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STAFF REACTIONS TO CHALLENGING BEHAVIOUR: A PRELIMINARY INVESTIGATION INTO THEIR DEVELOPMENT OVER THE COURSE OF AN INTERACTION.

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Summary of the MRP Portfolio

Section A explores the insights offered by the qualitative literature to our understanding of staff responses to challenging behaviour within services for people with intellectual disabilities. The trustworthiness of the literature is examined. The studies are reviewed using the cognitive-emotional model as a guide and allowing for other themes to emerge. The review concludes with a discussion of the implications for future research and clinical practice.

Section B reports on a pilot study investigating staff reactions to challenging behaviour within services for people with intellectual disabilities. This study sought to explore the development of staff cognitive, emotional and behavioural responses to challenging behaviour over the course of challenging interactions. Video elicitation interviewing was used. Results indicated that staff experienced a wide range of cognitions and emotions during challenging interactions. Cognitions varied over the course of an incident. A tentative relationship was found between internal attributions of challenging behaviour, negative emotions and verbal responses by staff.

Section C outlines a critical appraisal of the research project including reflection on the research skills developed, identified training needs, implications for clinical practice and future opportunities for research.

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Section A: Staff Responses to Challenging Behaviour: A Qualitative Review
Word Count: 5483 (5819)

Abstract

Attributional theories have been widely applied to understand staff responses to challenging behaviour. However, a number of methodological and theoretical limitations have been highlighted within these studies. This had led to an increasing interest in qualitative approaches within this field.

This review aims to explore the insights offered by the qualitative literature investigating staff responses to challenging behaviour. By way of introduction, challenging behaviour is defined. The dominant attributional model is described and briefly evaluated. This is followed by an evaluation of the trustworthiness of the identified studies. A synthesis of the identified studies is presented using the attributional model as a guide. This framework was used flexibly in order for other important themes to emerge. The implications for the current body of research are discussed with particular attention being paid to the possibilities for further studies. Finally the implications of these findings for clinical practice are outlined, with particular reference to staff support and training interventions.

1. Introduction

It has been estimated that 10-15% of people with intellectual disabilities present a challenge to services in the UK (Emerson et al., 2001).Such behaviour has been shown to have an impact on the health, wellbeing and social inclusion of people with intellectual disabilities. Services frequently respond to challenging behaviour with inappropriate use of medication (Marshall, 2004) and restrictive practices (Allen, Lowe, Brophy & Moore, 2009), which service users experience as aversive (Hawkins, Allen & Jenkins, 2005).

Staff members' responses to service users have been implicated in the development and maintenance of challenging behaviour (Hall, Oliver & Murphy, 2001). Attributional approaches have been applied in order to understand staff responses, with varying degrees of success (Willner & Smith, 2008). Many authors have turned towards qualitative methodologies in order to gain new theoretical insights and capture these interactions (Dick, Gleeson, Johnstone & Weston, 2010).

This review explores the insights offered by this literature. By way of introduction, challenging behaviour will be defined and the dominant attributional model used to understand staff responses will be described and briefly evaluated. The qualitative literature will be reviewed and evaluated in terms of new insights offered to current understanding. Finally, the implications for future research and clinical practice will be discussed.

1.1 Challenging Behaviour

Challenging behaviour has been described as:

Culturally abnormal behaviour 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 that is likely to limit the use of, or result in the person being denied access to ordinary community facilities.

Emerson & Einfeld (2011)

This definition rests upon the interaction between the person and the environment and ultimately suggests that challenging behaviour is a social construction. Whether behaviour is described as challenging will depend on the context in which it is being construed (Emerson & Einfeld, 2011).

1.2 Understanding Staff Responses to Challenging Behaviour

Attribution theory. Attribution theory was first developed by Heider (1958) who conceptualised people as "naïve scientists", motivated to accurately determine the cause of events through logical processes (Försterling, 2001). Being able to assign a cause to an event was thought to increase the sense of control the person has over his environment (Keinan & Sivan, 2001).

Causal attributions are thought to vary in three ways: *locus* indicates whether the cause of an event is thought to be due to a factor internal to the person, or due to environmental factors; *stability* indicates whether the cause is thought to be likely to change or remain the same in the future; and *controllability* indicates whether an event is thought to be as a result of wilful action (Weiner, 1986).

Attributional theories of helping behaviour. Weiner (1986) highlighted the central role of attributions of controllability, hypothesising that attributing the cause of another's behaviour as under their intentional control would lead to negative emotions (e.g. anger) which in turn would lead to antisocial responses such as deciding not to help. On the other hand, if the cause of the behaviour was thought to be uncontrollable, this would lead to positive feelings (e.g. sympathy), which in turn would promote helpful responses.

Weiner's (1985) intrapersonal model proposes specific hypotheses regarding achievement and future striving. Events attributed to a stable cause lead to an expectancy of success and encourage the person to expend greater effort in the future.

Weiner's theories applied to challenging behaviour. Willner and Smith (2008) conducted a review of studies testing attributional hypotheses, which found inconsistent results. However, Dagnan, Hull and McDonnell (2012) note that all ten studies reviewed show a relationship between attributions of control or responsibility with affect, optimism or helping. This suggests that, while the evidence regarding the specific hypotheses outlined by attribution theory is equivocal, there is support for a general cognitive-emotional model in which attributions affect emotional reactions which in turn affect behavioural responses.

A number of methodological limitations have been indicated within these attributional studies, most notably that they lack ecological validity. Typically, participants are asked to read a vignette describing a challenging behaviour, with causal attributions and emotional responses being elicited through forced choice questionnaires. This method requires participants to reconstruct instances of challenging behaviour, which may lead to a degree of measurement error. This is borne out in studies that have found that individuals respond differently to vignettes compared to real examples of challenging behaviour

(Wanless & Jahoda, 2002; Lucas, Collins & Langdon, 2009). It has also been argued that questionnaires restrict responses and actively draw out attributions and emotions that might not have been reported spontaneously (Lee, Randall, Beattie & Bentall, 2004).

In addition, a number of confounding variables have been identified, thus reducing the predictive validity of the model e.g. typology of challenging behaviour, service user gender and level of ability and staff experience and levels of stress (Stanley & Standen, 2000; Tynan & Allen, 2002; Bromley & Emerson, 1995; Snow, Langdon & Reynolds, 2007).

Dick *et al*. (2010) argue that, given the emerging complexity, qualitative methodologies are well placed to develop further theoretical insights.

2. Aims of the Review

A number of qualitative studies have been conducted in order to provide contextually rich information regarding staff responses to challenging behaviour. The new insights gained from these studies have yet to be reviewed systematically. The current review will evaluate this literature and outline its contribution to the current understanding of staff responses to challenging behaviour. Findings will be synthesised using the general cognitive-emotional (cognition-emotion-behaviour) framework as a guide. However, this framework will be used flexibly to allow for other important insights to emerge (Timulak, 2009). Studies will be evaluated in terms of their trustworthiness, using the criteria of Williams and Morrow (2009) (see Appendix 1).

Eleven studies were identified. Search methodology and inclusion criteria are outlined in Appendix 2.

3. Review

The literature falls into three broad categories. Three studies explore the experiences of staff members working with challenging behaviour.

Fish (2000) conducted a small study investigating the experiences of staff working with people with intellectual disabilities who self-harm. The study describes the impact on staff members' understanding of the behaviour, the impact on relationships, the emotional impact and the influence on different organisational strategies for management.

Lundström, Åström and Graneheim (2007) investigated staff members' experiences of aggression. Two complimentary themes emerged.   The theme of "falling apart" consisted of a number of negative emotional states and their behavioural consequences. This was contrasted with a coping state in which staff attempted to "keep it together" in order to maintain the respect and dignity of the client, as well their own self-worth.

In a similar study, Campbell (2011) identified a wide range of emotional reactions. These feelings were compounded by a continual anticipation of violence, which was considered by some to be just as bad as the violence itself. These feeling were managed by a number of coping processes including social sources of support and support from the organisation, specifically having one's work recognised. See Table 1.

Five studies explore how staff understand and construct challenging behaviour.

James and Warner (2005) undertook a Q-methodological study exploring staff understanding of self-harm in women with intellectual disabilities living in a forensic setting. A number of views were identified which understood self-harm as an adaptive and

meaningful coping strategy. Interestingly, one opinion was that self-harm was essentially unknowable i.e. a unique private experience that they have little access to.

Building on this study, Dick et al. (2010) sought to understand how staff within a community setting understood self-harm in people with intellectual disabilities of both genders. The findings were broadly consistent with those of James and Warner (2005). The authors note two broad modes of understanding that are consistent with the social model of disability, in which the disability is seen as the social meaning ascribed to an impairment, and the medical model, in which it is seen to result from measureable biological differences (Goodley, 2001). In addition, staff found self-injury difficult to understand. This study also provided an analysis of the possible behavioural consequences of adopting these models. However, this represented staff members' views of valid forms of behavioural responses, rather than actual behaviours.

Whittington and Burns (2005) aimed to explore the dilemmas within staff members' understandings of challenging behaviour and chart the development of staff beliefs over time. This study also found that staff saw challenging behaviour as difficult to understand. They describe a key dilemma for staff between understanding challenging behaviour as being a communication or as being a problem. These understandings lead to different behavioural responses and the tension between them results in negative emotional responses.

Jahoda and Wanless (2005) explored responses to aggressive challenging behaviour. Interview questions made the distinction between how staff members wanted to react at the time and how they did react. This facilitated candid responses. Staff reported a wide range of emotions and a number of interpersonal appraisals as well as a number of coping mechanisms used in order to inhibit negative behavioural responses

Wilcox, Finlay and Edmonds (2006) conducted a discourse analysis of staff constructions of aggressive challenging behaviour. Within this approach attributions are viewed as social acts, which manage blame and responsibility in social interactions and communication (Edwards & Potter, 1993). Two discourses were identified: the individual pathology discourse and the context discourses, which, like Dick et al.'s (2010) study, correspond to the medical and social models of disability respectively (see Table 1). A gendered form of the individual pathology discourse was identified and the consequences for women with intellectual disabilities highlighted. Interestingly, this study also found that staff would use both discourses flexibly in order to manage responsibility, control and competence in the work environment. Given the paper's theoretical orientation, particular attention is paid to organisational and systemic factors (see Table 1).

A further three studies aimed to build and elaborate new models.

Ravoux, Baker and Brown (2011) developed a grounded theory model of staff members' immediate reactions to challenging behaviour. The model identifies a key process of "thinking on your feet" and the factors which facilitate and hinder this process. The "aftermath" of the incident is described where staff members evaluate the interaction, which contributes to their future understanding of challenging behaviour and their coping.

Hawkins, Allen and Jenkins (2005) also foreground the role of emotion regulation in their grounded theory model of the experiences of using physical interventions. They describe staff feeling a range of negative emotions as they realise that their current interventions to deescalate the person are failing and as they continue to search for the

cause of the behaviour, and suggest that cognitive and emotional variables develop over time.

Cudré-Mauroux (2010) attempts to integrate Weiner's model with the transactional stress model (Lazarus & Folkman, 1984). Attributions are conceptualised as playing a coping role, reducing negative emotions and promoting positive emotions. These coping attributions are labelled "reattributions" and positively impact staff behavioural responses (see Table 1). Interestingly, this study also suggests that an inability to find a causal explanation led to unpredictable behavioural responses in staff. Using the same sample Cudré-Mauroux (2011) also found staff members' self-efficacy beliefs to vary over time. Like, Hawkins et al. (2005) these studies suggest a temporal variation in cognitive and emotional reactions.

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Fish (2000)	9	Unstructured interview	Phenomen ological analysis	Self-harm	Cognition	Self-harm seen as part of the person's nature, a means of maintaining control or an act of rebellion.
						Self-recrimination/self-criticism.
						Cognitive coping – attend to positive aspects of the person and make external attributions
						Relational cognitions – desire to be close to the service user and feeling manipulated by them.
					Emotion	Failure Guilt
					Behaviour	NI*
					Organisational and systemic issues	Positive risk taking *vs.* risk management. These strategies varied with role, with managers and clinical leads being more predisposed towards risk management practices.

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Lundström, Åström & Graneheim (2007)	44	Narrative interview asking about experiences and reflections before and after an incident. Interview occurred within two weeks.	Qualitative content analysis	Violence Including verbal and physical acts of aggression and behaviours resulting in injury.	Cognition	"Falling apart": Responsibility for protecting others Not understanding the client Unpredictability of behaviour Relational cognitions – feeling disconnected from the service user. Attributions of controllability Timelessness (state of mind in which staff lose sense of time) resulting in difficulties in reflecting on behaviour. "Keeping it together": Coping cognitions – understand the behaviour as meaningful, draw on knowledge of the person, habituation, reattribute behaviour as uncontrollable
					Emotion	Fear Powerlessness Anger Sadness
					Behaviour	Avoidance of service user, associated with anger (falling apart)
					Organisational and systemic issues	Lack of support from management (falling apart). Having opportunity to reflect on an indecent (keeping it together)

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Campbell (2011)	6	Semi-structured interview	Thematic analysis	Violence	Cognition	Anticipation of violence Cognitive coping – habituation, trying not to personalise the behaviour
					Emotion	Anxiety Stress Disappointment (with self) Anger
					Behaviour	NI
					Organisational and systemic issues	Reflective practice aids coping Having one's work recognised and valued by the organisation aids coping
James & Warner (2005)	40 completing Q sorts with 27 statements	Q methodology	Q factor analysis	Self-harm	Cognition	Self-harm was seen as an adaptive and meaningful way of coping with adversity. People with intellectual disabilities were thought to be coping with a number of stressors: the immediate environment of the secure unit; difficult past experiences such as abuse; powerlessness; difficult emotions; and a sense of blame. Self-harm is difficult to understand or unknowable
					Emotion	NI
					Behaviour	NI
					Organisational and systemic issues	NI

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Dick, Gleeson, Johnstone & Weston (2010)	30 completing Q sorts with 72 statements	Q methodology	Q factor analysis	Self-harm	Cognition	Self-harm is personally meaningful and a means of coping with distress. Self-harm is a means of communicating in those who have deficits in this area, not specifically people with intellectual disabilities. These views are more consistent with the social model of disability in which self-harm is due to perceived higher pain thresholds, poor control and lower levels of understanding, and in which self-harm is difficult to understand
					Emotion	NI
					Behaviour	The view that self-harm is due to perceived higher thresholds, poor control and lower levels of understanding is thought to encourage negative staff responses. However, all points of view see punishment and ignoring self-harm as valid responses.
					Organisational and systemic issues	NI

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Whittington & Burns (2005)	18	Semi-structured interview of staff working with most challenging service users	Thematic analysis, drawing on the principles of interpretive phenomeno logical analysis and grounded theory	Aggression, self injury, sexually inappropriate behaviour, demanding attention, ripping clothes and anal poking.	Cognition	Understandings of challenging behaviour are in conflict and leave staff with dilemmas in terms of how to understand and respond to challenging behaviour. Challenging behaviour seen as a communication or a problem. Challenging behaviour is difficult to understand
					Emotion	Fear and frustration in response to the dilemmas faced by staff
					Behaviour	When behaviour seen as a problem, staff manage their emotional responses by establishing firm boundaries, distancing, developing safety procedures and shutting off from the service user. When behaviour seen as a communication, staff manage their emotional responses by drawing on their knowledge of the person to find meaning in their behaviour.
					Organisational and systemic issues	NI

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Jahoda & Wanless (2005)	36	Interview based on the REBT interview in which staff are asked to recall an incident	Content analysis. Categories generated using a grounded approach	Aggressive	Cognition	Interpersonal appraisals – staff saw the behaviour as a threat to the self. Almost half of the participants experienced the behaviour as a putdown or communicating a lack of respect. A large proportion of the sample viewed the service user in a negative light. Staff have mixed or inconsistent views of behaviour. Cognitive coping – negative behavioural responses are moderated by drawing on professional identities, attributing the behaviour to the person's disability and viewing the behaviour as a temporary state.
					Emotion	Frustration Anger Fear Annoyance
					Behaviour	NI
					Organisational and systemic issues	NI

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Wilcox, Finlay & Edmonds (2006)	10	Semi structured interview	Discourse analysis	Aggressive	Cognition **	NI
					Emotion	NI
					Behaviour	Attributions are viewed as behaviours. Internal attributions (individual pathology discourse) helped staff to manage blame and the responsibility for the generation of the challenging behaviour. This encouraged responses that were aimed at changing the service users e.g. giving medication.

External attributions (context discourse) result in attempts to modify the environment, but leave staff vulnerable to being blamed for the behaviour.

Flawed personality discourse is applied to women with intellectual disabilities – indicates the influence of gendered stereotypes.

Discourses are used flexibly to achieve different goals in the social environment. |
| | | | | | Organisational and systemic issues | Organisational cultures in which the management of blame is prominent may encourage the use of the individual pathology discourse and hypothesized associated practices.

Organisations may be more invested in particular discourses e.g. referral practices for individuals may bolster |

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Ravoux, Baker & Brown (2011)	11	Semi-structured interview. Interview data triangulated with service documentation.	Grounded theory	Sexualised behaviour Aggressive destructive Self-injury "continually seeking staff attention" "troubled relationship with another resident"	Cognition	Thinking on your feet – ability to appraise the risk posed by the situation and prioritise the best interests of the service user, others and themselves Cognition (retrieval of information regarding organisational guidance) is impaired when highly aroused. Behaviour seen as a direct threat to themselves and others, as being under intentional control (e.g. testing staff) and enduring and unpredictable. Cognitive coping – habituation, reappraisal of behaviour to manage blame, rather than to modulate emotions. Distressing internal monologue – hindered the process of thinking on your feet.
					Emotion	Irritation, anger, fear, disgust, guilt, sadness, helplessness and shock Ability to think on your feet is dependent on the staff members' ability to regulate their emotions.

	Behaviour	Low arousal approaches – communicating, withdrawing from the client and ignoring the behaviour. Unplanned restraint Attribution of threat leads to greater team cohesion
		Controllable attributions related to authoritarian attitudes and maintaining firm boundaries
		Attributions of stability lead to staff withdrawing from service users
	Organisational and systemic issues	Ability to think on your feet is influenced by how the staff member manages his role and leadership in the team and is prepared by training and guidance (forewarned, forearmed).

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Hawkins, Allen & Jenkins (2005)	14	Semi-structured interview. Post incident procedure used to reduce time between incident and event	Grounded theory	Not specified	Cognition	Awareness of current intervention failing. Perception that the behaviour is unpredictable leads to physical intervention Worry about what may happen if physical intervention terminated too early.
					Emotion	Frustration, fear, anger, distress, dread Emotions during restraint fluctuate between hope and frustration. Positive emotions related to being in control and protecting others.
					Behaviour	Physical intervention influenced by factors such as high levels of physiological arousal (adrenaline). Avoidance of service user after intervention.
					Organisational and systemic issues	NI

Study	Sample Size	Data Collection	Data Analysis	Typography of Behaviour	Key Insights	
Cudré-Mauroux (2010; 2011)	10	Semi-structured interviews	Mixed categorical design resulting in construction of case studies.	Aggression, "opposition" and inappropriate sexual behaviour	Cognition	Coping cognitions – uncontrollable reattributions reduced the intensity of emotions generated by earlier emotions and promoted positive emotional responses. Inability to find a causal explanation. Self-efficacy fluctuates across the course of an intervention. Fluctuation occurred when the salience of a particular goal changed e.g. staff felt more or less able to achieve particular goals such as maintaining a presence compared to controlling fear. As with other studies, it was thought that self-efficacy beliefs can also be held in parallel. Finally, self-efficacy beliefs can fluctuate sequentially e.g. staff may believe that they are unable to effect change at a given point but formulate a new plan with more confidence.
					Emotion	Anger – related to attributions of intentional control Emotions moderated by reattributions
					Behaviour	Reflex behaviour – related to anger Behavioural readjustment – problem-solving results in effective behavioural response. Related to reattributions. Random behavioural responses related to inability to make causal attributions
					Organisational and systemic issues	NI

Table 1. Summary of results. *NI – No information. ** Given its social constructionist epistemology, this study does not fit easily into the cognitive emotional framework. For the purpose of this study discourse is located within the behaviour section.

4. Methodological critique

The following sections offer a general methodological critique in order to inform the following discussion and conclusions. See Appendix 1 for a more in-depth analysis of methods.

4.1 Threats to Integrity

The studies reviewed asked participants to recall both incidents and responses. In some studies there was a lack of specificity about the incident or an undisclosed time delay between the incident and interview (Jahoda & Wanless, 2005; Hawkins et al., 2005; Cudré-Mauroux, 2010; 2011). This may have increased the likelihood that these reports were biased by memory processes (Noone, Jones & Hasting, 2006). This seems particularly relevant for capturing behavioural responses, given that this data could be triangulated with existing records or behavioural observations. However, only a minority of studies attempted to do this (Ravoux et al., 2011). While this does not necessarily threaten the validity of these studies in terms of their research questions, it does limit the conclusions that can be draw regarding the cognitive-emotional model.

Similarly, many of the studies do not attempt to address the issue of socially desirable responding. Some of the studies succeeded in obtaining very candid responses (Jahoda & Wanless, 2005). Others attempt to account for the positioning (footing, stake and interest; Potter & Hepburn, 2005) of the participant, but fail to account for the positioning of the researcher in the analysis (Wilcox et al., 2006). Potter and Hepburn (2005) argue that this is a difficulty of all interview research.

4.2 Threats to the Balance between the Participants Subjectivity and Researcher Reflexivity

While a number of studies noted that they had attempted to maintain a reflexive stance, only one study (Whittington & Burns, 2005) was explicit about their experiences and assumptions, adding credibility to their analysis. In addition, it is not common for discourse analytic studies to engage in reflective bracketing or other methods of managing their own subjectivity. This has been highlighted as a weakness of this approach (Parker, 1997).

4.3 Threats to clarity and social validity

Some of the studies used highly complex analytical frameworks (Cudré-Mauroux, 2010; 2011). At times this impeded the communication of the results and hence their trustworthiness. However, these studies introduced very novel concepts into the field which may lead to new avenues for research. This highlights a tension between achieving a high degree of clarity and social validity without losing the complexity of the rich data.

5. Discussion

A number of themes emerge from this body of literature, which serve to develop our current understanding of staff reactions to challenging behaviour. Themes are structured into domains, following the cognitive-emotional model. An additional domain, organisational and systemic issues, emerged in the literature. Each domain is separated into categories and subcategories (see Appendix 3).

5.1 Cognition

Content. Causal dimensions, other than those noted by Weiner (1985; 1986), have emerged as important factors. Studies have suggested that medical model understandings lead staff to make internal causal attributions, which encourages them to act to change the service user (e.g. by giving medication) rather than the environment (Wilcox et al., 2005; Dick et al., 2010). This finding is consistent with results of a preliminary behavioural study finding an association between internal attributions, negative emotion and undesirable staff behaviour (Bailey, Hatton, Hare & Limb, 2006).

A number of studies have highlighted the importance of interpersonal appraisals and relational cognitions (Fish, 2000; Lundström et al., 2007; Jahoda & Wanless, 2005). Interpersonal appraisals integrate information about the cause and the meaning of the behaviour for the staff member in the context of the history of the relationship. Other studies highlight the importance of staff members' expectations of their relationship with service users e.g. the desire for closeness (Fish, 2000). Jahoda and Wanless (2005) suggest that interventions may be fruitless if such relational factors are not attended to.

Another class of cognition identified in the literature is anticipating violence or harm to others (Campbell, 2011). Howard, Rose and Levenson (2009) found a small but significant relationship between aggressive incidents and fear of violence. However, the relationship between fear of violence and staff behaviour remains to be elucidated.

In addition, self-criticism emerges as an important process that seems to influence staff members' self-efficacy beliefs and mood during an episode of challenging behaviour (Fish, 2000; Ravoux et al*.*, 2011). This seems particularly salient as training programmes encourage staff to attribute challenging behaviour external to the service user. Wilcox et al. (2005) argue that, by implication, this positions staff as responsible for the behaviour.

Finally, Wilcox et al. (2005) highlight the importance of gender stereotypes. They argue that aggressive women do not conform to gender stereotypes, which prompts negative responses. This is consistent with a study investigating staff responses to challenging behaviour within an in-patient unit, which found that staff made more uncontrollable attributions for the aggressive behaviour of men and were more likely to provide help (defined as providing medication). This relationship was not found for women, for whom staff were more likely to make attributions which were coded as neither controllable or uncontrollable (Legett & Sylvester, 2003).

Process. A number of cognitive processes were evident within the literature. Firstly, staff members' understanding of challenging behaviour was often ambivalent or mixed (Lundström et al*.*, 2007; James & Warner, 2005; Dick et al*.*, 2010; Whittington & Burns, 2005; Jahoda & Wanless, 2005; Wilcox et al*.*, 2006). Authors understood this phenomenon differently. From one perspective it was understood as being the result of both the medical and social models of disability being active within services (Whittington & Burns, 2005). Wilcox et al. (2005) suggest that staff

use each of these discourses flexibly in order to manage the possibility of being blamed for the generation of the behaviour, which is inherent, both in the work environment and in the context of a research interview. Finally, Jahoda and Wanless (2005) argue that this ambivalence is a result of the varying salience of different identities for staff members. The inability to make causal attributions was associated with unpredictable staff responses in one study (Cudré-Mauroux, 2010).

Secondly, the studies outlined the importance of being able to recall information and reflect on one's practice (Ravoux et al., 2011; Lundström et al., 2007). Authors link the ability to act reflectively to strong emotions or states such as timelessness (discussed below).

Finally, most of the studies reviewed, either implicitly or explicitly, make reference to cognitions which serve a coping function, reducing negative emotions and generating positive emotions (Fish, 2000; Lundström et al., 2007; Campbell, 2011; Jahoda & Wanless, 2005; Ravoux et al., 2011; Cudré-Mauroux, 2010; 2011). Coping styles have been linked to staff responses to challenging behaviour (Hill & Dagnan, 2002), highlighting again the importance of transactional stress processes.

Interestingly, many of the studies highlighted a process of habituating to the challenging behaviour (Lundström et al., 2007; Campbell, 2011; Ravoux et al., 2011). Staff members report coming to view the behaviours as a normal part of the job. This bears some resemblance to burnout models (Hastings, 2002) which suggest that challenging behaviour results in chronic negative emotions in staff, leading to

increased staff stress and burnout, which in turn is associated with poorer quality and quantity of staff behaviour.

5.2 Emotion

Content. The studies identified a wider range of emotions than can be accounted for by attributional models. Notably, many studies highlight the influence that fear has on the action orientation of staff members (Lundström et al., 2007; Campbell, 2011; Whittington & Burns, 2005; Jahoda & Wanless, 2005; Ravoux et al., 2011; Hawkins et al., 2005) and the role of self-directed emotions such as guilt (Fish, 2000; Campbell, 2011; Ravoux et al., 2011). While these can be accounted for within an attributional framework, this is within the realm of the intrapersonal model, which has been incompletely applied to the sphere of challenging behaviour. Considering attributions of controllability and locus with regards to staff behaviour may be fruitful.

Process. The ability to regulate emotions emerges as a significant factor influencing staff responses (Lundström et al., 2007; Ravoux et al., 2011; Cudré-Mauroux, 2010; 2011). The literature indicates that this ability is intimately related to the ability to reflect on one's actions or "think on your feet".

Cudré-Mauroux (2010) argues that emotion regulation can be conceptualised within the transactional stress process in which coping cognitions and cognitions relating to self-efficacy play an important role. However, there is a growing interest in other conceptual frameworks, such as attachment theory

(Schuengel, Kef, Damen & Worm, 2010) and mindfulness based approaches (Singh et al., 2006).

As noted above, implicit in the emotion regulation and coping processes, is the notion that emotional reactions change over the course of an interaction. The fluctuation of emotion has been noted in a number of studies (Hawkins et al., 2005; Cudré-Mauroux, 2010; 2011).

5.3 Behaviour

The literature provides relatively little information about behavioural responses. However, a few important findings emerge. Firstly, discursive accounts raise the possibility that attributions are used as a form of that which serves to manage blame and responsibility (Wilcox et al., 2006). This notion has far reaching implications for the validity of traditional attributional research. Secondly, negative staff behaviours of distancing and avoidance have been highlighted (Lundström et al., 2007; Whittington & Burns, 2005; Ravoux et al., 2011; Hawkins et al., 2005). This is consistent with burnout models, which suggest that staff become emotionally exhausted and detached (Hasting, 2002). Finally, the contexts that encourage behaviours directed towards the environment rather than the service user have been outlined (Wilcox et al., 2006; Dick et al., 2010).

5.4 Organisational and systemic issues

An additional domain emerged in the data regarding the impact of organisational and systemic issues. Staff behaviour seemed to be affected by factors

located at the level of the team (e.g. role), with differences emerging between management and frontline staff, and their ability to take charge during challenging interactions (Fish, 2000; Ravoux *et al.*, 2011).

At the level of the organisation, the degree of support provided to staff members and the degree to which they feel valued by their organisation were highlighted as important for the coping responses of staff (Campbell, 2011). This adds weight to recent findings, which have found a relationship between a lack of reciprocity between staff and the organisation, burnout and willingness to help (Thomas & Rose, 2011). In addition, organisational culture emerges as a significant factor (Wilcox *et al.*, 2006). This is consistent with studies finding a relationship between organisational functioning and culture, staff attributions and service user quality of life (Dilworth, Phillips & Rose, 2011; Gillett & Stenfert-Kroese, 2003).

Finally, the influence of broader systemic issues has been highlighted. Wilcox *et al.* (2005) argue that individualising discourses are supported by institutional practices such as the process of making a referral for an individual. Nunkoosing and Haydon-Laurelut (2011) make similar claims regarding referral practices, suggesting that the structure of referral forms serve to position the service user as a problem. This has implications for the service design and delivery.

5.5 Implications

Future research. The literature outlines a number of interesting avenues for research. Weiner's intrapersonal model seems to offer insights beyond the role of attributions of stability. Exploration of attributions of locus and control regarding

staff members' behaviour may help to account for a wider range of emotions, including self-referent emotions of guilt.

Further exploration of alternative cognitions, including anticipation of violence and self-critical cognitions, is required.

Interpersonal appraisal and relational cognitions also seem important. This may include investigating the role of related constructs such as attachment. Mikulincer and Shaver (2005) explore the role that the attachment and care-giving behavioural systems have for feelings of compassion and altruistic behaviours. They argue that attachment security is related to greater self-efficacy and ability to provide care under threatening conditions. This may be a particularly promising avenue for research given the physical threat and emotional demand perceived by staff members. An attachment framework may also provide an opportunity to study staff members' capacity for affect regulation and its relation to reactions to challenging behaviour.

Future research may wish to evaluate the fluctuation of cognition and emotion over the course of a challenging interaction. This seems particularly important as it casts doubt over the traditional conceptualisation that responses to challenging behaviour are unitary and static rather than dynamic.

In addition, the consequences of mixed and ambivalent cognitions for emotional and behavioural responses deserves further attention. Keinan and Sivan

(2001) argue that the inability to make a causal attribution is associated with self-reported stress and that people are motivated to make causal inferences in order to reassert their sense of control. While there is some evidence linking mixed attributions to unpredictable responses (Cudré-Mauroux, 2010), this requires further investigation.

Finally, both qualitative and quantitative studies have struggled to elucidate the link between cognitive-emotional variables and behavioural reactions. Lundström *et al*. (2007) suggest the use of video data to aid this process.

Clinical implications. The literature suggests that providing staff members with opportunities for reflection and gaining support will have important consequences for their ability to provide effective care. In addition, interventions aimed at improving emotion regulation in staff members, such as mindfulness-based approaches may be helpful. Such approaches have begun to show promising outcomes for both staff members and service users (Singh *et al*.,2006).

The literature also suggests that formulation and intervention must attend to the organisational context. It is notable that while educational interventions have resulted in changes in attributions over the short term, longer term change seems to be lacking (Williams, Dagnan, Rodgers & McDowell, 2011). The effectiveness of training interventions may be enhanced by adopting a more formal practice development approach that considers the relationship between the strength of the evidence, organisational variables, the nature of the educational intervention and the characteristics of trainer (e.g. Rycroft-Malone, 2004)

Finally, the discursive studies have highlighted the need to carefully consider the impact of systems and structures in the design and delivery of services for people with intellectual disabilities.

5.6 Conclusions

The qualitative literature adds depth to the basic cognitive emotional model. In addition to causal cognition, a number of other cognitive factors have emerged as important. This literature has highlighted a more process-oriented and ecological view of staff responses, which takes into account complex interactions between staff members, service users, and the organisational environment. It is important that these factors be explored further and integrated into clinical practice, particularly educational interventions. This review also points to gaps in the current body of knowledge, especially the link between cognitive emotional variables and staff behaviour.

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**Section B: Staff Reactions to Challenging Behaviour: A Pilot
Study Using Video Elicitation Interviewing.
Word Count: 7991 (8385)**

Abstract

Background   Staff reactions to challenging behaviour have typically been investigated using attributional theory. However, such models have received limited support and a number of methodological and theoretical critiques have been levied against them. In addition little research has been conducted into the development of staff responses over the course of challenging interactions.

Methods   Video elicitation interviews were conducted with six staff members responding to the challenging behaviour of two service users. Interview data were subject to content analysis and an attributional analysis in order to assess their cognitive and emotional responses as they were at the time. In addition, staff behaviour was subject to descriptive and sequential analyses to explore their relationship with cognitive-emotional variables.

Results   Staff recalled making causal attributions about service user behaviour, as well as having a number of other cognitions. Cognitive responses seemed to vary over the course of challenging incidents. However, there was less variation in emotion over time. Tentative relationships were found between internal attributions, negative emotions and verbal responses in staff behaviour and between mixed emotions and nonverbal responses.

Conclusions   Staff members spontaneously made causal attributions of service user behaviour during challenging interactions. Rather than being a stable attribute of the staff member, attributions seem to vary to a degree across the course of an interaction. This has implications for both research and clinical practice.

1. **Keywords**   Staff, Challenging Behaviour, Attribution, Responses

1. Introduction

It has been estimated that 10-15% of people with intellectual disabilities present a challenge to services in the UK (Emerson et al., 2001).

Such behaviours have been shown to have an impact on the health, wellbeing and social inclusion of people with intellectual disabilities and their paid carers (Marshall, 2004; Allen et al., 2009). The management and prevention of challenging behaviour represents a major concern for clinicians, accounting for the majority of referrals to community services (Slevin, Truesdale-Kennedy, McConkey, Barr & Taggart 2008).

Staff responses to challenging behaviour have become an important area of study as they have been implicated in the development and maintenance of challenging behaviour (Hall, Oliver & Murphy, 2001). Attributional theories have been applied consistently in order to understand staff reactions to challenging behaviour and to guide intervention (Willner & Smith, 2008; Williams, Dagnan, Rodgers & McDowell, 2011).

Such theories contend that attributions made about the cause of challenging behaviour determine staff members' emotional responses, which in turn affect helping behaviours. More specifically, it is the structure of these attributions, rather than their content per se, that is thought to be important.

The structure of causal attributions vary in three ways: *locus* indicates whether the cause of the behaviour was thought to be due to a factor internal to the person, or due to environmental factors; *stability* indicates whether the cause is thought to be likely to change or remain the same in the future; and *controllability* indicates whether the behaviour is thought to be as a result of wilful action (Weiner, 1986).

Weiner's (1985; 1986) attributional models suggest that when a staff member attributes challenging behaviour as under the service user's intentional control, they will experience negative emotions such as anger, which will in turn lead to them being less willing to help. On the other hand, uncontrollable attributions are thought to lead to positive emotions, such as sympathy and greater willingness to help. In addition, when staff members attribute the service user's challenging behaviour as due to an unstable cause, they expect to be able to change the behaviour, feel optimistic and are more willing to help. Willner and Smith's (2008) review of studies testing attributional hypotheses with regard to challenging behaviour found inconsistent results. A number of methodological and theoretical issues have been highlighted, which may account for these equivocal findings.

Firstly, attributions and emotions are elicited using vignettes of challenging behaviour. This method is thought to lack ecological validity. Participants reconstruct the material presented in the vignette in an idiosyncratic way. This is borne out in studies that have found that individuals respond differently to

vignettes compared to real examples of challenging behaviour (Wanless & Jahoda, 2002). Recent studies have attempted to ameliorate this difficulty by asking staff to recall specific incidents (Jahoda & Wanless, 2005). However, little attention is paid to possible biases in recall, which can be exacerbated by the length of delay between the incident and the interview (Lambrechts & Maes, 2012).

Secondly, helping behaviour has most commonly been measured at the level of behavioural intention rather than measuring actual staff behaviour. Where actual behaviours have been elicited, this has relied on self-report (Lambrechts, Kuppens & Maes, 2009). Only one study has measured observed staff behaviour (Bailey, Hare, Hatton & Limb, 2006). Rather than finding the expected relationships, this study found an association between stable, internal and uncontrollable attributions with anger, which in turn were associated with unhelpful staff behaviours.

Thirdly, attributions and emotions have typically been measured using forced choice questionnaires. It has been argued that such methods restrict and actively draw out responses, which may not have been reported spontaneously (Lee, Randall, Beattie & Bentall, 2004). This has led to a more general critique of the use of deductive research methods, which limit the emergence of other important factors (Dick, Gleeson, Johnstone & Weston, 2010).

In response to these concerns a number of qualitative studies have been undertaken (see Section A). Such studies have highlighted the complexity of

cognitive and emotional responses to challenging behaviour (Whittington & Burns, 2005). In addition, these studies consistently highlight the process of coping, suggesting that staff responses change over the course of an interaction. For example, Cudré-Mauroux (2010) found evidence of emotions generated by initial attributions being tempered by coping attributions (reattributions). This hypothesis has implications for previous studies which have conceptualised staff responses as static events. For example, it is unclear whether initial attributions or coping attributions are being accessed when attributions are being elicited through vignettes and measured using forced choice questionnaires.

Such studies also suffer from some of the methodological issues outlined above (e.g. the reliability of the recalled instances). In addition, studies seem to under emphasise the behavioural responses of staff. This has prompted some to advocate the integration of video data in future studies (Lundström, Åström & Graneheim, 2007).

Video-recorded interactions have been used within other fields to study care-giving interactions. Such methods, known as video elicitation interviews, use recorded interactions to facilitate the recall of health care professionals' responses during interactions with service users. Such methods are thought to be particularly relevant for the study of events that are thought to fluctuate over time, and are thought to reduce biases associated with the recall of events and encourage participants to notice novel or otherwise unspoken aspects of their experience

(Henry & Fetters, 2012; Larsen, Flesaker & Stege, 2008). In addition, this offers a unique opportunity to integrate reports of subjective experience and observed behaviour.

Video elicitation methodology seems to offer a means of studying staff responses to challenging behaviour, in a way that addresses the methodological and theoretical issues outlined above. Such approaches have recently been applied to study staff responses to challenging behaviour (Lambrechts & Maes, 2012). This study's focus was on the emotional responses during and after challenging behaviour. Twelve staff members were interviewed using videotaped interactions as a memory aid. Interviews were conducted after reviewing each of the video fragments. This approach differs from the present study, in that it focuses only on emotional reactions of staff members and therefore is not concerned with the relationship between cognitive-emotional variables and behavioural responses. In addition, the present study aims to explore the development of staff reaction over the course of an interaction, by allowing discussion to occur while viewing the video.

Research Aims

This study is intended as a pilot, using video elicitation interviewing to explore staff members' cognitive, emotional and behavioural responses to challenging behaviour. Given the issues regarding ecological validity outlined above, this study attempted to produce rich information from situations that approximated

real-life situations. The study originally aimed to investigate one form of cognitive response (causal attribution). However, after piloting the methodology, the aims were broadened as other salient cognitive factors began to emerge. This has been recommended by the only similar study within the field (Lambrechts & Maes, 2012).

Given the repeated emergence of the theme of coping in recent studies, specific attention will be paid to the development of staff responses over time. Finally, this methodology offers a unique opportunity to explore temporal relationships between cognitive and emotional responses.

The study will attempt to explore the following questions:

1)   What cognitive and emotional responses do staff recall having during challenging interactions?

2)   How do staff members' cognitive and emotional reactions change over the course of an interaction?

3)   How do staff members' cognitive and emotional reactions relate to their behavioural responses? Specific attributional hypotheses (outlined above) will be evaluated.

3. Method

3.1. Participants

Six staff members were recruited from a service offering residential care for people with intellectual disabilities and challenging behaviour. The average age of staff members was 39.83 years (SD = 8.98), and half of the sample were female. Staff members had an average of 6.33 years (SD = 4.76) experience working with people with intellectual disabilities and an average of 3.19 years (SD= 2.18) working within the service. The average number of hours per week worked by staff members was 46.75 hours (SD= 9.97).

Staff were filmed interacting with one of two service users.

Bob[1] was a 24 year old man with a diagnosis of autism and intellectual disabilities. He displayed a number of challenging behaviours, including self-injurious behaviour (SIB: hitting himself on the head and hitting his head against the wall), stereotypy (waving his hand in the air) and aggressive destructive behaviour (hitting objects, verbal aggression, shouting at or hitting staff).

Charles was a 43 year old man with a diagnosis of intellectual disabilities. He displayed aggressive destructive behaviour (aggression towards staff, destruction of

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[1] Pseudonyms used for service users

property, manipulation of gas cooker and slamming doors) and, to a lesser extent,

SIB (pressing objects into his face).

3.2. Design

A video elicitation interview design was employed (Henry & Fetters, 2012).

Seven interviews with six members were conducted, each lasting 25-60 minutes.

Each interview comprised of reviewing the video fragment of the staff members

interacting with the service user. Staff were asked to stop the video at times they

considered important and were then interviewed regarding their thoughts and

emotions. This study aimed to access participants' recollections of their experience

as they were at the time and to record their observable behavioural responses.

3.3. Procedure

The care home was approached as it was known to be routinely using video

in clinical practice. Two service users with high frequency challenging behaviour

were identified by the manager. The service users were assessed as lacking the

capacity to give their consent to participate in the study. However, participation was

deemed to be in their best interest by those involved in their care, including family

members when possible and representatives from the local authority. Information

sheets were provided for the service users and staff members before being

approached to participate in the study (See Appendix 4).

Staff agreed to contact the primary researcher to arrange an interview as
soon as possible after a challenging interaction was captured during their routine
video collection. Contact was made when the primary staff member within the
captured interaction was available for interview within one month of the incident. In
practice this occurred an average of 7.67 (SD = 6.94) days after the incidents
occurred. It was stipulated that the video fragments included self injurious
behaviour, aggressive destructive behaviour or stereotypy. This resulted in seven
video fragments within a six month period between July and December 2012.

During the interview video fragments were reviewed and participants asked
to stop the video at time points they considered significant, the time of which was
noted. The interview began with open-ended questions asking staff to recall their
thoughts and feelings at the time. When participants thoughts and feeling related to
the services users challenging behaviour a number of prompts were used in order to
illicit causal attributions (see Appendix 5).

Staff were offered a debrief discussion to evaluate their experience of the
interview process.

Three staff members were interviewed about incidents with Bob and three
with Charles. One staff member was interviewed about an incident with both service
users, allowing for a degree of comparison to be made.

3.4. Analysis

The first stage of the analysis involved subjecting the text to a qualitative content analysis (Krippendorf, 2004) in order to extract the thoughts and emotions recalled during each moment of interest. Coding units were created based on the perceived meaning of responses. Both inductive and deductive coding was employed. The following deductive codes were used to facilitate comparison with attributional hypotheses: "explaining challenging behaviour" (representing units containing attributional statements); anger; sympathy; and optimism. Emotions were understood to be able to co-occur within a moment of interest. Coding frames were created, defining the main themes for thoughts and emotions and the frequency of occurrence calculated (See Appendices 6 and 7).

Next, attributional statements were extracted from the units coded as explaining service users' challenging behaviour according to the principles outlined in the Leeds Attributional Coding System (LACS; Munton, Silvester, Stratton, Hanks, 1999, see Appendix 8). The identified causes of challenging behaviour were subject to content analysis using inductive coding (causal descriptions).

Finally, the attributional structure (locus stability and controllability) of these statements were determined using the definitions provided by the LACS. These were rated on a bipolar scale (e.g. internal/external). A midpoint (mixed) was added in

instances where conflicting causal statements were made within a single moment of

interest. Qualitative content analysis was chosen in order to maintain consistency

between analytic methods used for interview and behavioural data and to facilitate

the quantification of interview data for the exploratory time-window analysis.

Video fragments were subject to descriptive behavioural analysis.

Lambrechts, Van Den Noorgate, Eeman and Maes's (2010) coding scheme was used

to code service user behaviour as SIB, aggressive destructive behaviour and

stereotypy. The coding scheme for staff behaviour was adapted from Lambrechts *et

al*. (2010) and Purcell, McConkey and Morris (2000) (see Appendix 9). Coding

schemes were applied to the data using the OBSWIN programme (Martin, Oliver &

Hall, 2003).

Time-window sequential analysis (Yoder & Tapp, 2004) was planned in order to explore the probability that behavioural codes (target behaviours) would occur within five seconds of reported attributions during moments of interest (antecedent time windows). This requires the construction of 2 x 2 contingency tables as show in Table 2.

	Behaviour of interest present	Behaviour of interest absent
Inside the antecedent time window	A	B
Outside the antecedent time window	C	D

Table 2. **Example 2 x 2 contingency table.**

Yule's Q was used as the metric of sequential association as it accounts for base rates of behaviours. Yule's Q is calculated according to the following formula:

$$Yule's\ Q = ((A \times D) - (B \times C))/((A \times D) + (B \times C))$$

Yule's Q varies between -1 and 1, with positive numbers indicating that the target behaviour occurred within the antecedent time window more often than it occurs outside of it (Yoder & Tapp, 2004).

The significance of differences between observed and expected sequential frequencies were assessed using z scores, with expected frequencies being calculated in the same way as one would for a chi-square (Yoder & Symonds, 2010). In accordance with previous studies, data from each of the fragments were pooled (Bailey *et al.*, 2006; Lambrechts *et al.*, 2010).

These statistics have a minimum data requirement such that the expected probabilities are greater than five in each of the cells (Bakeman & Gottman, 1997). Due to the novelty of the methodology, it was impossible to predict the amount of data that would be generated. Therefore, this was considered an exploratory analysis.

3.5. Quality assurance checks

Interview data were recoded by a second rater and Cohen's kappa calculated for each of the content analyses. A 20 % sample of the behavioural data were recoded by a second rater and Cohen's kappa calculated. All categories showed at least moderate inter-observer agreement using the criteria of Landis and Koch (1977), see Appendix 10.

3.6. Ethical considerations

Ethical approval was obtained through the university's Ethics Committee (see Appendix 11). The project was discussed by a local NHS research committee, which included service user representatives. As noted above, as the service users were deemed to lack the capacity to consent, best interest procedure was followed in accordance with the Mental Capacity Act (MCA) 2005.

4. Results

Staff cognitive and emotional responses reported during moments of interest will be described. The analysis will focus on a description of recalled thoughts during moments of interest, with a briefer analysis of the content and structure of causal attributions and emotional responses. This will be followed by a description of the development of staff responses over each interaction and an exploratory analysis investigating sequential associations between cognitive/emotional and behavioural responses. Before this, a brief description of each of the fragments is given.

4.1. Characteristics of the video fragments

Bob displayed all three challenging behaviours (apart from fragment one, when there was no aggressive destructive behaviour). Charles displayed aggressive destructive behaviour at a higher rate than Bob in all but one of the fragments. Fragment three had a rate of aggression similar to that displayed by Bob. However, the rate of SIB was still the highest in this fragment. Charles showed low rates of SIB in one fragment and displayed no instances of stereotypy in any of the fragments (see Table 3).

Service user	Fragment	Length of video	Staff member	Rate of service user behaviour/min			Moments of interest
				SIB	Stereotypy	Aggressive destructive behaviour	Rate/min
Bob	1	0:00:43	1	5.14	1.71	0	4.17
	2	0:06:08	2	7.5	3.28	1.17	0.82
	3	0:04:10	3	6.85	0.98	2.42	1.20
	4	0:10:46	4	2.31	1.2	0.28	1.39
	MEAN	0:05:27		5.45	1.79	0.97	1.89
	SD	0:04:12		2.32	1.04	1.09	1.53
Charles	5	0:04:10	5	0	0	3.07	0.72
	6	0:03:08	6	0.96	0	1.6	2.55
	7	0:06:52	1	0	0	2.04	0.87
	MEAN	0:04:43		0.32	0	2.24	1.38
	SD	0:01:56		0.55	0	0.75	1.02

Table 3. Characteristics of video fragments.

4.2. Question 1: What do staff members report when asked to recall their cognitive and emotional responses during important moments within challenging interactions?

4.2.1. Recalled thoughts during moments of interest.

Staff stopped the video a total of 46 times over the seven interviews. In 37 of those moments of interest staff made causal attributions (explaining challenging behaviour), the content and structure of which will be described in the following sections.

Staff members recalled having a wide range of other thoughts during moments of interest (see Table 4).

Theme	Bob	Charles	Total
Explaining challenging behaviour	21	16	37
Staff behaviour	6	6	12
Anticipating challenging behaviour	7	4	11
Anticipating or recognising the end of the incident	4	2	6
Evaluating the current intervention	3	6	9
Planning the next intervention	3	0	3
Nature of the challenging behaviour	2	0	2
Safety concerns	6	0	6
Positive service user behaviour	3	1	4
Team issues	7	0	7
Roles and relationships	1	2	3
Drawing on previous experience & knowledge	2	2	4
Managing multiple service users	1	1	2
Lack of experience	1	0	1
Viewing the situation as unjust	0	2	2
Negative view of the service user	0	1	1
Total number of moments of interest	**28**	**18**	**46**

Table 4. Frequency of recalled thoughts during moments of interest.

Staff behaviour: this category ranged between staff offering simple descriptions of their behaviour to more in-depth explanations and justifications of their interventions:

"At this point I'm reconfirming what I have done is the right thing. Because it is causing him a lot of distress and he can't control that, so I need to."

(F3,04:17[2])

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[2] Fx, xx:xx   Fragment number, Time

Anticipating challenging behaviour: staff members frequently reported an expectation that challenging behaviour will occur. Those interacting with Bob could not predict the type of challenging behaviour they would encounter. This resulted in a degree of uncertainty, which was absent in interactions with Charles. This is illustrated by the following examples from staff member one responding to both service users.

"[What I was] thinking was if he doesn't hit me he's going to hit himself … So by the time he's put it in your mind you know something is coming."

(F1,00:09)

"The moment that he put them down I knew he was going to hit me."

(F9, 02:43)

Anticipating or recognising the end of the incident: staff members report noticing the intensity of the behaviour subsiding. At times, this indicates the end of the challenging interaction. However, at other times the behaviour begins to escalate again. In these instances anticipation of the incident ending seems to be more of a hope or wish:

"There was a kind of relief from what I thought might have been a much longer bout of behaviours. It deteriorates again in a few seconds. It's a kind of good and a bad bit. I'm not wanting the whole thing to go on too long ideally."

(F6, 00:39)

Evaluating the current intervention: staff members evaluated the effectiveness of their intervention in one of two ways. Some staff report waiting, observing and monitoring their intervention to see if it will have the desired impact:

"At this point it's a case of watching to see if his normal routine of making a cup of tea is going to be enough to bring him out of what's in his head."

(F2, 00:51)

Others report noticing that their intervention had failed. These reports were often associated with a despondent or self-critical tone:

"And in my mind what I was thinking was, 'Oh, so my tactics are not working today'. I did this and counted one two, he comes to me. He's not sitting down."

(F7, 01:38)

Planning the next intervention: staff members made explicit reference to thinking ahead and trying to anticipate what they could do next. While some comments related to planning in general, others make reference to specific plans:

"At this point I am thinking I'm going to have to put myself in more of the way than

not."

(F3, 00:28)

Nature of the challenging behaviour: staff commented on the frequency,

duration or typography of the challenging behaviour. Specifically, staff found SIB

directed towards the head particularly challenging:

"I think when he's punching his legs and his arms it doesn't bother me so much. But

when it's his head and the force that he does punch his head at. It does concern me"

(F3, 03:22)

Safety concerns – in a related category, staff reported feeling concerned for

the safety of the service user, or others around him. Interestingly this is only

reported by staff interacting with service user one.

"I: And your thinking. It's quite intimidating I suppose because you're worried about

what he's going to do to himself. How he's going to hurt himself."

(F4, 00:13)

Positive service user behaviour: staff reported attending to positive aspects

of the service users' behaviour. This included behaviours that indicate the service

users' compliance as well as noting the absence of the behaviour:

"From walking to the sink he's tried to brush the sugar off, he's trying to clean up

the mess that's been made either by him, which is a good thing. And I must admit

I'm thinking, 'ah maybe he's picking up a little bit from here'".

(F6, 00:39)

Team issues: staff members commented on their interactions with other

team members. Comments focused on the degree to which staff members felt

supported or burdened by co-workers:

"If you haven't got the back up of the staff team around you, you're starting to

think, 'right, I know what I'm doing. I know I'm not going to let anything happen'.

But should I really have to be in this position?"

(F3, 00:28)

"'Cause I can see he's going into one again. But then with the cup of tea and

[REMOVED] being there, I don't feel too bad. I feel a lot more OK, 'cause she's there.

It's just having that other staff member helps."

(F4: 00:33)

Roles and relationships: staff recalled thinking about the impact that their

specific relationships had with service users. The nature of the relationship was

often conceived of in terms of specific roles held by the staff member:

"I can do this with him. If this was someone else he would have hit them. There's no shadow, there's no doubt in my mind that he would have been hitting people at this point. Because it's me I know he's not going to hit me. Because he knows I am the giver of things."

(F3,04:17)

In addition, staff commented on the quality of the therapeutic relationship during the interaction. This differs from evaluating the intervention, in that it makes reference to the general quality of the relationship between staff member and service user:

"I felt I had just lost it. There was a bit of rapport with Charles and I think I've lost it."
(F6, 00:50)

Drawing on previous experience and knowledge: staff recalled relying on knowledge and information they had gained either through training or experience. Staff reported relying on this information in a reactive fashion, which did not require much thought or effortful retrieval:

"I think I'm just reacting there, I think I'm just going with whatever I've ever learnt in my training or whatever."

(F5, 02:44)

In addition, one staff member recalled how memories of a recent incident informed her current responses:

"And there was another day, which I don't think you've got video of. Me and [REMOVED] were with him and she was helping him to calm him down and she'd left me with him … I tried to help him and I got whacked … so here obviously I'm thinking, what is he going to do?'"
(F4, 00:13)

Managing multiple service users: one staff member recalled experiencing difficulties relating to managing more than one service user at a time:

"[I got] quite irritated with [REMOVED] actually. 'Cause I'm thinking, 'go away', actually. I'm thinking, 'go leave Bob alone. Let him calm down and then I can give you some time.'"
(F3, 05:32)

Viewing the situation as unjust: one staff member reported viewing the service users' behaviour as unjust or unreasonable:

"He already has loads of sugar on there. So he doesn't need more sugar. This is just purely a way. This is an unreasonable request, I think."

(F6, 01:29)

Negative view of the service user: one staff member reported seeing the service user in a negative light, rather than viewing the behaviour as unreasonable:

"T: How did you see Charles at that moment?

I: Burdensome I guess … I should be handing out meds … so there's that sort of feeling that it's a waste of time."

(F5, 02:44)

Lack of experience: one staff member commented on the impact of their lack of experience:

"For me as a newbie, you can't go round interacting too much to start with. 'Cause you need to wait to assess the situation and see how you can help. And you watch other staff, what they do and you see what [REMOVED] does earlier."

(F4, 00:13)

Staff responding to Charles seemed to comment on service users' challenging behaviour, provided explanations of their own behaviour and evaluated the current intervention relatively more frequently those responding to Bob. Staff responding to

Bob commented more on team issues, positive service user behaviour, safety

concerns and recognising the end of the incident.

4.2.2. Causal descriptions.

Thirteen categories emerged within the causal descriptions that staff made

about the service users' challenging behaviour. Table 5 shows the description and

frequency of occurrence of each category (see Appendix 7 for example of coding).

Staff most commonly attributed service users' challenging behaviour to the

service user being distressed. However, this explanation was more common for staff

commenting on interactions with Bob. Staff members responding to Charles also

attributed his behaviour to trying to gain attention, intentional behaviour, their own

behaviour and wanting to be in control of the situation relatively more frequently.

Causal descriptions	Bob	Charles	Total
Being distressed	11	6	17
Attention	0	14	14
Intentional behaviour	2	11	13
Staff behaviour	5	5	10
Physical reaction	5	1	6
Wanting to be in control	0	5	5
Information-processing difficulties	4	0	4
Trying to manage his emotions	3	1	4
Environmental	1	1	2
Behaviour of others	1	1	2
Not able to cope	1	0	1
Communication difficulties	1	0	1
Global personality trait	0	1	0
Total number of moments of interest	**28**	**18**	**46**

Table 5. Frequency of causal descriptions

4.2.3. Attributional structure.

Table 6 shows the attributional structure of staff members' causal descriptions. Overall, Bob's behaviour was rated as internal, unstable and uncontrollable and Charles's as internal, unstable and controllable. Charles's behaviour was rated as relatively more internal and unstable in comparison to Bob's.

	Fragment	no attributions	Locus			Stability			Control		
			internal	external	mixed	stable	unstable	mixed	controllable	uncontrollable	mixed
Bob	1	2	1	1	0	0	1	1	0	2	0
	2	4	2	1	1	2	1	1	0	4	0
	3	5	3	1	1	2	2	1	2	2	0
	4	10	7	1	2	0	8	2	0	7	3
	total	**21**									
	proportion of total		**0.62**	**0.19**	**0.19**	**0.19**	**0.57**	**0.24**	**0.10**	**0.71**	**0.14**
Charles	5	3	3	0	0	1	1	1	2	0	1
	6	7	6	0	1	0	7	0	5	0	2
	7	6	4	0	2	0	4	2	1	3	1
	total	**16**									
	proportion of total		**0.81**	**0.00**	**0.19**	**0.06**	**0.75**	**0.19**	**0.50**	**0.19**	0.25

Table 6. Structure of staff members' attributions

4.2.4. Emotions.

Three codes emerged in addition to the inductive codes anger, sympathy and optimism. Table 7 shows the frequency of occurrence (see Appendix 7 for example of coding).

Two of the three deductive codes (sympathy and anger) appeared relatively frequently. Optimism occurred only four times in total. However, a complimentary code of demotivation emerged through inductive coding. This was the most frequently reported code. The categories of anxiety and calmness also emerged within the data at relatively high frequencies.

Staff members interacting with Bob reported feelings of anxiety, sympathy, calmness and optimism more often per moment of interest. Those interacting with

Charles reported feelings of anger and demotivation relatively more frequently per

moment of interest.

	Frequency/ moment of interest	
Emotional reactions	**Bob**	**Charles**
Anxiety	0.43	0.06
Sympathy	0.43	0.00
Calm	0.29	0.11
Demotivation	0.25	0.39
Anger	0.11	0.56
Optimism	0.11	0.06

Table 7. Frequency of emotions reported per moment of interest

4.3. Question 2: How do staff members' reactions to challenging behaviour change over the course of an episode?

The evolution of cognitive and emotional responses will be described for each fragment. See Appendix 12 for table showing the development of staff reactions over time.

4.3.1. Fragments involving Bob.

Fragment 1

This fragment was particularly short and has a small amount of data, making interpretation difficult. However, this fragment shows the staff member's anxiety associated with his anticipation of aggression over the course of the 43-second segment. Two of the three moments of interest made reference to the challenging behaviour. At first, the staff member attributes the cause of the behaviour to something he did himself (staff behaviour). He then begins to attribute the behaviour to physical sensations and information-processing difficulties in the service user. This represents a shift from an external and unstable to an internal and mixed stability attributional structure. The controllability dimension does not vary. There is little emotional variation within this short fragment.

Fragment 2

The staff member in this fragment indicated 0.816 moments of interest/min. This interaction had relatively high levels of stereotypy compared to other interactions with Bob. This staff member continually evaluates her interventions. She begins by waiting to see if the current intervention is effective and later judges her intervention to be ineffective. Her causal descriptions of the behaviour vary. Of the five casual explanations extracted there was agreement on only two of them. This resulted in a fluctuation in locus and stability. However, again controllability remained stable. This was mirrored by stability in her emotional reactions (anxiety and sympathy) apart from feeling calmer after noticing the behaviour deescalating.

Fragment 3

This staff member stopped the video slightly more frequently (1.2 moments of interest/min). This incident had relatively high levels of aggression. Team issues are highlighted as important in three of the five moments of interest. Unlike other interactions, the staff member reports planning her interventions at points throughout the incident. Again there was wide variation in the number of causal explanations, with the staff member making 1.2 unique causal statements per moment of interest. This resulted in variation within all of the causal dimensions. Interestingly, controllability attributions seem to fluctuate regularly between uncontrollable and controllable. However, it is difficult to extrapolate a pattern based on so few data points. This staff member also reported a number of negative

emotions, including anger and demotivation, which were absent from the previous two cases.

Fragment 4

This fragment captured the interaction of the least experienced staff member. This is reflected in the content of her moments of interest (e.g. commenting on her lack of experience and relying on her team members). This staff member made 0.6 unique attributional statements per moment of interest, suggesting that there was more stability in the types of causal statements than in other fragments. The attributional structure was mainly internal, unstable and uncontrollable. However, it is noteworthy that there was some variation with attributions of controllability appearing at the beginning and end of the incident. Despite this, anger was only reported once and was associated with an uncontrollable attribution. The staff member also reported feeling demotivated during this incident.

4.3.2. Fragments involving Charles.

Fragment 5

This staff member highlighted relatively few moments of interest, making interpretation difficult. However, this fragment contains the highest levels of aggressive destructive behaviour and can offer a number of interesting insights. The staff member expressed a negative view of the service user, seeing him as a burden and reported relying on past experience and knowledge to guide his behaviour.

This staff member seems to make varying comments about the cause of the behaviour over the course of the incident. He begins by stating that it is due to the service user's intentional behaviour or wanting attention. In the middle of the incident a greater variety of causal descriptions are made. This is reflected in a change in the causal structure from unstable and uncontrollable to mixed stability and mixed controllability. The quality of the attributions then seems to return to state similar to that at the start of the interaction. It is notable that the locus did not vary over the course of this incident. The emotional tone of this fragment was negative and invariant.

Fragment 6

This staff member stopped the video more frequently than others interacting with Charles (2.55 moments of interest per min), despite having the lowest frequency of aggressive destructive behaviour. At the beginning of the fragment the staff member attends to some positive aspect of Charles's behaviour and anticipates that the incident would end shortly, producing feelings of optimism. However, as the behaviour begins to escalate again, the staff member begins to notice a change in the relationship with the service user (loss of rapport). This is followed by a shift towards seeing the behaviour as unjust. A greater number of casual statement categories are found within the first half of the incident, after which attributions become less mixed and more consistently controllable. Interestingly, locus and stability remain stable throughout. Emotional responses seem to vary little, with the exception of the moment relating to the positive aspects of Charles's behaviour.

Fragment 7

This staff member began by anticipating that challenging behaviour will occur. He then fluctuates between making causal statements about the behaviour and evaluating his intervention as failing. The number of causal statements made by the staff member seems to fluctuate over the course of the event. This is reflected in the attributional structure, with attributions within each domain varying across the incident. However, despite this variation, there is little variation in reported emotions after the first moment of interest, where the staff member reports a persistent state of demotivation. It should be noted that this is the only fragment in

which aggressive destructive behaviour involved hitting staff members, rather than

verbal aggression or slamming doors.

4.4: Question 3: How do staff members' cognitive and emotional reactions relate to their behavioural responses?

Overall staff spent most of their time within the maintaining distance

category. Table 8 shows that staff responding to Bob spent a greater proportion of

their time in this category. However, those responding to Charles spent relatively

more time not being present in the same room. Those responding to Bob were more

likely to engage in non-verbal communications and interactions (doing an activity for

him e.g. making him a cup of tea). Those responding to Charles were more likely to

engage in verbal communication, with the exception of commenting on the

behaviour, and stopping the challenging behaviour.

Broad behavioural category	Behaviour	% Time		
		Bob	Charles	Total
Verbal communication	*Comment*	2.36	1.76	2.12
	Instruction	1.37	9.18	4.43
	Question	0.53	2.35	1.25
	Reinforcement	0.3	3.06	1.39
	Statement	2.21	3.53	2.73
Non-verbal communication	*Touch*	1.83	0.24	1.2
	Gesture	2.28	0.82	1.71
Maintaining distance	*Not Present*	0	18.12	7.11
	No Interaction	75.97	56.24	68.22
	Talk to others	6.92	2.47	5.17
Stopping challenging behaviour	*Physically stopping*	0.08	0.24	0.14
	Taking measures	0	1.65	0.65
Interactions	*Doing for*	5.1	0.35	3.23

Table 8. Staff behavioural responses to challenging behaviour

Transitional frequencies between attributions at moments of interest and broad behavioural categories were calculated (see Table 9). Due to limited data, emotional responses were re-categorised into three mutually exclusive codes (positive, negative and mixed). Transitional frequencies, Yule's Q and their associated z scores were calculated. As noted above, Yule's Q with positive values indicates that the observed behaviours were more likely to fall within five seconds of reported cognitive/emotional variables.

Verbal communication was significantly more likely to occur within five seconds of internal attributions (Q=0.27, z=2.38) and negative emotions (Q=0.26, z=2.16) than would be expected by chance. These vales of Q are thought to indicate

a small sequential association (Yoder & Symonds, 2010). Non-verbal communication was found to be significantly more likely to occur within five seconds of reports of mixed emotions (Q=0.54, z=2.86), indicating a moderate sequential association. No associations were found between uncontrollable or unstable attributions and any of the staff behaviours. Unfortunately, associations between external, stable and external attribution and positive emotions were not calculated, due to insufficient data.

Cognitive/emotional variable	Behaviour falling within 5s time window	Expected sequential frequency	Observed sequential frequency	Q	z	*p*
Internal attributions	verbal communication	15.49	24	0.27	2.38	0.02
Negative emotions	verbal communication	13.7	21	0.26	2.16	0.03
Mixed emotions	non verbal communication	2.04	6	0.54	2.86	0.004

Table 9.   Sequential associations between reported cognitions/emotions and staff behavioural responses to challenging behaviour. Yule's Q values of 0.6, 0.43 and 0.2 are considered large, moderate and small sequential associations.

4.5 Discussion

This study aimed to apply a novel methodology, producing rich data regarding staff cognitive, emotional and behavioural responses.

Staff frequently recalled trying to find explanations for the service users' challenging behaviour. This is consistent with the assumptions of the attributional literature, which sees individuals as motivated to understand the cause of events. Attributions of Charles's behaviour were found to be more controllable than Bob's.

This may be explained by the variation in the type of the behaviour between the service users. This is supported by the fact that more controllable attributions were made in the fragment in which Bob showed high levels of aggression. This is consistent with previous findings that have found more controllable attributions for outwardly-directed behaviours (Stanley & Standen, 2000). However, the service users vary in a number of ways, such as their personal relationships with staff members. Therefore, no firm conclusions can be drawn.

Staff members frequently made multiple causal attributions of behaviour. This may reflect a lack of certainty about what caused the behaviour or the presence of competing beliefs. This is consistent with recent findings of ambivalence in staff cognitive responses (Dick et al., 2010).

In addition, staff reported a wide range of additional cognitions during challenging interactions. A number of these findings are consistent with the outcomes of recent qualitative studies. Anticipation of violence, the importance of the team context, professional roles and relationship have all been reported and described more fully elsewhere (Campbell, 2011; Ravoux, Baker & Brown, 2011; Jahoda & Wanless, 2005; Lambrechts & Maes, 2012).

The following discussion will focus on novel aspects emerging within this study.

Staff frequently reported thinking about their own behaviour during interactions. Wilcox, Finlay and Edmonds (2005) argue that staff actively manage responsibility for challenging behaviour. Staff within this study may have been

attending to these issues during the challenging interaction. However, Henry and Fetters (2012) note that participants' responses may be directed towards meeting the interactional pressures of the interview, resulting in socially desirable responses. As such, it is unclear whether this finding represents staff experiences at the time of the interaction or their reflections on the incident at the time of the interview (Lyle, 2003).

Some participants reported evaluating their interventions. This involved either waiting to see if an intervention was effective, or judging an intervention to be ineffective. The latter seemed to lead one staff member to feel persistently demotivated. This is consistent with studies that have found staff members becoming self-critical during interactions (Lundström *et al.*, 2007). However, such emotions were absent within the reports of other staff members. There are a number of factors which may have contributed to this difference, including the nature of the challenging behaviour, aspects of the service user, gender differences and individual differences between staff members.

Participants also reported planning their intervention. Ravoux *et al*. (2011) argue that staff members' ability to weigh up information during a challenging interaction is largely dependent on their ability to regulate their emotions. However, given the variation between the interactions, and the limited amount of data regarding emotional reactions, it is difficult draw any conclusions.

Some staff members attended not only to the negative aspects of the service users' behaviour. Attending to positive aspects of their behaviour seemed to be related to positive emotions. The ability to attend to the positive was more common in staff members responding to Bob and in fragment seven (which had the lowest levels of aggressive destructive behaviour), suggesting that the ability to do so may have been influenced by the type of the behaviour. However, due to the low frequency of these reports and the possible variation in other variables between fragments, firm conclusions cannot be drawn.

Staff members reported drawing on past experiences. The least experienced staff member reported being affected by a memory of a recent incident in which she was hit by the service user. Raczka (2005) found evidence of PTSD-type reactions in staff members having such experiences with violence. While there was no evidence of these reactions in this case, this staff member's memory had a lasting impact on her emotional responses to the user's behaviour. While some studies have attended to the development of staff responses to challenging behaviour (Whittington & Burns, 2005), little attention has been paid to the impact of such formative experiences. Other staff members reported relying on over-learned or automatic behaviour when faced with challenging behaviour. This may represent reflex responses within staff members, as opposed to the more reflective responses staff have when they are able to plan their next intervention.

Finally, given the opportunity to respond freely, staff members reported a wide range of emotional responses. Anxiety was reported frequently, an emotion which is not accounted for within the attributional theories applied within the challenging behaviour context. This again suggests that other factors regarding threat and safety may have an important impact on staff members' responses. Interestingly, anxiety was more frequently reported in relation to Bob. This may be due to the fact that mainly female staff featured in these interactions. It may have been that they felt more anxious when faced with a potentially aggressive male. Alternatively, the heightened anxiety may have been due to the uncertainty surrounding the type of challenging behaviour Bob would show. Knowing what to expect, even if it was aggression, may have led to different emotions in those responding to Charles. Finally, it must be noted that this difference may relate to the pressures of the interview session. Wilcox et al. (2005) found evidence of staff members negotiating their masculine identities within the interview. Such an effect may have been heightened, given the gender of the primary researcher.

The second aim of the study was to explore the changes in staff responses over the course of an interaction.

Both causal descriptions and attributional structure fluctuated across the course of the interactions. This resulted in a fluctuation in the attributional structure of these explanations. This may suggest that the staff team lacked a consistent approach to understanding the service users' behaviour.

The way in which the causal structure fluctuates seems to vary according to the service user. Attributions of Bob's behaviour showed less fluctuation in the controllability dimension (being seen largely as uncontrollable). Charles's behaviour was more consistently attributed as internal. This may be due to variation in the type of behaviour shown by each service user. However, methods with greater control over potentially confounding variables are required to test this hypothesis.

Overall, these findings challenge a basic assumption of previous studies, which have conceptualised attributions as static and stable aspects of staff members. The present findings are more consistent with a more complex and process-oriented view of staff responses (Hawkins, Allen & Jenkins, 2005; Cudré-Mauroux, 2010).

Despite this variation in attributional content and structure, emotional responses remain relatively stable in five of the six fragments. This may suggest that emotional responses are more dependent on more permanent aspects of the interaction, such as the ability to gain the support from the team or expectations of violence.

Finally, an exploratory analysis was conducted to test the attributional hypotheses outlined in the literature. This suggested a possible association between internal attributions and negative emotions with verbal behaviours. On the other

hand a tentative association was found between mixed (i.e. more positive emotions) and non-verbal communications (including gesture and touch). No association was found for controllability and stability. This points to the importance of locus, which is given less attention in Wiener's models. Others have suggested that internal attributions are more likely to lead to behaviours aimed at changing the person, rather than the environment (Batson, 1975). This is consistent with the tentative associations outlined above, as the most frequent verbal behaviours included making comments regarding stopping the behaviour and giving an instruction. However, these interpretations must be treated very cautiously as the data were pooled due to a paucity of data and thus lacks independence.

4.6 Limitations

In addition to the more specific limitations and caveats outlined above, this study had a number of limitations. Due to restrictions related to data processing, the size was small. While this may have facilitated multilayered analysis of the data, it restricted its generalisability. This was also affected by the fact the sample came from one care home. This was restricted by number of local care homes using video in routine clinical practice. While this seems to be more common practice in continental Europe (Embregts, 2002; Schuengel, Keff, Damen & Worm, 2010) there seems to be a reluctance in the UK to use such approaches (Finlay, Antaki & Walton, 2008).

However, it is hoped that satisfactory information is provided in order for the reader to make a judgement on the transferability of the findings to particular clinical contexts.

The outcomes of the study may have been biased by the interactional pressures of the interview. Potter and Hepburn (2005) identify this as a more general issue with interview studies and recommend the use of naturalistic data.

It is possible that staff reports represent reflections of watching the video rather than recalled experiences. This may have been compounded by the delay between the interactions and interview (Lyle, 2003).

Finally, it could be argued that staff responses were influenced by the presence of the camera. This possibility was reduced in this study as filming was part of routine clinical practice. Participants within such studies are thought to habituate to the presence of a camera (Lambrechts et al., 2009).

4.7 Clinical implications

Bearing the breadth of responses to challenging behaviour highlighted by staff within this study, training programmes may wish to address other aspects in addition to staff beliefs and attributions. Given the high rate of anxiety reported within this study it may be prudent to offer staff members means to understand and

manage anticipated threats associated with work, be those related directly to the

behaviour or the perceived consequences of not managing these effectively.

The fluctuation in attributions observed within this study may represent

confusion and lack of coherence within staff teams' understanding of a behaviour.

Team formulation approaches (British Psychological Society, 2011), with their

emphasis on collaborative co-construction of an understanding may aid consistency

within staff teams (Dick et al., 2010).

Clinicians may be able to capitalise on this fluctuation and instability by

exploring contexts in which staff have more favourable explanations of service user

behaviour and building on these strengths. This may be done with the aid of videoed

interactions.

Finally, this study shows the intensity and complexity of the emotional

responses generated within challenging interactions. This highlights the importance

of developing resilience within staff teams. Mindfulness-based approaches have

recently been shown to have an impact on staff members' wellbeing as well as

improving responses to challenging behaviour (Singh et al., 2006).

4.8 Future research

This study demonstrated the effectiveness of using video elected interviews within the context of challenging behaviour. Future research may seek to increase the social validity of the method by including the views of service users.

Future studies may wish to further explore the relationship between staff reports and their behavioural reactions. This will require greater sample sizes. The current study may act as a guide for the size required for such an analysis.

Of particular interest may be exploring the impact that having mixed attributions or views about a challenging interaction has on staff behavioural responses.

Future studies may wish to examine how staff attend and respond to the positive aspects of service user behaviour within the context of challenging behaviour. Finally, the current study suggests that staff members' formative experiences of challenging behaviour may have a lasting impact on their experience.

4.9 Conclusions

Staff members spontaneously made causal attributions of service user behaviour during challenging interactions. Rather than being a stable attribute of

the staff member, attributions seem to vary to a degree across the course of an interaction. This variation may have positive and negative consequences in that it may show staff to be lacking a coherent narrative about behaviour, but also their responses are not ubiquitously unfavourable, suggesting that clinicians can build on staff strengths and explore the contexts that facilitate favourable attributions. This study also highlighted a number of alternative factors that may influence staff behaviour, and which require attention within staff intervention. Video-elicitation interviewing proved a useful methodology, providing rich and ecologically valid data. However, this method requires a large amount of processing, thus restricting the size of the sample and the nature of the conclusions that could be drawn.

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Section C: Critical Appraisal

Word Count:1983

1. What research skills have you learned and what research abilities have you developed from undertaking this project, and what do you think you need to learn further?

My learning from the process of completing this major research project (MRP) began with the early review of the literature and the selection of an appropriate research question. Much has been written about staff responses to challenging behaviour and many methodological and theoretical issues have been highlighted. I was fortunate enough to collaborate with a number of supervisors, who were able to help me negotiate the landscape of selecting appropriate methods and consider my epistemological approach. From this, I have developed skills as working as part of a research team.

A mixed methodological approach was selected in order to address the lack of studies investigating the relationship between cognitive-emotional variables and observed behaviour. I was particularly interested in exploring causal relationships between these variables.

The process of integrating qualitative and quantitative data was challenging. While I was familiar with behavioural methodologies through previous involvement research with non-human primates, this was not the case with qualitative methods. The process of selecting a methodology allowed me to develop my knowledge and understanding of a wide range of qualitative methods, including interpretive approaches such as IPA and discursive approaches. I was able to develop this

understanding more thoroughly through the completion of a qualitative literature review (Section A), through which I was also able to gain an understanding of qualitative meta-analysis.

This process required a thorough consideration of the epistemological and ontological assumptions inherent in the research question. A realist position was adopted for this study rather than the more common pragmatic position taken within mixed methods approaches (Feilzer, 2010). This may have reflected a lack of confidence and an over-reliance on familiar ways of thinking. This decision ultimately constrained the choice of qualitative methodologies I was able to use.

This was my first experience of using qualitative methods. I developed skills in qualitative interviewing using a structured methodology. I would like to develop further skills in less structured interview methods in the future. I would also like to develop skills in using other qualitative analyses and explore different ways of integrating data from interviews and observed interactions. In particular, ethno-methodological approaches offer an interesting approach to this problem and have been used by others to study care-giving interactions (Heath, Luff & Svensson, 2007). These approaches also seem to address some of the methodological limitations outlined within my study regarding the interactional pressures of the research interview.

However, the selection of qualitative content analysis facilitated the quantification of interview data. This allowed for a unique opportunity to statistically assess the

temporal associations between reported cognitive-emotional factors and observed behaviour. I was able to develop skills in sequential statistical methods including time-window sequential analysis and event lag-sequential analysis. I also developed skills in using specialist software that aids the collection and analysis of complex behavioural data. I would like to develop further skills in testing sequential associations between individuals and groups with lager data sets.

Aiming to capture challenging interactions between staff members and service users had a number of ethical implications. It was important not to place an extra burden on both service users and staff members by introducing video capture into the service. In addition, the service users were deemed not to have the capacity to consent to participating in the study. With these challenges I gained experience in negotiating the more complex issues of consent and seeking assent from those involved in the care of participants through formal best interest procedures.

To reduce the burden on both staff and service users, only care homes already using video methodologies within their practice were approached. This limited the sample from which participants could be drawn. More time and resources would have allowed a lager geographical area to be surveyed for appropriate services.

There was also an ethical dimension to the choice of research question. Some argue that intellectual disabilities research should not follow an academic agenda, but should emanate from the perspectives of the people with intellectual disabilities themselves. Kellet and Nind (2001) argue that this can lead to the exclusion of those

with more complex needs who are less able to represent their own views. This study might have benefited from the meaningful participation of people with intellectual disabilities. I hope to be able to develop skills in this area in the future.

Conducting both the qualitative literature review and the mixed methods study gave me a broader appreciation of the trustworthiness of studies, rather than considering the narrower conditions of validity, and I paid greater attention to the way in which the research findings were communicated. Here I encountered a tension between writing in a manner that was useful and understandable to clinicians, whilst using specialist and complex methodologies. My ability to managing this tension between innovation, complexity and trustworthiness requires further development. In addition, I would like to gain experience in research methodologies with greater social validity, which more directly involve participants in data collection and analysis.

2. **If you were able to do this project again, what would you do differently and why?**

Given more time and resources, I would have attempted to recruit participants from a wider range of care homes. Sampling from one care home limited the generalisability of the findings and possibly limits the clinical settings in which my findings can be applied. Recruiting from a larger number of care homes would have involved operating within a wider geographical area.

I would have attempted to collect a number of different fragments of interaction for each staff member-service user dyad. This would have allowed for data to be pooled and would have resulted in sufficient data for sequential associations to be calculated for each staff member, and for comparisons to be made between staff members. Due to the limited sample size of the study, data was pooled across individuals, leading to an unequal contribution of data between individuals. This severely limited the conclusions that could be drawn from this analysis.

In addition, I would have liked to have conducted a more in-depth qualitative analysis of the interview data. The analysis conducted was at the level of manifest content. Considering the latent content of the data might have provided richer description. Finally, I would have liked to have used incorporated participant validation into the qualitative analysis. This would have increased its trustworthiness.

3. Clinically, as a consequence of doing this study, would you do anything differently and why?

One of the main findings of the study was that staff attributions of challenging behaviour are often mixed and change over the course of an interaction. This may reflect a lack of consensus within the team about how to understand the behaviour. Team formulations can be an important tool in developing consistency. Such

formulations aim to collaboratively co-construct a shared understanding of the behaviour. It has been suggested that such approaches are an effective means of achieving culture change and developing psychosocial understandings (British Psychological Society, 2011). This effect on organisational culture seems particularly attractive, given its influence on staff responses.

Sections A and B highlight a number of important factors in addition to causal attributions, in particular the role of complex and powerful emotional responses and how staff members are able to cope with these. I am interested in using interventions that seek to increase staff resilience at work. Acceptance and Commitment and mindfulness-based approaches have been developed for this purpose (Noone & Hastings, 2009; Singh et al., 2006). However, given that staff members commented on their relationships with other staff members, I would also be interested in exploring whether peer support and practise development forums have a role in increasing resilience in staff members.

The study also points towards the possibility of using video interactions in intervention. Reviewing video allows the considered reflection of responses in challenging interactions. This could be a powerful tool in demonstrating the cognitive and emotional antecedents to preferred and non-preferred responses. This could occur with individual staff members or as a means of supplementing training workshops.

The skill I have developed in carrying out sequential analyses may become useful in clinical practice. In particular, this method may add depth to functional analyses of complex challenging behaviour that I may undertake in the future (Emerson et al., 1996).

Sections A and B suggest that emotional responses to challenging behaviour may be more closely associated with team and organisational factors. I hope to be able to attend more fully to these factors in formulation and intervention. In particular, I hope to be able to assess the organisational culture and the presence of effective leadership more fully when developing formulations. This seems particularly important, given the recent poor CQC review of learning disabilities services, leading the chair of the CQC to conclude that leadership and governance has been lacking (CQC, 2012).

In addition, I would like to consider these issues when delivering training in care homes. I hope to make more use of practice development models such as the Promoting Action on Research Implementation in Health Services (PARIHS) model (Rycroft-Malone, 2004), which explicitly takes into account the status of the evidence, features of the trainer and features of the organization when designing educational interventions.

4. If you were to undertake further research in this area what would that research project seek to answer and how would you go about doing it?

I would like to further explore the sequential associations between cognitive-emotional variables and staff behaviour. This was limited in the current study by the sample size. One factor that limited the sample size was the prohibitive amount of data analysis that would have been required. Future studies may consider using forced choice questionnaires in order to elicit responses during stimulated recall. This could involve staff reviewing videos and checking off their responses from a list at moments of interest. The present study could be used in the development of an appropriate tool to assess staff responses in this analogue manner.

In particular, I would like to have tested specific hypotheses regarding the coping function of reattributions (Cudré-Mauroux, 2010). This could be achieved through the use of event-based sequential analysis testing the probability that negative emotions are more likely to be followed by uncontrollable attributions, leading to either a reduction of negative emotions or the generation of positive emotions. These hypotheses could be tested using the method outlined above.

In addition, the behavioural consequences of not being able to make causal attributions or having mixed understandings of challenging behaviour are unclear. The above methodology could also be used to explore this.

There is also scope for studies investigating some of the novel aspects of staff experience highlighted in the study. For instance, few studies have investigated the impact of staff members' first experiences of challenging behaviour. Qualitative investigations, taking an interpretive approach, may be an appropriate means of investigating this phenomenon further.

Future studies may wish to investigate the effectiveness of using video as an adjunct to training interventions. Video has been used in order to increase staff members' responsiveness to service users (Damen, Worm, Schuengel & Jenssen, 2008). However, such methods have not been used to address staff attributions. Such studies could take the form of single case designs, measuring staff cognitive emotional and behavioural responses to training.

Finally, I would be interested in investigating the impact that team formulations and written formulations have on staff cognitive emotional and behavioural responses to challenging behaviour. For example, one may expect to see greater consistency in causal statements and attributions over the course of a challenging interaction. Such hypotheses could be tested using a controlled trial of team formulation and assessing spontaneous attributions in naturally occurring staff talk (e.g. in team meetings or case reviews). Demonstrating a change in attributions may point towards a mechanism by which team formulation affects change in organisational culture.

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Section D: Appendices of Supporting Material

Appendix One
Section A: Table outlining trustworthiness of qualitative studies

Study	Method & analysis	Sample size	Trustworthiness		
			Integrity	*Balance between subjectivity of the participant with authors' reflexivity*	*Clarity of communication & social validity*
Fish (2000)	Unstructured interview Data was subject to phenomenological analysis Phenomenological analysis	9	Prompts used but not reported. Analysis was adequately outlined, but could have been bolstered by making the epistemological and ontological positions more transparent.	The authors made an attempt to bracket their assumptions. However, they were not transparent about the nature of these assumptions. Such information may have aided the readers' interpretation of the categories. The authors ensured the trustworthiness of their interpretations by seeking participants' feedback.	The findings were communicated effectively and were related to existing theory and research.
Lundström, Åström & Graneheim (2007)	Narrative interview asking about experiences and reflections before and after incidents Qualitative content analysis	44	Provides good contextual information, aiding the potential transferability of the findings. However, seems to lack in-depth information about the service users (e.g. the gender of the service users were not reported).	Authors attempted to remain reflexive by working within a team in which the work was audited.	Findings are communicated effectively. While the authors relate the findings to extant research, there seems to be a lack of theoretical analysis of the findings. The authors acknowledge this, specifically in relation to feelings of lack of time, and suggest that further research is needed.

Campbell (2011)	Semi-structured interview Thematic analysis	6	Authors note that sufficient time was allocated to ensure consistency and reliability of results. However, how this was ensured was not outlined.	Authors do not make clear if they account for their own biases.	Relates findings to other extant studies, although there seems to be an over reliance on one or two particular references.
James & Warner (2005)	Q-methodology Exploration of subjective opinion. Statements generated from interviews and supplemented with information from the literature.	40	Sample statements were obtained from a wide variety of sources. Examples were given to ensure transparency of interpretation. Methodology clearly outlined.	Acknowledges the interpretative task involved in Q-Methodology. However, does not account for how the author's subjectivity is managed.	Findings were linked to the extant literature on staff beliefs and to a broader theoretical perspective (social constructionism). This study is highly socially valid in that it challenges conventional approaches to challenging behaviour or self-harm. It also makes concrete suggestions for intervention.
Dick, Gleeson, Johnstone & Weston (2010)	Q-methodology Exploration of subjective opinion. Statements generated from interview with a nurse, psychiatrist and two unqualified day service staff. Supplemented with information from the literature.	30	Sample included a range of staff inkling those with varying degrees of professional qualification.	Acknowledges role for reflexivity, but doesn't state how achieved, aside from consultation with research supervisors. Member checking was done.	This study was clearly articulated. Good links have been made between the findings, extant research and the requests of service users, making this a highly socially valid study.

Whittington & Burns (2005)	Thematic analysis, drawing on the principles of interpretive phenomenological analysis and grounded theory	18	This study did not ask about particular events and therefore it is unclear which experiences staff members report.	Accounted well for the subjectivity of the researcher. Respondent validation.	Findings are communicated well with good links made to both the extant literature and theoretical perspectives.
Jahoda & Wanless (2005)	Interview based on the REBT interview in which staff are asked to recall an incident Content analysis. Categories generated using a grounded approach	36	This study asks staff to recall particular incidents, increasing the integrity of the data.	The study was able to elicit candid responses from participants, which suggests a lack of socially desirable responding. The authors do not formally acknowledge the role that their own biases may have played in the interpretation of the data and genesis of deductive codes.	Findings were communicated effectively and related to the extant research and theoretical literature. Clear and practical clinical implications are provided.

Wilcox, Finlay & Edmonds (2006)	Discourse Analysis	10	Methodology clearly outlined. Authors used a semi-structured interview in order to allow participants to make use of a wide range of discourses. However, this fails the "dead psychologist test", a conceptual test which highlights data which would have been generated without the input of the researcher (Potter & Hepburn, 2007). The participants may be involved in managing the specific interaction of the interview context.	Parker (1997) notes that studies drawn from this ethno-methodological tradition have not paid adequate attention to the subjective experience of the participants. This seems to represent a general threat to the balance achieved between subjectivity and reflexivity that is present in this method, rather than a particular feature of these studies. Little attention was paid to the position of the interviewer as a female psychologist in relation to the interviewee, despite making general reference to the management of masculine subject positions and the relevance of the working context of the staff members (e.g. low wages) in their day-to-day work .	This study was communicated well, making good links to research theory and clinical practice. This study raised issues with particular relevance to future research.
Ravoux, Baker & Brown (2011	Grounded theory	11	Interview data triangulated with service documentation. Authors note that the sample was relatively restricted, which impacts the transferability of the findings. Negative cases.	Research diary. Respondent validation .	This study was communicated well, making good links to research theory and clinical practice.

Hawkins, Allen & Jenkins (2005)	Grounded theory	14	Post-incident procedure. 25% of the data was independently audited and inter-rater agreement (96%) reported. Triangulation with behavioural monitoring forms.	Research diary	This study was communicated well, making good links to research theory and clinical practice.
Cudré-Mauroux (2010); Cudré-Mauroux (2011)	Semi-structured interview five days after the incident. Mixed categorical design resulting in construction of case studies.	10	Inter-rater agreement calculated (93% and 90% after discussion with auditors, for the two respective studies).	Respondent validation Unclear how the author managed her own biases when interpreting the data.	The communication of the findings was complex at times, making it difficult for the reader to understand. This may reflect the complex analytical framework used in the analysis.

Appendix Two
Section A: Literature review strategies

The literature search was conducted on 28Th November 2011. The terms "challenging behaviour" and "staff" were entered, in combination with a group of terms used to describe intellectual disabilities: "learning disabilities", "intellectual disabilities" and "mental retardation". Terms were entered into the following databases: PsychInfo, Applied Social Science Index and Abstracts (ASSIA), and the British Education Index. A manual search of the references of obtained studies was also conducted. Abstracts were read in order to assess suitability of the studies.

Inclusion criteria

Only studies using qualitative methods were reviewed. All types of behaviour considered by staff to be challenging were included. James and Warner (2005) note the difficulties in ascertaining intent to self-harm in people with intellectual disabilities and suggest that making a distinction between self-injurious behaviour and self-harm serves to reinforce the notion that people with intellectual disabilities act without reason or motivation. For this reason, studies investigating self-harm were included within the review.

Appendix Three
Section A: Table outlining themes emerging within the qualitative literature review*

Domain	Category	Subcategory	
Cognition	Content	Causal attributions	Controllability
			Stability/self-efficacy
			Locus
		Interpersonal appraisal and relational cognitions	
		Anticipation of violence	
		Self-criticism and the management of blame	
		Gender stereotypes	
	Process	Understandings of challenging behaviour are mixed or ambivalent	
		Challenging behaviour is difficult to understand	
		Ability to reflect and recall information	
Emotion	Content	Self-directed emotions	Failure, guilt and disappointment (with self)
		Fear and associated emotions	Anxiety, stress, dread
		Anger	Frustration, annoyance, irritation
		Powerlessness	
		Sadness	
		Disgust	
		Hope	
	Process	Emotion regulation	Fluctuation of emotion over the course of an incident
Behaviour	Attributions as behaviour		
	Avoidance		
	Changing the person		
	Changing the environment		
Organisational & systemic issues	Team level	Role	
		Leadership	
	Organisational level	Transformational variables	Culture
		Transactional variables	Reciprocity
	Wider systems		

*Literature themes were generated using Timulak's (2009) qualitative meta-analysis methodology as a guide. Notes were generated outlining the main findings of each of the papers. These findings were subject to a thematic analysis in which data were assigned to broad domains. The general cognitive- emotional model was used as a conceptual framework, such that cognition, emotion and behaviour formed a priori domains. Timulak (2009) recommends that conceptual frameworks be used loosely in order for other domains to emerge from

the data. Findings within each domain were compared and contrasted with each other in order to develop categories and subcategories.

Appendix Four

Example of information sheets & consent forms

Information about the research
Staff members

Study title: Staff Members' Moment by Moment Responses to Challenging Behaviour.

I would like to invite you to take part in our research study. Before you decide I would like you to understand why the research is being done and what it would involve for you. I will go through the information sheet with you and answer any questions you have. I suggest this should take about 30 minutes. Please talk to others about the study if you think that this would be helpful.
Please ask me if there is anything that is not clear.

What will happen in this study?

This study is related to the filming that has been recently introduced at ASD Unique.

When a staff member encounters challenging behaviour during this filming, the manager will contact the researcher to arrange an interview within 48 hours. The interview will involve watching the incident back with the staff member and discussing the thoughts and feelings they were experiencing at the time. At the end of the interview there will be some time for the staff member to discuss what the interview process was like and any issues that may have arisen. Later, the researcher will look at how these thoughts and feelings related to what the staff member did in response to the challenging behaviour.
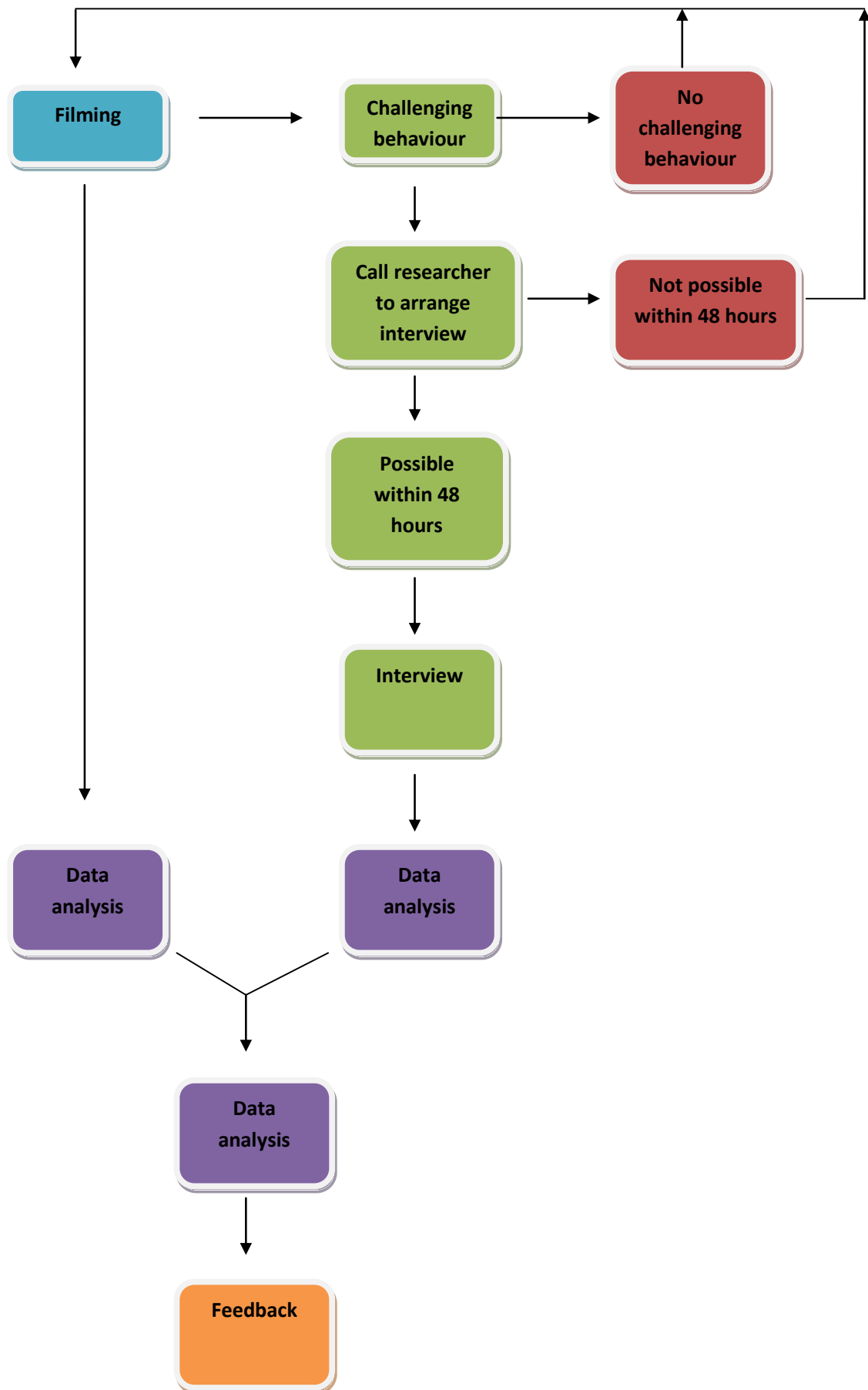
What is the purpose of the research?

This research aims to study how staff members react to challenging behaviour. Previous research has shown that experiences of challenging behaviour can result in very strong emotions in staff members and that staff members can have a number of different thoughts when faced with challenging behaviour.

Most of these studies have asked staff to remember their thoughts and feelings after the experience of challenging behaviour and often do not relate their experience at the time to what they actually did in that moment.

This piece of research has three main aims:

1. To find out what thoughts and feelings staff members have when faced with challenging behaviour;
2. To find out what staff members actually do in response to the challenging behaviour;
3. To find out how their thoughts and feelings relate to what they do at the time.

The results of this study will help us understand how the complex thoughts and feelings experienced by staff members affect what they do in response to challenging behaviour. These results may help others develop effective training programmes for staff members to help them improve their practice and cope with the effects of challenging behaviour.

What is asked of you?

If you consent to take part in the study you will have to take part in an interview using the film of yourself responding to an episode of challenging behaviour to help you remember what you were thinking and feeling at the time.

What are the possible disadvantages and risks of taking part?

- It may be difficult to watch yourself on video
- It may be difficult to see how you responded to the challenging behaviour, if you would have preferred to respond in a different way.
- It may be difficult to talk about some of the strong emotions and powerful thoughts you have during the incident of challenging behaviour.

NB. Before participating you should consider if this will affect any insurance you have and seek advice if necessary

What are the possible benefits of taking part?

- You will have the opportunity to reflect on your responses to challenging behaviour.
- You may learn about how your emotions and thoughts relate to what you do in response to challenging behaviour. This may allow you to respond differently in the future.
- You will have the opportunity to share some of the difficulties staff can have when managing challenging behaviour.

What will happen if I don't want to carry on with the study?

It is up to you to decide to participate in this study.

Deciding not to participate in this study will not affect your position in the organisation.

If you withdraw from the study, we will destroy all your identifiable samples.

Withdrawing from the study will not affect your position at work.

Will my taking part in this study be kept confidential?

All information collected for the purpose of this study will be held anonymously. It will be stored on a password-protected notebook in a password-protected file. All information will be held for five years. Information will only be viewed by the principal researcher and supervisors of the project.
It should be noted that the normal limits to confidentiality apply in this study i.e. information concerning harm to oneself or others will need to be shared appropriately.

What will happen to the results of the research study?

It is intended that the results of this study be submitted for publication in an academic journal.

The results will be fed back to individual participants by letter after completion of the study.
Who has reviewed the study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by Department of Applied Psychology Research Ethics Committee.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions. If you remain unhappy and wish to complain formally, you can do this. Details can be obtained from the principal researcher.

Further information and contact details

Tony Levitan
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CONSENT FORM
Staff members
Staff Members' Moment by Moment Responses to Challenging Behaviour:
Tony Levitan

Please tick to confirm

1. I confirm that I have read and understand the information sheet dated.................... for the above study. 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 am free to withdraw at any time without giving any reason.

3. I agree to being filmed interacting with a service users during an episode of challenging behaviour and for this information to be stored securely.

4. I agree to take part in the above study.

5. I understand that the results of the above study are intended to be published in a scientific journal.

Name of participant	Date	Signature
_____	_____	_____

Name of researcher	Date	Signature
_____	_____	_____

Information for family members regarding Person Centred Active Support

Tel/Fax **[REMOVED]**   **[ADDRESS]**

Friday 26th November 2010

As the Manager and Assistant Manager of an excellent rated service, we are looking to further improve the support the service gives to service users by gaining a formal qualification to train our staff team in person centred active support. As part of us gaining this qualification, we require video footage of ourselves and other staff supporting service users in normal activities of their daily lives**.**

This video footage will be viewed only by staff members working within the service of [REMOVED] and (on a one-off occasion) by the professional we are receiving our training from, [REMOVED].

The videos will continue to be taken and used on an on-going basis within training and development for staff at the service both on an individual basis, for reflective development of practice, and in service user focus meetings for the same purpose (as we have sought consent for previously).

Our local learning disability team are currently also supporting some research into staffs members' reactions and emotions whilst dealing with episodes of challenging behaviour. As part of this, the researcher would also have access to the videos to be viewed with the staff member involved as part of his information gathering for his project. He would require no further viewings or records of the video other than that stated above.

At no time will the videos be viewed by any other persons that those directly involved in the support of your loved one, or in any way which is not directly related to improving the quality of support and service your loved one receives, via staff training and support.

Should you require any further information regarding the use of video footage please do not hesitate to contact Fiona or Sophie during office hours at [REMOVED].

Yours Sincerely

[REMOVED]
Manager

I _____ (PRINT) consent to the use of videoing with my

son, _____ for the purposes detailed above.

Signed   Date

Information sheet for service users.

My Name is Tony Levitan. I am a student.

I want to find out how staff can help you better when you are upset.
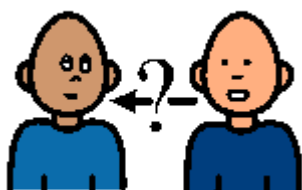
I would like to watch films about you and staff when you are upset.
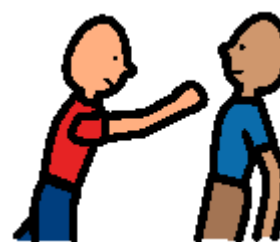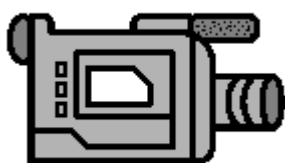
I hope that this will help staff to care for you better.

Appendix Five

Interview protocol

1. Introduction to video elicitation interview:
- When working with challenging behaviour people can have very strong emotional reactions and powerful thoughts.
- There is very little research looking into peoples' responses to challenging behaviour, moment by moment, as the behaviour unfolds.
- Knowing more about this process may help us understand some of the difficulties staff members face when working with challenging behaviour, as well as help us to support staff members to work effectively with service users.
- This study is about how people respond to challenging behaviour in terms of the thoughts and feelings they have, moment by moment during the incident, and how this relates to how they behave in response to challenging behaviour.
- In a moment we will start to review the video of the episode of challenging behaviour that we have selected.
- We will start by reviewing the video.
- We will watch the video again. I will ask you to stop the video at any significant points.
- At these points we will have a discussion about your thoughts and feelings as they were there and then.
- Afterwards we can discuss how you found this process and any issues it raised for you.
- Remember that this interview is confidential and that we are interested in your honest answers, even though some of the thoughts and feeling you might have may be difficult to talk about.

2. Hand participant the remote and check that they understand the protocol.
3. Begin the tape, stop and explore participants thoughts and feelings using prompts.
4. Prompts:
- What were you thinking at the time?
- What were you feeling at the time?
- What was he doing?
- Why did you think he was trying to do that?
- How did you see the service user at that time?
- Was he justified in what he was doing?

Appendix Six

Example of transcript and coding for content of moments of interest and emotional reactions

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Appendix Seven

Coding frame and coding for content of moments of interest and emotions

Moments of interest		
Category	Description	Example
Explaining challenging behaviour	Staff member comments on the cause of the challenging behaviour	"'Cause at this point obviously what's in his head is bothering him." "because he's stuck in his thoughts. He can't get out. He can't process what he needs to process."
Explaining staff behaviour	Staff member attempts to explain or give a rationale for their own behaviour or intervention.	"I was trying to get him to sit down. Because when he stops pacing it's better and also he's in one place." "I keep putting my foot in the door there."
Anticipating challenging behaviour	Staff member expects challenging behaviour to occur, including aggression towards self and others.	"It's slipping again; it's going to go on a bit longer. A bit of a blow, a setback. I'm in for the duration." "You know as to which way it's going to go. 'Cause he could quite easily smash everything in the kitchen and obviously it's a dangerous place for him to be."
Anticipating or recognising the end of the incident	Staff member notices that the interaction has become less challenging or has completely finished.	"the tension goes down a bit and the worry goes down a bit 'cause I know now that he is going to go upstairs to his room." "We've got here where Bob has started to be verbal with me. I know that he's coming out of self-harm but I know it's not finished. I know for certain it's not finished and he is going to hit himself a bit more. But the fact that he's verbally communicating with me sort of signifies the end or ending of that episode as such."
Evaluating the current intervention	The staff member evaluates the intervention either as failing or requiring further monitoring in order to assess its efficacy.	"I think at this stage I'm kind of realising that I don't think the tea routine is going to win" "I'm not happy with myself. I'm not getting where I'm wanting to get."
Planning the next intervention	Staff member states that they actively planning or comments on what they plan to do next	"Always thinking of the next steps. Now I clocked what he [was] reciting [I] know that it's going to be a lot easier for me to sort of …" "Basically trying to think of what do I do when do I step in. how can I help him."

Nature of the challenging behaviour	Staff member comments on the frequency, duration or typology of the challenging behaviour	"I've never worked with a client that's been so violent against themselves. I've been with clients that have tried to be violent with me, or other services users, but never to themselves, never to their body." "I think when he's punching his legs and his arms it doesn't bother me so much. But when it's his head and the force that he does punch his head at … it does concern me"
Safety concerns	Comments on the safety of the service user or others within the home.	"Also at the far side of the kitchen we've got a new girl who was observing. So my mind was also on that, as to not let her get too close." "Because you [have] also got to watch other service users around you and potential new staff"
Positive service user behaviour	Comments on a positive aspect of the service user behaviour including stopping challenging behaviour.	"I think he was writing his list or he's reading his list. And he focuses his attention on what he's doing and that helps him" "I felt then like he'd finished hitting himself. But I felt. I could see him start to focus on things and process what he'd been doing."
Team issues	Commenting on positive or negative aspects of working with other team members.	"I think that's me looking for another staff member maybe. Looking for back up. For someone else in the room." "I'm also irritated that no one has used their initiative to get [REMOVED] out of the way. You know, there was a house full of people and anyone could have stepped in at any point."
Roles and relationships	Comments on the effects of specific relationships or rapport with service users or occupying professional roles	"I can do this with him. If this was someone else he would have hit them. There's no shadow, there's no doubt in my mind that he would have been hitting people at this point." "But, um, I think I was … I felt I had just lost it. There was a bit of rapport with P and I think I've lost it"
Drawing on previous experience and knowledge	Relying on previously learned knowledge to inform behaviour or past negative experiences influencing current behaviour	"I don't really think a lot to be honest. I just get on with it. I sort of know the pattern, I know the routine so I'm putting the sugar in the tea and I'm thinking he'll drink this and I'll take him upstairs." "Its knowing that some of these things are going to happen and then having to think back to how you dealt with it at other times to try and make this particular time go as smoothly or to make it as short as possible"

Managing multiple service users	Makes reference to working with or managing the behaviour of more than one service user at a time.	"quite irritated with [REMOVED], actually. 'Cause I'm thinking, 'go away', actually. I'm thinking, 'go leave Bob alone, let him calm down, and then I can give you some time'." "I: So let Bob go out of the house. When he goes out of the room, Charles will be very free and I'll quickly calm him down. T: How were you feeling at that point? I: 'Cause Bob was making a cup of tea, I'm finished with Charles. The only thing is to deal with Bob."
Lack of experience	Comments on their lack of experience.	"I: So let Bob go out of the house. When he goes out of the room, Charles will be very free and I'll quickly calm him down. T: How were you feeling at that point? I: 'Cause Bob was making a cup of tea, I'm finished with Charles. The only thing is to deal with Bob."
Viewing the situation as unjust	Viewing a behaviour as unjust or unreasonable	"I'm getting annoyed. Because it … he already has loads of sugar on there. So he doesn't need more sugar. This is just purely a way … this is an unreasonable request, I think" "I think it's unfair on me really. It is a bit [like] if I'm standing back and whatever, the way I'm having to put up with what he's doing. I think it's a little bit unreasonable."
Negative view of the service user	Staff member recalls having a negative view of the service user	"T: How did you see P at that moment? I: Burdensome, I guess, would probably be … 'Cause I've already said I'm going to have to hand this over to someone. I should be handing out meds. So all my time is being sucked up by P at the minute and has been for the last hour or so. So there's that sort of feeling that it's a waste of time."

Emotional reactions		
	Definition	Example
Anxiety	Including fear of harm coming to themselves or others, nervousness, feeling tense and being vigilant	"And at this point I think I do tend to worry about other staff and clients around the house" "I: what were your feelings, your emotions? P: The thing was, now is the time to be vigilant."
Sympathy	Including feelings of concern, sadness for the service user, concern about their well being	"mostly I would feel sorry for him because he would be hurting and hitting himself" "I think it is major concern. Because if you damage your head that could be fatal and cause more problems"
Calmness	Including any reduction in an emotion, relief and reassurance	"very calm. I've just sort of taken it in. I suppose you [have to] just like watch and be very observant and look for the little things" "I: What were you feeling at that time? P: bit of relief that he's not hitting himself"
Demotivation	Including self-criticism, helplessness, fatigue and lack or confidence, feeling fed up	"I'm fed up with this sort of behaviour" "Its not [that] your hopes are dashed. Iit's one more day to Christmas"
Anger	Including frustration, annoyance, irritation	"I was feeling a bit annoyed again I think" "And I should think at that time I'm beginning to feel finger-tapping. You know, that frustration"
Optimism	Including feelings of happiness and confidence	"feeling good again. When he starts to do those things himself." "I know what he's going to do now. I feel more secure in myself again."

Causal descriptions	Description
Being distressed	the cause of the behaviour is identified as a strong emotion, distressing thought
Attention	wanting attention from another including behaving in such as way as to illicit a response from staff members or in a way that prolongs an interaction
Intentional behaviour	cause of the behaviour thought to be under the intentional control of the service user and cannot be categorised as either attention, trying to manage emotions, or wanting to be in control
Staff behaviour	cause of the behaviour is identified as something a staff member has done
Physical reaction	cause of the behaviour is identified as a reaction to a physical sensation e.g. being hot.
Wanting to be in control	indicates that the service user wants to remain in control of an interaction or sees the interaction as a game to be played
Information-processing difficulties	difficulties processing sensory information or making reference to problems with thinking
Trying to manage his emotions	cause of the behaviour thought to be a result of a failed attempt to cope
Environmental	environmental conditions.
Behaviour of others	cause of behaviour thought to be due to the behaviour of people other than staff members, including housemates and relatives
Not able to cope	indicates that service user cannot cope with intense emotion or situation
Communication difficulties	communication deficits thought to give rise to the behaviour
Global personality trait	behaviour thought to be a result of a global personality trait.

Appendix Eight
Leeds Attributional Coding System methodology and examples of extracted
attributions

Leeds Attributional Coding System (LACS) methodology and example coding.

Attributional statements were extracted from the text coded as "explaining service user challenging behaviour".

Attributions were defined as "statements identifying a factor or factors that produced or contributed to a given outcome" (Stratton *et al*., 1986). This included statements with both a stated and inferred causal relationship. Such statements often contained a causal connective such as "because" (Munton, Stratton, Sylvester & Hanks, 1998).

For each causal statement the outcome and cause were identified.

Causes were subject to qualitative content analysis.

Each statement was rated along the locus, stability and controllability dimensions to facilitate comparison with the attributional literature. The global-specific and personal-universal dimensions were not coded in order to reduce the time demands of data analysis. Noone, Jones and Hastings's (2006) definitions, which have been adapted for the context of staff responses to challenging behaviour, were used.

Locus (Internal-External)	If the cause is believed to originate in the person being coded, then it should be coded as internal. If it originates outside the person, whether a characteristic or behaviour of another person or circumstance, then it should be coded as external.
Stability (Stable -Unstable)	The function of this dimension is to indicate whether a cause that has been proposed in a specific instance would be likely to be operative when a similar issue arises in the future. Events must have high probability in order to be called stable. The operational definition is: ''If the cause is believed … to be more likely than not to apply in the topic of the outcome in the future, then stable; if it would only apply about half the time or less, then unstable'' (Stratton *et al.*, 1986, p. 35).
Controllability (Controllable-Uncontrollable)	The primary concern with this dimension lies in deciding how much influence the person had over the outcome. Controllability can usually be defined from the perspective of the outcome. If the speaker believes that the person being coded could normally manage to significantly influence the outcome in the absence of exceptional effort or circumstances, then it should be coded as controllable. If the causal sequence is believed to be inexorable or the outcome inevitable in normal circumstances, then it should be coded as uncontrollable.

Each moment of interest was given an overall code on each of the dimensions. The moment of interest was coded as "mixed" when different causal statements were in conflict.

Example coding for fragment three

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Appendix Nine
Behavioural coding system

Focal person	Category	Subcategory	Description
Service User	Aggressive destructive behaviour		Offensive actions or deliberate overt attacks directed towards other individuals or objects
	Stereotyped		Voluntary acts that occur repeatedly and looking unusual, strange, or inappropriate to the average person. Not including verbal stereotypy or tics.
	Self-injurious behaviour		Behaviour that causes damage to the person's own body
Staff member	Communication	Instruction	Any command given directly or indirectly (e.g. as a suggestion or question) to which a response is expected e.g. 'Will you wipe the table now?'; 'You can put it down'.
		Reinforcement	Positive statements that serve to encourage the person to continue with a certain behaviour or activity, either verbally (e.g. 'I see'; 'that's right'; 'yes'; 'You're doing well'; 'I agree with that') or non-verbally (e.g. smiling, touching, head nods to encourage and support).
		Statement	Declarative or descriptive statements, including labelling, responding with information requested, indicating a choice, expressing an opinion or correcting.
		Question	The staff member asks something e.g. 'Did you sleep well?'
		Commenting on stopping a challenging behaviour	Including shouting name to distract, asking if calm enough
		Gesture	The staff member makes his view clear with gestures e.g. making a move with the hand to express that the client has to go to another room
		Touch	Physical contact with another person e.g. to support, direct, gain attention.

Maintaining distance	No interaction with service user	In the same room, but not interacting e.g. may be making tea for service user but not assisting them to do so
	Not present in the same room	Leaving the room or not being present in the same room as the service user
	Talking to others	
Stopping challenging behaviour	Physically	The staff member stops the CB physically e.g. stopping the service user by holding his or her arms
	Taking measures	The staff member takes measures or makes changes in the environment to restrict CB e.g. fixing the client, to put on a helmet or mitten, close the door etc.
Interactions	Physical assistance	Doing something with the service user including physically assisting him within an activity
	Doing something for or to the service user	Doing something for or to the service user with no attempt to involve him e.g. making cup of tea .

Appendix Ten

Further information regarding quality assurance checks

Level of analysis	Kappa
Content of moments of interest	k = 0.43
Causal description	k = 0.57
Attributional dimensions	Locus k = 0.46 Stability k = 0.49 Controllability k = 0.67
Emotions	k = 0.79
Behavioural data *	aggressive destructive behaviour k= 0.6 SIB k=0.88 Stereotypy k= 0.69 Staff behavioural categories range between 0.6 to 0.99, with the exception of Taking measures to stop challenging behaviour (0.17) and statement (0.41)

Landis and Koch (1977) described values of Kappa of 0–0.20 as slight, 0.21–0.40 as fair, 0.41–0.60 as moderate, 0.61–0.80 as substantial, and 0.81–1 as almost perfect agreement

*Inter-observer agreement for behavioural categories was calculated using the OBSWIN programme. Agreement was calculated between observers within a one second interval.

Appendix Eleven
Copy of Salomons ethics committee approval

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Appendix Twelve
Table showing the development of cognitions and emotions over time

fragment	time	content of moments of interest	number of unique attributional statements	Cause	attributional dimensions			Overall rating			emotions
					Internal (1) External (0)	Stable (1) Unstable (0)	Controllable (1), Uncontrollable (0)	locus	stability	controllability	
	00:00:09	1	1	staff behaviour	0	0	0	external	unstable	uncontrollable	
		3									anxiety, calm, sympathy
	00:00:14	3									anxiety
	00:00:26			physical sensations	1	0	0				
		1	2	information-processing difficulties	1	1	0	internal	mixed	uncontrollable	
		2									
1		3									anxiety, sympathy
	00:00:10	1	1	being distressed	1	1	0	internal	stable	uncontrollable	
		8									anxiety sympathy
	00:00:51			staff behaviour	0	0	0				
		1	2	information-processing difficulties	1	1	0	mixed	mixed	uncontrollable	
		5									anxiety
	00:01:02	3						none	none	none	
		5									anxiety
	00:01:51	1	1	being distressed	1	1	0	internal	stable	uncontrollable	
		5									
		8									anxiety, sympathy
	00:03:51	1	1	physical sensations	0	0	0	external	unstable	uncontrollable	
2		4									calm sympathy

	Time			Category				Locus	Stability	Control	Emotion
	00:00:28			staff behaviour	0	1	0				
		1	2	information-processing difficulties	1	1	0	mixed	stable	uncontrollable	
		10									
		3									
		6									sympathy, demotivated
	00:02:52	1	1	intentional behaviour	1	0	1	internal	unstable	controllable	
		2									anger, demotivated
	00:03:22	1	1	physical sensations	1	0	0	internal	unstable	uncontrollable	
		10									
		4									
		8									
		7									sympathy, demotivated
	00:04:17	1	1	staff behaviour	0	1	1	external	stable	controllable	
		4									
		2									
		11									
		12									
		6									calmness, optimism
	00:05:32			physical sensations	1	0	0				
		1	2	communication difficulties	1	1	0	internal	mixed	uncontrollable	
		2									
		13									
3		10									calm, sympathy
	00:00:13			being distressed	1	0	0				
				not able to cope	1	1	0				
4		1	4	trying to manage emotions	1	1	1	mixed	mixed	mixed	anxiety, sympathy, demotivation

	Time										
				environmental	0	0	0				
		8									
		12									
		3									
		6									
		14									
		7									
	00:00:33	9									
		3									
		8									
		10									anxiety, sympathy, demotivation, calmness
		2									
	00:02:24	1	1	being distressed	1	0	0	internal	unstable	uncontrollable	
		10									demotivation, calmness
	00:02:40			being distressed	1	0	0				
		1	2	trying to manage emotions	1	0	1	internal	unstable	mixed	sympathy
	00:02:42	4									calmness
	00:02:44	1	1	being distressed	1	0	0	internal	unstable	uncontrollable	
		8									anger
	00:03:05			being distressed	1	0	0				
				information processing difficulties	1	1	0				
				physical sensations	1	0	0				
				behaviour of others	0	1	0				
		1	5	trying to manage emotions	0	0	0	mixed	mixed	uncontrollable	anger, sympathy
	00:03:47	1	1	being distressed	1	0	0	internal	unstable	uncontrollable	
		10									calmness

	Time			Behaviour							Emotion
	00:04:52	1	1	being distressed	1	0	0	internal	unstable	uncontrollable	anxiety
	00:04:59	9									optimism
	00:05:42	1	1	staff behaviour	0	0	0	external	unstable	uncontrollable	anxiety, demotivation
		10									
	00:05:57	9									optimism
	00:06:44	2									anxiety
	00:07:55	1	1	being distressed	1	0	0	internal	unstable	uncontrollable	sympathy
	00:09:37			being distressed	1	0	0				
		1	2	intentional behaviour	1	0	1	internal	unstable	mixed	anxiety
	00:00:20	1		intentional behaviour	1	0	1				
				intentional behaviour	1	0	1				
			3	attention	1	0	1	internal	unstable	controllable	
		4									
		2									calmness, demotivation
	00:02:44		4	attention	1	1	1				
				wanting to be in control	1	0	1				
				wanting to be in control							
				physical sensations	1	0	0				
		1		wanting to be in control	1	0	1	internal	mixed	mixed	
		2									
		16									
		12									anger
	00:03:47			intentional behaviour	1	1	1				
5		1	2	intentional behaviour	1	1	1	internal	stable	controllable	anger
	00:00:13			being distressed	1	0	0				
6		1	5	wanting to be in control	1	0	1	internal	unstable	mixed	anger

	Time			Code				Locus	Stability	Controllability	Emotion
				attention	1	0	1				
				being distressed	1	0	0				
				trying to manage emotions	1	0	1				
		2									
		12									
	00:00:39	9									
		2									
		4									optimism, calmness
	00:00:50			attention	1	0	1				
		1	2	staff behaviour	0	0	0	mixed	unstable	mixed	
		3									
		11									anger
	00:00:59			intentional behaviour	1	0	1				
		1	2	attention	1	0	1	internal	unstable	controllable	anger
	00:01:12			attention	1	0	1				
		1	2	intentional behaviour	1	0	1	internal	unstable	controllable	anger
	00:01:29			intentional behaviour	1	0	1				
		1	2	attention	1	0	1	internal	unstable	controllable	
		15									anger
	00:01:45	1	1	attention	1	0	1	internal	unstable	controllable	
		15									anger
	00:02:18	1	1	attention	1	0	1	internal	unstable	controllable	
		5									demotivation, calmness
	00:00:32			behaviour of others	0	0	0				
				staff behaviour	0	0	0				
7		1	4	intentional behaviour	1	0	1	mixed	unstable	mixed	anxiety

Time			Content							
			being distressed	1	0	0				
	3									
00:00:52	13									demotivation
00:00:57			being distressed	1	0	0				
	1	2	intentional behaviour	1	0	1	internal	unstable	mixed	
	2									
	5									demotivation
00:01:38			being distressed	1	0	0				
			global personality trait	1	1	0				
	1	3	environmental	0	0	0	mixed	mixed	uncontrollable	
	5									demotivation
00:02:43	1	1	staff behaviour	1	0	0	internal	unstable	uncontrollable	
	5									
	3									demotivation
00:02:48			staff behaviour	1	0	0				
	1	2	being distressed	1	0	0	internal	unstable	uncontrollable	
	5									
	3									demotivation
00:06:10			wanting to be in control	1	0	1				
	1	2	attention	1	1	1	internal	mixed	controllable	
	2									
	5									demotivation

Content of moments of interest. 1: explaining service user challenging behaviour; 2: explaining staff behaviour; 3: anticipating challenging behaviour; 4: anticipating or recognising the end of an incident; 5: evaluating the current intervention; 6: planning the next intervention; 7: nature of the challenging behaviour; 8: safety concerns; 9: positive service user behaviour; 10: team issues; 11: roles and relationships; 12: drawing on previous experience and knowledge; 13: managing multiple service users; 14: lack of experience; 15: viewing the situation as unjust; 16: negative view of the service use

Appendix Thirteen
Ethics Committee end of study declaration and report and feedback for the service
and ethics committee

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