STAFF VARIABLES THAT INFLUENCE RESPONSES TO CHALLENGING BEHAVIOUR OF CLIENTS WITH AN INTELLECTUAL DISABILITY: A REVIEW

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ABSTRACT

This study gives a systematic and recent overview of studies that focus on staff variables that may have an influence on the origin and maintenance of challenging behaviour of clients with an intellectual disability. Thirty three studies were identified through computerized searches of the PsycInfo and ERIC-databases on the basis of specific search terms and inclusion criteria. The results were synthesized by using a narrative thematic synthesis. Many studies discussed staff beliefs about the causes of challenging behaviour and staff stress and emotional reactions to challenging behaviour. Furthermore, the relationship between attributions and emotions and between emotional reactions and levels of optimism and willingness to offer help were investigated. Finally, the least presented topic was staff responses to challenging behaviour.

Research about staff variables that may influence their responses to challenging behaviour of individuals with intellectual disabilities is recently increasing. A very important and frequently mentioned factor in the origin and the maintenance of challenging behaviour is the interaction between the individual with an intellectual disability and his or her caregiver. Initially, the principles of applied behavioural analysis have dominated the literature concerning the causes and management of challenging behaviour. At present, more and more attention has been given to the psychological effects of challenging behaviours on others (Hastings, 2002).

Challenging behaviour is considered to be functional and adaptive, shaped through interaction with the physical and social world, more precisely through the environmental consequences (Emerson, 1995). These consequences are termed reinforcers. Oliver (1995) noticed that the effect of self-injury and other challenging behaviours on the behaviour of others has become a subject of research. In this context, mutual reinforcement processes are discussed, 'with self-injury being rewarded by the responses of others and the rewarding responses of others themselves being negatively reinforced by the termination of self-injury' (Oliver). In this context, many studies are based on functional analysis methodologies. In these studies, the functional relationships between challenging behaviour and specific environmental events are studied (for example Iwata, Dorsey, Slifer, Bauman, & Richman, 1994). Only staff behaviour is examined without involving staff psychological effects that may be active in these situations.

Hastings (2002) has proposed a psychological mechanism for the impact of client challenging behaviours on staff well-being. This mechanism is based on Oliver's (1995) model about mutual reinforcement processes in the maintenance of self-injurious behaviour. Hastings (2002) suggested that challenging behaviours lead to negative emotional reactions of staff and that these reactions accumulate over time with an important impact on the well-being (stress and burnout) of staff. Staff negative emotional reactions to challenging behaviours are proposed to mediate the impact of challenging behaviours on staff psychological well-being. In a 2005 review, Hastings has extended this mechanism in developing a broad framework based on research literature on challenging behaviour in settings for individuals with developmental disabilities. He stated that the connections between challenging behaviour, staff emotional reactions to these behaviours, and staff behaviour are probably the most robust relationships. Three other variables that are connected with the variables already mentioned are staff beliefs, staff psychological resources, and service and organizational factors and service culture. Studies in this research domain not

only examine staff and client behaviour and possible relations in between, but also pay attention to variables that can have an influence on these behaviours.

The aim of this review is to give a systematic and recent overview of studies that focus on staff variables that can have an influence on the origin and maintenance of challenging behaviour. Our purpose is to involve all empirical studies in this area and offer recent developments and findings.

Consequently, the main research question of this review is: 'Which recent empirical studies are published concerning staff variables that may influence their responses to challenging behaviour of clients with an intellectual disability?'. We will discuss the methods that are used in these studies, give an overview of the main results and end with conclusions and implications for further research.

METHOD

Inclusion Criteria

The studies that we have included in our review had to consider staff variables that may influence their responses to challenging behaviour. Clients involved in the studies had to be people with an intellectual disability and challenging behaviour. We only selected empirical studies, published in a peer reviewed journal, because these journals guarantee a certain level of quality. We searched all studies concerning this theme in two important databases (the 'Educational Resources Information Center (ERIC)' database and PsycINFO) and only selected articles published between 1995 and 2006 because we chose for a broad perspective and wanted to present a recent overview; rather than start from a theoretical perspective.

Identification and Screening

Searches began in November 2006 in two databases: ERIC and PsycINFO. For *'intellectual disability'*, we used the terms 'disability', 'mental retardation', 'complex needs', 'high support needs', 'cognitive impairment' and 'learning difficulty'. For *'challenging behaviour'*, we used the terms 'challenging behaviour', 'problem behaviour', 'aggression', 'self-injury' and 'self-injurious behaviour'. We considered both US and UK terminology and where necessary, singular and plural forms. We searched for these terms in the categories 'title' and 'descriptors'; a combination of both clusters yielded 2414 articles. Because we wanted to examine articles about *staff variables*, we combined the search instruction just mentioned, with the terms 'staff', 'carer', 'care worker' and 'special educator' in the category

‘title’ or ‘descriptors’. Again we considered singular and plural forms of the terms. This instruction yielded 87 articles.

The following step was a further investigation of the resulting articles, based on the other inclusion criteria. *Eight* articles were not published in a peer reviewed journal. *Five* studies were not empirical: four reviews and one collection of reflections on a study. However, they served as sources of relevant research. *Four* search results referred to books or were book reviews and *four* referred to resource kits or guides. In another *three* articles, instruments or guidelines were discussed. In *eight* studies the participants didn’t meet the preconceived criteria: one was a study with general hospital staff, three studies focused on family carers, two studies focused on staff of children with disabilities in general (next to children with intellectual disabilities, also children with only autism were included), one study focused on practitioners working with young people with challenging and complex problems but these participants didn’t need to have an intellectual disability and in one article, the perspectives and experiences of paraeducators working with students were studied. *Ten* articles had another focus than the focus chosen by us. In one article, setting events in association with challenging behaviour were studied. In another study, an episode of sexual assault was explored. In a third study, researchers examined the relationship among staff and resident characteristics on the one hand, and group home quality on the other hand. The capacities of several agencies, readmission rates and emergency medication or seclusion were investigated in three other articles. In two articles, moving from institutional to community living was stressed. Finally, two studies examined only staff recording of occurrence and frequency of challenging behaviours. In *thirteen* studies, interventions or training programs were discussed. Because we only wanted to give an overview of studies that investigate staff variables themselves, without manipulating them, also these articles were omitted. One article wasn’t available. Eventually, 31 articles were selected for this review. In two articles, two studies are described; so in total, 33 studies are involved in this review.

Synthesis of Research Designs

Because of the variable designs and types of results and because of the variety of variables considered in the studies, comparisons of outcomes were very difficult. Consequently, we couldn’t synthesize the results using a meta-analysis. Therefore, we considered a narrative thematic synthesis. We will give an overview of the selected articles on the basis of the following characteristics: a description of the aims of the study; staff characteristics; client characteristics; description of the challenging behaviour; and the method used to carry out the

study. Next, we will synthesize the results of the articles and discuss their implications for further research.

RESULTS

Overview of Descriptive Characteristics

Table 1 gives an overview of all the selected articles. We will briefly describe the aims of the studies, discuss what the participants (care staff) and the clients are like, explore what kind of challenging behaviours are involved in the studies and what methods are used. Unfortunately, some articles are very limited in reporting this kind of information. The following text is based on the studies that give information about these topics.

The aims of the studies. Some articles are rather descriptive and explore one or several staff variables, but in most articles, relationships between two or more staff variables have been investigated. Most frequently, the views of staff on (clients with) challenging behaviour (n = 11) and staff stress and emotional reactions to challenging behaviour (n = 11) have been studied. Responses to challenging behaviours were the subject in five studies. Another topic that was frequently investigated are the relations between views of staff, emotional reactions and willingness to help (n = 9).

The participants (staff) and the clients. The number of participants differed enormously among the studies: the study with the smallest sample existed of eight participants and the study with the greatest sample existed of 246 participants. In most of the studies, much more participants were female. The age range of the participants was very broad and the mean age fluctuated for most of the studies around 30 to 40 years. Consequently, the years of experience in working with people with intellectual disabilities, differed equable. Three studies distinguished between experienced and inexperienced staff.

Also the number of clients that was referred to, differed enormously, namely from two to 261. In nine studies, no real clients, but scenarios (n = 2), vignettes (n = 5), or videos (n = 1) that present clients with challenging behaviour, and a list of challenging behaviours were involved. In one study, responses of staff to challenging behaviour of real clients and challenging behaviour described in vignettes were compared. In contrast with the participants, most of the clients were male and most of the studies dealt with adults. Only one study explicitly referred to children. It is striking that in many of the studies; the group of clients isn't specified. In 21 of the 33 studies, one only referred to a very general term like 'intellectual disability' (n = 9), 'learning disability' (n = 7), 'mental retardation' (n = 2), 'mentally handicapped' (n = 2), or 'learning difficulties' (n = 1). The other studies explained

the intellectual disability of their clients more in detail and focused on ‘mild intellectual disability’ (*n* = 7), ‘moderate intellectual disability’ (*n* = 8), ‘severe intellectual disability’ (*n* = 8), and/or ‘profound intellectual disability’ (*n* = 2).

Description of challenging behaviour. Although the specific descriptions of challenging behaviours differed (see Table 1), most studies referred to aggressive behaviour, sometimes in combination with self-injurious behaviour and/or stereotyped behaviour. Some authors only talked about challenging or problem behaviour, without describing the behaviour in more detail. One study explored only reactions to self-injurious behaviour. Some studies gave a numeration of behaviours like screaming, pulling hair, and verbal abuse.

Instruments. In more than half of the studies, data were assembled by using questionnaires (*n* = 9), interviews or group inquiries (*n* = 8), or a combination of these two methods (*n* = 3). Questionnaires and interviews were also combined with rating scales (*n* = 7, respectively *n* = 1). Direct observations of staff and client behaviour were once combined with questionnaires and rating scales and once used without another instrument. In two studies, only rating scales were used and in another study, only recording sheets.

Analysis of the Results

First, we will discuss staff beliefs about the causes of challenging behaviour. Next, stress and emotional reactions of staff to challenging behaviour, and their responses to challenging behaviour are discussed. In the last paragraph, we focus on the relationship between attributions and emotions and between emotional reactions and levels of optimism and willingness to offer help.

The views of staff on (clients with) challenging behaviour. In this part, staff beliefs about the causes of challenging behaviour are discussed. These beliefs are mostly referred to as attributions. In this context, three types of attributions have been distinguished. First, the origin of the challenging behaviour can be situated within the client (internal) or not (external). Second, the distinction between a permanent (stable) and a temporary (unstable) cause is made. Third, the client can be in control of his or her behaviour (controllable) or not (uncontrollable). Sometimes a fourth distinction is made: the given cause can be unique to the client (personal) or not (universal). Noone, Jones, and Hastings (2006) interviewed staff about the client that they named as the most challenging they worked with to explore staff attributions. They found that staff generally made attributions about challenging behaviour that were stable, personal, controllable, and internal to the client. This method yielded little

variability in staff attributions and one could conclude that staff weren't that sensitive to likely variations in challenging behaviour including its causal factors. But because it was possible that all staff members had selected behaviours with similar underlying characteristics, Noone et al. carried out a second study. Staff completed a questionnaire concerning two clients with the same aggressive behaviour, but the functions of this behaviour were hypothesized to be different. The results of this second study suggested that staff may be sensitive to the underlying causes of challenging behaviours because they made different attributions for the two different clients. Hastings (1995) used semi-structured interviews and discussed a list of topics (perceptions of definitions of challenging behaviours, the causes of challenging behaviours, interventions for such behaviours, relevant staff training, and service organisation) with care staff. They stated that challenging behaviours were to be controlled or changed and that service users engaged in these behaviours intentionally. Hastings suggested that staff may be more concerned with reducing challenging behaviour than understanding it. A study by Lambert (2002) consisted of a quantitative part (a questionnaire) and a qualitative part (group discussions about hypotheses concerning challenging behaviour mentioned in vignettes). In the quantitative part of his research, factors concerning the material environment, needs, development, frustrations, and the social environment appeared very important to understand challenging behaviours. In the qualitative part, organic factors and lack of staff experience were added as important in causing challenging behaviour. Jahoda and Wanless (2005) concluded by means of interviews that the range of views expressed by staff members pointed to the complex nature of their relationships with the clients. Another important finding was that workers may hold more than one perspective about a person's behaviour. Bromley and Emerson (1995) combined interviews with questionnaires to gather information about characteristics of the setting and the service user, specific interventions for challenging behaviour and the opinion of care staff. This study indicated that the most commonly held beliefs about the causes of challenging behaviours were very general factors over which staff may feel they have little control. Beliefs concerning causal factors over which staff may themselves exercise some control appeared much less.

In three studies, the consequences of the challenging behaviour for the client and for the environment were explicitly compared. Noone et al. (2006) found that behaviours impacting on staff or services are more likely to be defined as challenging than behaviours that have their primary effects on clients. Elgie and Hastings (2002) used a self-report questionnaire to compare behaviours primarily having negative effects on the individual with

intellectual disabilities and behaviours primarily having negative effects on the environment. They concluded that staff rated the first type of behaviours as less challenging and less in need of intervention than the second type of behaviours. These results are in line with the previous study. Wilcox, Finlay, and Edmonds (2006), who analysed interviews with staff using discourse analysis, concluded that accounts focusing on factors internal to the client (individual pathology discourse) as well as accounts focusing on contextual factors (context discourse) were represented. Furthermore, a conclusion of this study was that gender stereotypes had a powerful impact on supposedly objective understandings of a person's actions.

Some authors investigated if any difference exists between the attributions or beliefs of experienced and inexperienced staff or between younger and older staff. Hastings, Remington, and Hopper (1995) explored differences in beliefs between experienced and inexperienced staff on the basis of vignettes. The experienced group underlined more the role of biological factors in the determination of challenging behaviours, whereas the inexperienced participants referred more to the roles of emotional states and environmental antecedents. Two years later, Hastings, Reed, and Watts (1997) examined the attributions of experienced staff and inexperienced students by means of three vignettes describing a fictitious young man's challenging behaviour. In contrast with the previous findings, the experienced staff in this study referred to environmental, emotional, and biological factors as likely causes of challenging behaviour. Furthermore, the answers of the experienced staff were more conforming to aspects of behavioural models of challenging behaviours that are dominant in research and intervention literature (Hastings et al., 1995). Their beliefs about the causes of challenging behaviours also varied with the topography of behaviour that they were asked to consider (stereotypy, aggression and self-injury) (Hastings et al., 1995, 1997). Stereotypy was viewed as an activity that achieves stimulation, whereas self-injury and aggression were thought more likely to be caused by emotional and social factors. In Hastings et al. (1995), inexperienced participants did not distinguish as clearly between different topographies of challenging behaviours, whereas in Hastings et al. (1997), no significant differences between experienced and inexperienced staff were found. Wanless and Jahoda (2002) used questionnaires with two brief vignettes describing incidents of physical and verbal aggression to compare the beliefs of younger and older staff. They concluded that younger staff tended to evaluate the clients and their behaviour more negatively than older staff. In contrast with these findings, no relation between experience/training variables and beliefs about challenging behaviours were found in the study of Elgie and Hastings (2002).

Tynan and Allen (2002) were interested in the attributions of care staff on aggressive behaviour concerning clients with a mild disability in comparison with clients with a severe disability. They used two vignettes, one describing a girl with mild intellectual disabilities and challenging behaviour and one describing a girl with severe intellectual disabilities and challenging behaviour and asked care staff to complete three questionnaires. Participants in the mild disability condition rated the aggressive behaviour to be due to factors significantly more under the control of the service user and perceived the aggressive behaviour as significantly less challenging than those in the severe disability condition. Care staff in both conditions didn't differ in their answers about attributions of locus and stability and selected both emotional and learned behaviour causal explanations for the aggressive behaviour, besides physical environmental factors. However, the participants in the severe disability condition considered the biomedical model to be of significantly greater causal relevance.

Stress, well-being, and emotional reactions to challenging behaviours. In several studies, possible causes of staff stress (and other related variables like burnout and job turnover) and staff well-being in relation to working with clients with challenging behaviour are investigated. Next, in some studies, staff emotional reactions to challenging behaviour are emphasized. Finally, the relationship between emotional reactions on challenging behaviour on the one hand, and stress (burnout and coping strategies) on the other hand is discussed.

In Robertson et al. (2005), staff members completed questionnaires on potential sources of stress, well-being, sick leave, job strain, intended turnover and work satisfaction. All staff members worked with adults with intellectual disabilities and challenging behaviour, but one group of staff members in a non-congregate supported setting and another group in a congregate supported setting. Around a third of all staff members was likely to seek new employment in the next year. The main reasons for this turnover may not be related to the demands of working with people with challenging behaviour, but rather because of job insecurity and poor pay. In contrast with staff of congregate settings, staff of non-congregate settings reported greater stress because of a lack of procedures to deal with challenging behaviour. The results of Chung, Corbett, and Cumella (1995) also indicated that staff burnout wasn't associated with direct contact with clients with challenging behaviour but rather with managerial issues such as shift work, lack of support from management, and the need for training. They investigated staff burnout by means of interviews and questionnaires in staff working with people with learning difficulties and challenging behaviour. In Bromley and Emerson (1995), the absence of any effective way of dealing with the challenging

behaviour was mentioned as a source of stress when asking the opinion of staff members with questionnaires and interviews. However, in this study the challenging behaviour itself also formed a stressor for staff members. Definite or ‘strong’ sources of stress were that the client’s challenging behaviour was wearing over time, the unpredictability of the behaviour and the difficulty of understanding the behaviour. In Jenkins, Rose, and Lovell (1997), psychological well-being of staff in a challenging behaviour group and a non-challenging behaviour group was explored by means of questionnaires. Staff in the challenging behaviour group generally felt less supported and were more anxious than staff in the non-challenging group and there was a non-significant trend of higher reported levels of depression in comparison with the non-challenging group. Also in this study, both of the previously mentioned two causes were found, dependent on the emotion: challenging behaviour and job demands were the best predictors of staff anxiety and lack of staff support was the best predictor of depression. Bell and Espie (2002) investigated staff satisfaction and emotion by using questionnaires. In contrast with the previous findings, they concluded that staff felt confident and well supported in practical terms, but again this group of staff members showed dissatisfaction in many areas regarding support from their seniors and from management. Raczka (2005) used focus group interviews by staff working with people with challenging behaviours to discuss their experiences of stress. Staff indicated that they were exposed to high levels of potential work-related stressors and in this study; the highest rating of stressfulness was violent service user behaviour. In contrast to these findings are the results of Murray, Sinclair, Kidd, Quigley, and McKenzie (1999), wherein daily records of assault and staff sickness levels were recorded over a period of 18 months. No significant relationships were found between assault levels and staff sickness levels.

In the following studies, emotional reactions to challenging behaviour are emphasized. In Raczka (2005), a number of staff described intense emotional reactions of fear and helplessness and persistent re-experiencing of events in the form of intrusive thoughts and dreams with associated distress. Bromley and Emerson (1995) concluded that care staff typically experienced a range of emotional reactions depending on the type of challenging behaviour. To episodes of aggression, most respondents answered to react with annoyance, anger, and fear and to episodes of self-injury, with feelings of sadness, despair, anger, annoyance, and disgust. In Bell and Espie (2002), staff expressed positive attitudes towards the residents with challenging behaviour. This manifested itself in feelings of high confidence, empathy, and need to help, and low levels of feelings of excitement, fear, and disgust, despite a degree of work-related stress. Whittington and Burns (2005) interviewed

staff members about the dilemmas they encounter in their practice. Dilemmas were experienced about how to deal with emotional reactions. They experienced a number of unpleasant feelings like fear and frustration. Furthermore, staff members described ambivalence about whether to see the behaviour as 'learned' and respond 'firmly' or to see it as 'communication' and respond 'kindly'. In Wanless and Jahoda (2002), questionnaires regarding two brief vignettes describing incidents of aggression and a cognitive behavioural interview to elicit emotions and interpersonal appraisals experienced in a real situation were used. They concluded that real incidents of aggression evoked stronger emotional responses and more negative evaluations of clients and their behaviour in comparison with hypothetical scenarios.

In this last section, relationships between emotional reactions on challenging behaviour on the one hand, and stress (burnout and coping strategies) on the other hand are discussed. In Rose, Horne, Rose, and Hastings (2004), staff members completed two questionnaires about burnout and emotional reactions. Staff's emotional reactions to challenging behaviour were associated with emotional exhaustion and depersonalization burnout. These are the two dimensions of burnout that are conceptually focused on relationships with or feelings towards service users. Mitchell and Hastings (2001) asked staff members to complete questionnaires on emotional reactions, coping strategies and burnout. They found three key dimensions to coping strategies that staff used when working with challenging behaviours: adaptive strategies, disengagement coping, and denial coping. Adaptive strategies were predictive on increased feelings of personal accomplishment, whereas disengagement strategies predicted both emotional exhaustion and less positive feelings of personal accomplishment. Furthermore, depersonalization and emotional exhaustion were related to depression and anger to challenging behaviour.

Responses to challenging behaviours. In this part, studies are discussed that go further into the responses of staff to challenging behaviour. In Hastings (1995), reactions of staff were investigated by means of interviews. Saloviita (2002) used questionnaires and examined the relation between the severity of challenging behaviour and staff reactions. Wilson, Reed, and Bartak (1995) observed clients and staff during a period of nine months to assess staff responses. Hastings concluded that, in the short term, control and the prevention of harm were mentioned, whereas the goals in the longer term were different. In their comments about longer-term interventions for challenging behaviour, 'improved life conditions' was the most frequently mentioned topic. Another finding was that responses to challenging behaviours

were not closely related to conceptual frameworks with appropriate causal explanations for challenging behaviours. The results of Saloviita showed that all kinds of responses increased in frequency when the behaviour became more severe, but negative responses increased more than positive or neutral approaches. However, negative responses were also frequently seen in reactions to problems that were reported as mild. A wide use of various restrictive measures to control challenging behaviour was mentioned by care staff. To control dangerous behaviour, punishment, environmental restrictions, and mechanical restraints were used. Wilson et al. found that staff used verbal strategies to react on problem behaviours in the majority of cases. The only time-out without some degree of verbal intervention was used when a resident had hit a staff member. Another interesting result was that staff often used several strategies, one after another; in an attempt to stop a problem behaviour and that they always wanted to immediately stop the behaviour, with no apparent consideration for the long-term consequences on the frequency and intensity of the target behaviour. Wilson et al. also concluded that staff were negatively reinforced by withdrawal of a problem behaviour; they were more likely to use the procedures which have been seen to work in the past and failed to change the behaviour on a permanent basis.

The last two studies focused on the experiences of staff as well as clients about the use of physical interventions. In Fish and Culshaw (2005), clients with learning disabilities as well as direct care staff were interviewed about incidents which required the use of physical intervention. The authors concluded that the use of a physical intervention is sometimes unnecessary, and can be distressing for clients as well as for staff. Clients mentioned that they sometimes felt pain during incidents of physical intervention. Sometimes, they construed the use of it as a punishment and it could make them feel more frustrated and aggressive. A point of discussion between clients and staff was the question whether psychical intervention methods were used as the last resort. Clients taught that in some situations, other methods would have sufficed and felt that they had a right to complain. Staff mentioned that clients should take the responsibility for aggressive behaviour rather than blaming it on staff. An alarming topic in the interviews was that sometimes the use of physical intervention could remind clients of abuse they may have experienced in the past. Two positive findings were that clients were aware of the reasons why such interventions are generally used and they were able to specify strategies which would help to reduce their feelings of aggression. By both clients and staff, trust was seen as an important part of the professional relationship. Hawkins, Allen, and Jenkins (2005) worked out a similar study and asked for the experiences of service users with intellectual disabilities and challenging behaviour and staff members

concerning the use of physical interventions by means of semi-structured interviews. Again, the service users complained about negative experiences of physical interventions. The most frequently felt body sensations during these interventions were pain and discomfort. Their experiences were more negative than the staff had believed. Both service users and staff referred to negative emotional reactions during a physical intervention, which could influence the interaction between the two parties. However, staff mentioned also positive aspects: they experienced some positive emotions during a physical intervention, demonstrated positive regard for a service user's feelings, wanted to get the techniques right and engaged in self-debriefing to lessen the negative impact.

Relations between views of staff, emotional reactions, and willingness to help. Like we described before, a distinction between four types of attributions is often made: internal/external, stable/unstable, controllable/uncontrollable and personal/universal attributions. In a number of studies, Weiner's attributional model of helping behaviour (Weiner, 1985, 1986) has been examined. According to this model, the prediction can be made that the attribution of internality, controllability and stability will determine the emotional reactions of less sympathy or more anger in the observer, and these reactions will consequently influence the possibility of the observer offering less help. However, not all the studies provided support for these hypotheses and many authors concluded that Weiner's model may not be applicable in this context. First, we will review the studies who investigated the relation between beliefs/attributions and emotions. Second, the relations between emotional reactions and levels of optimism and willingness to offer help are discussed.

In Weigel, Langdon, Collins, and O'Brien (2006), the relationship between attributions and expressed emotions was investigated by means of a questionnaire and a short interview. They found that staff working with a client with challenging behaviour made attributions about the challenging behaviour as internal to the client and controllable by the client. Furthermore, they found an association between high expressed emotions on the one hand and internal and controllable attributions on the other hand. They also concluded that working with a client with challenging behaviour and showing high expressed emotions are associated with giving critical comments. Bailey, Hare, Hatton, and Limb (2006) examined attributions, emotional responses, optimism, and willingness to help with questionnaires and rating scales. They concluded that internal, stable and uncontrollable attributions were associated with feelings of anger and depression in care staff for both self-injurious behaviours and other forms of challenging behaviours. For self-injurious behaviour, the

correlation was highest between the stable attribution scores and negative emotions in care staff; for the other forms of challenging behaviours, the highest correlation coefficients were found between the internal attribution scores and negative emotions in care staff. However, Dagnan, Trower, and Smith (1998) who examined the same variables as Bailey et al. and also used questionnaires and rating scales, found that the attribution of controllability was significantly positively correlated with negative emotion, the negative evaluation of the behaviour, and the negative evaluation of the person and was negatively correlated with positive emotion. Also, in Hawkins et al. (2005) who discussed the use of physical interventions with service users and staff members, a relationship was found between perceptions of a high level of controllability and the elicitation of negative emotions. These findings are in contrast to the results of Jones and Hastings (2003) who investigated attributions, emotional reactions, and helping behaviour by presenting videos. They concluded that staff, who perceived the causes of self-injurious behaviour as something to do with the client or uncontrollable by external forces, reported less negative affect. One of the aims of Wanless and Jahoda (2002) was to investigate the utility of Weiner's model of helping behaviour in explaining staff reactions to challenging behaviour by means of questionnaires with two brief vignettes. They found that negative appraisals of the clients were associated with strong negative emotions and the view that the clients were in control of their behaviour. Dagnan and Cairns (2005) presented questionnaires and rating scales to staff about attributional style, emotional responses, helping intention, responsibility for the development and change of challenging behaviour, and explanations with regard to self-injurious behaviour. They observed significant positive correlations between internality and anger and negative correlations between internality and sympathy. Stability correlated positively with sympathy. Furthermore, they found that the attribution of controllability was correlated with the judgement of responsibility for the development and change of challenging behaviour. In Rose and Rose (2005) who investigated the impact of stress on attributions of challenging behaviour with questionnaires and rating scales, no strong correlation was found between the beliefs staff held about challenging behaviour and the way they were emotionally affected by it.

The second part of the predictions, based on Weiner's attributional model of helping behaviour (Weiner, 1985, 1986), implies that staff's emotional reactions of less sympathy or more anger will lead to the possibility of the staff members offering less help. Sometimes optimism regarding changing the challenging behaviour is expected to play a role in this process. Following Bailey et al. (2006), low levels of negative emotions were not associated

with high levels of optimism with regard to changing self-injurious behaviours and challenging behaviours, whereas Dagnan et al. (1998) and Rose and Rose (2005) concluded that negative emotions were correlated to a lower level of optimism. Next to this, the relation between high levels of optimism and high levels of reported willingness to help was also not found by Bailey et al.. However, Dagnan et al. concluded that there was a correlation between lower level of optimism and less willingness to offer extra help. In Dagnan and Cairns (2005), the intention to offer help was positively correlated with responsibility for change and sympathy. This study demonstrated that responsibility for behaviour plays an important part in the judgement of sympathy. In Hill and Dagnan (2002), two scenarios were presented to staff and they completed three questionnaires and two rating scales concerning attributional style, emotional response, helping intention, coping styles, and the understanding of self-injurious behaviour. The results of this study showed, at the level of simple correlations, that if support staff used a practical problem solving coping style, made fewer internal attributions and experienced more sympathy, they were more likely to put effort into helping. Regression analysis demonstrated that both practical problem solving and wishful thinking significantly and independently predicted effort in helping. The more internal and the more controllable the behaviour was considered to be, the less effort in helping was predicted. Anger seemed not significantly related to offering help. However, there was a significant correlation between sympathy and offering help. Bailey et al. concluded that willingness to help was positively correlated with observed 'processing' and negatively correlated with the care staff being 'not present'. Rose and Rose stated that reduced staff optimism was related to global attributions regarding challenging behaviour.

DISCUSSION AND IMPLICATIONS FOR FURTHER RESEARCH

After this overview of literature, it is clear that in many studies the interaction between staff and clients is emphasized. Also more and more attention is given to what staff experience in the critical situations they encounter every day. However, this research domain is very broad and it leaves us with a lot of diverging results about the relationships between various staff and client variables. Another aspect, important to consider, are the methods used in the studies. These aspects make it difficult to compare studies or to come to general conclusions.

Despite all these obstacles, we will try to summarize some findings. Concerning the views of staff on challenging behaviour, the origin of challenging behaviour is often situated within the client. Furthermore, it seems that behaviours that have negative effects on the

environment are experienced as more challenging than behaviours that have negative effects on the client himself. Comparing the views of experienced and inexperienced staff haven't yet yielded clear results. In many studies about stress and emotional reactions to challenging behaviours, staff members agreed that lack of procedures to deal with challenging behaviour and lack of support are important stressors in their work with clients who show challenging behaviour. However, in some studies, staff also referred to the challenging behaviour itself as source of stress. Little studies focus on staff responses to challenging behaviour. Mostly, interviews and questionnaires are used to measure responses and all studies accentuate other relating variables. Only in one study, staff and client behaviour was directly observed. Of all the relations that were investigated between staff attributions and emotional reactions, most evidence was found for the relation between the view that clients are in control of their behaviour and negative staff emotions. Nevertheless, some studies didn't find this relationship. Furthermore, situating the origin of the challenging behaviour within the client also seems to be attended with negative staff emotions. A lot of studies examined the relation between emotional reactions and level of optimism about changing challenging behaviour and the willingness to offer help. These results are very diverging.

Two aspects that contribute to the extensiveness of this domain are the various types of challenging behaviour that are involved in the studies and the fact that many studies aren't specific about the intellectual disability of the clients. Like we mentioned in the overview of the studies, many studies only refer to 'challenging behaviour' without specifying what they exactly mean by this term. But even when the challenging behaviour is specified, it is clear that it can involve various types of behaviour. In future research, it is important to clearly describe what is meant by challenging behaviour, so that it is possible to compare the reactions to different types of challenging behaviour. Moreover, to indicate the intellectual disabilities of the clients that show challenging behaviour, many authors use a general term like 'intellectual or learning disabilities'. However, we think that it is very important to distinguish between different levels of intellectual disabilities. Depending on the level of intellectual disability, challenging behaviour may have a totally different function and expression and elicit different staff reactions and emotions (Borthwick-Duffy, 1994; Emerson, 1995).

Because of the variety of studies and results, for now it is impossible to come to durable and reliable conclusions. Although we have chosen for a broad perspective, it seems better to synthesize all the sub domains and depart from a kind of theoretical framework. A more systematic approach is needed. Hastings (2005) has already proposed such a framework.

In this framework, he refers to relationships between staff behaviour, children's problem behaviour, staff negative emotional reactions and staff stress. Also the influence of staff beliefs on staff behaviour and staff psychological resources is mentioned. Furthermore, the relationship between service and organizational factors and service culture on the one hand and staff beliefs and staff stress on the other hand, are taken into account. We think that it would be very effective to take this framework as a guideline for further research. Although this framework is focusing on children, the same framework may be useful for adults. Only if researchers will approach the relationships between several variables in a more systematic way, efficient research would be possible and clear conclusions could be made.

Even more important to consider, are the methods used in the studies. Overall, questionnaires and interviews are used. In only two studies, a more objective method, namely direct observation, was used. Nevertheless, besides self-report methods, it is necessary to consider more objective measures. This is something to take into account in future research. Furthermore, data analysis has to be another point of attention. Often only correlations are mentioned, but to conclude relationships, more sophisticated data analyses are needed.

Despite all these comments on recent research, it is a fact that more and more attention is given to this topic and to the role of the relationship between staff and clients in the origin and maintenance of challenging behaviour. It is promising to note that not only the behavioural and functional processes are investigated, but that also the more psychological and indirect variables are taken into account. Next to these theoretical studies, more and more intervention studies are published (Allen, 1999; Gavidia-Payne & Hudson, 2002). Mostly, behavioural support based on functional analysis is given. Despite the existence of many training programs and intervention studies, there seems to be a great demand for more support and procedures to react to challenging behaviour. Obviously, bringing theoretical knowledge about good working intervention programs into clinical practice seems to be a challenge for the future. Furthermore, it is clear that staff attributions about challenging behaviour have an influence on staff emotions and consequently on their behaviour. Additional to more practical support, more information and guidance in this context is needed.

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Table 1.

Characteristics of the studies about staff variables concerning challenging behaviour of clients with intellectual disabilities

1st author	P Y	Aims of the study Description	Staff #	Staff age (y)[a]	Clients #	Clients age (y)[a]	Clients ID	CB Description	Instruments
Bailey	2006	to investigate the relationships between care staff attributions, emotions and their responses to actual CB and to compare care staff attributions, emotions and responses to SIB in comparison to other forms of CB	43	22-65 (40,95)	43	19,5-50 (35,02)	ID	SIB and other types of CB	questionnaires (CB, SIB, attributions, emotional responses), Likert scales (optimism, willingness to help), observations (interaction staff-client)
Bell	2002	to extend the information available on staff satisfaction, and on emotions and attitudes held by staff			24		LD	severe CB	questionnaires (social desirability, psychological well-being, staff support, organizational variables, emotions, attitudes)
Bromley	1995	to explore the reported emotional reactions of staff to CB, the constructs used by staff to understand a person's CB and the perceived causes of stress			70	5-58 (26,3)	LD	CB: aggression, self-injury, disruption, screaming, destructiveness, inappropriate social approaches, running away, …	interview (characteristics of setting and of the service user, interventions), questionnaires (causes of CB, emotional reaction, stress)
Chung	1995	to present some primary data on staff's level of burnout and of satisfaction and dissatisfaction	26	(37)	31	(35,71)	learning difficulties	CB: stereotypic behaviour and odd and bizarre behaviour, SIB, aggressive towards others, …	questionnaires (CB, disability assessment, psychopathology, burnout, demographic variables and work satisfaction, work perceptions)
Dagnan	1998	to explore the role of carers' evaluation of a person with CB and learning disabilities and of the CB themselves in their responses to CB	40 (20 +20)[1]	(33,95)			LD	moderate levels of CB	questionnaire (attributions), 7-point ratings scales (evaluation of behaviour, potential for changing each behaviour, willingness to provide extra effort to help, emotional response)
Dagnan	2005	to examine the importance of staff judgements of responsibility for CB in predicting their emotional and intended helping responses	62	(36,2)	1 sce-nario[2]		ID	aggression to others: pulling hair and/or hitting out	questionnaires (attributions, explanations in respect to SIB), 7-point rating scales (emotional response, helping intention, responsibility)

Elgie	2002	to investigate the behaviours identified as having an impact primarily on the individual with mental retardation and those behaviours that primarily have their impact on support staff, other people or services	50	(40,25)	list of CB[2]		MR	CB: behaviours having negative effects on the individual with MR and behaviours having a negative effect on staff, other people or services	3-point rating scales (CB, importance to intervene in some way)
Fish	2005	to ask staff and clients about their experiences of incidents of aggression and physical intervention	16		9		LD	aggressive incidents	open-ended, unstructured interviews (perceptions of aggressive incidents and their management)
Hastings	1995	to explore staff work and their views on issues relating to CB and to explore the informal service culture	19	18-51 (32,5)			SE	CB: self-injury, aggression towards other people, property destruction	semi-structured interview (definitions, training, programmes, reasons for CB, dealing with CB, the ideal service, feelings, stress)
Hastings et al.	1995	to determine the nature of health care workers' beliefs about the causation of CB, based on experience of working and topography of CB	246 (148 + 98)[1]		3 vignettes[2]		mentally handicapped	CB: self-injurious, aggressive and stereotyped behaviour	questionnaire (reasons for the CB)
Hastings	1997	to discuss the potential role of causal attributions in determining staff responses to CB	94 (55 + 39)[1]		3 vignettes[2]		mentally handicapped	SIB, aggressive behaviour and stereotyped behaviour	7-point rating scale (attributions)
Hawkins	2005	to explore the personal impact of receiving and implementing physical interventions on service users and staff	8	26-53 (36,62)	8	18-43 (29,5)	ID	CB, behavioural incidents	semi-structured interviews (experiences before, during and after the physical intervention)
Hill	2002	to explore the relative impact upon helping intentions of attributions, emotions and coping style in response to CB in support staff	33		2 scenarios[2]		LD	aggressive to others by pulling hair and hitting out	questionnaires (attributional style, coping style, understanding SIB), 7-point rating scales (emotional response, helping intention)

Jahoda	2005	to explore the interpersonal perceptions of staff, to evoke the immediate thoughts and feelings of staff at the time of the incident	37	24-60 (42,3)	6	34-49 (41,6)	MI, MO	self-injury, destructiveness and aggression	cognitive behavioural interview (incident, emotions, perceptions, feelings, reactions)
Jenkins	1997	to explore stress in direct-care staff	78		40	26-71 (46,7)	LD	aggressive behaviours and other types of CB	questionnaires (adaptive behaviour, CB, demands of job, psychological well-being, staff support, staff perceptions of CB)
Jones	2003	to conceptualize and measure causal attributions and emotional reactions to CB and to determine the counter-habilitative nature of staff 'helping' behaviour	123	(35,92)	2 videos²		SE	SIB	questionnaires (affective responses, causal attributions), 7-point rating scale (helping behaviour)
Lambert	2002	to test the hypothesis that staff's beliefs about the causes of CB are determinant for the responses to them	180	22-37 (25)	3 vignet-tes²		ID	CB: stereotyped behaviour, SIB and aggression	questionnaire (attributions), group enquiry (predictions concerning the vignettes)
Mitchell	2001	to test whether challenging behaviour-related coping and emotional reactions are predictive of staff burnout	83	(32,43)			MR	aggression towards self, property destruction, or physical aggression towards staff/others	questionnaires (emotional reactions, coping strategies, burnout, social desirability)
Murray	1999	to examine the relationship between staff sickness levels and client assault levels			6		MI, SE	severely CB: verbally and physically assaults directed at others	recording sheets (assaults, staff sickness levels)
Noone	2006	to explore staff attributions	34				MO, SE	aggressive behaviour	interview (perceptions of the CB)
		to investigate the relationship between care staff attributions and CB causal variables	23		2		MO	aggressive behaviour: kicking, hitting, punching and slapping	questionnaires (functional hypotheses, CB, attributions)
Raczka	2005	to gather information about staff experiences of stress, the types of CB that they had been exposed to and their emotional responses to those challenges	19			adults	MI, MO, SE	CB, significant challenging behavioural incident of physical aggression towards others or property	focus group interviews (experiences of working with adults with CB and their stress reactions)

Robertson	2005	to collect descriptive information on levels of staff stress, strain, emotional distress, job satisfaction and intended job turnover	157	18-62 (36)	50	< 65	ID	CB	survey questionnaires (stress, job strain, well-being, sick leave, work satisfaction, intended turnover)
Rose	2004	to test the association between negative emotional reactions to CB and staff well-being (burnout)	101	(33,65)		adults	ID	CB	questionnaires (burnout, emotional reactions)
		to test the association between negative emotional reactions to CB and staff well-being (burnout)	99	(35,24)	3 vignettes[2]		ID	CB: SIB, stereotyped behaviour and aggression towards others	questionnaire (burnout), 7-point rating scales (negative emotions)
Rose	2005	to test the applicability of a more explicit model for the impact of perceived stress on the quality of care by examining attributions	107	(35,73)		adults	ID	CB	questionnaires (attributions, perceptions of stress, burnout, CB), Likert scales (emotional reactions, optimism, helping behaviour, perceived CB)
Saloviita	2002	to explore the frequency and severity of CB and staff responses to it			261	18-75 (39)	MI, MO, SE, PR	harmful, disturbing or dangerous CB	questionnaires (CB, responses towards CB)
Tynan	2002	to examine the effects of service user's level of intellectual impairment on the attributions made by carers	42		2 vignettes[2]		MI,SE	aggressive behaviours: kick and punch people, pull their hair and physically push them	questionnaire (attributions), Likert scales (severity of behaviour)
Wanless	2002	to examine the cognitive and emotional responses of staff to CB and helping behaviour in explaining staff reactions to CB	38	24-60 (42,7)	6 and 2 vignettes[2]	34-49 (41,6)	MI, MO	serious incidents of verbal or physical aggression	7-point rating scales (attributions, emotions, optimism, helping behaviour, CB, the person), interview (incident, emotions and interpersonal appraisals)
Weigel	2006	to explore the relationship between attributions and expressed emotions of staff	15		2		MO	screaming, throwing objects, obsessional-like behaviours	questionnaire (attributions), interview (expressed emotion)
Whittington	2005	to elucidate the nature of staff beliefs and feelings about CB and how these may result in dilemmas within practice	18	20-69	10	27-73 (40)	LD	CB: sexual approaches to staff, withdrawal from activities, hitting people, verbal abuse and violence, ripping clothes, anal poking,…	semi-structured interview (understanding of the problem or concern and understanding of the development of the problem over time)
Wilcox	2006	to investigate constructions of aggressive behaviour among care staff and to explore gender as a site for enactment of power relationships	10	26-58	10	19-60	MI, MO, SE, PR	behaviour which caused direct physical harm to other people	interview (discourses used in the construction of aggressive challenging behaviour)

Wilson	1995	to examine the procedures adopted by staff in their response to perceived CB, the relationship between the CB and the staff response, and the influence of contingencies of negative reinforcement	26	ID	violence or the treat of violent action, verbal abuse, non-compliance or avoidance of tasks, verbally inappropriate, crying	observations (multiple staff responses, the severity of resident behaviours)

Note. PY = publication year. Age (y) = age in years. ID = intellectual disability. LD = learning disability. MR = mental retardation. MI = mild intellectual disability.
MO = moderate intellectual disability. SE = severe intellectual disability. PR = profound intellectual disability. CB = challenging behaviour(s). SIB = self-injurious behaviour.

[a]Age is presented by range and mean between brackets.

[1]In some studies, two groups of staff members were investigated.

[2]In some studies, vignettes, videos or scenarios were used to describe clients with CB; in one study, a list of challenging behaviours was used.