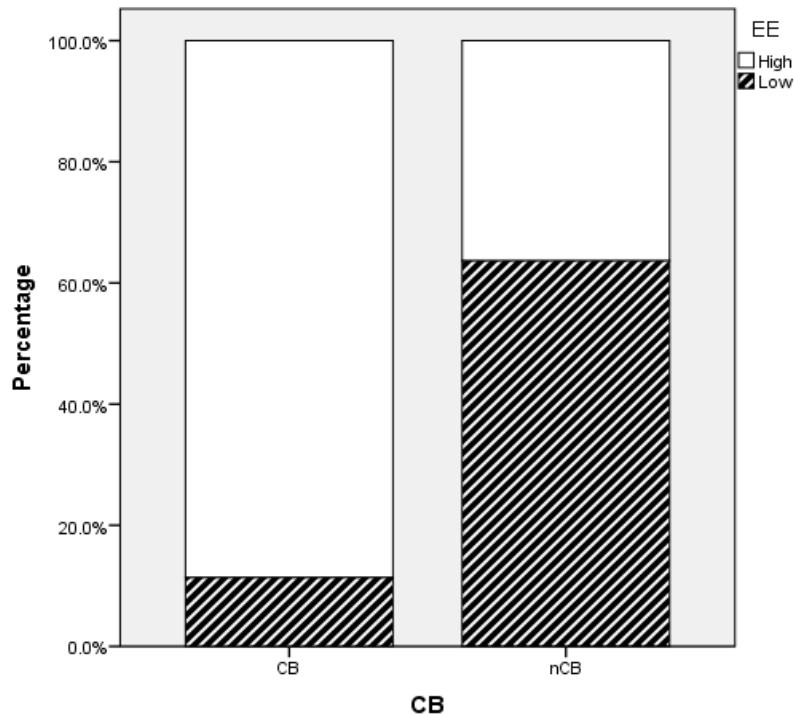
3.3.2 Research question 1: Expressed emotion and challenging behaviour. The first research question asked whether the observed frequencies of the high and low EE ratings differed significantly from the expected frequencies for each of the groups of CB and nCB. It was hypothesised that the observed frequency of high EE ratings in relation to clients in the CB group will differ significantly from the expected frequency, in that it will be higher than the expected frequency.

Of the 91 FMSSs in total, 44 were completed in relation to clients in the CB group, whilst 47 were completed in relation to clients who were in the nCB group. In order to allow within subjects comparisons to be made between equal groups of participants, three participants who provided data only regarding clients they did not find challenging were excluded from this analysis. Each staff participant therefore contributed data regarding a client with CB and a client without CB. Each client being considered by the staff participant was only represented once in the data.

For the CB group, 39 staff participants were rated as having high levels of EE from their FMSS (88.6%), whilst 5 participants had low EE (11.4%). For the nCB group, 16 participants were rated high EE (36.4%), whilst 28 (63.6%) were rated low EE (Figure 2). Using a McNemar's contingency table analysis the expected and observed values differed significantly ($p = .013$).

Figure 2

A Graph to Show the Percentage of FMSS Rated as High and Low EE, for both CB and nCB Groups



3.3.3 Research question 2: Challenging behaviour and the components

of expressed emotion. The second research question queried whether the individual components of EE (critical comments; EOI; positive remarks; quality of relationship) would differ significantly according to the CB level of the client being considered. It was hypothesised that when staff participants are talking about individuals in the CB group they would display more critical comments and EOI, fewer positive remarks and be rated as having lower quality of relationship in comparison to when the same staff participants talked about individuals in the nCB group.

3.3.3.1 Critical comments. A significantly greater number of critical comments were made by participants in relation to the CB group, $t(43) = 6.114$, $p < .001$, $r = .47$, with the mean number of critical comments made towards clients in the CB group being 2.20, whilst in the nCB group this was .41. This therefore

supports the hypothesis that significantly more critical comments would be made in relation to clients in the CB group.

3.3.3.2 Positive remarks. A significantly greater number of positive remarks were made by staff participants in relation to clients in the nCB group compared to the CB group, $t(43) = 5.98, p < .001, r = .46$, with the mean number of positive remarks made towards clients in the CB group being .95, whilst for the nCB group this was 2.91. This supports the hypothesis that significantly fewer positive remarks would be made in relation to clients in the CB group.

3.3.3.3 Quality of relationship. The quality of relationship data are presented in Table 8. Three separate McNemar Tests were conducted comparing the quality of the relationship between CB and nCB groups. The observed and expected frequencies of positive and neutral relationships did not differ significantly ($p = .447$); neutral and negative relationships also did not differ significantly ($p = .271$), whilst positive and negative relationships did differ significantly ($p = .002$).

Overall, when the client was in the nCB group the relationship was more likely to be coded positive than negative, in comparison to when the client was in the CB group.

Table 8

The Number of FMSS rated as having Positive, Neutral and Negative Relationships for each CB Group

Group	Quality of Relationship		
	Positive	Neutral	Negative
CB	7	27	10
nCB	29	14	1

3.3.3.4 Emotional over-involvement. In total 5 (5.7%) of the FMSSs were rated as having high EOI, all due to the participant making five or more positive remarks about the client. The EOI data can be seen in Table 9, which indicates that all of the EOI FMSS were in relation to clients in the nCB group.

Table 9

The Number of FMSSs with Neutral and High EOI for each CB Group

CB Group	EOI	
	Neutral	High
CB	44	0
nCB	39	5

The observed frequencies of EOI are significantly different from those which would be expected ($p < .001$). Whilst there are no values in one of the contingency cells, which is problematic, the results indicate that overall very few staff participants displayed high levels of EOI, whilst those that did were in relation to the nCB group of clients. This could therefore be seen to be consistent with Barrowclough et al. (2001) who reported that the composition of high EE when measured in staff differs in comparison to high EE in family members, being characterised by high levels of criticism rather than EOI.

3.3.4 Research question 3: Attributions and expressed emotion. This study also sought to explore whether ratings on the dimensions of attribution (internal-external to client; internal-external to staff; specific-global to client; uncontrollable-controllable by client; uncontrollable-controllable by staff) differed significantly according to the EE level of the staff participant and the CB level of the client they were referring to.

It was hypothesised that when staff participants spoke about clients from the CB group they would attribute behaviours as more internal, specific and controllable by the client compared to the nCB group. In addition, those staff rated as high EE would be more likely to make attributional ratings of the client's behaviour as being internal, specific and controllable by the client, in comparison to staff participants who had low ratings of EE.

Further, when comparing attribution ratings within the CB group and within the nCB group, it was hypothesised that high EE staff considering the clients with CB would attribute clients' behaviours as more internal, specific and controllable by them.

3.3.4.1 Comparing attributions according to challenging behaviour. The mean and standard deviation of ratings on each of the attributional dimensions for clients from both the CB and nCB groups are presented in Table 10, and significant differences are highlighted.

Table 10

The Mean and Standard Deviation of MAQ Ratings in Relation to Clients in the CB and nCB Group

MAQ Item	CB Group Mean Rating (SD)	nCB Group Mean Rating (SD)
Internal to client	2.75 (1.71)	3.16 (1.94)
Internal to staff	5.16 (1.49)	5.30 (1.56)
Specific to client *	3.05 (1.82)	3.68 (1.95)
Controllable by client	2.89 (1.62)	2.82 (1.83)
Controllable by staff *	2.84 (1.66)	3.34 (1.79)

Note. * $p < .05$

Attributions of behaviours as internal to the client did not differ significantly according to whether the client was in the CB or nCB group, $t(43) = 1.18, p = .12$. Similarly, there was no significant difference in attributions of internal to staff, $t(43) = .50, p = .31$.

Higher ratings of specificity to the client indicate that the attribution of behaviour is less specific to the client, whilst lower ratings indicate behaviour is more specific to the client. Attributions regarding the behaviour of clients in the CB group were rated as significantly more specific to them, in comparison to the behaviour of clients in the nCB group, $t(43) = 1.72, p < .05, r = .80$. An effect size of .80 indicates that there is a large effect, using the criteria proposed by Cohen (1992), and these results are consistent with the hypothesis.

There was no significant difference between attributions made relating to the controllability of the behaviour by the client whether the client displayed CB or not, $t(43) = .24, p = .41$.

In the domain of controllability by staff higher ratings indicate higher attributions of behaviour as controllable by staff. Staff participants attributed behaviours of clients in the nCB group as significantly more controllable by themselves as staff, $t(43) = 1.93, p < .05, r = .28$, compared to behaviours of clients in the CB group. The results of this analysis indicate a small – medium effect size (Cohen, 1992). It was not hypothesised that this would be the case.

3.3.4.2 Comparing attributions according to expressed emotion. The mean and standard deviation of ratings on each of the attributional dimensions made by staff participants who were rated as high or low EE can be seen in Table 11, and significant differences are highlighted.

Table 11

The Mean and Standard Deviation of MAQ Ratings made by Staff Participants Rated as High or Low EE

MAQ Item	High EE Staff	Low EE Staff
	Mean Rating (SD)	Mean Rating (SD)
Internal to client	2.70 (1.72)	3.39 (1.95)
Internal to staff	4.91 (1.73)	5.35 (1.47)
Specific to client	3.35 (1.85)	4.09 (2.00)
Controllable by client	3.13 (1.74)	3.09 (2.04)
Controllable by staff *	2.83 (1.67)	3.61 (1.88)

Note. * $p < .05$

The attributional ratings of behaviours as internal to the client, internal to the staff, specific to the client or controllable by the client did not differ significantly between the high and low EE staff participants, $p < .05$. These results do not support the hypotheses which predicted that higher ratings of behaviour as internal to the client, specific to the client and controllable by the client would be made by staff expressing high levels of EE compared to staff expressing low EE.

Significantly lower attributions of controllability by staff were made by those staff participants who expressed high levels of EE, $t(22) = 1.88$, $p < .05$, $r = .37$. These results have a medium effect size (Cohen, 1992) and indicate that those staff who expressed low levels of EE attributed clients' behaviours as more within their control as staff.

3.3.4.3 Comparing attributions according to expressed emotion and challenging behaviour. Within the CB group, the attribution ratings made by high EE and low EE staff were then compared. Mean and standard deviation attribution ratings are reported in Table 12, with significant differences highlighted. There were no significant differences between the attributions of internal to the client,

internal to staff, specific to the client, or controllable by the client made by the high and low EE staff participants. High EE staff considering clients in the CB group made significantly lower attributions of behaviour as controllable by staff compared to low EE staff, $t(42) = 2.35, p < .05, r = .34$, with a medium sized effect (Cohen, 1992).

Table 12

The Mean and Standard Deviation MAQ Ratings for the CB Group of Clients according to whether Staff were Rated as High or Low EE

MAQ Item	High EE Staff (n = 39) Mean Rating (SD)	Low EE Staff (n = 5) Mean Rating (SD)	p (1 tailed)
Internal to client	2.62 (1.60)	3.80 (2.39)	.074
Internal to staff			.174
Specific to client	2.97 (1.72)	3.60 (2.61)	.237
Controllable by client	2.97 (1.65)	2.20 (1.30)	.160
Controllable by staff	2.64 (1.50)	4.40 (2.19)	.001*

Note. Internal to staff was compared using the Mann-Whitney U Test
* $p < .05$

Within the nCB group, the attribution ratings made by the participants who were rated as high EE (n = 16) compared to low EE (n = 28) were then also compared. Mean and standard deviation attributional ratings are reported in Table 13, with significant differences highlighted. There were no significant differences between attributions of internal to the client, internal to staff, specific to the client, or controllable by the client according to whether staff displayed high or low EE. High EE staff considering clients in the nCB group made significantly lower attributions of behaviour as controllable by staff compared to low EE staff with a medium effect size (Cohen, 1992), $t(42) = 2.081, p < .05, r = .31$.

Table 13

The Mean and Standard Deviation MAQ Ratings for the nCB Group of Clients according to whether Staff were Rated as High or Low EE

MAQ Item	High EE Staff (n = 16) Mean (SD)	Low EE Staff (n = 28) Mean (SD)	p (1 tailed)
Internal to client	3.13 (2.09)	3.18 (1.89)	.466
Internal to staff			.380
Specific to client	3.13 (1.75)	4.00 (2.02)	.078
Controllable by client	2.56 (1.59)	2.96 (1.97)	.246
Controllable by staff	2.63 (1.63)	3.75 (1.78)	.022*

Note. Internal to staff was compared using the Mann-Whitney U Test

* $p < .05$

3.3.5 Research question 4: Challenging behaviour, dimensions of attribution and components of expressed emotion. Research question four asked whether ratings on the attributional dimensions differed significantly according to ratings of the EE components (critical comments and positive remarks) and level of CB. It was hypothesised that as critical comments increase in number, attributions of behaviour as internal to the client, specific to the client and controllable by the client will significantly increase. Whilst as positive remarks increase in number, attributions of behaviour as internal to the client; specific to the client and controllable by the client will significantly decrease.

3.3.5.1 Critical comments and attributions. Based on the paired data obtained from 44 staff participants, in relation to 88 clients, Spearman's correlation coefficients for the relationship between each of the MAQ items and the number of critical comments are reported in Table 14. This demonstrates that there are no significant correlations between critical comments and any attributional ratings.

Therefore critical comments do not significantly increase alongside attributions of internality of behaviour to the client; specificity of behaviour to the client; or controllability of behaviour by the client and the hypotheses are not supported.

Table 14

Coefficients for Correlations between Critical Comments and Attributional Ratings on the MAQ

MAQ Item	Correlation Coefficient (<i>r</i>)	p (1 tailed)
Internal to Client	- .161	.068
Internal to Staff	- .002	.494
Specific to Client	- .135	.105
Controllable by Client	.059	.293
Controllable by Staff	- .174	.052

Whilst these analyses indicate that attributions are not significantly related to the frequency of the components of critical comments, further analyses can be conducted to determine whether a relationship exists between critical comments and attributions according to CB group.

3.3.5.2 Critical comments and attributions according to challenging behaviour. Spearman’s correlations reported in Table 15 demonstrate that there are no significant correlations between critical comments and attributions within either the CB or nCB group. Therefore the attributional ratings made of client behaviours are not related to the number of critical comments made by staff participants when talking about either the clients in the category of CB or nCB. The number of critical comments made by staff participants do not significantly increase alongside attributions of behaviour as internal to the client; specific to the client; or controllable by the client in those deemed to display CB or nCB.

Table 15

Coefficients for Correlations between Critical Comments and Attributional Ratings on the MAQ for CB and nCB Groups

MAQ Item	CB		nCB	
	Correlation	p (1 tailed)	Correlation	p
	Coefficient (<i>r</i>)		Coefficient (<i>r</i>)	(1 tailed)
Internal to Client	- .166	.140	- .096	.261
Internal to Staff	- .057	.357	.101	.250
Specific to Client	.033	.415	- .160	.141
Controllable by Client	.099	.262	.026	.431
Controllable by Staff	- .113	.234	- .108	.234

3.3.5.3 Positive Remarks and attributions. Correlation coefficients for each of the MAQ items in relation to positive remarks can be seen in Table 16. This demonstrates that there is no significant relationship between positive remarks and any attributional ratings. Therefore this indicates that positive remarks do not significantly decrease alongside reductions in attributions of internality of behaviour to the client; specificity of behaviour to the client; or controllability of behaviour by the client.

Table 16

Coefficients for Correlations between Positive Remarks and Attributional Ratings on the MAQ

MAQ Item	Correlation Coefficient (<i>r</i>)	p (1 tailed)
Internal to Client	.074	.247
Internal to Staff	-.064	.275
Specific to Client	.003	.490
Controllable by Client	.141	.094
Controllable by Staff	.108	.158

3.3.5.4 Positive Remarks and attributions according to challenging

behaviour. Correlations between positive remarks and the attribution ratings can also be calculated for the separate groups of CB and nCB. Results of these Spearman's correlation analyses are reported in Table 17, highlighting the statistically significant correlation between the number of positive remarks made and the ratings of the controllability of the behaviour by the client. This correlation is positive ($r = .29, p < .05$), demonstrating that as the number of positive remarks made increased, the perception of the person's behaviour as under their control increased.

Table 17

Coefficients for Correlations between Positive Remarks and Attributional Ratings on the MAQ for CB and nCB Groups

MAQ Item	CB		nCB	
	Correlation	p	Correlation	p
	Coefficient (<i>r</i>)	(1 tailed)	Coefficient (<i>r</i>)	(1 tailed)
Internal to Client	.216	.080	- .071	.317
Internal to Staff	- .204	.092	- .058	.349
Specific to Client	- .097	.266	- .104	.243
Controllable by Client	.293	.027*	.064	.335
Controllable by Staff	.224	.072	- .122	.207

Note. * $p < .05$

3.3.6 Research question 5: Challenging behaviours. The final additional research question asked which behaviours on the CBS have the highest overall challenge scores; whether ratings of behaviour frequency, difficulty or overall level of challenge on the CBS differ significantly according to EE level. By determining whether overall challenge scores differ according to CB level it was also anticipated that differences between the two CB groups could be validated. It was hypothesised that CBS scores would be highest for the CB group compared to the nCB group, and for the high EE group in comparison to the low EE group.

3.3.6.1 Behaviours with the highest mean CBS scores. As reported in the descriptive statistics, the behaviour with the highest mean CBS challenge score for the CB group was physical aggression (mean challenge score = 8.95), whereas for the nCB group it was lack of self care (mean challenge score = 3.40).

3.3.6.2 CBS scores according to level of expressed emotion. Paired t-tests indicated that staff participants who displayed high EE rated clients as having

significantly higher CBS total frequency scores compared to staff participants who were rated as low EE, $t(22) = 6.17, p < .001, r = .80$, with this result also having a large effect size (Cohen, 1992). This indicates a potential relationship between EE ratings and the CBS frequency scores.

Staff participants rated as high EE in their FMSS also gave significantly higher CBS total difficulty ratings in relation to the client with dementia they were considering compared to those staff participants who displayed low EE, $t(22) = 6.34, p < .001, r = .80$. This analysis also has a high effect size (Cohen, 1992).

In addition, staff participants who expressed high levels of EE rated the client's behaviour as significantly more challenging compared to staff who displayed low levels of EE, demonstrated by higher CBS total challenge scores, $t(22) = 5.47, p < .001, r = .76$, with a high effect size (Cohen, 1992).

3.3.6.3 CBS Scores according to challenging behaviour group. Analyses indicated that the clients from the CB group had significantly higher CBS challenge scores compared to those clients in the nCB group with the results also having a large effect size (Cohen, 1992), $t(43) = 8.136, p < .001, r = .78$. This therefore provides some validity regarding the two groups, highlighting that they differ regarding the extent to which their behaviours are deemed by staff to be challenging.

3.3.7 Supplementary data analyses. In addition to the main research questions it was also possible to explore some further differences between attributions made in relation to different CBs and to analyse the length of time staff had known the clients they were considering.

3.3.7.1 Attributions and challenging behaviours. Extending upon the main research questions, it was also possible to explore whether the attribution ratings made on the MAQ differed according to whether the member of staff was rating the

behaviour of physical aggression or one of the other listed behaviours. This was considered to be a relevant additional analysis, given that the research literature has indicated that attributions made by staff can differ according to the typography of the CB (e.g. Dilworth et al., 2011). Further, as the hypothesised differences in attributions according to overall CB group were not found, it was anticipated that the differences may be more specifically related to the typography of the behaviour.

In relation to the client group with CB, 11 staff participants rated the behaviour of physical aggression as having the highest challenge score and used this behaviour to complete the MAQ. The distribution of MAQ ratings was analysed for both physical aggression (n = 11) and all other behaviours (n = 33). All attribution dimensions were normally distributed and equal variance assumed using Levene's test. The attributions of behaviour as internal to the client, internal to the staff, specific to the client, controllable by the client and controllable by staff did not differ significantly according to whether the behaviour considered was physical aggression or one of the other listed behaviours. The mean ratings compared in these supplementary analyses can be seen in Table 18.

Table 18

The Mean and Standard Deviation of MAQ Ratings for the CB Client Group, according to Behaviour

MAQ Item	Physical Aggression Mean Rating (SD)	Other listed Behaviour Mean Rating (SD)
Internal to client	2.45 (1.44)	2.85 (1.81)
Internal to staff	4.82 (1.78)	5.27 (1.40)
Specific to client	2.73 (1.74)	3.15 (1.86)
Controllable by client	3.27 (1.79)	2.76 (1.56)
Controllable by staff	2.09 (1.38)	3.09 (1.68)

It was not possible to conduct a similar comparison analysis for the nCB client group as the range of behaviours rated on the MAQ was too variable.

3.3.7.2 Length of time known. It was also possible to explore some of the additional data collected relating to how long staff participants had known each of the clients they were considering. This data was grouped into three categories: under 3 months; 3 months or more but less than a year; one year or more. These data are presented in Table 19.

Table 19

The Length of Time Participants Reported having known the Client they were Considering in both the CB and nCB Groups

Estimated Length of Time the Client has been Known	CB Group (n = 44)	nCB Group (n = 47)
< 3 months	25 (56.8%)	24 (51.1%)
≥3 months, but < 1 year	13 (29.5%)	18 (38.3%)
≥1 year	6 (13.6%)	5 (10.6%)

As demonstrated by Table 19, just over half of the clients in both CB groups had been known by the staff participants for less than three months, whilst just under half had been known for greater than three months. For the clients considered in the CB group, the length of time which staff had known the clients ranged from one week (n = 3) to 8 years (n = 1), whilst for the nCB group this ranged from one week (n = 3) to two years and four months (n = 1).

3.3.8 Summary of statistical analyses.

3.3.8.1 Ratings of expressed emotion and challenging behaviour. In summary, 89.4% of the staff participants were rated as expressing high EE in at least one of their FMSSs. The observed frequencies of high and low EE ratings differed significantly from the expected frequencies for the CB and nCB groups of

clients. In relation to the components of the EE construct, a significantly greater number of critical comments were made in relation to the clients with CB, whilst a significantly greater number of positive remarks were made in relation to the clients in the nCB group. Further, when the client being considered was in the nCB group the quality of the relationship was significantly more likely to be positive.

3.3.8.2 *Attributions.* The behaviours of clients with CB were rated as significantly more specific to them, whilst those of clients without CB were rated as significantly more controllable by staff. Participants who expressed high EE made significantly lower attributions of behaviours as controllable by themselves. Within both the CB and nCB groups, high EE staff made significantly lower attributions of behaviour as controllable by themselves.

3.3.8.3 *Correlations.* No significant correlations were found between critical comments and attributional ratings, whilst positive remarks were found to increase significantly as the perception of controllability increases in relation to clients with CB.

3.3.8.4 *CBS Scores.* The behaviour with the highest mean challenge score for the CB group was physical aggression, whilst for the nCB group this was lack of self care. Staff were rated as high EE when clients had higher frequency, difficulty and challenge CBS scores. The CB group of clients had higher challenge scores than the nCB group, validating the different groups.

3.3.8.5 *Attributions and challenging behaviours.* No significant differences were found in staff attributions of physical aggression or other listed behaviours in relation to the clients in the CB group.

3.3.8.6 *Length of time known.* Just under half of the clients had been known by the staff participants for three months or longer.

4. Discussion

This section will provide a summary of the results analyses, focusing on each research question in turn. The results will then be considered in the context of both the previous research literature and the potential clinical implications.

Strengths and limitations of this project and its design will be considered together with suggestions for how the research could be further improved or extended upon in future studies. Finally an overall conclusion from the study will be presented.

4.1 Overview and Interpretation of the Results

4.1.1 Expressed emotion in dementia care. It was hypothesised that between 30 and 50% of staff participants might display high levels of EE, given that the research conducted to date with family carers of people with dementia has reported rates of high EE ranging from 8% (Orford et al., 1987) to 56% (Bledin et al., 1990). In addition research by Moore et al. (1992) reported that rates of high EE in staff caring for people with mental health difficulties and family carers were comparable.

However, in this study the proportion of high EE found in the staff participants exceeded the rates of high EE reported in family caregivers of people with dementia. This research demonstrated that 89.4% of staff displayed high levels of EE in at least one of their FMSS. In relation to clients with CB, 88.6% of staff displayed high levels of EE. In relation to clients with nCB, 36.4% of staff displayed high levels of EE, whilst the majority of staff (63.6%) displayed low EE. This indicated that the construct of EE was present and measurable within this staff population. These descriptive statistics also indicate that more staff participants displayed high levels of EE in relation to clients in the CB group compared to the nCB group, suggesting that the expression of high EE may be related to the situation.

In addition, it is important to acknowledge that whilst a considerable proportion of staff participants did display high EE which might indicate difficulties in relationships between staff and clients they find challenging, this can also be understandable given that relationships may be more difficult in such circumstances.

Tattan and Tarrier (2000) suggested that staff and relatives differ when asked to talk about their relationship with clients, as staff will be more cautious. However, this research potentially challenges this notion given the high proportion of high EE identified. If staff were being cautious during their FMSSs it would not have been expected that the majority (89.4%) of staff participants would have displayed high EE in at least one of their FMSS. This may imply that the staff participating in this study were expressing their genuine views during their FMSSs. Further, Hooley and Parker (2006) summarised that the FMSS has a tendency to under-identify the presence of high levels of EE. This therefore indicates that the proportion of high EE found in this study of 88.6% in relation to clients in the CB group may also be an underestimation of the presence of EE; potentially rates could be higher when considering those clients who staff find challenging.

It is possible that rates of high EE are different in the context of working with people with dementia in comparison to other client groups. Given that it is not known of any other EE research project having been published which involved staff working with people with dementia, it is not possible for comparisons to be made. This highlights the potential for additional future research to confirm the findings of a high proportion of high EE in paid staff working with people with dementia.

It has been reported by Hooley and Richters (1995) that EE levels increase over time, with 83% of relative caregivers of people with mental health difficulties having high EE after the client had been unwell for a period of five years. Given

that the clients in this study had not been known to members of staff for significant periods of time, this may not be an explanation for the high levels of EE found. However, given that this study has recruited paid care staff rather than relatives, it is possible that the length of time that staff have been working with people with dementia in general may be an important factor to consider, rather than the length of time they have known a specific client. In this study 68.1% of staff participants reported having worked with people with dementia for more than five years. It is possible that for staff it is the cumulative effect of working with the client group of people with dementia or working in a particular dementia care setting, rather than the time working with one particular client, which is associated with high levels of EE. Further research could explore this by comparing EE levels in staff having worked in the same dementia care environment for a long period of time compared to those who have been recently recruited.

In addition, it is possible that high EE level is related to the stage of illness, rather than the specific length of time that staff have known their clients. For people with dementia, it would be anticipated that their illness would progress over time leading to greater impairment. Given that the clients who were considered in this study were in need of hospital treatment, it is possible that they had greater levels of impairment than those individuals who were represented in the relative caregiver EE studies. Further research could determine whether the level of EE expressed by staff is related to the severity of impairment experienced by the person with dementia, and whether staff attributions about CBs alter according to whether the individual is experiencing mild, moderate or severe cognitive difficulties.

In addition, it is possible that there were additional factors not measured in this study which are related to high levels of EE. It is possible that the staff participating in this study were experiencing high levels of stress or burnout. The

research literature appears to be inconclusive regarding the relationship between stress and high EE. Moore et al. (1992) explained that the levels of stress reported by staff was not related to their level of EE, however Langdon et al. (2007) reported that staff expressing high levels of EE scored highly on burnout. Research with family caregivers of people with dementia has reported that those rated as expressing high levels of EE also reported higher levels of strain and distress (Bledin et al., 1990; Tarrier et al., 2002). Whilst the levels of stress experienced by staff in this study are not known, it is possible they may have been experiencing stress and burnout and that this could have been related to the high levels of EE detected. Further research could aim to determine whether EE levels differ according to stress levels in staff working in dementia care settings.

Similarly, further research is needed to investigate how high EE is expressed in clinical practice between staff and their clients, since whilst the expression of high EE is understood to represent difficulties in relationships, what would be observed in practice to reflect this is unclear.

4.1.2 Research question 1. The analyses reported significant differences when comparing the expected and observed frequencies of high EE according to levels of CB. For clients in the CB group more staff participants expressed high EE than low EE, whilst when considering the clients in the nCB group more participants expressed low EE than high EE. These results therefore supported the hypothesis that more staff displayed high EE in response to clients who displayed higher levels of CB.

Whilst no similar studies have been conducted with staff working in dementia care, research with family caregivers of people with dementia conducted by Tarrier et al. (2002) reported that those carers expressing high levels of EE also reported significantly more behavioural disturbances in their care-recipient,

indicating a relationship between high EE and behaviours that challenge. A similar relationship has been reported by studies of staff working with people with mental health difficulties (e.g. Snyder et al., 1994) and people with intellectual disabilities (e.g. Weigel et al., 2006). The results of this research project therefore appear to be consistent with some of the findings outlined by previous literature.

4.1.3 Research question 2. Further, when investigating how the components of EE and dimensions of attribution differed according to CB level, significantly more critical comments were made in relation to care-recipients in the CB group, as hypothesised. This is considered to be consistent with research findings presented by Moore, Ball and Kuipers (1992) who reported that criticism expressed by staff towards care-recipients with mental health difficulties was associated with difficult behaviours described as attention seeking and aggression in the care recipients. The results of this study indicate that it might therefore be anticipated that paid care staff working in dementia care inpatient environments would be more critical towards those care-recipients who display more behaviours that challenge. Therefore this indicates that any interventions used to reduce high levels of EE in paid staff would need to ensure that reducing criticism was a central component.

In addition, the results found significant differences in the quality of relationships, with staff relationships with clients from the nCB group more likely to be reported as positive.

Further findings from research question two include that significantly more positive remarks were made by participants in relation to nCB care-recipients compared to individuals in the CB group, supporting the hypothesis. This indicates that the response by staff participants towards clients with dementia who do not display high levels of behaviours that challenge, is not just an absence of critical

comments, but includes the presence of more positive remarks. This suggests that staff may have a different perspective of these two groups of clients, which is important since this may also have an impact on the interactions between staff and a person with dementia, and potentially further impact on the care they receive. These findings therefore also challenge Tattan and TARRIER (2000) since they highlight that high EE in staff is characterised by the presence of criticism and not solely a lack of positivity.

4.1.4 Research question 3. Analyses of the attributions made in relation to clients in the CB and nCB groups generated mixed support for the original research hypotheses. In support, it was found that attributions made by staff participants in relation to the CB group were more specific to the client, although no differences were found regarding the attributions of internality to the client and controllability by the client. This therefore indicates that staff may have been making the FAE in relation to clients deemed to be challenging, to some extent, but this is still inconclusive.

Research with staff working with individuals with intellectual disabilities has reported staff making the attribution of CB as specific to the client (Cottle et al., 1995), consistent with these results. However, research with staff working with other client groups concluded that CBs were attributed by the caregiver as internal to the client (Cottle et al., 1995; Weigel et al., 2006) and controllable when the behaviour was deemed to be physically aggressive (Dilworth et al., 2011).

The findings reported by Dilworth et al. (2011) suggested that it may be the typography of the CB which is most important to consider in relation to the attributions made by caregivers, rather than the overall level of CB displayed by the client. Dilworth et al. concluded that there was no significant relationship between the overall level of CB displayed and the attributions made by the care staff, but

physically aggressive behaviour was rated significantly more in the individual's control, and individuals were considered to be significantly less in control of self injurious behaviours.

Whilst this project compared attributions made regarding individuals with CB and without, the anticipated FAE was not detected. A number of different CBs were combined together within the CB group, reflecting 44 different clients and it might be that the different behaviours which staff were rating therefore provoked different attributions in staff. Further research might explore these factors further, using a design to compare the attributions made by staff in relation to specific pre-defined typographies of CB displayed by people with dementia.

Further, it is possible that the attributions made regarding behaviours in people with dementia differ to the attributions made about the behaviours of people with other conditions. Dementia is a condition in which further deterioration of the person's abilities is anticipated to occur over time due to the degenerative nature of the condition. It is possible that caregivers of people with dementia may therefore attribute the behaviours of the person with dementia differently from the behaviours of individuals with other conditions.

Research by Whitehouse et al. (2000) concluded that when individuals with intellectual disabilities were believed to be developing dementia and this was attributed as the cause of new behaviours, this factor was attributed as global, not in the person's control and stable. Therefore, Whitehouse et al. also found only partial support for the FAE in their study with clients with dementia and intellectual disabilities, with behaviours not being attributed as in the control of the client. Todd and Watts (2005) explored the attributions made by staff working in dementia care, but not EE levels. They concluded that "no consistent or robust role for attributions was found overall" (p. 78) in relation to the response of staff towards behaviours,

although they reported that the staff participants had a tendency to attribute behaviours as uncontrollable, stable and internal to the client. The findings reported by Todd and Watts are therefore also partially consistent with the findings of this study since whilst staff attributed CB as significantly more specific to individual clients representing the CB group, staff did not display the full FAE.

However, Tarrrier et al. (2002) reported that relative caregivers of people with dementia did demonstrate the FAE in relation to increased CBs, suggesting that there might be a difference between relatives and paid staff in how they understand behaviours. However, given that the literature in this area is extremely limited it is difficult to interpret the findings. It is possible that there are differences between relative caregivers and staff caregivers in how they understand behaviours deemed to be challenging which are displayed by people with dementia.

This project also found that staff attributed behaviours as significantly more controllable by them when the client being considered was in the nCB group, compared to the CB group. Similarly, high EE participants attributed clients' behaviours as significantly less controllable by themselves as staff. When differences in attributions were also explored within the CB and nCB groups, high EE staff also attributed client behaviours as significantly less controllable by themselves compared to low EE staff. These differences were not hypothesised.

It is possible that these differences could be related to how confident members of staff feel in managing CBs. Given that staff participants rated the behaviours of the nCB group as less difficult and challenging overall, it is possible that staff feel more prepared and able to manage these and therefore potentially more in control. In contrast, given that participants rated the behaviours of the CB group as significantly more difficult to manage, it is possible that they feel less able and confident to work with these clients in difficult situations. It is possible that the

expression of high EE is a reflection of staff feeling that they are not confident to manage CBs. Further research might be able to explore the extent to which attributions of controllability by staff, or high EE levels, are related to staff confidence levels. If a relationship is found, this may help to inform interventions which might support staff in managing difficult situations.

It is also possible that additional factors impacted on the attributions made by staff in this study. Dilworth et al. (2011) reported that the functioning of the care organisation was also related to attributions about CB, with staff rating behaviours as less in the control of the client (less FAE) when the organisation was rated as functioning at a higher level. Given that the staff who participated in this study were working in 11 different ward environments it is possible that they experienced different levels of organisational functioning and this may have been an uncontrolled factor which influenced the results. This is important to consider since the NHS is currently undergoing a significant period of change and reorganisation. It is known that some of the ward settings which took part in the project had already undergone changes, whilst others were still waiting for this process to begin. This may have resulted in differing levels of organisational functioning on each of the wards at the time of the study.

Further, the results of this project can be considered in the context of a recent study by Parker, Clarke, Moniz-Cook and Gardiner (2012). They reported that staff experiencing more than one demanding task, and therefore in a position of 'cognitive busyness', were more likely to attribute aggressive behaviours as internal to the individual with dementia and non-aggressive behaviours as more controllable by the person with dementia. They suggested that the demands placed on care staff may therefore impact on their attributions. Staff participants in this research study would not be considered to have been experiencing competing cognitive demands,

which may explain why the FAE was not detected in this project. It might therefore be suggested that the attributions made by staff in this project may not necessarily reflect the way in which attributions are made in daily clinical practice where staff are likely to experience competing cognitive demands.

It had been hypothesised that staff who expressed high levels of EE would also make the FAE, attributing the clients' behaviours as internal to the client, specific to the client and controllable by the client, however this was not evidenced by the analyses. Therefore this study does not provide support for the theory of attribution underpinning the concept of EE in paid care staff working with people with dementia in inpatient environments. It is possible that study weaknesses, or additional variables, may have impacted on these results which will later be discussed in further detail.

It is acknowledged that future research is needed in order to confirm whether attribution theory is not relevant to the expression of EE and understanding of CBs in the area of dementia care, and further suggestions for research will be summarised. It is also possible that the central philosophy of person centred dementia care and training in this perspective has led staff to generate different perspectives of CBs and hence they do not express the FAE.

4.1.5 Research question 4. The results indicated that there was no significant relationship between the number of critical comments made by staff participants and the attributions made regarding the clients' behaviours. This indicates that an increase in the presence of criticism did not increase the likelihood of staff attributing behaviours as internal to the client, specific to the client or controllable by the client (the components of the FAE), as had been hypothesised. It is possible that whilst staff expressed their criticism regarding clients, they maintained an alternative understanding of their behaviours which was represented

by the answers documented in the MAQ. Clinically this may indicate that whilst attributions consistent with the FAE in staff may be reduced, for example through training or interventions, this may not necessarily eliminate criticism towards clients since the two have not been found to be related in this study. This also challenges the possibility of an attributional theory of criticism.

Positive remarks significantly increased alongside staff participants' attributions of behaviour as under the clients' control, when the client was in the CB group. This was not hypothesised. Given that attributing behaviours as under the control of the client is part of the FAE, it would have been predicted that this would be associated with criticism rather than positive remarks. It is possible that this is an inaccurate finding due to limitations of the research study, or it is possible that staff perceptions of controllability by the client are viewed as a positive attribute in dementia care. Given that dementia is a degenerative condition in which deterioration in abilities over time is predicted, it is possible that caregivers may take a positive view of the individual appearing to be in control of a behaviour. This is something which research could explore further by investigating in more detail how caregivers understand and view the client's ability to control their behaviours, including whether this differs between relative caregivers and paid care staff.

4.1.6 Research question 5. The analyses for the final research question found that the CB and nCB group differed significantly in the CBS total challenge scores, indicating that the two groups of clients being considered by staff were different in the level of CB they displayed. Therefore some validity is recognised for these two groups. Given that the two groups have been found to be significantly different, this excludes the possibility that the results found in this project arose due to the two groups being the same.

Those staff participants rated as expressing high levels of EE were found to be talking about clients who they rated as having higher CBS total frequency, difficulty and challenge scores. Therefore it can be concluded that the level of EE displayed by staff does differ according to the level of CB of the client. This is the first study to investigate this within paid care staff working in dementia care settings, however similar findings have been reported in the literature with staff working with individuals with mental health difficulties (e.g. Moore, Ball & Kuipers, 1992) and intellectual disabilities (e.g. Weigel et al., 2006).

This study found that staff participants rated the behaviour of physical aggression as having the highest challenge score in the group of clients who had CB, indicating that this is a particular behaviour which staff find most difficult to manage. This finding is potentially consistent with previous research in the intellectual disability field by Cottle et al. (1995). They reported that 66.6% of staff who had experienced a violent incident in the care setting expressed high levels of EE following the incident, therefore indicating a relationship between the expression of high EE and the client's physically aggressive behaviour.

4.1.7 Supplementary analyses. Additional analyses investigated whether the attributions made by staff differed according to whether they were rating physical aggression or another listed behaviour for a client in the CB group. This was a relevant additional analysis given that the hypothesised overall differences in attributions between CB client groups had not been found. Further the potential importance of the typography of CB has been highlighted in the literature. No significant differences were found in comparing the attribution ratings for physical aggression with the other listed behaviours. However, it is recognised that this supplementary analysis compared unequal groups ($n = 11$ and $n = 33$), which is potentially problematic. Further, it is possible that other behaviours which were

listed on the CBS might also be considered by staff as physically aggressive behaviours, for example spitting or faecal smearing, depending on the context of the behaviour. A future research project might aim to explore the differences between typographies of CB in people with dementia, clarifying whether these have an impact on staff attributions and the expression of EE.

Additional analyses exploring the length of time the clients with dementia had been known by the staff participants, found that just under half of the people with dementia had been known by staff for three months or longer. Given that the ward settings participating in the study included both assessment and continuing care environments this is understandable. It is noted that some of the clients who were considered by staff had been on the unit for only a week ($n = 6$), which is potentially problematic since it would seem that staff are unlikely to have developed a full understanding of the individual and the behaviours they may present within such a short period of time. However, in a review of the measures of EE, Hooley and Parker (2006) stated that the FMSS “can be used in cases in which the respondent does not know the client especially well” (p. 389). Whilst this can be considered to be reassuring with regards to the measurement of EE, the impact on the attributional ratings is less clear. This may potentially be an alternative explanation for why this study did not find support for the relationship between the FAE and the presence of high levels of EE, since some staff participants may not have fully developed their perceptions of clients in a way in which they could make reliable ratings on the MAQ.

4.2 Clinical Implications of the Research Findings. This section will consider the clinical relevance for the findings from this research project, considering how the results might be reflected in clinical practice.

4.2.1 Expressed emotion and challenging behaviour. These research findings are clinically relevant, since they indicate that dementia care staff display high levels of EE in response to individuals who display behaviours that challenge, compared to individuals who do not display such behaviours. Given the bidirectional relationship of EE proposed by Hooley and Richters (1995) this might highlight that those clients who display behaviours which staff find challenging might be more vulnerable to remaining part of a vicious cycle in which they continue to display such behaviours, and staff continue to express high EE. It could be hypothesised that those clients who are admitted to hospital due to CB might therefore be more at risk of remaining in hospital for a longer period of time than individuals admitted due to affective difficulties, such as depression or anxiety. Research by O'Donnell et al. (1992) reported that the symptoms of paranoia, incontinence or behaviours deemed to be aggressive were best to predict whether an individual with dementia would move into an institutional care setting. Therefore if these behaviours impact on levels of EE, and high EE impacts on these distressing behaviours, it is potentially understandable how this vicious cycle might be perpetuated with individuals remaining in a ward environment.

4.2.2 Staff-Client Relationships. It can be suggested that in clinical practice relationships between staff and clients might be affected when an individual displays CB, with interactions potentially characterised by the presence of critical comments. Both the quality of the relationship between the individual and caregiver, and any criticism made regarding the client, may further impact upon the treatment and care this individual receives during their time in hospital. If a member of staff does not have a positive therapeutic relationship with a client and expresses criticism, it is possible that there may be the presence of 'malignant social psychology' in which the personhood of a person with dementia is

undermined (Kitwood, 1997). Kitwood suggested that malignant social psychology might result from the anxieties of the caregiver, which may be triggered by witnessing a person experiencing dementia. These anxieties are likely to be related to the potential for the individual themselves to develop dementia, become frail or experience reduced mental capacity.

These anxieties have also been understood by Stokes (2000) who referred to the term 'social distancing' to describe "the distance we place between ourselves and any group of people we fear, or feel threatened by" (p.48). It is possible that people with dementia who display CBs, represent a client group which staff particularly fear becoming part of in the future. This may lead to social distancing, malignant social psychology and the reduced quality of relationships between staff and people with dementia.

4.2.3 Clinical outcomes. Previous research has found that the outcomes of clients with schizophrenia who returned to live in an environment with high EE relatives, tended to be poorer (Brown et al., 1962; Kavanagh, 1992). Similar findings of a relationship between high EE in relatives and poor outcomes for clients have also been reported in other conditions such as depression, eating disorders and alcohol misuse (Wearden et al., 2000). Wearden et al. explained that research with family carers of people with dementia has not investigated outcomes, but instead has explored the relationships between high EE and clients' behaviours and functioning, given that dementia is a deteriorating condition. However, this does not exclude the possibility that high levels of EE in caregivers may be related to the outcomes of people with dementia. This would be clinically relevant and could be investigated by longitudinal research rating the EE levels of staff in relation to specific clients and investigating their outcomes. Potential outcomes which might be measured include the length of hospital stay, whether the individual

returns home or to residential care, cognitive ability, daily functioning and relationships with others.

Hooley and Richters (1995) suggested that the relationship between EE and client outcomes may be bidirectional, with the clients' symptoms creating increased stress for the caregiver, which therefore relates to increased EE. This might suggest that those clients who display CBs and to whom staff display high EE, may potentially be caught within a vicious cycle of increasingly distressed behaviour and staff members' increasing EE. If this is the case, it will be important to consider how to break the cycle for these clients in order to improve their future outcomes. The effectiveness of any interventions introduced to reduce EE in staff might be measured by the clients' behaviours. If these are affected this might support the hypothesis of a vicious cycle between EE and CBs.

4.2.4 Clinical Interventions. Research has explored the impact of staff training on attributions about CBs. For example, Kalsy et al. (2007) reported that staff training led to a reduction in attributions of behaviour as controllable by the clients. However, they did not extend this study to measure and report on EE levels, and therefore whilst they demonstrated an impact on attributions it is unclear whether EE levels would also have altered. This is particularly relevant given that this research study did not demonstrate a significant relationship between high levels of EE and the FAE.

Dagnan et al. (2004) suggested that attributions of controllability were a key factor for interventions to focus on, and Grey et al. (2002) reported that training for staff had impacted on their attributions about CBs. However, this project did not find significant differences in ratings of controllability by the client according to level of EE. The findings of this study therefore suggest that interventions to modify attributions may not impact on EE levels in staff working with people with

dementia. Certainly Todd and Watts (2005) proposed that interventions for staff working with people with dementia might be best focused on exploring staff optimism, willingness to help and burnout rather than purely focusing on staff attributions.

However, further research is needed to replicate this project's findings, particularly the extent to which staff working in dementia care settings do or do not make the FAE regarding CBs. Future research is also needed to investigate the extent to which high EE levels in staff are related to the outcomes of people with dementia. Following this it will be possible to clarify whether additional interventions are needed to reduce EE levels and which theoretical approach these might be most effectively based upon.

4.2.5 Summary. This section has discussed some of the potential clinical implications of the research findings. In summary, it is possible that a vicious cycle may exist between high levels of EE and the expression of CBs by people with dementia. Social distancing and malignant social psychology may help to explain the difficult relationships which have been found between staff and individuals with dementia who display CB. There also remains the possibility that the existence of high EE in paid dementia care staff might impact on client outcomes, although this is to be determined by future research. Further research may also assist in determining which interventions might be most helpful in reducing high EE in staff.

4.3 Theoretical Implications of the Research Findings. Given that a significant proportion of staff participants in this study displayed high levels of EE, but did not make the FAE, it is important to consider what theoretical explanations may underpin these findings. This section will consider the main theories proposed to explain EE and how they relate to these research findings.

4.3.1 Attribution theory of expressed emotion. The results of this study are not consistent with an attributional understanding of EE, as the staff participants who expressed high levels of EE were not found to be making the FAE. It is possible that this model is not a relevant way of understanding high levels of EE in paid staff working in dementia care environments and alternative theories may be more appropriate.

4.3.2 State and trait hypotheses. Alternative theoretical explanations for the construct of EE included the state (Hooley & Richters, 1995) and trait hypotheses (Leff & Vaughn, 1985). Whilst this study did not provide support for the attribution hypothesis of EE (Hooley, 1985), the results indicated that the staff participants did not express the same level of EE in respect of the two clients (CB and nCB) they were considering. This can therefore be seen as further challenging the trait theory of EE which had suggested that levels of EE are a reflection of the caregivers' traits. In this way the findings of this project are consistent with those reported by studies such as Moore, Ball and Kuipers (1992); Cottle et al. (1995); Hooley and Richters (1995) and Schreiber et al. (1995).

It is possible that the state hypothesis can be used to understand the results of this study. The state hypothesis proposed that high EE arises due to a reaction by the caregiver in which they demonstrate hostility and criticism to the individual they care for, who may themselves be hostile or uncooperative (Hooley & Richters, 1995). This study did demonstrate that high EE was expressed by the staff participants in response to individuals with CB compared to nCB. Therefore it could be considered that the CBs of these individual clients may in some way generate an expression of criticism and high EE from the staff member. This may further generate distressing behaviours in the client, in the bi-directional method

proposed by Hooley and Richters (1995). Therefore the results of this study could be considered within a state approach to understanding EE.

4.3.3 Stress-vulnerability model. The state approach to EE and the bi-directional hypothesis (Hooley & Richters, 1987) can also be considered within the context of the stress vulnerability model, which was proposed to explain relapse rates in individuals with schizophrenia living in high EE environments (Wearden et al., 2000). It was proposed by Wearden et al. that when caregivers expressed high amounts of criticism, this may generate a stress level which interacts with any pre-existing vulnerability in the client, resulting in relapse. This may also be a possible way of understanding why CBs continue to be displayed, since the client may continue to feel distressed as a result of the high EE present in the social environment, which continues to exceed their personal threshold.

4.3.4 Person centred dementia care. The attributions made by staff working in dementia care could be different from those made by staff working in other settings, and also different to relative caregivers. This difference could be considered in the context of the current philosophy of dementia care services in which person centred care is the main recommended approach (NICE Guidelines for Dementia, 2006).

Brooker and Surr (2005) reported that the way in which a person is understood to respond to their dementia has been proposed by Kitwood's enriched model of dementia care. In this model Kitwood (1993) proposed that how a person with dementia responds is the result of a combination of neurological factors, personality, biography, social psychology and physical health. Brooker and Surr explain that the concept of the social psychology surrounding the individual has been largely incorporated within the observational measure of dementia care mapping (DCM), an approach which has been developed and expanded since its

original development in 1992 (Brooker, 2005) and is used both in this country and internationally (Brooker & Surr, 2005). Therefore, it is possible that a considerable proportion of staff working in dementia care are aware of the enriched model of dementia having received training in person centred care or DCM.

It is therefore possible that training programmes highlighting the current philosophy of person centred dementia care may have somehow negated attributions of CBs as being internal and controllable by the person. This might be a potential explanation for why the FAE was not found in this study as expected. Certainly Moniz-Cook et al. (2000) have previously suggested that further development of person centred dementia care might help staff in understanding how to cope with the behaviours they consider to be challenging; potentially it may also impact on their overall understanding of behaviours.

However this study did find that the behaviours of individuals in the CB group were rated by staff as significantly more specific to the client. It is possible that the philosophy of person centred dementia care may not have influenced considerations regarding the specificity of an individual's behaviour. The expression of distress through behaviour may still be considered by staff to be individual to the client, since person centred care understands this to be impacted on by the combination of an individual's neurology, social psychology, physical health, personality and biographical factors (Brooker & Surr, 2005). In addition, Stokes (2000) expressed that a person with dementia "will select the manner of behaving which is the most effective in light of how they interpret their experiences. What is deemed reasonable and appropriate is, however, subjective, not objective" (p. 60). Therefore it is possible that the attribution of a behaviour as specific to an individual is a reflection of person centred care and the individual's subjective experience and may represent an attempt not to generalise all people with dementia

as having the same experiences. Therefore it is possible that in the context of dementia care attributing behaviours as specific to the client might be a positive approach.

4.3.5 Summary. Therefore, in summary the results of this study are not supportive of an attributional explanation of EE and also provide further evidence to challenge the trait hypothesis. However the results can be considered within the frameworks of the state hypothesis and stress-vulnerability model, together with the dominant framework of person centred dementia care.

4.5 Strengths and Weaknesses of the Research Design

This section will outline the strengths and limitations of this research study, considering the research design and methodology and the context in which the study has been conducted.

4.5.1 Strengths. This research project has several strengths, which will now be considered in turn.

4.5.1.1 Expressed emotion and dementia care staff. This is the first known study to investigate the construct of EE in paid care staff working with people with dementia. This study is therefore important in demonstrating that the concept is applicable, observable and measurable in staff working with this client group and commences a new area for future research to expand upon.

Whilst the concept of EE has not previously been considered within formal dementia care services, the construct can be understood within the dominant philosophy of person centred dementia care and the theory of malignant social psychology proposed by Kitwood (1997). Within Kitwood's framework, the FAE and high levels of EE could be considered to be related to, or part of, the malignant social psychology which characterises the relationship between the social environment and the person with dementia.

4.5.1.2 Generalisability. The design of this study enabled a relatively high number of staff participants to be recruited, representing a total of 11 ward environments. This study replicated elements of the research design used in Weigel et al.'s (2006) study (n = 15) conducted in the field of intellectual disability, but used many wards rather than one. This allowed a greater number of clients to be considered, which consequently enabled a greater number of staff participants to be recruited for this study. The greater number of staff and ward environments participating in this project potentially increases the generalisability of the research findings.

4.5.1.3 Ecological validity. This study asked staff to talk about real people with dementia which they were working with and knew well, rather than using vignette methodology which has been reported as potentially problematic in past studies of EE (Wanless & Jahoda, 2002). Therefore, ratings of the frequency and difficulty of different behaviours given by staff were based on the consideration of their own real experiences with real clients. This is likely to improve the reliability of the attributions staff participants made in relation to observed behaviours.

4.5.1.4 Relevance to current NHS climate. This study has been conducted during a time of ongoing change in the NHS, and the findings therefore reflect this modern NHS. Whilst the different wards participating in the project were undergoing different stages of change, this is likely to accurately reflect the process of change in the NHS, and therefore may add to the ecological validity of the findings at this current time.

4.5.1.5 Summary. Therefore overall, this study has several strengths particularly relating to its novelty in exploring EE in paid dementia care staff, its potential generalisability and ecological validity, which also relate to the relevance of the results in the current NHS climate of change.

4.5.2 Weaknesses. The study also has a number of weaknesses. It is important that the results reported from this study are considered within the context of these limitations. Potential limitations of the project design and methodology, the research measures, and other possible weaknesses of the study will each be considered in turn.

4.5.2.1 Limitations of the study design and methodology. There are several potential difficulties with the research design and methodology which will be outlined.

4.5.2.1.1 Ecological validity. One of the strengths of this study was considered to be its use of real clients, with staff rating their real experiences of working with people with dementia, rather than using a vignette methodology. However, it is also recognised that the process of making an attribution about behaviour through the completion of a questionnaire may not reflect the process by which staff generally make attributions during their daily practice. In the literature, Parker et al. (2012) reported that cognitive demands placed on staff impacted on their attributions of client behaviours. Given that staff may experience competing cognitive demands during their clinical practice, the methodology used in this study may not necessarily reflect the way in which attributions are made in daily clinical practice. This may potentially challenge the ecological validity of the results obtained in this study.

4.5.2.1.2 Comparing degrees of challenging behaviour. Whilst this study aimed to compare two groups of people with dementia, those who display CB and those who they do not, it is recognised that in reality staff will likely perceive a person's behaviour in the context of a continuum, rather than in discrete categories. Thus, it is likely that for some staff the concept of choosing a client from each category may have been problematic, and this is potentially a weakness of the

research. In addition, as the number of clients on the ward who had not been selected decreased in number, choosing clients to discuss may have become increasingly difficult. It is possible that some staff were in a situation of selecting the least challenging client out of a group of individuals who all display CBs, to represent the nCB group of clients. Whilst the overall reliability of the two groups (CB and nCB) is confirmed by the overall significant differences between CBS challenge scores, in some individual situations this may not be the case. For example, it is recognised that one staff participant spoke about a client who they did not find challenging on many occasions as their client from the nCB group, but then later explained that this individual was particularly difficult to work with at night.

Unfortunately the design of this study inevitably leads to some difficulties with the selection of clients to represent the CB and nCB groups. However, in order to measure EE and attributions from staff in relation to clients they perceive as displaying CB, whilst also maintaining the independence of the data, this was considered to be a necessary design. Whilst a more direct replication of the study conducted by Weigel et al. (2006) was considered, it was anticipated that this design would also increase the generalisability of the research findings as well as answering the question regarding which behaviours staff find most challenging to manage.

4.5.2.1.3 Typography of challenging behaviour. The design of this study allowed staff participants to select a client who they would consider. They then rated the CBs that this person displayed. This therefore enabled the study to determine that the behaviour which staff members rated as the most challenging was physical aggression. However, one consequence of this design was that staff participants therefore produced attribution ratings and FMSS in relation to different

types of CB. This may have potentially influenced the results, leading to differences in attributions which might not have been possible to detect. Whilst attributions for physical aggression and other listed behaviours were compared for the CB group, the comparison was between unequal groups. Also it was not possible to make these comparisons for the nCB client group due to the considerable variability in behaviours selected by the staff participants. Therefore it is possible that any relationship between types of CB and attributions would not have been detectable in this study due to its design and methodology.

Further research could therefore aim to compare staff attributions towards different types of CB displayed by people with dementia in order to determine whether the attributions do differ. This would therefore indicate whether the results of studies such as Dilworth et al. (2011), which reported that aggressive behaviours were attributed as more controllable by the client, are replicated in dementia care.

4.5.2.1.4 Transfer of clients between wards. Given that the research study recruited staff participants from both assessment and continuing care wards, and that the recruitment of staff participants took place over a period of six months, the clients present on the wards during this time altered, with new admissions and discharges. Whilst some individuals may have been discharged completely from the wards, it is also possible that some were transferred from assessment wards to continuing care wards, or from an assessment ward which was out of area to one nearer their home. As only the first names of clients were used on the ward lists, it is not possible to know the extent to which these transfers may have occurred. Therefore the possibility that some clients may have been represented in the data on more than one occasion cannot be completely excluded.

This is a weakness of the research methodology which potentially reduces the confidence with which the data relating to clients can be concluded to be

independent. Any further research expanding upon this study may therefore need to obtain some form of identifying information in relation to the clients in order to ensure that they are only represented in the data once. For example, it might be possible to record client NHS numbers.

4.5.2.1.5 Selection of clients by staff participants. Each staff participant was asked to select two people with dementia from a list of the clients on their ward. Once the client had been chosen they were crossed off the list so that they would not be chosen again. Whilst this was necessary in order to ensure that staff participants each gave data which was independent of one another, this also had the effect of reducing the choice of clients available to staff participants over time. Some staff may therefore have selected clients to represent the CB group who they may have found challenging, but who may not have been the most challenging for them out of the clients on the ward. This may have impacted on the findings of this study. For example, if staff participants could have selected any client they wished to, more or less staff may have selected a client who displayed aggressive behaviour. Therefore, aggressive behaviour may not be the most challenging. In addition, had staff chosen any client, their understanding of the person's behaviours may have been different, resulting in different attribution ratings. For example, staff participants might be more likely to display the FAE in relation to the most challenging client on the ward, who may have already been selected by another participant. There may be characteristics about a client which impact on attributions and EE levels which might be able to be understood if staff select a client of their choice.

Due to the nature of discharges and new admissions to the ward, the lists of clients needed regular updating, expanding and decreasing at different times

through the study. The times at which the choice of clients increased and decreased varied for each ward and the effect of this on the results of this study are not certain.

4.5.2.1.6 Client demographics. It is recognised that no demographic information was collected regarding the clients who were being considered in this study. This weakness of the methodology generates queries as to whether the clients considered were a representative sample of people with dementia in inpatient wards with regard to their gender, age or diagnosis.

Further, it is recognised that if demographic data had been collected about the clients considered in this study, additional information and a greater understanding may have been gained about how these demographic factors relate to the experience of CBs. For example, it may have been helpful to determine whether the clients selected to represent the CB and nCB groups differed in terms of their gender. Also it is possible that male and female staff participants may have selected different gender clients to represent the CB and nCB groups. This would have provided information which may be useful for both future research and the development of interventions to support staff in working with people with dementia.

It is also recognised that if information had been collected regarding a client's diagnosis this could also have aided the understanding of CBs which can be displayed by people with dementia. It is known that the different dementia conditions can lead to different presentations in the people who experience them. For example, it is reported that individuals experiencing Lewy Body dementia are more likely to experience visuospatial difficulties and visual hallucinations compared to individuals with early Alzheimer's disease (Tiraboschi et al., 2006) and fluctuating attention (Oda, Yamamoto & Maeada, 2009). Therefore it is also possible that the individual profile of difficulties associated with a differential diagnosis might impact on the behaviours a person displays. For example, it may be

that some staff members might find it more challenging to manage an individual who is hallucinating compared to an individual with the specific episodic memory difficulties which have been associated with Alzheimer's disease (Nestor, Scheltens & Hodges, 2004). Further research could aim to explore any differences in the types of behaviours perceived as challenging according to the differential dementia diagnoses.

In addition, no information was collected regarding the cognitive ability of the clients. It is possible that EE levels and attributions regarding CBs differ according to the perceived or actual cognitive ability of the client. Future research could therefore aim to explore any differences in EE and attributions according to clients' levels of cognitive ability.

4.5.2.1.7 Length of time the client was known. It is also recognised that the clients discussed in the study were known by the staff participants for varying lengths of time. For some participants, the client they selected to consider had only recently been admitted onto the ward, whereas others had been inpatients for a number of years. This variability was not possible to control or restrict in any way given that recruitment necessarily incorporated both assessment and continuing care wards in order to maximise the recruitment potential. Whilst this is a characteristic of the study, it is recognised that the length of time a member of staff has known a person with dementia is likely to impact on how they interpret and understand their behaviour, represented by the attributional ratings they provide. This is something which future research might explore further.

4.5.2.1.8 Diagnoses. This study recruited staff participants from dementia care wards. However it is recognised that there are occasions when individuals with functional mental health problems may be admitted to dementia care wards due to difficulties in finding an alternative appropriate ward setting. Therefore, in order to

identify clients with dementia it was necessary to ask nursing staff and managers to identify whether any clients were on the ward for the treatment of functional difficulties and did not have a diagnosis of a dementia. This may be problematic, since the diagnoses of dementia were not officially confirmed, something which could potentially have been achieved by a review of the client notes.

On four occasions it seemed that the staff participant was unclear whether the client had a formal diagnosis of a dementia and some staff disagreed with the diagnoses reported to have been made. It is possible that a minority of the clients represented in the study did not have a formal diagnosis of dementia and were considered to have dementia by the staff, which may have been inaccurate.

However, given the practical limitations and scope of this research it was not possible to extend the project methodology further to investigate and confirm diagnoses. This is something which is likely to be important in future research studies which could utilise a diagnostic checklist or review the client notes to confirm diagnoses.

4.5.2.2 *Limitations of the research measures.* There are potential difficulties with the research measures used in this study, which will now be discussed.

4.5.2.2.1 *Demographic questionnaire.* The demographic questionnaire used in this project was created for the study. Whilst this was useful in capturing basic information about the study participants, it is recognised that the age brackets and experience ranges overlapped, potentially providing a difficulty for staff participants in reliably reporting their age and experience. This demographic data may have been more reliable if the demographic questionnaire had used distinct categories without any overlap, or had asked staff to freely report on these variables.

4.5.2.2.2 *MAQ*. Attributional ratings were obtained from staff participants using the MAQ self report questionnaire. Whilst this measure is reported to be reliable when used with staff participants (Sharrock et al., 1990) the responses obtained may have been subject to social desirability, particularly in the current climate of change in the NHS.

Whilst the MAQ is an efficient measure for gaining attributional ratings of controllability, internality and specificity, future studies could consider the use of an alternative measurement system. For example, the Leeds Attributional Coding System (LACS) which was developed by Stratton, Munton, Hanks, Heard & Davidson (1986) is reported to additionally measure stability and universality attributions by rating the comments made by carers during CFIs (Barrowclough & Hooley, 2003). Further, Aakre, Sagher, St-Hilaire and Docherty (2008) suggested that as attributional ratings made in the LACS are taken from interviews where the participant is engaging in natural speech, the likelihood of social desirability is reduced.

Due to the practical constraints of this study the LACS was not used in this project. However future research with dementia care staff could consider whether obtaining and rating attributions using interview data and the LACS, rather than a questionnaire measure, might be more effective in detecting any FAEs which might be made by this staff group.

4.5.2.2.3 *Likert scales*. It is recognised that the data in this study obtained from both the CBS and MAQ are in the form of likert data. Norman (2010) reported that the arguments regarding the level of likert data are well established. In this study the likert data have been treated as interval data, something which is frequently assumed regarding likert data (Blaikie, 2003). However, this perspective is controversial and likert data are also considered to be ordinal data, given the

argument that the intervals between rating points cannot be assumed to be of equal size (Jamieson, 2004). Further consideration of the use of likert data by Norman (2010) led to the conclusion that “parametric statistics can be used with likert data...with no fear of ‘coming to the wrong conclusion’ ” (p. 631).

Therefore whilst the data in this study have been treated as interval data and it is assumed that no significant difficulties arise from doing so, it is recognised that some researchers may disagree with this approach.

4.5.2.3 Other potential limitations of the research. Other weaknesses of the study will now be outlined.

4.5.2.3.1 Current NHS Climate. This research study was conducted within NHS inpatient settings, and it is important to recognise the current climate of change within the organisation. A number of NHS services are currently undergoing change in some form, which will inevitably have an impact on staff.

Dilworth et al. (2011) previously recognised the importance of the role of the organisation in staff attributions about their client’s CB. They concluded that staff ratings of controllability of the behaviour by the client may be directly influenced by the current functioning of the organisation. The current situation on each of the wards participating in this study varied, but was not officially recorded as part of the analysis. It is possible that staff on each ward may have experienced differing individual service situations and conditions within their wider NHS trust. As suggested by Dilworth et al. this may have impacted on the attributions made by staff participants.

4.5.2.3.2 Training. A factor which has not been considered in this study is that of staff training. NICE guidance reported that “there is broad consensus that the principles of person-centred care underpin good practice in the field of dementia care...” (p. 6, NICE, 2006). This philosophy of care incorporates the concepts

introduced by Kitwood (1997). Kitwood highlighted the importance of considering the malignant social psychology surrounding the person with dementia and how this may contribute towards an individual's distress. As previously suggested, it is possible that training in this model may have had an influence on staff members' understanding and attributions of CBs displayed by people with dementia. Given that the results of this study did not support an attributional theory of EE as hypothesised, it would be interesting for future research to explore the possible role of training in person centred care in negating the FAE.

4.5.2.3.3 Social desirability. It is possible that some of the staff participants may not have responded with full accuracy when completing the MAQ and it is possible that social desirability impacted on these results. Given that paid care staff are likely to be aware of the importance of professional working, it is possible that they may have modified their answers in relation to their attributions in order to conform with the perceived expectations of professional care staff. This may be particularly likely given the current period of significant change and restructuring occurring in the NHS where staff in some areas are experiencing reviews of their positions. Hence it would be important for future research to take place ideally within a period of relative stability to determine whether the findings of this study are replicated, particularly in relation to the attributions made about client behaviours.

4.5.2.4 Summary. This section has outlined the potential weaknesses of this study, including the possibility that other factors which were not accounted for may have influenced the results, the possibility that the data may not have been completely independent as some clients may have transferred between wards, and the potential presence of social desirability impacting on the results at a time of change in the NHS.

4.5.3 Summary of strengths and limitations of the study. Overall this study is therefore understood to have a number of strengths and limitations. Given the context of this project and the practical and resource constraints surrounding it, it is recognised that despite its limitations this project is a novel addition to the research literature. Consideration of this project's limitations also helps to provide indications for future areas of research.

4.6 Areas for Further Research.

This section will outline potential ideas for future research, considering ways in which the current study methodology could be improved alongside studies which could extend the research findings in this area. Whilst some of these ideas have previously been outlined in this discussion, this section aims to combine the suggestions for future research.

4.6.1 Diagnosis. Given that the population is continuing to age and that the number of individuals with dementia is expected to continue to rise (Department of Health, 2009; Downs & Bowers, 2008), further research exploring staff perceptions of CB is likely to be of increasing importance. Further studies could aim to extend upon the current methodology by clarifying that the individuals being represented in the research have a confirmed diagnosis of a dementia, either by checking with medical records or by using diagnostic checklists with staff participants. This would help to ensure the findings are valid and relevant to dementia care, without the possibility of any individuals with functional mental health difficulties being represented.

4.6.2 Cognitive ability. The cognitive ability of people with dementia is considered to decrease over time. Further research could establish whether EE level and attributions towards CBs are related to the extent of cognitive impairment displayed by the person with dementia. It might be predicted that as an individual

becomes more impaired attributions of controllability by the client might decrease. Future research might consider measuring the cognitive ability of people with dementia using a standardised cognitive screening tool, for example the Rowland Universal Dementia Assessment Scale (RUDAS; Storey, Rowland, Basic, Conforti & Dickson, 2004). It might then be possible to compare staff EE levels and attributions towards individuals experiencing milder, moderate, and more severe cognitive impairment who display similar behaviours.

4.6.3 Training. It would be helpful to determine to what extent training in dementia care impacts on staff attributions of CB, since it is possible that training in person centred care reduces some of the attributions characteristic of the FAE. Future research could compare the attributions made by staff who have and have not attended specific person centred dementia care training. This might indicate the extent to which such training is related to a reduction in the FAE.

4.6.4 Impact on outcomes. Whilst this research has demonstrated the construct of EE to be relevant to inpatient dementia care, it is unclear whether this construct continues to have implications for the outcomes of individuals with dementia, as has been reported for individuals with other diagnoses. Whilst it can be speculated that this would be the case, given the research with other populations and also the proposed bi-directional model of EE (Hooley & Richters, 1995), it would be important to test this in future research given the potential clinical implications. For example, further studies could investigate whether a person's length of stay on the ward differs according to the EE level of their key worker; whether there are differences in the rate of changes to cognitive functioning in clients according to whether key workers express high or low EE towards the person; or whether there are changes in a person's activities of daily living, communication, or further changes in behaviour patterns. In addition, using a

longitudinal study it may be possible to determine whether the environmental outcomes for individuals differ according to staff EE level, such as whether the person transfers to a residential setting, residential dementia care home, or returns to their home environment.

4.6.5 Impact on clinical practice. In addition to exploring the impact of high EE on client outcomes, it would be important to examine to what extent, or in what format, the construct of EE impacts on practice in dementia care. Staff who display high EE are likely to make more critical comments about an individual. However, it is unclear whether differences would be observed in the clinical practice of staff when they interact with the person with dementia. Further research could aim to explore whether staff who express high and low EE display different interactions with clients.

One potential way of investigating this may be through an observational research study, potentially incorporating the DCM observational tool (Brooker & Surr, 2005) which involves observers rating the interactions between staff and clients and recording observations of positive and negative interactions (personal enhancers and personal detractors). It might be hypothesised that staff with high levels of EE would display more personal detractors in their interactions with people with dementia, such as incidents of accusation or invalidation, which represent malignant social psychology (Kitwood, 1997). An observational study might compare the number of enhancers and detractors displayed by high and low EE staff in a given time frame. It might also be possible to compare the same member of staff in their interactions with two clients, one who they express high EE towards, and one low EE. If differences are found in the practice of high and low EE staff, this might provide further insight into how EE is represented in clinical practice and staff interactions with clients. In addition, if differences in

practice are observed, this might further highlight the need for interventions to reduce high EE levels in staff.

4.6.6 Impact of the organisation. The NHS is an organisation continually engaging in improvements and changes, and it is unrealistic to suggest that this research can exclude the possibility that current change has impacted on the results. Further research with dementia care staff could include measures of organisational change and staff morale alongside measuring EE and attributions regarding CBs. This would provide further information about how these variables are related in dementia care, and could indicate how current and future organisational changes might be related to EE. This could help to provide indications of potential variables to target in interventions designed to reduce EE levels. In addition, a replication of this research study could be conducted at a time of relative stability in the future, allowing comparison of the potential impact of organisation change on EE levels and attributions.

4.6.7 Other variables relating to expressed emotion. It may be possible to explore whether staff members' knowledge of an individual, such as the person's life history, impacts on the extent to which they express high EE. It might be hypothesised that increased knowledge of an individual's life history might lead to a greater understanding of their presentation in the context of their biography, personality and current situation. If increased knowledge of the individual is associated with low EE in staff this may provide supporting evidence for the importance of staff engaging in activities such as life story work, or the completion of tool 'This is Me' (Royal College of Nursing and Alzheimer's Society, 2013).

If increased knowledge of the person is related to low EE, this may also generate further proposed areas for research. For example, studies could explore the

extent to which staff have empathy with, or distance themselves from, people with dementia, and whether this relates to levels of EE and attributions.

Other factors which could also be considered in relation to EE include the perceptions of staff about the future of individuals with dementia and their optimism regarding this. Dementia is a degenerative condition with no current cure; therefore it is possible that paid care staff may have very different perceptions of dementia compared to conditions such as mental health difficulties or intellectual disabilities in which the future outcomes for the client may potentially appear more positive. It is possible that these perceptions of dementia and staff optimism about the client's future may be related to levels of EE. This would be an important variable to consider given the findings by Todd and Watts (2005) that "optimism is the variable most closely associated with self-reported helping behaviour" (p. 78).

Whilst traditionally optimism might not have been associated with a diagnosis of dementia, Burke, Hickie Breakspear and Gotz (2007) suggested that "there is now an emerging evidence base for a more optimistic, proactive approach to cognitive impairment and dementia" (p. 372). Therefore investigating the relationship between optimism, EE and attributions is increasingly more relevant in dementia care.

Further research might also explore the relationship between stress and burnout in dementia care staff and their EE level; whether there is a cumulative effect of working with this client group on the expression of high EE; and how confident staff feel in managing behaviours that are deemed challenging. It could be hypothesised that staff members who have low levels of confidence in managing CBs will attribute the behaviours as uncontrollable by them, and potentially display criticism towards the client, and therefore high EE.

4.6.8 Summary. In summary, a number of areas for further research have been outlined. These include investigating further the impact of the construct of EE on clinical practice and client outcomes, considering how the presence of high EE relates to staff training and the impact of organisational change. Whilst this study has begun to explore EE and attributions in paid dementia care staff, there are clearly many potential areas for further research to explore.

4.7 Overall Conclusions.

In overall conclusion, this study has demonstrated that the construct of EE is relevant, measurable and present in paid dementia care staff. It has also highlighted the possibility that high EE in dementia care may be explained by theories other than the dominant attributional theory of EE. This study also suggests the need for further research to explore the potential impact of person centred dementia care on staff attributions of CBs.

Appendices

INFORMATION SHEET FOR STAFF

Study Name: Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding Behaviour that Challenges.

I am asking Mental Health Nurses and Nursing Assistants working on dementia care wards if they would like to participate in this research study exploring expressed emotion and attributions regarding challenging behaviour.

Before you decide if you are happy to take part it is important to understand why the research is being done and what it will involve. Please read this information sheet carefully and feel free to ask any questions you need to.

Why are we doing this research?

No research has to date explored expressed emotion and attributions in paid dementia care staff, and therefore we are hoping to add to the knowledge base with this study.

There are interventions being used with staff working with other client groups to help to reduce difficult relationships with patients. Without this initial research it is not possible to know whether these would be relevant in dementia care.

What is being tested?

I am looking to find out whether the psychological construct of expressed emotion is related to attribution theory and challenging behaviour in dementia care. The study will find out about these factors by asking staff members about their experiences of working with people with dementia. The study will use questionnaires and interviews to measure patient behaviour, the ways in which staff understand this behaviour and how this relates to relationships between staff and patients.

Similar research has been conducted with staff working with other client groups.

Why have I been invited to take part?

I am inviting Mental Health Nurses and Nursing Assistants working on NHS dementia care wards to participate. It is anticipated that the study will be conducted across sites in East Anglia.

Do I have to take part?

No, it's entirely up to you. You can choose not to take part, or at any time decide to withdraw from the study without giving a reason and without it affecting your employment. You can participate and later chose to withdraw from the study at any time before the data is analysed.

What will happen if I take part?

If you chose to participate you can arrange a time to meet with the researcher to complete the research tasks. You can arrange this in person or through email by contacting: Christine.slaughter@uea.ac.uk. You can take part before, after or during a break from your shift.

You will be asked to sign a consent form and complete a basic demographic form recording your age group, gender and length of experience working in dementia care. You will not be asked to provide any other personal identifying details.

You will be asked to complete a short interview, which will involve discussing your relationship with two clients you know well: someone who you believe displays behaviour that challenges, and someone who does not. You will be asked to select these two clients from a list of the patients on your ward. You will not need to provide details about these clients apart from their allocated code number. As these interviews will be audio recorded you will be asked to give both patients a pseudonym during the interviews. You will then be asked to complete some brief questionnaire measures relating to these clients. It is anticipated that the process will take approximately 30 minutes.

Should any difficult feelings emerge for you during the course of the research, you are encouraged to seek support from your line manager or clinical supervisor. In addition, local Wellbeing Services support individuals experiencing difficult emotions. They can be accessed through your G.P. practice or their details can be viewed on <https://www.readytochange.org.uk>.

You are free to withdraw from the study at any time.

What are the possible benefits of taking part?

It is hoped that this study will enable us to understand expressed emotion in the context of dementia care. In the future this may help to generate appropriately designed interventions for staff and patients to help strengthen working relationships.

Contact details -

For further information about the study, please contact

Christine Slaughter

Christine.slaughter@uea.ac.uk

Trainee Clinical Psychologist

Department of Psychology

University of East Anglia

Norwich Research Park

Norwich, NR4 7TJ.

This project is being conducted as part of doctorate clinical psychology training and is supervised by:

Dr Peter Langdon

P.Langdon@uea.ac.uk

Clinical Senior Lecturer

Department of Psychology

University of East Anglia

Norwich Research Park

Norwich, NR4 7TJ.

01603 593599

Thank you for reading so far, if you are still interested please continue to part 2.

Part 2 :

Information you need to know if you still want to take part.

What happens when the research project stops?

At the end of the project all of the data collected will be analysed and compiled within a thesis. In addition, the results may be published in a journal.

Will anyone else know I am taking part?

No one else will be informed that you are taking part in the project, and your individual data will be kept confidential by the researcher and research supervisor.

In the unlikely event that any safeguarding concerns arise during the course of the study, it may be necessary to seek advice from local safeguarding professionals and to break confidentiality. In this situation, details of the ward, staff members involved and client identities may all need to be shared with appropriate agencies.

What will happen to my data?

During the study your questionnaires will be stored securely in a locked cabinet. Your audio recorded interview will also be stored securely on an encrypted memory stick. All coded data will be stored electronically and saved on an encrypted memory stick and on a password protected CD. Your personal data from this study will be stored at the University of East Anglia in a secure archive room.

Who is organising the research?

The research is organised by Christine Slaughter, Trainee Clinical Psychologist, and supervised by Dr Peter Langdon, Clinical Senior Lecturer (ClinPsyD), University of East Anglia. The research is part of doctorate training in clinical psychology and will be written up as a thesis.

Who has reviewed the study?

The research has been reviewed by the South Cambridge ethics committee, and Research and Development Offices from Norfolk and Suffolk NHS and Cambridgeshire and Peterborough Foundation Trust.

Thank you for reading this - please ask any questions you need to.

Appendix B. Participant Consent Form
CONSENT FORM FOR STAFF PARTICIPANTS

Study Name: Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding Behaviour that Challenges.

Name of Researcher: Christine Slaughter, Trainee Clinical Psychologist.

1. I confirm that I have read and understand the information sheet for this study, dated 5.11.2012, version 6. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I may withdraw from the project at any time before the data is analysed without giving a reason.

3. I confirm that I have been working with people with dementia for at least six months and currently work closely with people with dementia.

4. I agree to take part in the above study, completing two five minute interviews and questionnaires regarding two people with dementia I currently work with.

5. I consent to my interview being audio recorded.

6. I understand that data collected during the study may be looked at by individuals from NHS regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.

Name of Participant:

Signature of Participant:

Date:

Name of Person taking consent:

Signature:

Date:

When completed: 1 copy for participant (if required)
1 copy for researcher site file

Thank you for your help.

Five Minute Speech Sample

Before we start the interview, please can you give your patient a pseudonym to prevent their real name being used in the interview. This helps us to keep them anonymous.

I'd like to hear your thoughts about [patient's pseudonym]] in your own words and without my interrupting you with any questions or comments.

When you begin, I'd like you to speak for 5 minutes telling me what kind of person [patient's name] is, and how the two of you get along together.

I would be interested to hear more about [patient's name] and how easy he/she is to get to know and work with etc., than about his/her symptoms or diagnosis.

Once you start I will not be able to answer any questions. Is there anything you would like to ask before you begin?

Appendix D. Modified Attributional Questionnaire

Modified Attributional Questionnaire (Cottle, Kuipers, Murphy & Oakes, 1995)

A. Please write down what you believe to be the major cause for this event.

B. Was the cause of this due to an attribute of the patient or something about other people or circumstances? (circle one number)

totally due to patient							totally due to others
1	2	3	4	5	6	7	

C. Was the cause of this due to an attribute of me or something about other people or circumstances? (circle one number)

totally due to me							totally due to others
1	2	3	4	5	6	7	

D. To what extent did the cause involve something unique or unusual about the patient's character comparing him/her with other similar patients? (circle one number)

Totally due to specific character of patient							In no way due to specific character of patient
1	2	3	4	5	6	7	

E. To what extent was the cause controllable by, or uncontrollable by, the patient? (circle one number)

Completely uncontrollable by the patient							Completely controllable by the patient
1	2	3	4	5	6	7	

F. To what extent was the cause controllable by, or uncontrollable by, you? (circle one number)

Completely uncontrollable by me							Completely controllable by me
1	2	3	4	5	6	7	

The Modified Attributional Questionnaire, taken from: 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.

Appendix E. Demographic Questionnaire
Demographic Information Sheet

Study Name: Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding Behaviour that Challenges.

Name of Researcher: Christine Slaughter, Trainee Clinical Psychologist.
Participant Code Number:

In order to gain some basic information about you, I would be grateful if you could complete the following demographic questions:

Gender: Male / Female

Please select your age group:

18 - 25 years 25 - 40 years 40 - 55 years 55 +
years

How long have you been working with people with dementia?

Less than a year

1 - 5 years

5 - 10 years

10 + years

Are you a:

Mental Health Nurse

Nursing Assistant

Do you have personal experience of a friend or relative experiencing dementia?

Yes

No

What is your level of education?

GCSEs

A Levels

Diploma

Degree

Higher Degree

Thank you for your help.

Appendix F. Ethical Approval Letters



Health Research Authority

NRES Committee East of England - Cambridge South

Victoria House
Capital Park
Fulbourn
Cambridge
CB21 5XB

Telephone: 01223 597653
Facsimile: 01223 597645

31 October 2012

Miss Christine Slaughter
Trainee Clinical Psychologist
Cambridgeshire and Peterborough NHS Foundation Trust
Department of Psychology
University of East Anglia
Norwich Research Park
Norwich
Norfolk NR4 7TJ

Dear Miss Slaughter

Study title: Expressed Emotion and Attributions in Paid Dementia
Care Staff Regarding Behaviour that Challenges.
REC reference: 12/EE/0429

Thank you for responding to the Proportionate Review Sub-Committee's request for changes to the documentation for the above study.

The revised documentation has been reviewed and approved by the sub-committee.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Appendix F. Ethical Approval Letters

12/EE/0429

Page 2

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. Confirmation should also be provided to host organisations together with relevant documentation.

Approved documents

The documents reviewed and approved by the Committee are:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Advertisement	Version 3	24 July 2012
Covering Letter from Christine Slaughter, Trainee Clinical Psychologist		14 August 2012
Covering Letter email attaching response from Christine Slaughter		16 October 2012
Evidence of insurance or indemnity		02 August 2012
Investigator CV - Christine Slaughter		28 May 2012
Other: CV for Dr Peter E Langdon (Academic Supervisor)		30 August 2012
Other: Five Minute Speech Sample	Version 2	27 September 2012
Participant Consent Form: - Staff	Version 3	27 September 2012
Participant Information Sheet: - Ward Managers	Version 3	27 September 2012
Participant Information Sheet: - Staff	Version 5	27 September 2012
Protocol	Version 1	07 February 2012
Questionnaire: Challenging Behaviour Scale		
Questionnaire: Modified Attributional Questionnaire		
Questionnaire: Demographic Information Sheet	Version 1	20 December 2011
REC application	Submission code: 108344/357835/1/232	14 August 2012
Response to Request for Further Information from Christine Slaughter		27 September 2012

Appendix F. Ethical Approval Letters

12/EE/0429

Page 3

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

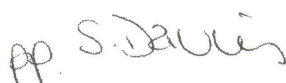
Further information is available at National Research Ethics Service website > After Review

12/EE/0429

Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely



Dr Leslie Gelling
Chair

Email: susan.davies@eoe.nhs.uk

Enclosures: "After ethical review – guidance for researchers" [SL-AR2]

Emailed to: Miss Christine Slaughter christine.slaughter@uea.ac.uk

Sue Steel sue.steel@uea.ac.uk

Dr Bonnie Teague bonnie.teague@nsh.nhs.uk

Dr Peter Langdon p.langdon@uea.ac.uk

Appendix F. Ethical Approval Letters



Health Research Authority
NRES Committee East of England - Cambridge South

Victoria House
Capital Park
Fulbourn
Cambridge
CB21 5XB

Tel: 01223 596907
Fax: 01223 597645

06 December 2012

Miss Christine Slaughter
Trainee Clinical Psychologist
Cambridgeshire and Peterborough NHS Foundation Trust
Department of Psychology, University of East Anglia,
Norwich Research Park, Norwich, Norfolk
NR4 7TJ

Dear Miss Slaughter

Study title: Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding Behaviour that Challenges.
REC reference: 12/EE/0429
Amendment number: Amendment #1 (minor)
Amendment date: 09 November 2012
IRAS project ID: 108344

Thank you for your letter of 09 November 2012, notifying the Committee of the above amendment.

The Committee does not consider this to be a “substantial amendment“ as defined in the Standard Operating Procedures for Research Ethics Committees. The amendment does not therefore require an ethical opinion from the Committee and may be implemented immediately, provided that it does not affect the approval for the research given by the R&D office for the relevant NHS care organisation.

Documents received

The documents received were as follows:

Document	Version	Date	
Covering Letter	Christine Slaughter	09 November 2012	
Notification of a Minor Amendment	Amendment #1 (minor)	09 November 2012	
Participant Information Sheet: Information sheet for staff	6	05 November 2012	

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

12/EE/0429:	Please quote this number on all correspondence
-------------	--

Yours sincerely

A handwritten signature in black ink, appearing to be 'Peter Drew', written over a large, faint circular stamp or watermark.

Peter Drew

REC Assistant

E-mail: peter.drew@eoe.nhs.uk

Appendix G. Research and Development Approval Letters

Norfolk and Suffolk 

NHS Foundation Trust

Research and Development
The Knowledge Centre
Hellesdon Hospital
Drayton High Road,
Norwich, NR65BE
Telephone 01603 421255
E mail: RDofficemailbox@nsft.nhs.uk

Miss Christine Slaughter
Doctoral Programme in Clinical Psychology
Department of Psychology
University of East Anglia
Norwich Research Park
Norwich NR4 7TJ

7th November 2012

Dear Miss Slaughter,

Re: 2012MH21: Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding Behaviour that Challenges.

Thank you for submitting the above project for local research governance approval. I am pleased to inform you that your project has been given full approval and you may begin your research at the following site:

- Norfolk & Suffolk NHS Foundation Trust

The above approval is dependent on authorisation being received from every service which is approached for the project.

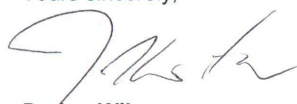
I have enclosed two copies of the Standard Terms and Conditions of Approval. Please sign both copies returning one copy to the Research and Development office, at the above address, and keeping the other in your study file. Failure to return the standard terms and conditions may affect the conditions of approval. **Under the agreed Standard Terms and Conditions of Approval you must inform the R&D department of any proposed changes to this study and submit annual progress reports to the R&D department.**

Any researcher(s) whose substantive employer is not the Norfolk & Suffolk NHS Foundation Trust must have a Letter of Access or Honorary Research contract and evidence of Good Clinical Practice (GCP) training before coming on site to conduct their research in this project. Please note that you cannot take part in this study until you have this documentation. If a Letter of Access / Honorary Research Contract has not been issued – please contact us immediately.

If you have any queries regarding this or any other project, please contact, Tom Rhodes, Research Governance Administrator, at the above address.

The reference number for this study is: **2012MH21**, and this should be quoted on all correspondence.

Yours sincerely,



Dr Jon Wilson
Deputy Medical Director (Research)



Chair: Maggie Wheeler
Chief Executive: Aidan Thomas
Trust Headquarters: Hellesdon Hospital, Drayton High Road, Norwich, NR6 5BE
Tel: 01603 421421 Fax: 01603 421440 www.nsftr.nhs.uk



Appendix G. Research and Development Approval Letters

Your research governance approval is valid providing you comply with the conditions set out below:

1. You commence your research within one year of the date of this letter. If you do not begin your work within this time, you will be required to resubmit your application.
2. You notify the Research and Development Office should you deviate or make changes to the approved documents.
3. You alert the Research and Development Office by contacting the address above, if significant developments occur as the study progresses, whether in relations to the safety of individuals or to scientific direction.
4. You complete and return the standard annual self-report study monitoring form when requested to do so at the end of each financial year. Failure to do this will result in the suspension of research governance approval.
5. You comply fully with the Department of Health Research Governance Framework and Trust Research Policies, and in particular that you ensure that you are aware of and fully discharge your responsibilities in respect to Data Protection, Health and Safety, financial probity, ethics and scientific quality. You should refer in particular to Sections 3.5 and 3.6 of the Research Governance Framework.
6. You ensure that all information regarding patients or staff remains secure and strictly confidential at all times. You ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice, Data Protection Act and Human Rights Act. Unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.
7. **UKCRN Portfolio Studies only:** You will make local Trust research team members aware that it is expected that the "first participant, first visit" date should be within 70 days of the full submission for Trust Research Governance Approval, and this date must be reported to the Research and Development office using the email address above. Delay to recruitment due to study-wide developments must be reported to the Trust as soon as possible.
8. **UKCRN Portfolio Studies only:** You will report and upload Trust recruitment to the UKCRN portfolio accurately and in a timely manner, and will provide recruitment figures to the Trust upon request.

List of Approved Documents:

<u>Documents Received</u>	<u>Version</u>	<u>Date</u>
Protocol	1	07/02/2012
Information Sheet for staff	6	05/11/2012
Consent Form for Staff Participants	2	21/06/2012
Five Minute Speech Sample	1	28/05/2012
Demographic Information Sheet	1	20/12/2011
Questionnaire: Modified Attributional Questionnaire		
Questionnaire: The Challenging Behaviour Scale For Older People Living in Care Homes		
Advertisement	3	24/07/2012
Information Sheet for Ward Managers	3	27/09/2012

Appendix G. Research and Development Approval Letters

Norfolk and Suffolk 
NHS Foundation Trust

Research and Development Dept
The Knowledge Centre
Norfolk and Suffolk NHS Foundation Trust
Hellesdon Hospital
Drayton High Road
Norwich
NR65BE
Telephone: 01603 421255
E mail: RDofficemailbox@nsft.nhs.uk

Miss Christine Slaughter
Doctoral Programme in Clinical Psychology
Department of Psychology
University of East Anglia
Norwich Research Park
Norwich
NR4 7TJ

7th November 2012

Dear Miss Slaughter,

Re: NSFT Letter of Access – Expressed emotion and attributions in paid dementia care staff (2012MH21)

As an existing NHS employee you do not require an additional honorary research contract with this NHS organisation. We are satisfied that such checks as are necessary have been carried out by your employer and that the research activities that you will undertake in this NHS organisation are commensurate with the activities you undertake for your employer. This letter confirms your right of access to conduct research through Norfolk and Suffolk NHS Foundation Trust for the purpose and on the terms and conditions set out below. This right of access commences on 18th October 2012 and ends on 30th September 2013, unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

You are considered to be a legal visitor to Norfolk and Suffolk NHS Foundation Trust premises. You are not entitled to any form of payment or access to other benefits provided by this organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through Norfolk and Suffolk NHS Foundation Trust, you will remain accountable to your employer Hertfordshire Partnership NHS Foundation Trust but you are required to follow the reasonable instructions of your nominated manager Bonnie Teague, Research Manager, in this NHS organisation or those given on her behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with Norfolk and Suffolk NHS Foundation Trust policies and procedures, which are available to you upon request, and the Research Governance Framework.



Chair: Maggie Wheeler
Chief Executive: Aidan Thomas
Trust Headquarters: Hellesdon Hospital, Drayton High Road, Norwich, NR6 5BE
Tel: 01603 421421 Fax: 01603 421440 www.nsft.nhs.uk



Appendix G. Research and Development Approval Letters

You are required to co-operate with Norfolk and Suffolk NHS Foundation Trust in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on Norfolk and Suffolk NHS Foundation Trust premises. Although you are not a contract holder, you must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of a contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (<http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf>) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

Norfolk and Suffolk NHS Foundation Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted of any criminal offence. Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

If your circumstances change in relation to your health, criminal record, professional registration or any other aspect that may impact on your suitability to conduct research, or your role in research changes, you must inform the NHS organisation that employs you through its normal procedures. You must also inform your nominated manager in this NHS organisation.

Yours sincerely



Bonnie Teague
Research Manager

cc: Resourcing, NSFT HR

Appendix G. Research and Development Approval Letters

Research and Development
The Knowledge Centre
Hellesdon Hospital
Drayton High Road,
Norwich, NR65BE
Telephone 01603 421255
E mail: RDofficemailbox@nsft.nhs.uk

Miss Christine Slaughter
Doctoral Programme in Clinical Psychology
Department of Psychology
University of East Anglia
Norwich Research Park
Norwich NR4 7TJ

31st January 2013

Dear Miss Slaughter,

Re: 2012MH21: Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding Behaviour that Challenges.

Further to the initial study approval letter, dated 7th November 2012, a minor amendment has been received for research governance review and approval.

I am pleased to inform you that the amendment has been approved, and so may proceed. This approval is valid in the following organisation:

- **Norfolk and Suffolk NHS Foundation Trust**

The final list of amendment documents reviewed and approved are as follows:

Documents	Version	Date
Protocol	3	02/01/2013

Your research governance approval is valid providing you comply with the conditions set out below:

1. You notify the Research and Development Office should you deviate or make changes to the approved documents.
2. You alert the Research and Development Office by contacting me, if significant developments occur as the study progresses, whether in relations to the safety of individuals or to scientific direction.
3. You complete and return the standard annual self-report study monitoring form when requested to do so at the end of each financial year. Failure to do this will result in the suspension of research governance approval.
4. You comply fully with the Department of Health Research Governance Framework, and in particular that you ensure that you are aware of and fully discharge your responsibilities in respect to Data Protection, Health and Safety, financial probity, ethics and scientific quality. You should refer in particular to Sections 3.5 and 3.6 of the Research Governance Framework.
5. You ensure that all information regarding patients or staff remains secure and strictly confidential at all times. You ensure that you understand and comply with the requirements of



Chair: Maggie Wheeler
Chief Executive: Aidan Thomas
Trust Headquarters: Hellesdon Hospital, Drayton High Road, Norwich, NR6 5BE
Tel: 01603 421421 Fax: 01603 421440 www.nsft.nhs.uk

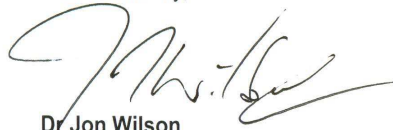


Appendix G. Research and Development Approval Letters

the NHS Confidentiality Code of Practice, Data Protection Act and Human Rights Act. Unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

If you require any further confirmation, please contact me at the above address.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'J. Wilson', written over a light blue horizontal line.

Dr Jon Wilson
Deputy Medical Director (Research)

Appendix G. Research and Development Approval Letters

Cambridgeshire and Peterborough 

NHS Foundation Trust

Understanding mental health, understanding people

Research and Development Department

6 November 2012

R&D Ref: M00492

Ms Christine Slaughter
Trainee Clinical Psychologist
Department of Psychology
University of East Anglia
Norwich Research Park
Norwich
Norfolk NR4 7TJ

Joint Research Office
Box 277
Addenbrooke's Hospital
Hills Road
Cambridge
CB2 0QQ

Direct Dial: 01223 596472 ext 6472
E-mail: beth.muldrew@cpft.nhs.uk
www.cpft.nhs.uk

Dear Ms Slaughter

Re: 12/EE/0429 Expressed Emotion and Attributions in Paid Dementia Care Staff

In accordance with the Department of Health's Research Governance Framework for Health and Social Care, all research projects taking place within the Trust must receive a favourable opinion from an ethics committee and approval from the Department of Research and Development (R&D) prior to commencement.

R&D have reviewed the documentation submitted for this project, and has undertaken a **site specific assessment** based on the information provided in the SSI form, and I am pleased to inform you that we have no objection to the research proceeding within CPFT.

Sponsor: University of East Anglia

Funder: University of East Anglia

End date: 03/09/2013

Protocol: Version 1.0 02/07/2012 (Amended)

Conditions of Trust Approval:

- The project must follow the agreed protocol and be conducted in accordance with all Trust Policies and Procedures especially those relating to research and data management. Any mobile devices used must also comply with Trust policies and procedures for encryption.
- You and your research team must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice and the Data Protection Act

HQ Elizabeth House, Fulbourn Hospital, Cambridge CB21 5EF
T 01223 726789 F 01480 398501 www.cpft.nhs.uk

In partnership with the University of Cambridge



Appendix G. Research and Development Approval Letters

1998 and are aware of your responsibilities in relation to the Human Tissue Act 2004, Good Clinical Practice, the NHS Research Governance Framework for Health and Social Care, Second Edition April 2005 and any further legislation released during the time of this study.

- Members of the research team must have appropriate substantive or honorary contracts with the Trust prior to the study commencing. Any additional researchers who join the study at a later stage must also hold a suitable contract.
- You and your research team must provide to R&D, as soon as available, the date of first patient first visit.

If the project is a clinical trial under the European Union Clinical Trials Directive the following must also be complied with:

- the EU Directive on Clinical Trials (Directive 2001/20/EC) and UK's implementation of the Directive: The Medicines for Human Use (Clinical Trials) Regulations 2004;
- the EU Directive on Principles and Guidelines for Good Clinical Practice (EU Commission Directive 2005/28/EC); and UK's implementation of the Directive: The Medicines for Human Use (Clinical Trials) Amendment Regulations 2006;

Amendments

Please ensure that you submit a copy of any amendments made to this study to the R&D Department.

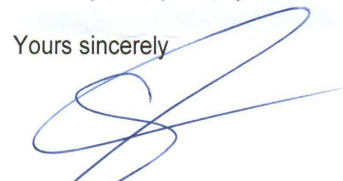
Annual Report

It is obligatory that an annual report is submitted by the Chief Investigator to the research ethics committee, and we ask that a copy is sent to the R&D Department. The yearly period commences from the date of receiving a favourable opinion from the ethics committee.

Please refer to our website www.cpft.nhs.uk for all information relating to R&D including honorary contract forms, policies and procedures and data protection.

Should you require any further information please do not hesitate to contact us.

Yours sincerely



Stephen Kelleher
Senior R&D Manager

Cc Sue Steel, Contracts Manager, Research and Enterprise Services West Office, University of East Anglia, Norwich Research Park, Norwich NR4 7TJ

Appendix G. Research and Development Approval Letters

Minor amendment - approval from CPFT

Muldrew Beth [beth.muldrew@cpft.nhs.uk]

Sent: Tuesday, January 15, 2013 2:25 PM

To: Christine Slaughter (MED)

Dear Christine

REC No: 12/EE/0429

Study Title: Expressed Emotion and Attributions in Paid Dementia Care Staff

Thank you for submitting information about your minor amendment

I can confirm that these changes do not affect research governance and therefore the study can continue.

Please refer to the conditions of approval for carrying out this study as outlined in the R&D approval letter dated 6 November 2012

Kind regards

Beth

Beth Muldrew

R & D Governance Officer | R & D Department | Department S4 | Addenbrookes Hospital | Box 277 | Hills Road | Cambridge | CB2 0QQ

Desk 01223 596472

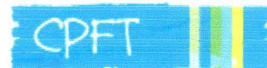
beth.muldrew@cpft.nhs.uk

Please visit our R&D website pages for more information

<http://www.cpft.nhs.uk/professionals/information-for-researchers.htm>

This email is not secure. If you want to send business-sensitive or person-identifiable information, please send from a secure account to

beth.muldrew@nhs.net



Cambridgeshire and Peterborough NHS Foundation Trust

Elizabeth House, Fulbourn Hospital, Cambridge CB21 5EF

www.cpft.nhs.uk

We cannot accept any liability for any loss or damage sustained as a result of software viruses. It is your responsibility to carry out such virus checking as is necessary before opening any attachment. The information in this e-mail is confidential and may be legally privileged. It is intended solely for the addressee. If you are not the intended recipient please accept our apologies. Please do not disclose copy or distribute information in this e-mail nor take any action in reliance on its contents, to do so is strictly prohibited and may be unlawful. **Please inform us if this message has gone astray before deleting it.**

Thank you for your co-operation.

Before printing this message, please think if it is necessary. The environment is in our hands.

30/07/2013 08:

Appendix H. Indemnity Certificate



Research and Enterprise Services
West Office (Science Building)

University of East Anglia
Norwich Research Park
Norwich NR4 7TJ
United Kingdom

Tel: +44 (0) 1603 591574
Email: researchandenterprise@uea.ac.uk
www.uea.ac.uk/researchandenterprise

TO WHOM IT MAY CONCERN

02 August 2012

Dear Sirs,

Study: *Expressed Emotion and Attributions in Paid Dementia Care Staff.*
Chief Investigator: *Slaughter, Christine*

This is to confirm that the University of East Anglia and Subsidiary Companies have arranged insurance cover as detailed on the attached certificate.

The cover is subject to the terms and conditions of the policy. If you require further details, please contact the undersigned.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'Sue Steel'.

Sue Steel
Research Contracts Manager
Research and Enterprise Services
University of East Anglia
Norwich NR4 7TJ

Tel: 01603 591486 / Fax: 01603 591550
Email: sue.steel@uea.ac.uk

Appendix H. Indemnity Certificate



To Whom It May Concern

Our ref: BM/IND

15 May, 2012

Zurich Municipal Customer: University of East Anglia and wholly owned subsidiary companies

This is to confirm that University of East Anglia and wholly owned subsidiary companies have in force with this Company until the policy expiry on 31 May 2013 Insurance incorporating the following essential features:

Policy Number: NHE-09CA01-0013

Limit of Indemnity:

Public Liability:	£ 25,000,000	any one event
Products Liability:	£ 25,000,000	for all claims in the aggregate during any one period of insurance
Pollution:		any one event inclusive of costs

Employers' Liability: £ 25,000,000

Excess:

Public Liability/Products Liability/Pollution: £ 1,000 any one event
Employers' Liability: Nil any one claim

Indemnity to Principals:

Covers include a standard Indemnity to Principals Clause in respect of contractual obligations.

Full Policy:

The policy documents should be referred to for details of full cover.

Yours faithfully

Underwriting Services
Zurich Municipal
Farnborough

Zurich Municipal
Zurich House
2 Gladiator Way
Farnborough
Hampshire
GU14 6GB

Telephone 0870 2418050
Direct Phone: 01252 387846
Direct Fax: 01252 375893
E-mail nicola.plisbury@zurich.com

Communications will be monitored regularly to improve our service and for security and regulatory purposes

Zurich Municipal is a trading name of Zurich Insurance plc

A public limited company incorporated in Ireland. Registration No. 13460
Registered Office: Zurich House, Ballsbridge Park, Dublin 4, Ireland.

UK branch registered in England and Wales
Registration No. BK7985.
UK Branch Head Office: The Zurich Centre,
3000 Parkway, Whiteley, Fareham,
Hampshire PO15 7JZ

Authorized by the Central Bank of Ireland and subject to limited regulation by the Financial Services Authority. Details about the extent of our regulation by the Financial Services Authority are available from us on request

INFORMATION SHEET FOR WARD MANAGERS

Study Name: Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding Behaviour that Challenges.

I am asking Mental Health Nurses and Nursing Assistants working on dementia care wards if they would like to participate in this research study exploring expressed emotion and attributions regarding challenging behaviour.

I would like to invite staff working on your ward to participate, either before, after or during a break from their shift. Please read this information sheet carefully and feel free to ask any questions you need to.

Why are we doing this research?

No research has to date explored expressed emotion and attributions in paid dementia care staff, and therefore we are hoping to add to the knowledge base with this study.

There are interventions being used with staff working with other client groups to help to reduce difficult relationships with patients. Without this initial research it is not possible to know whether these would be relevant in dementia care.

What is being tested?

I am looking to find out whether the psychological construct of expressed emotion is related to attribution theory and challenging behaviour in dementia care. Similar research has been conducted with staff working with other client groups.

Who is being invited to take part?

I am inviting Mental Health Nurses and Nursing Assistants working on NHS dementia care wards to participate. It is anticipated that the study will be conducted across sites in East Anglia.

I would like to invite staff from your ward to participate. This will involve completing a short interview and questionnaire measures, which will take approximately 30 minutes. Staff will be able to participate before, after or during a break on their shift. It would be necessary to conduct the research in a private staff room on the ward, as staff will be encouraged to discuss relationships with clients they are working with. All staff will be able to arrange a time to meet with the researcher either in person or through email by contacting: Christine.slaughter@uea.ac.uk.

Does the ward have to take part?

Participation in the study is entirely voluntary.

What will happen if I take part?

The researcher will ask you to compile a list of patients on your ward, using first names only, and allocate each patient a code. If two patients have the same first name, the initial letter of their surname may also be used.

If staff chose to participate, they will be asked to select two clients from the list who they know well and to complete a short interview regarding their relationship with them. The interview will be audio recorded. During the interview staff will be asked to give these patients pseudonyms to minimise the chance of real patient names being recorded. Staff will be asked to provide basic demographic details about themselves. They will not be asked to provide any further details about the patients. Staff will then be asked to complete some questionnaire measures. It is anticipated that the process will take approximately 30 minutes.

What are the possible benefits of taking part?

It is hoped that this study will enable us to understand expressed emotion in the context of dementia care. In the future this may help to generate appropriately designed interventions for staff and patients to help strengthen working relationships.

Contact details -

For further information about the study, please contact

Christine Slaughter

Christine.slaughter@uea.ac.uk

Trainee Clinical Psychologist

Department of Psychology,

Norwich Research Park,

University of East Anglia

Norwich, NR4 7TJ.

This project is being conducted as part of doctorate clinical psychology training and is supervised by:

Dr Peter Langdon

P.Langdon@uea.ac.uk

Clinical Senior Lecturer

Department of Psychology

Norwich Research Park

University of East Anglia

Norwich, NR4 7TJ.

01603 593599

Thank you for reading so far, if you are still interested please continue to part 2.

Part 2 :

Information you need to know if you still want to take part.

What happens when the research project stops?

At the end of the project all of the data collected will be analysed and compiled within a thesis. In addition, the results may be published in a journal.

Will anyone else know this ward is taking part?

When the thesis is compiled and if the study is published in a journal, the ward will not be named.

In the unlikely event that any safeguarding concerns arise during the course of the study, it may be necessary to seek advice from local safeguarding professionals and to break confidentiality. In this situation, details of the ward, staff members involved and client identities may all need to be shared with appropriate agencies.

What will happen to the data?

During the study questionnaires will be stored securely in a locked cabinet, whilst audio recorded interview will be stored securely on an encrypted memory stick. All coded data will be stored electronically and saved on an encrypted memory stick. The data will also be saved on a password protected CD. All electronic data and paper questionnaires will be destroyed five years after the end of the study.

Who is organising the research?

The research is organised by Christine Slaughter, Trainee Clinical Psychologist, and supervised by Dr Peter Langdon, Senior Clinical Lecturer (ClinPsyD), University of East Anglia. The research is part of doctorate training in clinical psychology and will be written up as a thesis.

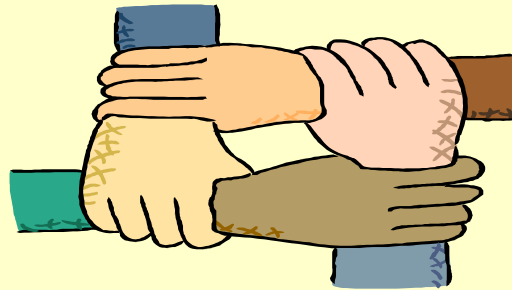
Who has reviewed the study?

The research has been reviewed by the Cambridge South ethics committee, and Research and Development Offices from Norfolk and Suffolk NHS and Cambridgeshire and Peterborough Foundation Trust.

Thank you for reading this - please ask any questions you need to.

Are you a Mental Health Nurse or Nursing Assistant?

Do you work on a dementia care ward?



Would you like to take part in a doctoral research project?

If you can spare just 30 minutes, before, after or during a break from your shift to complete a short interview and some questionnaires, please consider taking part.

The study aims to explore staff experiences of working with people with dementia.

**For further information please contact Christine Slaughter, Trainee Clinical Psychologist
~ christine.slaughter@uea.ac.uk**

Appendix K. Feedback to Staff Participants

Christine Slaughter (now Christine Lowen)
Trainee Clinical Psychologist
Doctoral Programme in Clinical Psychology
Norwich Medical School
University of East Anglia
Norwich, NR4 7TJ

August 2013

Dear Colleagues,

Research Findings:

Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding

Behaviour that Challenges

Thank you for your support and interest in the above research project. This has recently been completed and I would like to express my thanks to everyone who participated in the project.

Below is a brief summary of the research findings, and I would be grateful if you could disseminate these to the staff team.

Project Aims

This research aimed to examine expressed emotion in paid staff working in dementia care settings. Expressed emotion is a construct which has been used to measure the quality of interpersonal relationships between people who receive care and those who care for them, and does not measure “emotion”.

Overview of the Findings

- 89.4% of staff participants were rated as expressing high levels of expressed emotion in at least one of their interviews. This told us that sometimes staff found it difficult to work with clients who have dementia.
- Expressed emotion was related to whether or not the client displayed challenging behaviour. When staff thought about their work with clients who did display

challenging behaviour, they were more likely to have high expressed emotion. This finding was expected as working with challenging behaviour can be difficult.

Similar findings have also been reported from research with other client groups.

- The study explored whether attribution theory might help to explain more about the difficulties staff experience when working with challenging behaviours. The results did not suggest that we could understand how staff make sense of challenging behaviours in dementia using this theory.
- This finding means that alternative theories might be more helpful in understanding how staff make sense of challenging behaviours. Given that person centred dementia care is the main recommended approach to care, this might influence how staff understand their clients' behaviours.
- This project appears to be the first to explore expressed emotion in paid dementia care staff and therefore the findings raise many questions for future research.
- This project suggests that staff may benefit from increased support to help manage the challenging behaviours sometimes displayed by people with dementia. Future research can investigate other theories which might help in understanding challenging behaviours. Also, different training programmes could be developed and tested to see which are most helpful for staff working in dementia care settings.
- A research article is planned to further discuss and disseminate these findings.

Thank you again to all members of staff who participated in this research.

If you have any further queries about this research please contact:

Dr Peter Langdon
Clinical Senior Lecturer
Norwich Medical School
Doctoral Programme in Clinical Psychology
University of East Anglia, Norwich, NR4 7TJ
(P.Langdon@uea.ac.uk)

OR Christine Slaughter (now Christine Lowen)
Trainee Clinical Psychologist
Supervised by Dr Peter Langdon
(Christine.slaughter@uea.ac.uk)

Appendix L. Declaration of the End of the Study and Summary Report for NHS

Ethics and Research and Development.

DECLARATION OF THE END OF A STUDY

(For all studies except clinical trials of investigational medicinal products)

To be completed in typescript by the Chief Investigator and submitted to the Research Ethics Committee that gave a favourable opinion of the research ("the main REC") within 90 days of the conclusion of the study or within 15 days of early termination. For questions with Yes/No options please indicate answer in bold type.

1. Details of Chief Investigator

Name:	Christine Slaughter
Address:	Doctoral Programme in Clinical Psychology Norwich Medical School University of East Anglia Norwich, NR4 7TJ
Telephone:	
Email:	Christine.slaughter@uea.ac.uk
Fax:	

2. Details of study

Full title of study:	Expressed emotion and attributions in paid dementia care staff regarding behaviour that challenges
Research sponsor:	University of East Anglia
Name of main REC:	Cambridge South
Main REC reference number:	12/EE/0429

3. Study duration

Date study commenced:	12.11.2012
Date study ended:	15.4.2013
Did this study terminate prematurely?	No <i>If yes please complete sections 4, 5 & 6, if no please go direct to section 7.</i>

4. Circumstances of early termination

What is the justification for this early termination?	
---	--

5. Temporary halt

Is this a temporary halt to the study?	<i>No</i>
If yes, what is the justification for temporarily halting the study? When do you expect the study to re-start?	<i>e.g. Safety, difficulties recruiting participants, trial has not commenced, other reasons.</i>

6. Potential implications for research participants

Are there any potential implications for research participants as a result of terminating/halting the study prematurely? Please describe the steps taken to address them.	
---	--

7. Final report on the research

Is a summary of the final report on the research enclosed with this form?	<i>No</i> <i>If no, please forward within 12 months of the end of the study.</i>
---	---

8. Declaration

Signature of Chief Investigator:	Christine Slaughter
Print name:	Christine Slaughter
Date of submission:	16.7.2013

Expressed Emotion and Attributions in Paid Dementia Care Staff Regarding Behaviour that
Challenges. End of Study Summary Report.

Ref: 12/EE/0429

Christine Slaughter (now Christine Lowen)

Primary Supervisor: Dr Peter Langdon, Clinical Senior Lecturer, UEA

Doctoral Programme in Clinical Psychology

University of East Anglia

Abstract

Aims

This project examined expressed emotion (EE) in paid dementia care staff, determining the proportion expressing high levels of EE and investigating whether high EE was more likely when the client displayed challenging behaviours (CB). The attributions made by staff regarding CBs and whether these were related to the construct of EE were investigated. The behaviour which staff rated as most challenging was identified.

Methodology

This project used a within subjects design, obtaining quantitative data from 47 staff participants. Each participant was asked to identify a client who displayed CB and one who did not. Participants completed a Five Minute Speech Sample, Modified Attributional Questionnaire and Challenging Behaviour Scale in relation to both clients.

Results

Overall 89.4% of staff participants expressed high levels of EE in at least one of their Five Minute Speech Samples. Significantly more staff displayed high EE in relation to clients with CB than without CB. More critical comments were made in relation to clients with CB, whilst significantly more positive remarks were made in relation to clients without CB. Participants rated the behaviours displayed by challenging clients as significantly more specific to them, whilst behaviours of the non-challenging group were rated as more controllable by staff. Positive remarks and perceptions of control by staff had a significant positive relationship. The behaviour rated by staff as most challenging was physical aggression.

Conclusions

The proportion of paid staff displaying high EE in this study was higher than rates found to date in studies with family caregivers of people with dementia. This study did not provide support for the attributional theory of EE. The results are considered to be consistent with the state theory of EE and the stress-vulnerability model, and the context of the dominant philosophy of person centred dementia care is explored.

Introduction

Aims of the Investigation

This study aimed to examine the expressed emotion (EE) of paid care staff working with people who have dementia. It also explored the differences in EE levels and staff attributions according to whether or not clients displayed behaviours that are challenging.

Expressed Emotion

EE is a psychological construct used to measure the quality of relationships, usually between a care-giver and care-recipient (Wearden, Tarrier, Barrowclough, Zastowny & Armstrong Rahill, 2000). Research exploring EE began with family members providing care for relatives with schizophrenia, but has since extended to other health conditions (Wearden et al., 2000).

Expressed Emotion and Attribution Theory

It has been suggested that attribution theory can explain differences in levels of EE (Hooley, 1985). Weigel, Langdon, Collins and O'Brien (2006) outlined that attribution theory represents a process of finding explanations for events, using Heider's (1958) dimensions of controllability, stability and locus of control. Weigel et al. explained that a fundamental attribution error (FAE) is made when an event is attributed as resulting from stable and internal factors of a person.

Therefore, the attribution theory of EE explains that when caregivers make the FAE in relation to a person's behaviours (Heider, 1958), this is likely to be associated with

negative feelings towards the person and reduced likelihood of helping behaviour given Weiner's (1980) theory of helping, (Barrowclough & Hooley, 2003).

Research with Other Populations

Studies exploring EE in paid care staff have been conducted within mental health settings. Relationships characterised by critical emotional climates have been reported to be related to lower quality of life and symptoms of schizophrenia in residents with mental health difficulties, and high EE in staff (Snyder, Wallace, Moe, & Liberman, 1994). Further, criticism has been found to be associated with behaviour deemed to be aggressive and attention-seeking in people with mental health difficulties (Moore, Ball & Kuipers, 1992), and poorer outcomes for residents in supportive hostel accommodation (Ball, Moore & Kuipers, 1992). Supporting the attribution theory of EE, Moore, Kuipers and Ball (1992) reported that high levels of criticism in staff were significantly related to them attributing difficulties as being under the client's control.

Studies exploring attributions of CB in clients with learning disabilities include Weigel et al. (2006), who reported that staff expressed high EE towards a client with CB compared to a client without, and were more likely to make the FAE towards the client who displayed CB.

The topography of CB in learning disability clients has also been investigated. Dilworth, Philips and Rose (2011) reported that staff rated CB as more under the person's control if it was "physically aggressive behaviour" and less under the person's control if it was "self-injurious behaviour". Other studies have also reported that attributions differ according to behaviour topography, including Stanley and Standen (2000).

Whitehouse, Chamberlain and Tunna (2000) concluded from a pilot study that when a behavioural change in a person with learning disabilities was attributed as due to dementia it was viewed as "stable, global and not under the control of the person". This contrasts research (e.g. Weigel et al., 2006) into attributions of CB in people with learning disabilities. It may be that a diagnosis of dementia has an impact on attributions made by paid care staff.

Research in Dementia Care

Dementia is clearly different to mental health difficulties and learning disabilities. Dementia has been defined as “a syndrome which may be caused by a number of illness in which there is a progressive decline in multiple areas of function including decline in memory, reasoning, communication skills and the ability to carry out daily activities” (p.15, Department of Health, 2009).

Andrews (2006) stated that regarding dementia, ‘challenging behaviour’ includes shouting, biting, throwing, repetitive talking, destroying objects, agitation, anger, and physical aggression. When such behaviours become challenging for family carers the person is often admitted into residential care (Steele, Rouner, Chase & Folstein, 1990). When residential care staff become challenged by behaviour the person’s quality of life reduces and a hospital admission or move to another care setting is likely (Mace, 1990; cited in Moniz-Cook et al., 2001).

To date, no research has been published exploring EE in paid dementia care staff. Existing research with family caregivers of people with dementia is considerably limited, with rates of high EE in family caregivers ranging from 8% (Orford, O’Reilly & Goonatilleke, 1987) to 56% (Bledin, MacCarthy, Kuipers & Woods, 1990). Tarrier, Barrowclough, Ward, Donaldson, Burns and Gregg (2002) used a larger sample and greater rigor in their study which supported the attributional explanation of EE in family caregivers of people with dementia, finding high EE in 41%.

Dementia is well known as a progressive degenerative condition, potentially impacting on how paid care staff understand and attribute the behaviour of a person with dementia. It is important to explore EE and attribution theory further in this client group, since it is possible that different interventions may be appropriate to reduce EE and ensure the best outcomes for clients with dementia.

Research in dementia care is of increasing importance given the predicted increase to over 1.7 million people in the UK with dementia by 2051 (Alzheimer’s Society, 2011).

Research Questions

This research aimed to answer the following: Firstly, do paid dementia care staff working in inpatient environments display high levels of EE, if so, what proportion display high levels?

Second, do the observed frequencies of high and low EE ratings differ significantly from expected frequencies according to level of CB in clients?

Third, do individual component ratings of EE (critical comments; emotional over-involvement; positive remarks; quality of relationship) differ significantly according to CB level?

Fourth, do ratings on the five dimensions of attribution (internal-external to client; internal-external to staff; personal-universal to client; uncontrollable-controllable by client; uncontrollable-controllable by staff) differ according to both EE level and CB level?

Following from this, do ratings on the five attributional dimensions differ significantly according to ratings of EE components and level of CB?

Finally, do ratings of behaviour frequency, difficulty or overall challenge on the CBS, differ significantly according to EE level? Which behaviours on the CBS have the highest overall challenge scores and do these differ according to CB level?

Design

This study generated quantitative data. The factors investigated were EE level (high or low) and CB level (CB or nCB). Data were collected from participants at one time point.

Descriptive statistics were used to answer research question one. To answer research question two, participants were grouped according to whether they displayed high or low EE in their FMSS and whether they rated a client with high or low CB, generating a two-by-two McNemar's contingency table.

To answer question three paired t-tests were used. To answer question four, the MAQ ratings were compared according to high and low EE groups and high and low EE groups, also using paired t-tests. To compare attributions within the CB group and across EE level, independent t-tests were used.

To answer research question five correlations were used. Comparing the ratings on the CBS between EE levels and CB levels using a within subjects analysis answered the final research question.

Descriptive statistics are reported from the CBS to identify the behaviours generating the highest frequency, difficulty and challenge scores.

This study looked for differences between the data. This study incorporated elements of the methodology and analysis used by Weigel et al. (2006) who explored EE and attributions made by staff towards people with learning disabilities, with and without CB.

Participants

Participants were qualified and unqualified nursing staff working on NHS organic mental health wards for people with dementia. Agreement for recruitment from wards was obtained from NHS Research and Development (R&D) and ward managers.

Staff members were provided with the information sheet and could able to arrange a time to participate in the study should they wish to. For staff to participate they needed to have worked with people with dementia for at least 6 months, and work closely with or key work clients.

Power calculations were conducted using G*Power. Calculations were based on obtaining a power of .8 and an effect size of .4. Calculations for the main analyses of one-tailed dependent t-tests, indicated a required total sample size of 41 staff participants.

Measures

Magana et al. (1986) developed the Five Minute Speech Sample (FMSS) as a shorter method for measuring EE than the traditional Camberwell Family Interview (Rutter & Brown, 1966). The FMSS (Magana et al., 1986) has been used with staff groups to measure their relationship with service users. Moore and Kuipers (1999) revised the directions to make them more applicable to staff, generating standardised staff instructions which are both read out to staff and presented visually on a card and concluded that the correspondence between a staff FMSS and a modified CFI was high.

The speech samples are coded according to whether the initial statement made by the member of staff is positive, neutral or negative, and whether the quality of the relationship is positive, neutral or negative. The number of critical comments and positive remarks made are counted, and participants' levels of emotional over-involvement will be rated according to the standardised criteria. By combining these factors the relationship between staff participants and the client is given an overall rating of high or low EE. The relationship is rated as high EE if one or more critical comments are made or the initial statement is coded as negative.

To collect data regarding staff members' perceptions of CB, the Challenging Behaviour Scale for Older People Living in Care Homes was used (CBS; Moniz-Cook, Woods, Gardiner, Silver & Agar, 2001). This scale lists 25 behaviours which are considered challenging when displayed by people with dementia. Staff completing the scale rated the incidence, frequency and difficulty of each listed behaviour based on the previous eight weeks, creating subscale scores and an overall challenge score between 0 and 400.

Whilst it is recommended by Moniz-Cook et al. (2001) that the scale is completed by pairs of staff in order to avoid subjectivity, this study will explore how a staff member's EE and attributions towards a client are related to their ratings of the difficulty and challenge of behaviours. Therefore staff participating in this study completed the measure individually.

The CBS is reported to have good internal consistency for each of the scales (.82 for the frequency scale; .85 for the incidence and challenge scales; .87 for the difficulty scale), good test-re-test reliability (.97 - .99) (Moniz-Cook et al., 2001).

In order to rate the attributions made by staff towards the person with dementia, the Modified Attributional Questionnaire (Cottle, Kuipers, Murphy & Oakes, 1995) was used, which was an amendment of Peterson, Semmel, von Baeyer, Abramson, Metalsky and Seligman's (1982) original Attributional Style Questionnaire. Staff make a rating on a likert scale for each of the attributional dimensions in relation to a particular behaviour.

To collect basic demographic information about participants, a demographic information sheet was used. This enabled staff variables such as age, education gender and

experience in dementia care to be considered. Staff were also asked to estimate how long they have known each client in order that this information could also be considered.

Ethical Considerations

In order to ensure that all participants provided informed consent to participate, they were provided with the participant information sheet and the opportunity to ask the researcher any questions they had about the study. In addition, all participants were able to consider the information provided and arrange a convenient time to meet with the researcher to participate, either in person or through email communication. Depending on the ward situation, it was possible in some cases for staff to express to their manager that they would like to take part in the study, with managers passing this information on. It was hoped that this reduced any potential for the participant to feel coerced into taking part.

All participants were asked to sign the consent form to demonstrate that they agreed to take part in the research and understood the requirements.

All data were treated confidentially, with raw data only disclosed to supervising members of staff at the University of East Anglia to discuss appropriate statistical analysis. Audio data was stored on an encrypted memory stick and paper questionnaires were stored in a locked box. All participant data was coded and entered into a computer file for statistical analysis and stored on an encrypted memory stick. The completed data set were also stored on a password protected CD and laptop.

All participants were made aware in the participant information sheet that their information would be treated confidentially, with the exception that should any potential safeguarding concerns arise during the course of the research confidentiality could be broken and advice sought from the local safeguarding professionals.

It was possible that staff may exhibit high levels of emotion during the research process, as they were asked to highlight the challenges of their role in caring for people with dementia. Consequently, all participants were encouraged to seek additional support if necessary through their line manager or clinical supervision. In addition, participant

information sheets contained the website details for Wellbeing Support Services and participants were made aware that these could be accessed through their G.P.

Ethical approval was obtained for this research from the South Cambridge Ethics Committee and in addition, approval was gained from local Research and Development services.

Procedure

Following ethical approval and agreement from Research and Development services, contact was made with ward managers within the region and the research was outlined to them. Ward managers were provided with the information sheet and an opportunity to ask questions about the study. Ward managers were asked permission for the author to attend staff meetings to briefly outline the project, at which time potential staff participants were also provided with the information sheet and an opportunity to ask questions about the study. Any members of staff who wished to participate were able to arrange a time with the author in person, or at a later date by email communication either direct with the researcher or through their ward manager. With the ward managers consent the poster advertising the project was left for display in staff areas on the ward. Where it was not possible to attend staff meetings due to the individual situation of the ward, the participant information sheet was disseminated by the ward manager. Ward managers were also asked to provide a list of the first names of all clients on the ward, with each allocated a code number.

All participant interviews were arranged to take place at a mutually convenient time at the site in order to ensure confidentiality was maintained. Prior to commencing the research, any questions were answered and participants were asked to sign the consent form.

Participants were initially asked to choose two clients with dementia on the ward who they knew well from the ward list, one with challenging behaviour (CB) and one without (nCB). When clients were selected from the list they were crossed out, ensuring that each client was spoken about only once in the research process, therefore maintaining the independence of the data collected from participants. In order to minimise any order effects

counterbalancing was used ensuring that alternate participants focused initially on the client who was challenging before considering on the other client.

Participants were asked to complete a FMSS and were provided with the standard written instructions which were also read aloud. Each FMSS (Magana et al., 1986) was audio recorded in order to be coded later.

Following each FMSS, participants were then asked to complete the CBS (Moniz-Cook et al., 2001). Further, participants were then asked to complete the MAQ (Cottle et al., 1995) considering a recent occurrence of the behaviour which was rated as most challenging on the CBS. Where two behaviours had equal challenge ratings staff were asked to select a behaviour which occurred recently which they found challenging, and rate this using the MAQ.

Each participant was asked to estimate how long they had known each of the two clients they had spoken about; information which was also incorporated within the data set.

Finally, participants were asked to complete the demographic questionnaire. All participants were thanked and reminded that the contact details for the author were available on their information sheet should they need them.

After the data analysis had been completed all sites taking part in the research were sent a summary of the research findings.

Results

In total 47 members of staff participated in the research, speaking about a total of 91 inpatients with dementia, 44 deemed to display CB and 47 who did not.

FMSS. In total 91 FMSS were completed by the 47 staff participants, 44 in relation to clients which they reported displayed CB and 47 in relation to clients who staff reported as not displaying CBs (nCB).

Following the calculation of inter-rater reliability for four samples of 20 FMSS, a level of substantial agreement was achieved between the researcher and expert rater for all components of the EE rating.

Research Question 1. Overall, 89.4% of staff participants were rated as high EE in at least one of their FMSS. This therefore suggests that the proportion of staff who displayed high EE in this study was 89.4%, which is higher than hypothesised.

Research Question 2. For the CB group, 39 staff participants were rated as having high levels of EE from their FMSS (88.6%), whilst 5 participants had low EE (11.4%). For the nCB group, 16 participants were rated high EE (36.4%), whilst 28 (63.6%) were rated low EE (figure 1). Using a McNemar's contingency table analysis the expected and observed values differed significantly ($p = .013$).

Research Question 3. A significantly greater number of critical comments were made by participants in relation to the CB group, $t(43) = -6.114, p < .001, r = .47$, with the mean number of critical comments made towards clients in the CB group being 2.20, whilst in the nCB group this was .41. A significantly greater number of positive remarks were made by staff participants in relation to clients in the nCB group compared to the CB group, $t(43) = 5.98, p < .001, r = .46$.

When the client was in the nCB group the relationship was more likely to be coded positive than negative, in comparison to when the client was in the CB group ($p < .05$). The observed frequencies of EOI are significantly different from those which would be expected ($p < .001$). Whilst are no values in one of the contingency cells, which is potentially problematic, the results indicate that overall very few staff participants displayed high levels of emotional over-involvement.

Research Question 4. Attributions regarding the behaviour of clients in the CB group were rated as significantly more specific to them, in comparison to the behaviour of clients in the nCB group ($t(43) = -1.72, p < .05, r = .80$). Staff participants attributed behaviours of clients in the nCB group as significantly more controllable by themselves as staff ($t(43) = -1.93, p < .05, r = .28$) compared to behaviours of clients in the CB group.

Attributions of client behaviours as internal to the client did not differ significantly according to whether the client was in the CB or nCB group ($t(43) = -.118, p = .12$).

Similarly, there was no significant difference in attributions of internality to staff ($t(43) = -.50, p = .31$); or between attributions of controllability of the behaviour by the client ($t(43) = .24, p = .41$).

Significantly lower attributions of controllability by staff were made by those staff participants expressing high levels of EE ($t(22) = -1.88, p < .05, r = .37$). The attributional ratings of client behaviours as internal to the client, internal to the staff, specific to the client or controllable by the client did not differ significantly between the high and low EE staff participants.

High EE staff considering clients in the CB group made significantly lower attributions of behaviour as controllable by staff compared to low EE staff, $t(42) = -2.35, p < .05$. Similarly, high EE staff considering clients in the nCB group made significantly lower attributions of behaviour as controllable by staff compared to low EE staff, $t(42) = -2.081, p < .05$.

Research Question 5. There are no significant correlations between critical comments and any attributional ratings, whilst as the number of positive remarks increase, the perception of the person's behaviour as under their control increases ($r = .29, p < .05$).

Research Question 6. The behaviour with the highest mean CBS challenge score for the CB group was physical aggression (mean challenge score = 8.95), whereas for the nCB group it was lack of self care (mean challenge score = 3.40).

Staff participants generating high EE ratings rated the clients as having significantly higher CBS total frequency scores compared to staff participants rated as low EE ($t(22) = 6.17, p < .001, r = .80$), and significantly higher CBS total difficulty scores ($t(22) = 6.34, p < .001, r = .80$). In addition, staff participants expressing high levels of EE rated the client's behaviour as significantly more challenging in comparison to staff with low levels of EE, demonstrated by higher CBS total challenge scores ($t(22) = 5.47, p < .001, r = .76$).

Analyses to establish whether the clients identified by staff participants as displaying CB did differ from those without, indicated that the CB group had significantly

higher CBS challenge scores compared to the nCB group ($t(43) = 8.136, p < .001, r = .78$).

This therefore provides some validity of the difference between the two groups.

Additional Analyses. Just over half of the clients in both CB groups had been known by the staff participants for less than three months, whilst just under half had been known for greater than three months. For the clients considered in the CB group, the length of time which staff had known the clients ranged from one week ($n = 3$) to 8 years ($n = 1$), whilst for the nCB group of clients this ranged from one week ($n = 3$) to two years and four months ($n = 1$).

In relation to the client group with CB, 11 staff participants rated the behaviour of physical aggression as having the highest challenge score and used this behaviour to complete the MAQ. The attributions of behaviour as internal to the client, internal to the staff, specific to the client, controllable by the client and controllable by staff did not differ significantly according to whether the behaviour considered was physical aggression or one of the other listed behaviours.

Discussion

In this study the proportion of high EE found in the staff participants exceeded the rates of high EE reported in family caregivers of people with dementia. This research demonstrated that 89.4% of staff displayed high levels of EE in at least one of their FMSS. This indicated that the construct of EE was present and measurable within this staff population.

It is possible that rates of high EE are different in the context of working with people with dementia in comparison to other client groups. Given that no other EE research project has been published with staff working with people with dementia it is not possible for comparisons to be made.

Dementia is a degenerative condition with no current cure. Therefore it is possible that paid care staff may have very different perceptions of dementia compared to conditions such as mental health difficulties or learning disabilities in which the future outcomes for the

client may potentially appear more positive. It is possible that these perceptions of dementia and staff optimism about the client's future may be related to levels of EE.

In addition, it is possible that there were additional factors not measured in this study which are related to high levels of EE. It is possible that the staff participating in this study were experiencing high levels of stress or burnout. The research literature appears to be inconclusive regarding the relationship between stress and high EE.

More critical comments were made in relation to care-recipients in the CB group, as hypothesised. This is considered to be consistent with research findings presented by Moore et al. (1992) who reported criticism by staff towards care-recipients with mental health difficulties was associated with difficult behaviours of attention seeking and aggression in the recipients.

Analyses of the attributions made in relation to clients in the CB and nCB groups generated mixed support for the original research hypotheses. In support, it was found that attributions made by staff participants in relation to the CB group were more specific to the client, although no differences were found regarding the attributions of internality to the client and controllability by the client. This therefore indicates that staff may have been making the FAE to some extent, although this is inconclusive.

Whilst this project compared attributions made regarding individual with CB and without, it is possible that this may explain why the anticipated FAE was not detected as a number of different CBs were combined together within the CB group, reflecting 44 different clients. It is also noted that the CBS challenge score was highest in the CB group for ratings of physical aggression, potentially indicating that this is a particular behaviour which staff find most difficult to manage.

The analyses also found that staff made significantly more attributions of behaviours as controllable by themselves when the client being considered was in the nCB group compared to the CB group. It is possible that this can be understood in relation to how confident staff feel in being able to manage a behaviour. Similarly, those staff participants who were rated as expressing high levels of EE made significantly lower attributions of the

extent to which they felt clients' behaviours were controllable by themselves as staff, indicating a relationship between controllability by staff and the expression of high EE.

It is also possible that additional factors impacted on the attributions made by staff in this study. Dilworth et al. (2011) reported that the functioning of the care organisation was also related to attributions about CB, with staff rating behaviours as less in the control of the client (less FAE) when the organisation was rated as functioning at a higher level. Given that the staff who participated in this study were working in 11 different ward environments it is possible that they experienced different levels of organisational functioning and this may have been an uncontrolled factor which influenced the results.

It had been hypothesised that staff who expressed high levels of EE would also make the FAE attributing the clients' behaviours as internal to the client, specific to the client and controllably by the client, however this was not fully evidenced by the analyses and therefore this study does not provide support for the theory of attribution underpinning the concept of EE in paid care staff working with people with dementia in inpatient environments.

It is possible that the state hypothesis can be used to understand the results of this study. The state hypothesis proposed that high EE arises due to a reaction by the care-giver in which they demonstrate hostility and criticism to the individual they care for who may themselves be hostile or uncooperative (Hooley & Richter, 1995). This study did demonstrate that high EE was expressed by the staff participants in response to individuals with CB compared to nCB.

The stress-vulnerability model of EE (Wearden et al., 2000) may also be a possible way of understanding the continuation of CB, since the client may continue to feel distress as a result of the high EE present the social environment and therefore continue to display behaviours which staff find challenging.

The attributions made by staff working in dementia care could be understood as different from those made by staff working in other settings, and different to relative caregivers, given the current philosophy of dementia care in which person centred care is the

central recommended approach to care (Guidelines for Dementia, NICE, 2006). It is possible that training programmes highlighting this perspective, and the current philosophy of person centred dementia care, may have negated attributions of behaviours as internal and controllable by individuals with dementia, as these were not found in this study. Certainly Moniz-Cook et al. (2000) have previously suggested that further development of person centred dementia care might help staff in understanding how to cope with the behaviours they consider to be challenging in people with dementia.

Conclusion

In conclusion, this study has demonstrated that the construct of expressed emotion is both relevant and measurable in paid dementia care staff. It also highlights the possibility that high EE in dementia care may be explained by theories other than the dominant attributional theory of EE.

Appendix M. Supplementary Tables

Table 1

The Distribution of the Differences between Critical Comments and Positive Remarks for CB and nCB Groups

	Skew Z Score	Kurtosis Z Score
Critical Comments Difference between CB and nCB Groups	1.73	.97
Positive Remarks Difference between CB and nCB Groups	1.38	.01

Table 2

The Distribution of the Differences between MAQ Items for high and low EE Groups, Based on 23 Data Pairs

MAQ Items	Skew Z Score	Kurtosis Z Score
Internal to Client	- .06	- .31
Internal to Staff	- .29	.92
Specific to Client	-1.03	- .77
Controllable by Client	- .27	- .15
Controllable by Staff	.17	- .66

Table 3

The Distribution of the Differences between MAQ Items for CB and nCB Groups

MAQ Item	Skew Z Score	Kurtosis Z Score
Internal to Client	-.08	1.56
Internal to Staff	-.16	1.64
Specific to Client	-.91	.19
Controllable by Client	.24	.33
Controllable by Staff	-.40	-.38

Table 4

The Distribution of Attribution Ratings on the MAQ for CB and nCB Groups according to Staff EE Level

MAQ Item	CB Group				nCB Group			
	High EE		Low EE		High EE		Low EE	
	(n = 39)		(n = 5)		(n = 16)		(n = 28)	
	S	K	S	K	S	K	S	K
Internal to Client	1.35	-1.26	.23	-.56	1.34	-.42	1.39	-.58
Internal to Staff	-2.02*	1.20	.59	-.74	-1.99	.38	-.98	-1.01
Specific to Client	1.83	-.64	.18	-.91	1.44	.26	.26	-1.54
Controllable by								
Client	1.30	-.91	.59	-.74	1.48	-.29	1.32	-1.31
Controllable by								
Staff	1.35	-1.16	-.93	.87	1.43	-.38	-.33	-1.20

Note. * $p < .05$, S = Skew Z score, K = Kurtosis Z score

Table 5

The Distribution of Critical Comments in both CB and nCB Groups

Group	Minimum	Maximum	Mean	SD	Skew Z Score	Kurtosis Z Score
CB	0	7	2.20	1.81	2.06*	- .19
nCB	0	5	.41	1.06	8.70*	14.20*

Note. * $p < .05$

Table 6

The Distribution of Positive Remarks in both CB and nCB Groups

Group	Minimum	Maximum	Mean	SD	Skew Z Score	Kurtosis Z Score
CB	0	4	.95	1.10	2.73*	.14
nCB	0	9	2.91	2.16	2.06*	.52

Note. * $p < .05$

Table 7

The Distribution of the Differences between CBS Scores for high and low EE Groups, Based on 23 Data Pairs

CBS Items	Skew Z Score	Kurtosis Z Score
CBS Total Frequency Score	- .54	- .10
CBS Total Difficulty Score	.12	- .90
CBS Total Challenge Score	.44	- 1.00

Table 8

The Distribution of Challenge Scores on the CBS According to Challenging Behaviour Group

Group	n	Minimum	Maximum	Mean	SD	Skew Z Score	Kurtosis Z Score
CB	44	4	247	103.27	57.14	1.49	-.42
nCB	47	1	106	31.60	26.54	3.41*	1.35
nCB	44	1	106	31.93	27.39	3.13*	.91

Note. * $p < .05$

Table 9

The Distribution of the Differences between CBS Challenge Scores for CB and nCB Groups

	Skew Z Score	Kurtosis Z Score
CBS Challenge Score Difference between CB and nCB Groups	.89	-.41

Table 10

The Minimum, Maximum, Mean and Standard Deviation of Challenge Scores of Each Behaviour on the CBS

Behaviour	CB Group				nCB Group			
	Minimum	Maximum	Mean	SD	Minimum	Maximum	Mean	SD
Physical	0	16	8.95	5.98	0	12	2.11	3.21
Aggression								
Verbal	0	16	7.30	5.29	0	12	1.66	2.78
Aggression								
Self Harm	0	16	.70	2.79	0	3	.17	.67
Shouting	0	16	6.07	4.88	0	9	.96	1.88
Screaming	0	16	3.93	5.46	0	8	.83	2.03
Perseveration	0	16	3.09	4.66	0	12	1.64	2.77
Wandering	0	16	4.80	5.11	0	12	2.13	3.08
Restlessness	0	16	6.25	5.31	0	16	2.26	3.48
Lack of	0	16	5.89	6.29	0	16	2.34	3.66
Motivation								
Clinging	0	16	4.27	5.81	0	9	1.36	2.79
Interfering	0	16	7.32	6.23	0	16	1.57	3.43
Pilfering	0	16	1.50	3.79	0	6	.34	1.20
Suspiciousness	0	1	3.25	4.66	0	16	1.36	2.79
Manipulative	0	16	2.07	4.44	0	0	0	0
Lack of Self	0	16	7.68	6.29	0	16	3.40	4.10
Care								
Spitting	0	16	2.11	4.69	0	9	.28	1.43
Faecal	0	16	1.43	3.38	0	9	.28	1.38
Smearing								
Inappropriate	0	12	1.93	3.30	0	12	1.02	2.60
Urinating								

Stripping	0	16	1.93	4.08	0	12	.79	2.44
Inappropriate	0	16	1.09	3.61	0	8	.53	1.64
Sexual								
Behaviour								
Sleep	0	16	4.43	5.64	0	16	1.23	2.74
Non-	0	16	5.93	6.16	0	9	1.23	2.32
Compliance								
Dangerous	0	16	1.73	4.29	0	4	.09	.583
Behaviour								
Demands	0	16	6.16	6.94	0	12	.79	2.14
Attention								
Lack of	0	16	3.55	4.65	0	16	3.23	3.90
occupation								

Table 11

The Skew and Kurtosis of Ratings on the MAQ for the CB and nCB group

CB Group	MAQ Item	Mean Rating	SD	Skew Z Score	Kurtosis Z Score
CB	Internal to client	2.75	1.71	1.63	- .94
	Internal to staff	5.16	1.49	-2.15*	1.24
	Specific to client	3.05	1.82	1.78	- .88
	Controllable by client	2.89	1.62	1.51	- .83
	Controllable by staff	2.84	1.66	1.46	- .96
nCB	Internal to client	3.16	1.94	1.81	- .81
	Internal to staff	5.30	1.56	-1.77	- .98
	Specific to client	3.68	1.95	.99	-1.52
	Controllable by client	2.82	1.83	1.92	-1.22
	Controllable by staff	3.34	1.79	.48	-1.69

Note. * $p < .05$

References

- Aakre, J.M., Seghers, J.P., St-Hilaire, A., & Docherty, N. (2008). Attributional style in delusional patients: A comparison of remitted paranoid patients with nonpsychiatric controls. *Schizophrenia Bulletin*, 35, 994 – 1002. Doi: 10.1093/schbul/sbn033
- Algase, D.L., Beck, C., Kolanowski, A., Whall, A., Berent, S., Richards, K., & Beattie, E. (1996). Need-driven dementia-compromised behaviour: An alternative view of disruptive behaviour. *American Journal of Alzheimer's Disease*, 11, 10 – 19. Doi: 10.1111/j.1547-5069.2005.00025_1x
- Alzheimer's Society (2011). Demography.
http://alzheimers.org.uk/site/scripts/documents_info.php?documentID=412
- American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*. USA: American Psychiatric Association.
- American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*. USA: American Psychiatric Association.
- Andrews, G.J. (2006). Managing challenging behaviour in dementia. *British Medical Journal*, 332, 741. Doi: 10.1136/bmj.332.7544.741

- Bailer, J., Rist, F., Brauer, W., & Rey, E. (1994). Patient rejection scale: Correlations with symptoms, social disability and number of rehospitalisations. *European Archive Psychiatry and Clinical Neuroscience*, 244, 45 – 48. Doi: 10.1007/BF02279811
- Bailey, B.A., Hare, D.J., Hatton, C., & Limb, K. (2006). The response to challenging behaviour by care staff: Emotional responses, attributions of cause and observations of practice. *Journal of Intellectual Disability Research*, 50, 199 – 211. Doi: 10.1111/j.1365-2788.2005.00769.x
- Ball, R.A., Moore, E., & Kuipers, L. (1992). Expressed emotion in community care staff: A comparison of patient outcome in a nine month follow-up of two hostels. *Social Psychiatry and Psychiatric Epidemiology*, 27, 35 – 39. Doi: 10.1007/BF00788954
- Barrowclough, C., & Hooley, J.M. (2003). Attributions and expressed emotion: A review. *Clinical Psychology Review*, 23, 849 – 880. Doi: 10.1016/S0272-7358(03)00075-8
- Barrowclough, C., Haddock, G., Lowens, I., Connor, A., Pidliswj, J., & Tracey, N. (2001). Staff expressed emotion and causal attributions for client problems in a low security unit: An exploratory study. *Schizophrenia Bulletin*, 27, 517 – 526.

- Barrowclough, C., & Lobban, F. (2007). Family Intervention. In: K.Mueser and D.V.Jeste (Eds), *The Clinical Handbook of Schizophrenia*. New York: Guilford Press
- Blaikie, N. (2003). *Analysing Quantitative Data. From Description to Explanation*. London: SAGE Publications.
- Bledin, K.D., MacCarthy, B., Kuipers, L., & Woods, R.T. (1990). Daughters of people with dementia. Expressed emotion, strain and coping. *The British Journal of Psychiatry*, 157, 221 – 227. Doi: 10.1192/bjp.157.2.221
- Brewin, C.R., McCarthy, B., Duda, K., & Vaughn, C.E. (1991). Attribution and expressed emotion in the relatives of patients with schizophrenia. *Journal of Abnormal Psychology*, 100, 546 – 554. Doi: 10.1037/0021-843X.100.4.546
- Brooker, D. (2005). Dementia care mapping: A review of the research literature. *The Gerontologist*, 45, Special Issue 1, 11 – 18. Doi: 10.1093/geront/45.suppl_1.11
- Brooker, D. & Surr, C. (2005). *Dementia care mapping: Principles and practice*. Bradford Dementia Group: University of Bradford.
- Brown, G.W., Carstairs, G.M., & Topping, G. (1958). Post hospital adjustment of chronic mental patients. *Lancet*, ii, 685 – 689. Doi: 10.1016/S0140-6736(58)92279-7

Brown, G.W., Monck, E.M., Carstairs, G.M., & Wing, J.K. (1962). Influence of family life on the course of schizophrenic illness. *British Journal of Preventive and Social Medicine*, *16*, 55 – 68.

Brown, G.W., & Rutter, M. (1966). A measurement of family activities and relationships. A methodological study. *Human Relations*, *19*, 241 – 262. Doi: 10.1177/001872676601900301

Burke, D., Hickie, I., Breakspear, M., & Gotz, J. (2007). Possibilities for the prevention and treatment of cognitive impairment and dementia. *British Journal of Psychiatry*, *190*, 371 – 372. Doi: 10.1192/bjp.bp.106.033407

CASP (2013). *Case Control Study Checklist*. Retrieved from <http://www.casp-uk.net/wp-content/uploads/2011/11/CASP-Case-Control-Study-Checklist-31.05.13.pdf>

Cheng, A.T.G. (2002). Expressed emotion: A cross-culturally valid concept? *British Journal of Psychiatry*, *181*, 466 – 467. Doi: 10.1192/bjp.181

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155 – 159. Doi: 10.1037/0033-2909.112.1.155

Cohen-Mansfield, J. (2000a). Use of patient characteristics to determine nonpharmacologic interventions for behavioural and psychological

symptoms of dementia. *International Psychogeriatrics*, 12, 373 – 386. Doi:
10.1017/S1041610200007304

Cohen-Mansfield, J. (2000b). Nonpharmacological management of behavioural problems in persons with dementia: the TREA model. *Alzheimer Care Quarterly*, 1, 22 – 34.

Cohen-Mansfield, J. (2001). Nonpharmacological interventions for inappropriate behaviours in dementia. A review, summary and critique. *The American Journal of Geriatric Psychiatry*, 9, 361 – 381. Doi: 10.1176/appi.ajgp.9.4.361

Cohen-Mansfield, J. (2003). Agitation in the elderly: Definitional and theoretical conceptualisations. In: D.P.Hay, D.T.Klein, L.K.Hay, G.T.Grossberg & J.S.Kennedy (Eds). *Agitation in Patients with Dementia. A Practical Guide to Diagnosis and Management*. USA: American Psychiatric Publishing.

Cohen-Mansfield, J. (2008). Agitated behaviour in persons with dementia: The relationship between type of behaviour, its frequency, and its disruptiveness. *Journal of Psychiatric Research*, 43, 64 – 49. Doi:
10.1016/j.jpsychires.2008.02.003

Cohen-Mansfield, J., & Libin, A. (2005). Verbal and physical non-aggressive agitated behaviours in elderly persons with dementia: robustness of syndromes. *Journal of Psychiatric Research*, 39, 325 – 332. Doi:
10.1016/j.psychires.2004.08.009

- Cohen-Mansfield, J., Libin, A., & Marx, M.S. (2007). Nonpharmacological treatment of agitation: A controlled trial of systemic individualised intervention. *The Journals of Gerontology*, *62*, 908 – 916.
- Cole, J.D., & Kazarian, S.S. (1988). The level of expressed emotion scale: A new measure of expressed emotion. *Journal of Clinical Psychology*, *44*, 392 – 397. Doi: 10.1002/1097-4679(198805)44:3<392::AID-JCLP2270440313>3.0.Co;2-3
- 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. Doi: 10.1111/j.1468-3148.1995.tb00153.x
- Dagnan, D., Grant, F., & McDonnell, A. (2004). Understanding challenging behaviour in older people: The development of the Controllability Beliefs Scale. *Behavioural and Cognitive Psychotherapy*, *32*, 501 – 506. Doi: 10.1017/S1352465804001675
- 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. Doi: 10.1111/j.2044-8260.1998.tb01279.x

Dennis, A. M., & Leach, C. (2007). Expressed emotion and burnout: The experience of staff caring for men with learning disability and psychosis in a medium secure setting. *Journal of Psychiatric and Mental Health Nursing*, 14, 267 – 276. Abstract retrieved from PsycINFO database. Doi: 10.1111/j.1365-2850.2007.01073.x

Department of Health (2009). *Living Well with Dementia: A National Dementia Strategy*. UK: Department of Health.

Dilworth, J.A., Philips, N., & Rose, J. (2011). Factors relating to staff attributions of control over challenging behaviour. *Journal of Applied Research in Intellectual Disabilities*, 24, 29 – 38. Doi: 10.1111/j.1468.3148.2010.00570.x

Donaldson, C., Tarrier, N., & Burns, A. (1998). Determinants of carer stress in Alzheimer's Disease. *International Journal of Geriatric Psychiatry*, 13, 248 – 256. Doi: 10.1002/(SICI)1099-1166(199804)13:4<248::AID-GPS770>3.0.CO;2-0

Downs, M., & Bowers, B. (2008). *Excellence in Dementia Care: Research into Practice*. Maidenhead: Open University Press.

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

- Fearon, M., Donaldson, C., Burns, A., & Tarrier, N. (1998). Intimacy as a determinant of expressed emotion in carers of people with Alzheimer's Disease. *Psychological Medicine*, 28, 1085-1090. Doi: 10.1017/S0033291798007156
- Ferri, C.P., Prince, M., Brayne, C., Broadaty, H., Fratiglioni, L., Ganguli, M., ...Scazufca, M. (2005). Global prevalence of dementia: A Delphi consensus study. *Lancet*, 366, 2112 – 2117. Doi: 10.1016/S0140-6736(05)67889-0
- Field, A. (2009). *Discovering Statistics Using SPSS*. Third Edition. London: SAGE.
- Finkel, S., Costa E Silva, J., Cohen, G., Miller, S., & Satorius, N. (1997). Behavioural and psychological signs and symptoms of dementia: A consensus statement on current knowledge and implications for research and treatment. *International Journal of Geriatric Psychiatry*, 12, 1060 – 1061. Doi: 10.1002/(SICI)1099-1166(199711)12:11<1060::AID-GPS658>3.0.CO;2-M
- Gilhooley, M.L.M., & Whittick, J.E. (1989). Expressed emotion in caregivers of the dementing elderly. *British Journal of Medical Psychology*, 62, 265 – 272. Doi: 10.1111/j.2044-8341.1989.tb02835.x
- Goldsmith, M. (2002). *Hearing the Voice of People with Dementia. Opportunities and Obstacles*. London: Jessica Kingsley Publishers.

Goldstein, M. J., Miklowitz, D. J., Strachan, A. M., Doane, J. A., Nuechterlein, K. H., & Feingold, D. (1989). Patterns of expressed emotion and patient coping styles that characterise the families of recent onset schizophrenics. *British Journal of Psychiatry*, *155*, 107 – 111.

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 Intellectual Disabilities*, *6*, 297 – 312.
Doi: 10.1177/1469004702006003037

Hall, G., & Buckwalter, K. (1987). Progressively lowered stress threshold: A conceptual model of care of adults with Alzheimer's disease. *Archives of Psychiatric Nursing*, *1*, 399–406.

Hanson, C.D., & Clarke, C. (2013). Is expressed emotion related to estimates of ability made by older people with cognitive impairments and their partners? *Aging and Mental Health*, *17*, 535 – 543. Doi:
10.1080/13607863.2013.770447

Hastings, R. (1995). Understanding factors that influence staff responses to challenging behaviours: An exploratory interview study. *Mental Handicap Research*, *8*, 296 – 320. Doi: 10.1111/j.1468-3148.1995.tb00163.x

- Hastings, R.P., Reed, T.S., & Watts, M.J. (1997). Community staff causal attributions about challenging behaviours in people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, 10, 238 – 249. Doi: 10.1111/j.1468-3148.1997.tb00019.x
- Heider, F. (1958). *The Psychology of Interpersonal Relation*. New York: Wiley.
- 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*. New York: Family Process Press.
- Hooley, J.M., & Campbell, C. (2002). Control and controllability: beliefs and behaviour in high and low expressed emotion relatives. *Psychological Medicine*, 32, 1091 – 1099. Doi: 10.1017/S0033291702005779
- Hooley, J.M., & Parker, H.A. (2006). Measuring expressed emotion: An evaluation of the shortcuts. *Journal of Family Psychology*, 20, 386 – 396. Doi: 10.1037/0893-3200.20.3.386
- Hooley, J.M., & Richters, J.E. (1995). Expressed emotion: A developmental perspective. In: D.Cicchetti and S.L.Toth (Eds). *Rochester Symposium of Developmental Psychopathology Volume 6: Emotion, Cognition and Representation*. New York: University of Rochester Press.

- Hooley, J.M., & Teasdale, J.D. (1989). Predictors of relapse in unipolar depressives: Expressed emotion, marital distress and perceived criticism. *Journal of Abnormal Psychology, 98*, 229 – 235. Doi: 10.1037/0021-843X.98.3.229
- James, I.A. (2010). *Cognitive Behavioural Therapy with Older People. Interventions for those with and without Dementia*. London: Jessica Kingsley Publishers.
- James, I.A. (2011). *Understanding Behaviour in Dementia that Challenges. A Guide to Assessment and Treatment*. London: Jessica Kingsley Publishers.
- Jamieson, S. (2004). Likert scales: how to (ab)use them. *Medical Education, 38*, 1212 – 1218. Doi: 10.1111/j.1365-2929.2004.02012.x
- Jones, E.E., & Harris, V.A. (1967). The attribution of attitudes. *Journal of Experimental Social Psychology, 3*, 1 – 24. Doi: 10.1016/0022-1031(67)90034-0
- Kalsy, S., Heath, R., Adams, D., & Oliver, C. (2007). Effects of training on controllability attributions of behavioural excesses and deficits shown by adults with Down Syndrome and dementia. *Journal of Applied Research in Intellectual Disabilities, 20*, 64 – 68. Doi: 10.1111/j.1468-3148.2006.00341.x
- Kavanagh, D.J. (1992). Recent developments in expressed emotion and schizophrenia. *British Journal of Psychiatry, 160*, 601 – 620. Doi: 10.1192/bjp.160.5.601

Kitwood, T. (1993). Person and process in dementia. *International Journal of Geriatric Psychiatry*, 8, 541 – 545. Doi: 10.1002/gps.930080702

Kitwood, T. (1997). *Dementia Reconsidered: The Person Comes First*. England: Open University Press.

Kovach, C.R., Noonan, P.E., Schildt, A.M., & Wells, T. (2005). A model of consequences of need-driven, dementia-compromised behaviour. *Journal of Nursing Scholarship*, 37, 134 – 140. DOI: 10.1111/j.1547-5069.2005.00025_1.x

Kreisman, D., Simmons, S., & Joy, V. (1979). Rejecting the patient: Preliminary validation of a self report scale. *Schizophrenia Bulletin*, 5, 220 – 222. Doi: 10.1093/schbul/5.2.220

Kunik, M.E., Martinez, M., Snow, A.L., Beck, C.K., Cody, M., Rapp, C.G., ... Hamilton, J.D. (2003). Determinants of behavioural symptoms in dementia patients. *Clinical Gerontologist*, 26, 83 – 89. Doi: 10.1300/J018v26n03_07

Langdon, P., Yaguez, L., & Kuipers, E. (2007). Staff working with people who have intellectual disabilities within secure hospitals. Expressed emotion and its relationship to burnout, stress and coping. *Journal of Intellectual Disabilities*, 11, 343 – 357. Doi: 10.1177/1744629507083584

Lawlor, B. (2002). Managing behavioural and psychological symptoms in dementia.

British Journal of Psychiatry, 181, 463 – 465. Doi: 10.1192/bjp.181.6.463

Leff, J., & Vaughn, C. (1985). *Expressed Emotion in Families. Its Significance for*

Mental Illness. New York: The Guilford Press.

Mace, N.L. (1990). Management of problem behaviours. In N.L.Mace (Ed).

Dementia Care: Patient, Family and Community. Baltimore: John Hopkins University.

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 families of psychiatric patients. *Psychiatry Research*, 17, 203 – 212. Doi: 10.1016/0165-1781(86)90049-1

Margallo-Lana, M., Swann, A., O'Brien, J., Fairbairn, A., Reichelt., D., Potkins,

D., ...Ballard, C. (2001). Prevalence and pharmacological management of behavioural and psychological symptoms amongst dementia sufferers living in care environments. *International Journal of Geriatric Psychiatry*, 16, 39 – 44. Doi: 10.1002/1099-1166(200101)16:1<39::AID-GPS269>3.0.CO;2-F

Margo, J.L., Robinson, J.R., & Corea, S. (1980). Referrals to a psychiatric service

from old people's homes. *British Journal of Psychiatry*, 136, 396 – 401. Doi: 10.1192/bjp.136.4.396

- Moher, D., Hopewell, S., Schulz, K.F., Montori, V., Gotsche, P., Devereaux, P.J., ...Altman, D.G. (2010). CONSORT 2010 explanation and elaboration: Updated guidelines for reporting parallel group randomised trials. *BMJ*, *340*, 869 – 867. Doi: 10.1136/bmj.c.869
- Moniz-Cook, E., Woods, R., & Gardiner, E. (2000). Staff factors associated with perception of behaviour as ‘challenging’ in residential and nursing homes. *Aging and Mental Health*, *4*, 48 – 55. Doi: 10.1080/13607860055973
- Moniz-Cook, E., Woods, R., Gardiner, E., Silver, M., & Agar, S. (2001). The Challenging Behaviour Scale (CBS): Development of a scale for staff caring for older people in residential and nursing homes. *British Journal of Clinical Psychology*, *40*, 309 – 322. Doi: 10.1348/014466501163715
- Moniz-Cook, E., Stokes, G., & Agar, S. (2003). Difficult behaviour and dementia in nursing homes: Five cases of psychosocial intervention. *Clinical Psychology and Psychotherapy*, *10*, 197 – 208. Doi: 10.1002/cpp.370
- Moore, E., Ball, R.A., & Kuipers, L. (1992). Expressed emotion in staff working with the long-term adult mentally ill. *British Journal of Psychiatry*, *161*, 802 – 808. Doi: 10.1192/bjp.161.6.802
- Moore, E., & Kuipers, E. (1999). The measurement of expressed emotion in relationships between staff and service users: The use of short speech

samples. *The British Journal of Clinical Psychology*, 38, 345 – 356. Doi:
10.1348/014466599162953

Moore, E., Kuipers, L., & Ball, R.A. (1992). Staff-patient relationships in the care of the long-term mentally ill: A content analysis of expressed emotion. *Social Psychiatry and Psychiatric Epidemiology*, 27, 28 – 34. Doi:
10.1007/BF00788953

Moore, E., Yates, M., Mallidine, C., Ryan, S., Jackson, S., Chinnon, N., ...Hammond, S. (2002). Expressed emotion in relationships between staff and patients in forensic services: Changes in relationship status at 12 month follow up. *Legal and Criminological Psychology*, 7, 203 – 218. Abstract retrieved from PsycINFO database. Doi: 10.1348/135532502760274800

Multon, K. (2010). Inter-rater reliability. In: N.J.Salkind (Ed). *Encyclopaedia of Research Design, Volume 2*. USA: Sage Publications Inc.

Nestor, P., Scheltens, P., & Hodges, J. (2004). Advances in the early detection of Alzheimer's disease. *Nature Medicine*, 10, Suppl: S34 – 41. Doi:
10.1038/nm1433

NICE Guidelines for Dementia. (2006). National Institute for Health and Clinical Excellence.

- Nomura, H., Inoue, S., Kamimura, N., Shimodera, S., Mino, Y., Gregg, L., & Tarrier, N. (2005). A cross-cultural study on expressed emotion in carers of people with dementia and schizophrenia: Japan and England. *Social Psychiatry and Psychiatric Epidemiology*, *40*, 564 – 570. Doi: 10.1007/s00127-005-0924-z
- Norman, G. (2010). Likert scales, levels of measurement and the “laws” of statistics. *Advances in Health Sciences Education*, *15*, 625 – 632. Doi: 10.1007/s10459-010-9222-y
- Oda, H., Yamamoto, Y., & Maeda, K. (2009). Neuropsychological profile of dementia with Lewy bodies. *Psychogeriatrics*, *9*, 85 – 90. Doi: 10.1111/j.1479-8301.2009.00283.x
- O’Donnell, B.F., Drachman, D.A., Barnes, H.J., Peterson, K.E., Swearer, J.M., & Lew, R.A. (1992). Incontinence and troublesome behaviours predict institutionalisation in dementia. *Journal of Geriatric Psychiatry and Neurology*, *5*, 45 – 52. Doi: 10.1177/002383099200500108
- Orford, J., O’Reilly, P., & Goonatileke, A. (1987). Expressed emotion and perceived family interaction in the key relatives of elderly patients with dementia. *Psychological Medicine*, *17*, 963 – 970. Doi: 10.1017/S0033291700000775
- Parker, S., Clarke, C., Moniz-Cook, E., & Gardiner, E. (2013). The influence of ‘cognitive busyness’ on causal attributions of challenging behaviour in

dementia: A preliminary experimental study. *Aging and Mental Health*, 16, 836 – 844. Doi: 10.1080/13607863.2012.684668

Patel, V., & Hope, T. (1993). Aggressive behaviour in elderly people with dementia: A review. *International Journal of Geriatric Psychiatry*, 8, 457 – 472. Doi: 10.1002/gps.930080603

Pattie, A.H., & Gilleard, C.J. (1979). *Manual of the Clifton Assessment Procedures for the Elderly (CAPE)*. Sevenoaks, UK: Hodder and Stoughton.

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. Doi: 10.1007/BF01173577

Peterson, C. M., & Villanova, P. A. (1988). The expanded Attributional Style Questionnaire. *Journal of Abnormal Psychology*, 97, 287. Doi : 10.1037/0021-843X.97.1.87

Pharoah, F.M., Mari, J.J., & Steiner, D.L. (1999). *Family Interventions for People with Schizophrenia (Cochrane Review)*. The Cochrane Library, 4. Oxford, UK: Update Software.

Philip, I., McKee, K.J., Armstrong, G.K., Ballinger, B.R., Gilhooly, M.L.M., Gordon, D.S. ...Whittick, J.E. (1997). Institutionalization risk amongst people with

dementia supported by family carers in a Scottish city. *Aging and Mental Health, 1*, 339 – 345. Doi: 10.1080/13607869757038

Rist, F., & Watzl, H. (1989). Emotionale reaktionen angehoriger auf schizophrene erkrnkungen: Itemanalyse and validering der 'Patient Rejection Scale'. *Z Klin Psychol, 18*, 134 – 143.

Rose, D., & Rose, J. (2005). Staff in services for people with intellectual disabilities: The impact of stress on attributions of challenging behaviour. *Journal of Intellectual Disability Research, 49*, 827 – 838. Doi: 10.1111/j.1365-2788.2005.00758.x

Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. *Advances in Experimental Social Psychology, 10*, 173 – 220.

Royal College of Nursing and Alzheimer's Society (2013). This is Me. Retrieved online from <http://www.alzheimers.org.uk/>

Schreiber, J.L., Breier, A., & Pickar, D. (1995). Expressed emotion. Trait or state? *British Journal of Psychiatry, 166*, 647 – 649. Doi: 10.1192/bjp.166.5.647

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. Doi:

10.1017/S0033291700036540

Schultz, K.F., Altman, D.G., & Moher, D. (2010). CONSORT 2010 statement:

Updated guidelines for reporting parallel group randomised trials. *Annals of*

Internal Medicine, 152, 726 – 732. Doi: 10.7326/0003-4819-152-11-

201006010-00232

Snyder, K.S., Wallace, C.J., Moe, K., & Liberman, R.P. (1994). Expressed emotion

by residential care operators and residents' symptoms and quality of life.

Hospital and Community Psychiatry, 45, 1141 – 1143.

Spruytte, N., Van Audenhove, C., Lammertyn, F., & Storms, G. (2002). The quality

of the caregiving relationship in informal care for older adults with dementia

and chronic psychiatric patients. *Psychology and Psychotherapy: Theory,*

Research and Practice, 75, 295 – 311. Doi: 10.1348/147608302320365208

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

British Journal of Clinical Psychology, 39, 157 – 168. Doi:

10.1348/01446500163185

Startup, M. (1999). Confirmatory factor analysis of the Level of Expressed Emotion

(LEE) scale. *British Journal of Medical Psychology*, 72, 421 – 424. Doi:

10.1348/000711299160004

Steele, C., Rouner, B., Chase, G.A., & Folstein, M. (1990). Psychiatric symptoms and nursing home placement of patients with Alzheimer's Disease. *American Journal of Psychiatry*, *147*, 1049 – 1051.

Stokes, G. (2000). *Challenging Behaviour in Dementia: A Person-Centred Approach*. UK : Speechmark Publishing Limited.

Storey, J., Rowland, J., Basic, D., Conforti, D., & Dickson, H (2004). The Rowland Universal Dementia Assessment Scale (RUDAS): A Multicultural cognitive assessment scale. *International Psychogeriatrics*, *16*, 13 – 31. Doi: 10.1017/S104110204000043

Stratton, P., Munton, A., Hanks, H., Heard, D., & Davidson, C. (1986). *Leeds Attributional Coding System Manual*. Leeds UK: University of Leeds.

Szmuckler, G.I., Eisler, I., Russell, F.M., & Dave, C. (1985). Anorexia nervosa, parental expressed emotion and dropping out of treatment. *British Journal of Psychiatry*, *147*, 265 – 271. Doi: 10.1192/bjp.147.3.265

Tarrier, N., Barrowclough, C., Ward, J., Donaldson, C., Burns, A., & Gregg, L. (2002). Expressed emotion and attributions in the carers of patients with Alzheimer's Disease: The effect on carer burden. *Journal of Abnormal Psychology*, *111*, 340 – 349. Doi: 10.1037/0021-843X.111.2.340

- Tattan, T., & Tarrier, N. (2000). The expressed emotion of case managers of the seriously mentally ill: The influence of expressed emotion on clinical outcomes. *Psychological Medicine, 30*, 195 – 204. Doi: 10.1017/S0033291799001579
- Tiraboschi, P., Salomon, D., Hansen, L., Hofstetter, R., Thal, L., & Corey-Bloom, J. (2006). What best differentiates Lewy body from Alzheimer's disease in early stage dementia? *Brain, 129*, 729 – 735. Doi: 10.1093/brain/awh725
- Todd, S.J., & Watts, S.C. (2005). Staff responses to challenging behaviour shown by people with dementia: An application of an attributional-emotional model of helping behaviour. *Aging and Mental Health, 9*, 71 – 81. Doi: 10.1080/13607860412331310254
- 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. Doi: 10.1192/bjp.129.2.125
- Vitaliano, P.P., Becker, J., Russo, J., Magana-Amato, A., & Maiuro, R.D., (1988). Expressed emotion in spouse caregivers of patients with Alzheimer's disease. *The Journal of Applied Social Sciences, 13*, 215 – 250.
- Vitaliano, P.P., Young, H.M., Russo, J., Romano, J., & Magana-Amato, A. (1993). Does expressed emotion in spouses predict subsequent problems among care

recipients with Alzheimer's Disease? *Journal of Gerontology: Psychological Sciences*, 48, 202-209. Doi: 10.1093/geronJ/48.4.P202

Wagner, A.W., Logsdon, R.G., Pearson, J.L., & Teri, L. (1997). Caregiver expressed emotion and depression in Alzheimer's Disease. *Aging and Mental Health*, 1, 132 – 139. Doi: 10.1080/13607869757227

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. Doi: 10.1046/j.1365-2788.2002.00434.x

Wearden, A.J., Tarrrier, N., Barrowclough, C., Zastowny, T.R., & Armstrong Rahill, A. (2000). A review of expressed emotion research in health care. *Clinical Psychology Review*, 20, 633 – 666. Doi: 10.1016/S0272-7358(99)00008-2

Wearden, A.J., Ward, J., Barrowclough, C., & Tarrrier, N. (2006). Attributions for negative events in the partners of adults with Type 1 diabetes: Associations with partners' expressed emotion and marital adjustment. *British Journal of Health Psychology*, 11, 1 – 21. Doi: 10.1348/135910705X73676

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 – 200. Doi: 10.1037/0022-3514.39.2.186

- Weigel, L., Langdon, P., 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. Doi: 10.1348/014466505X67510
- Whitehouse, R., Chamberlain, P., & Tunna, K. (2000). Dementia in people with learning disability: A preliminary study into care staff knowledge and attributions. *British Journal of Learning Disabilities, 28*, 148 – 153. Doi: 10.1046/j.1468-3156.2000.00057.x
- Whittick, J. (1992). Expressed emotion and coping techniques amongst carers of the dementing elderly. In: *Caregiving in Dementia, Volume 1*. G. Jones and B.M.L. Miesen (Eds). Tavistock –Routledge: London.
- Willner, P., & Smith, M. (2008). Attribution theory applied to helping behaviour towards people with intellectual disabilities who challenge. *Journal of Applied Research in Intellectual Disabilities, 21*, 150 – 155. Doi: 10.1111/j.1468-3148.2007.00390.x
- World Health Organisation (1992). *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. World Health Organisation.
- Zubin, J., & Spring, B. (1977). Vulnerability: A new view of schizophrenia. *Journal of Abnormal Psychology, 86*, 103 – 126. Doi: 10.1037/0021-843X.86.2.103