

University of Southampton

**A cognitive-emotional analysis of the responses of care staff to challenging
behaviour in people with intellectual disabilities**

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Abstract

Current behavioural models incorporate challenging behaviour and staff actions into a ‘dynamic behavioural system.’ Central to this model is the hypothesis that challenging behaviour is aversive to others, and consequently that staff engage in escape behaviour, which serves to maintain challenging behaviour. This thesis seeks to increase our current knowledge of the application of cognitive models to understand the emotional and cognitive responses of staff to challenging behaviour.

The first paper, a literature review, discusses both the findings of existing research on staff attributions, emotional reactions and behavioural responses to challenging behaviour, and research that examine whether Weiner’s attributional model of helping behaviour can help to explain staff responses.

The second paper seeks to conduct a more theoretically appropriate test of Weiner’s helping model, and to improve methodologically on previous studies. The paper aims to establish, using an experimental design, that emotional reactions will mediate the impact of causal attributions on interventions (‘helping’ behaviour.) Participants were presented with one of two video stimuli, which depicted self-injurious behaviour that was either positively reinforced or negatively reinforced. The results indicate that emotional reactions do not play a mediating role in the helping behaviour of staff, and therefore that there is no evidence for the application of Weiner’s helping model. Implications for research and clinical practice are discussed.

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Literature Review

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Abstract

Challenging behavior adversely affects the lives of both individuals with intellectual disabilities and their carers. Current behavioral models of challenging behavior incorporate challenging behaviour and staff actions into a 'dynamic behavioural system.' In these systems model, not only do the actions of other people act as antecedents and consequences for challenging behavior, but also challenging behavior can be understood as antecedents and consequences for the behavior of others. Central to this model is the hypothesis that challenging behavior is aversive to others, and consequently that carers engage in escape behavior, which serves to maintain challenging behavior.

From a cognitive viewpoint, the aversive experience of challenging behavior may be explained by the emotional and cognitive responses of staff. The present paper will review the research concerned with staff emotional and behavioral responses to challenging behavior and also discuss the causal attributions of staff.

However, the main purpose of this paper is to comprehensively review research concerned with the application of Weiner's attributional model of helping behavior to carers, particularly staff working with clients with intellectual disabilities and challenging behavior. Criticisms of the reviewed research and suggestions for future research will also be discussed. Finally, implications for clinical practice will be considered.

INTRODUCTION

Challenging behavior is one of the most significant clinical issues in the intellectual disability field (Hastings & Brown, 2000). Actions that may be described as challenging, include behaviors such as aggression, self-injury, destructiveness, over-activity, inappropriate social or sexual conduct, bizarre mannerisms and the eating of inappropriate objects (Emerson, 1995). Emerson (1995, p 9) has defined challenging behavior as ‘culturally abnormal behaviours 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 behavior which is likely to seriously limit or deny access to and use of ordinary community facilities.’ Prevalence studies suggest that between 8% (Emerson & Bromley, 1995) and 17% (Kiernan & Qureshi, 1993) of people who are supported by intellectual disability services exhibit challenging behavior. Risk factors for challenging behavior include being male, aged between 15 and 35 years and having either a severe intellectual disability or a communication impairment (Emerson, 1998).

The present paper will commence by outlining both the effects of challenging behavior and models of challenging behavior. However, the main purpose of this paper is to comprehensively review research concerned with both care staff’s emotional and behavioral responses to challenging behavior and the application of attributional models, (e.g. Weiner’s helping model, 1980), to understand such behavior. Criticisms of the research and suggestions for future research will also be discussed. In addition, implications for clinical practice will be considered.

EFFECTS OF CHALLENGING BEHAVIOR

Seriously challenging behavior can significantly impair the health and /or quality of life of the person who exhibits the challenging behavior, their carers and others who live

or work in close proximity (Emerson, 1995). Focusing on the person who exhibits challenging behavior, some of the factors that may impair their health and quality of life are: -

- Physical injury. This may result from both self-injury e.g. neurological impairments (Borthwick-Duffy, 1994) and being restrained if aggressive e.g. the shortening of tendons (Griffin, Williams, Stark, Altmeyer & Mason, 1986)
- Increased risk of abusive behavior from caregivers (e.g. Zirpoli, Snell, & Loyd, 1987).
- Increased likelihood of being placed out of home by their families (Sherman, 1988).
- Tendency to be avoided by support staff (Hastings & Remington, 1994).
- The receipt of psychoactive medication (i.e. haloperidol.) This can have a number of side effects e.g. sedation and seizures (Gadow & Poling, 1988)

In addition, challenging behaviors can jeopardize the health, safety and welfare of those who care for people with intellectual disabilities and challenging behavior. Professional carers report a variety of negative emotions (e.g. Bromley & Emerson, 1995) and are at an increased risk of stress and burnout (e.g. Jenkins, Rose & Lovell, 1997). These issues will be explored in greater depth further on in the review.

MODELS OF CHALLENGING BEHAVIOUR

The dominant models of challenging behavior, are the neurobiological model and behavioral models. There have also been attempts to conceptualize challenging behaviour in psychodynamic terms. The main focus of such proposals is that the behavior is symbolic. For example Greenacre (1952) suggests that self-injurious behavior represents the individual's search for 'body reality.' The difficulty with

psychodynamic theoretical models is that they do not produce hypotheses that can be empirically investigated. For a review of psychodynamic models see Meyer & Evans, 1993). The dominant models of challenging behavior will now be discussed.

Neurobiological Model

There is evidence to suggest that neurobiological processes may be important in maintaining challenging behaviors in some people (Carr & Smith, 1995; Emerson, 1995; Mace & Mauk, 1995). Neurobiological theories have emphasized three classes of endogenous neurotransmitters as having a role in modulating behavior: dopamine, serotonin (5-hydroxytryptamine) and the opioid peptides (in particular Beta-endorphin). Firstly, the dopaminergic system has been linked to the regulation of motor activity and has been proposed to contribute to the development and maintenance of some forms of self-injurious behavior (Schroeder & Tessel, 1994; Schroeder et al., 1995). Secondly, the serotonergic system has been related to various processes e.g. arousal. There is evidence to suggest that there may be a relationship between serotonin and aggression, and possibly serotonin and some types of 'obsessional' self-injurious behavior (Bodfish et al., 1995; Schroeder & Tessel, 1994). Thirdly, the release of Beta- Endorphin is thought to be produced by self-injurious behavior and may reinforce this behavior through its analgesic properties (Sandman & Hetrick, 1995; Thompson, Eglis, Symons & Delaney, 1994). Markowitz (1992) is one of many researchers who illustrate how neurobiological models of challenging behavior can lead to treatment. He reported a marked reduction in severe self-injurious behavior among 17 out of 21 people with intellectual disabilities following fluoxetine treatment (a serotonin receptor).

Traditional Behavioral Model

The behavioral model views challenging behavior as an example of operant behavior, that is, as behavior which is shaped and maintained by its environmental consequences. This process can be explained by a three-term contingency (an ABC model), where A stands for antecedent, B for behavior and C for consequences (Sidman, 1986). The consequences that generally shape and maintain behavior are positive or negative reinforcement processes (Hastings, 1999). For example, people may engage in challenging behavior, because as a consequence of such behavior, staff attend to them (attentions as a positive reinforcer), 2) give them preferred items (tangible items as positive reinforcers), or 3) cease to make demands on them (demands as an aversive stimulus, the removal of which is negative reinforcement; Hastings, 1999). In the 1980's, Behavior Analysts shifted their focus from contingency management, to trying to understand the functions of challenging behavior and developing interventions based on those functions (e.g. Carr & Durand, 1985; Durand & Crimmins, 1991; Repp, Felce & Barton, 1988). Important steps forward in assessment (e.g. analogue assessment; Iwata, Dorsey, Silifer, Bauman & Richman, 1982) and intervention were made (e.g. Functional Communication Training; Carr & Durand, 1985). Studies have demonstrated that when carried out by 'experts' in controlled settings, behavioral interventions are generally successful (Didden, Duker & Korzilius, 1997; Scotti, Evans, Meyer & Walker, 1991). However, clinicians report that in practice behavioral interventions are often not effective. This is not surprising, when research suggest that care staff often behave in ways that maintain challenging behavior (Hastings & Remington, 1994). Studies that have examined why staff behave in the way they do, suggest that staff response may be related directly to certain aspects of challenging

behavior. This work extends the basic three-term contingency (antecedent-behavior-consequence) to examine the behavioral systems in which challenging behavior occurs (Hastings, 1997; Oliver, 1995). Therefore, focus has widened from the individual who exhibits challenging behavior to include others in the environment. The behavioral systems model (Oliver, 1995) has been central to this development.

A Behavioral Systems model of challenging behavior

An important reason for being interested in the behavior of people who normally implement behavioral intervention programs is that many challenging behaviors occur in social contexts and serve social functions. There is extensive evidence to support this argument. For example, in a summary of analogue assessment of 79 clients attending an out-patient clinic, 72% of the clients' challenging behaviors were found to be maintained by attention or escape (Derby et al., 1992).

Observations of how staff behave towards challenging behavior indicates three points. Firstly, that only a small part of a client's day is spent interacting with staff (e.g. Abraham, Lindsay & Lawrenson, 1991). Secondly, that clients who engage in challenging behavior receive a disproportionate amount of staff attention (e.g. Emerson, Beasley, Offord & Mansell, 1992). Thirdly, that caregivers respond on an intermittent basis to challenging behavior (Hastings & Remington, 1994). In addition, self-report data suggests that although staff responses to challenging behavior may result in a short-term reduction of the behavior, they are likely to reinforce the behavior in the long-term (Hastings & Remington, 1994). Referring back to the behavioral model, this does not bode well because it seems likely that staff will maintain challenging behavior or develop it.

In order to think about why staff behave like this, the simple behavioral ABC model could be extended to include dynamic components. One hypothesis for caregivers responding in counter-habilitative ways is that their behavior is shaped by contingencies that involve challenging behavior. This incorporates challenging behavior and staff actions into a 'dynamic behavioral system' (Oliver, 1995; Taylor & Carr, 1992). In this system, not only do the actions of other people act as antecedents and consequences for challenging behavior, but also challenging behavior often acts as antecedents and consequences for the behavior of others.

There are two essential elements to Oliver's (1995) systems model. Firstly, is that challenging behavior is aversive to others and consequently elicits escape behavior. Parents of autistic children have previously been suggested to engage in escape behavior because of the aversive nature of their child's behavior (Ferster, 1961). Secondly, is the viewpoint that both the antecedent conditions that evoke self-injury and the self-injurious responses themselves act as establishing operations (Michael, 1982). In this context, establishing operations may be thought of as motivational states. For example, conditions that evoke self-injury, such as states of deprivation of attention, result in attention becoming more reinforcing and make self-injury previously reinforced by attention more likely to occur. Similarly, self-injury, which is aversive to others, makes escape from self-injury available as a reinforcer and makes behavior previously reinforced by escape from self-injury more likely to occur. The cyclical nature of challenging behavior and caregiver behavior is demonstrated by using two examples of self-injurious behavior (Oliver, 1995). Firstly, focusing on positive reinforcement, (see Figure 1), the establishing operation of deprivation of caregiver social contact evokes

self-injury. If social contact is not provided, deprivation continues and challenging behavior continues.

Insert Figure 1 about here

The proposed aversiveness of challenging behavior, means that caregivers will be punished by not providing social contact. Challenging behavior, therefore becomes an establishing operation for caregiver behavior. Caregivers escape from challenging behavior if they provide social contact (thus caregiver behavior is negatively reinforced).

Secondly, looking at an example of negative reinforcement (see Figure 2), the establishing operation of placing a demand on the individual evokes self-injury. If demands do not cease, challenging behavior continues and the caregiver is punished. If demands are removed, the challenging behavior stops and caregivers are negatively reinforced (as the aversive experience is terminated).

Insert Figure 2 about here

The negative reinforcement provided by the escape behavior of caregivers, increases the likelihood of caregivers responding in the same way to challenging behavior in the future, while for the individual with intellectual disabilities, the experience of their challenging behavior being positively or negatively reinforced, means that under similar antecedent conditions the challenging behavior is likely to occur again in the future.

Hastings (1997) also emphasizes the importance of focusing on the behavior of other people in the environment of the individual who engages in challenging behavior.

Hastings (1997) simply highlights the close relationship between caregiver behavior and an individual's challenging behavior. The H model (so called because of its characteristic shape) extends the three term contingency (ABC) model (see Figure 3). In doing so, the H model, considers challenging behaviors as antecedents and consequences of caregiver behavior, and caregiver behavior as antecedents and consequences for challenging behaviors.

Insert Figure 3 about here

In summary, challenging behavior can significantly impair the health and/or quality of life of both the individual who exhibits the challenging behavior and of care staff. One of the dominant models of challenging behavior is the behavioral model. This model emphasizes reinforcement processes and suggests that challenging behaviors serve social functions such as “attention seeking” and task or social avoidance (Carr & Durand, 1985). The simple behavioral ABC model has been extended to include dynamic components. This extended model incorporates challenging behavior and staff actions into a ‘dynamic behavioral system’ (Oliver, 1995). This review will continue by discussing the research that supports the systems model of challenging behavior (Oliver, 1995).

SUPPORT FOR THE SYSTEMS MODEL OF CHALLENGING BEHAVIOR

The systems model, which emphasizes the relationship between staff behavior and challenging behavior, has been outlined. In order to support this model, research needs to shown three things: - Firstly, that staff behavior is worrying as it is likely to maintain or develop challenging behavior. Secondly, that challenging behavior affects

staff behavior. Thirdly, that staff find challenging behavior emotionally disturbing.

Research in these three areas will now be reviewed.

Staff behavior is likely to maintain or develop challenging behavior

The behavioral responses of staff to challenging behaviors have been investigated using observational and self-report methodologies. Eight self-report studies have been identified. These explore staff behavior by either asking staff how they would respond to an individual in a written vignette or by asking staff how they normally respond to challenging behavior. Staff reports seem to correspond with the results of observational studies, suggesting that staff behavior is rather worrying, as staff are likely to intervene in a manner that may maintain many challenging behaviors (Hastings, 1999). These studies, which provide support for the systems model of challenging behavior (Oliver, 1995), are outlined below.

Firstly, the caregivers of 16 self-injurious children were asked how they would normally respond to self-injurious behavior. The three most popular strategies were “giving attention” (94%), “coaxing” (88%), and “distraction” (88%) (Sandown, 1975). Secondly, Maurice and Trudel (1982) asked staff about their interventions for 43 people with intellectual disabilities who were living in large institutions and engaged in self-injurious behavior. The three most cited intervention strategies were verbally reprimanding (44.7%), restraining (20.6%) and isolating the client (17.1%). The severity of the self-injury was related to reported interventions, with less severe self-injury being associated with an absence of intervention.

The third study is part of a large-scale interview survey involving 236 residential institutions in the USA (Bruininks, Hill & Morreau, 1988; Hill & Bruininks, 1984). From their data, these researchers derived a hierarchy of response that reflected

increased staff involvement: Nothing – Verbal – Ignore – Physical – Call in others.

Higher-level responses were more likely to be used for self-injury and aggression than for other behaviors. This same hierarchy was used in a fourth study of 489 clients who lived in the state of Missouri (Intagliata, Rinck & Calkins, 1986). Staff reported using the highest levels of the intervention hierarchy for violent, destructive and withdrawn behavior.

The fifth study was concerned with 70 children and adults with intellectual disabilities who lived in an area of northern England and engaged in challenging behaviors (Bromley & Emerson, 1993). The two most frequently mentioned strategies for managing aggressive behaviors were distraction (92%) and seclusion (67%); for self-injury these were distraction (72%) and physical restraint (36%).

The difficulty with the studies outlined so far is that they are retrospective and are not necessarily closely related to actual staff behavior. Studies that ask staff to describe how they would intervene with a fictional person's challenging behavior may give a clearer picture of how staff intervene. This method was used in an sixth study carried out by Berryman, Evans and Kalbag (1994). Berryman et al. (1994) used eight categories to describe staff responses. These were: change task/environment (62%), use reinforcement (59%) functional analysis (29%), teach skills (28%), punishment (21%), extinction (10%), talk/therapy (10%) and medication (5%). In a seventh study, 109 institutional staff were asked to describe what they would do to deal with a fictitious person's challenging behavior (Hastings, 1996). The most frequently reported intervention strategies were: distraction (39% of staff), find out cause (31%), making the environment safe (29%) and calming/communicating (29%).

In the eighth and final study, Oliver, Hall, Hales and Head (1996) examined staff responses to self-injurious behavior, by asking staff to choose one of four types of intervention strategies for self-injury scenarios. The intervention strategies were a reinforcing response (defined in relation to the function described in the scenario e.g. attending to attention seeking behavior), a correct behavioral response (e.g. ignoring an attention-seeking behavior), an avoidance response (e.g. making sure that a person who engages in attention self-injury is not left alone), and a response appropriate to an organic causal hypothesis (e.g. administering medication). Results showed that the staff selected a reinforcing response for approximately 10% of the self-injury scenarios. Although this figure appears encouraging, avoidance responses and responses appropriate to behaviors with an underlying organic cause could well have been reinforcing under some circumstances.

To summarize, the eight studies outlined have illustrated that the intervention strategies that staff report are mostly of a social nature. Given that many challenging behaviors will be maintained by social attention, these are not necessary appropriate. Thus, in line with observational studies of staff behavior, self-report studies suggest that staff are likely to make responses that will maintain some challenging behaviors. These studies provide support for the systems model of challenging behavior (Oliver, 1995).

Challenging behavior affects staff behavior

The next area of support for the systems model (Oliver, 1995) is derived from research which demonstrate that challenging behavior affects staff behavior. Four studies have been identified that indicate that staff act in ways that reduce their exposure to challenging behavior in the short term, but ensure the long-term survival of

challenging behavior. Firstly, Hall and Oliver (1992) carried out 16 hours of continuous natural observations of a man with intellectual disabilities who engaged in self-injury. Time sampling showed that before incidents of self-injury, the probability of staff attending to the man was very low, but that during long episodes of self-injury it increased dramatically. Immediately after self-injury terminated, the probability of staff attention was at its highest, but it then rapidly declined to pre self-injury levels. Hall and Oliver (1992) hypothesize that this man's long-duration self-injurious behavior acts as an establishing operation, which evokes social contact as an escape behavior.

Secondly, in two similar experiments Carr, Taylor and Robinson (1991) and Taylor and Carr (1992) asked adults with no experience of challenging behavior to interact with two children who engaged in such behavior. Pre-experimental functional analyses had already established whether each child was a demand or social avoider (displayed challenging behavior under conditions of high adult attention) or an attention seeker (displayed challenging behavior under conditions of low adult attention). The data showed that, after only a single 20-minute session, participants attended less to, and made less demands on, the children who were categorized as demand or social avoiders than those categorized as attention seekers. The authors concluded that challenging behavior represented an aversive stimulus and that the adults acted in ways to minimize the level of punishment that they received by presenting fewer task demands to the children whose challenging behavior was contingent on task demand.

Thirdly, Hastings, Remington and Hall (1995) carried out a study based on an analogue of Taylor and Carr's (1992) design. Participants (undergraduates not experienced in working with people with intellectual disabilities or challenging behavior) were asked to respond to a computer simulation of a work situation involving

the care of two individuals who engaged in self-injurious behavior. One of the simulated people was an attention-seeker and the other was a social-avoider. Hastings, Remington and Hopper (1995) suggest that the schedule of reinforcement in operation within the simulation had an effect on the attending behavior of participants. In particular, participants tended to spend less time with the social avoider as the experiment went on. This may indicate that with increased exposure to the contingencies in operation, the behavior of the participant was modified by the contingencies in place for their attending behavior.

Fourthly, Oliver, Hall and Nixon (1999) conducted a complex microanalysis of the antecedents and consequences of communicative and challenging behavior in a seven-year-old boy. Continuous observation of the boy and his teacher in the classroom setting showed that that his challenging and communicative behaviors were evoked by task demand and that both these behaviors tended to result in the teacher removing the task demand (negatively reinforcing the behavior). However, the teacher was more likely to terminate the task demand for challenging than communicative behaviors. This may be because he/she found the problem behaviors more aversive than the communicative behaviors.

To summarize, four studies have been outlined which suggest that the behavioral function of the challenging behavior has a significant effect on staff interventions. Typically staff interacted less and made less demand on individuals who were categorized as social/task avoiders than individuals who were categorized as attention seekers. Thus, these studies illustrate that individuals and carers constitute reciprocal social systems in which carer behavior affects challenging behavior and challenging

behavior affects carer behavior. These studies offer direct support for the systems model (Oliver, 1995).

Staff find challenging behaviors emotionally disturbing

The third body of research that offers support to the systems model (Oliver, 1995) is the research which suggests that staff perceive challenging behavior to be emotionally disturbing. This research is drawn from two areas. The first area, which consists of several studies that ask staff about their emotional responses to challenging behavior, provides direct support for the hypothesis that challenging behavior is emotionally disturbing. The second area indirectly supports this hypothesis, as it argues that challenging behavior adversely affects staff behavior because it is associated with stress and burnout. These two areas of research will be examined separately.

Reporting of emotional responses

Seven studies have been identified which illustrate that staff working with challenging behavior report negative emotions. These studies provide evidence for the disturbing nature of challenging behavior and demonstrate further support for the systems model (Oliver, 1995). Firstly, Fallon (1983) reports on the emotional reactions of nine direct care staff working with adolescents with intellectual disabilities who engaged in self-injurious behavior. Participants reported initial feelings of empathy, optimism, curiosity and fear, which changed after several months to frustration, anger, detachment and guilt. Secondly, in Hastings and Remington's (1995) study, 246 health care workers reported more negative emotion in response to aggressive and self-injurious behavior than to stereotyped behaviors. These findings are supported by a third study, which concluded that self-injury led to staff feelings of sadness and anger, aggression led to feelings of fear and anger, and stereotype was occasionally viewed as

annoying (Hastings, 1995). A fourth study, conducted by Bromely and Emerson (1995), also reports similar emotional reactions. This study asked seventy care staff to estimate the proportion of other staff who would experience a range of emotions when dealing with challenging behaviors (Bromley & Emerson, 1995).

The fifth study reports on the development of a rating scale of caregiver emotional reactions to challenging behavior (Mitchell & Hastings, 1998). A total of 70 care staff from 23 community residences for people with intellectual disabilities were asked to rate their typical emotions reactions to aggressive challenging behavior on a four point Likert scale using a list of 18 emotion items. Factor analysis and further item analysis identified two emotion subscales: feelings of depression/anger (ten items) and feelings of fear/anxiety (five items). The scales were found to have good psychometric properties. A sixth study, reports on the use of the 'Emotional Reactions to Challenging Behavior Scale' (Mitchell & Hastings, 1998) with eighty-seven staff working in education environments with children with intellectual disabilities and/or autism (Hastings & Brown, in press). The staff rated the frequency that they experienced the emotions on the scale in response to recent incidents of challenging behavior directed towards or witnessed by them. In keeping with other studies, staff reported a range of fear/anxiety and depression/anger emotional reactions.

Finally, a seventh study on staff emotional reactions also used the 'Emotional Reactions to Challenging Behavior Scale' (Mitchell & Hastings, 1998). This study improves on the ecological validity of previous studies by using video stimuli rather than vignettes or retrospective data (Mossman, Hastings & Brown, in press). Sixty staff from two schools for children with intellectual disabilities participated in the study. Participants watched one of four videos, one containing no self-injurious behavior and

three of which depicted self-injurious behavior and varied according to the function of the behavior. The results indicated that more negative emotions were reported when self-injury was depicted than when it was not. There was some evidence that behavioral function had an effect on emotional reactions. More depression/anger emotions were elicited by self-injurious behavior serving an escape/avoidance function compared to the self-injurious behavior serving an attention-seeking function.

In summary, seven studies have been discussed which outline that staff working with challenging behavior report negative emotions. These studies provide evidence for the emotionally disturbing nature of challenging behavior and offer support for the systems model (Oliver, 1995).

Challenging behavior adversely affects staff behavior

The hypothesis that challenging behavior is emotionally disturbing is also indirectly supported by the research that argues that challenging behavior is associated with stress and burnout in staff. Challenging behavior is consistently reported by staff as either the most significant, or one of the most significant sources of stress in their work (e.g. Bersani & Heifetz, 1985; Bromley & Emerson, 1995; Corrigan, 1993; Jenkins et al., 1997; Rose, 1993). Bromley and Emerson (1995) report that the most significant source of stress associated with caring for someone with challenging behavior is the 'daily grind' of caring, the person's behavior being wearing over time and the unpredictability of clients' behavior. The authors suggest these 'symptoms' are indicative of 'burnout' in staff. Burnout is a syndrome marked by three components: emotional exhaustion, depersonalization, and a reduced sense of accomplishment (Maslach, Jackson & Leiter, 1996). Burnout has been previously been associated with staff who work with clients with challenging behavior (Chung, Corbett & Cumbella,

1995; Rose, 1993; Sutherland & Cooper, 1990). For example, Chung et al. (1995) used the Maslach Burnout Inventory (MBI, Maslach & Jackson, 1986) with 26 staff working in four specialist challenging behavior units and found that staff in these services were significantly more emotionally exhausted than staff working in the mental health settings described in the MBI normative data. A more recent example, (a study of 83 direct care staff from five community-based services), links emotional responses to stress and burnout (Mitchell & Hastings, in press). Mitchell and Hastings (in press) showed that depressed/anger emotions were related to staff feelings of depersonalization and emotional exhaustion. A depersonalizing attitude may result in depersonalizing treatment of individuals, and emotional exhaustion may result in a general avoidance of interaction (Mitchell & Hastings, in press). This finding adds support to previous reports that staff believe their emotional responses to challenging behavior affect the way that they interact with clients (Hastings, 1995).

To review, the three areas of research outlined above provide support for the systems model of challenging behavior (Oliver, 1995). This research proposes that staff behavior affects challenging behavior, that challenging behavior affects staff behavior and that staff experience challenging behavior as emotionally disturbing.

ATTRIBUTION-EMOTION MODEL

It is unclear from the systems model where emotional responses come from – they may vary under different circumstances. Is there any model that helps to identify which emotional responses will emerge and how these might affect staff behavior? Attribution theory, (which is essentially a theory about how people come to explain events in the outside world to themselves, e.g. Heider, 1958), provides an explanation of why staff may respond to challenging behavior in the way that they do and also offers a

way of working with staff responses. This review will continue by introducing attribution theory, and by briefly examining the research on the attributions of staff working with people with intellectual disabilities and challenging behavior. The discussion will then be expanded by introducing both Weiner's (1985) attributional model of motivation and emotion and Weiner's (1980) attributional model of helping behavior (Weiner, 1980). The application of the helping model (Weiner, 1980) to carers generally and carers of people with intellectual disabilities and challenging behavior will then be outlined.

Attribution theory

Attribution theory (Heider, 1958; Kelley, 1967, 1983) postulates that people seek to explain the events they observe, or that happen to them, in order to gain a sense of control. Heider (1958) put forward the first systematic analysis of causal structure of events. He particularly emphasized that people may explain the behavior of others either in terms of causes that 'reside within' the person or in terms of environmental causes (Heider, 1958).

Causal attributions of staff working with clients with challenging behavior

Staff causal attributions about challenging behavior (their beliefs about why people engage in challenging behavior), have been the focus of a body of research. Six key studies have been identified and these will now be discussed. Firstly, Bromley and Emerson (1995) asked 70 staff working with adults and children with intellectual disabilities why they thought an individual known to them engaged in challenging behavior. The study found that carers attributed 41% of challenging behaviors to internal psychological state or mood, 26% to past or current environment, 24% to self-stimulation, 23% to communication and 17% to attention seeking. Similar findings

were reported in three other studies (Berryman et al., 1994; Hastings, 1995; Hastings, Remington & Hopper, 1995). For example Hastings (1995) reported that the most frequently cited causal attributions were: social reinforcement (79% of staff), communication (68%), physical environment (58%), and emotional states (58%). Hastings (1995) data was drawn from a content analysis of the interviews of 19 staff caring for adults with severe intellectual disabilities and challenging behavior. Berryman et al.'s (1994) data were drawn from 83 staff who were responding to vignettes of challenging behavior. The participants in the Hastings, Remington and Hopper (1995) study also responded to vignettes. One hundred and forty-eight health-care workers who had experience of working with people with intellectual disabilities and challenging behavior took part in this study. Interestingly, the length of time spent working with challenging behavior had little impact on the accuracy of causal attributions about challenging behavior. This finding is supported by other studies (e.g. Hastings, Reed & Watts, 1997; Morgan & Hastings, 1998).

A fifth study developed a questionnaire to measure staff attributions about self-injurious behavior: the Self-Injury Behavioral Understanding Questionnaire (SIBUQ, Oliver et al., 1996). The SIBUQ consists of self-injury scenarios designed to contain information about the behaviors likely function. Respondents were asked to choose between four causal hypotheses for each scenario. These hypotheses were a 'correct' behavioral hypothesis (reflecting the function described in the scenario), a behavioral hypothesis that is 'incorrect', a hypothesis relating to internal organic causes and a hypothesis relating to emotional processes. Ninety-nine staff participated in the initial study. This group selected the correct behavioral hypothesis for approximately 55% of the scenarios, the incorrect behavioral hypothesis for 20% of scenarios, internal

emotional processes for a further 20% and internal organic causes for the remainder.

Correct behavioral responses were more likely to be chosen by staff who were behaviorally trained.

What constitutes a correct ('reasonable') causal attribution depends on the function of the behavior (Repp et al., 1988). There is some evidence to suggest that the function of the challenging behavior influences staff causal attributions. Early research suggested that staff might find it easier to recognize positive as opposed to negative reinforcement processes (Hastings, Remington & Hopper, 1995). When asked to rate the likely cause of challenging behavior described in vignettes, experienced care staff were more likely to choose positive reinforcement processes as causal hypotheses than negative reinforcement processes (Berryman et al., 1994; Hastings, Remington & Hopper, 1995). However, Morgan and Hastings (1998) appear to contradict these studies. They look directly at the relationship between attributions and the behavioral function of challenging behavior. They presented two vignettes to experienced care staff, one in which a child's challenging behavior was serving an attention seeking function and the other in which it was serving a task avoidance function. They found that participants were more able to correctly identify the cause of the challenging behavior in the task avoidance vignette than in the attention-seeking vignette. One reason for this may be that the staff tended to use the term "attention seeking" to describe the causes of the behavior in the vignette without any further explanation. 'Attention-seeking behavior' is a well used and accepted term, and the authors explain that it was not possible to ascertain the depth of understanding of staff who used this term.

In summary, the six studies discussed generally illustrate that staff causal attributions about challenging behavior appear to reflect, to a reasonable extent, models of the behaviors found in the research literature. As research suggests that staff attributions are often appropriate, they may not have a significant or direct impact on the way in which staff respond to challenging behaviors (Hastings, 1999). It may be that other factors mediate the influence of staff attributions on intervention behavior. This hypothesis is explored in Weiner's (1985) attributional models of motivation and emotion and his model of helping behavior (Weiner, 1980).

Weiner's attributional model of motivation and emotion

Weiner's (1985) attributional model of motivation and emotion examines how people's attributional beliefs influence their motives and emotions. Weiner (1985) began to develop his theory in some early papers (Weiner, 1979; Weiner & Kukla, 1970; Weiner, Russell & Lerman, 1979). The theoretical focus of this theory is achievement strivings (Weiner, 1985). Weiner (1985) suggests there are three dominant causal perceptions or properties in the perceived causes of success and failure: locus (whether the cause is internal or external to the actor), stability (whether the cause is perceived as temporary or permanent) and controllability (whether or not the cause is subject to personal influence). For example, if a boy perceived low math aptitude to be the cause of achievement failure, he appears to be making internal, stable and uncontrollable attributions. Weiner (1985) also argues that the perceived stability of a cause influences expectancy of success. Thus, if conditions (the presence or absence of causes) are expected to remain the same, then the outcome(s) experienced in the past will be expected to reoccur.

In addition, Weiner (1985) states that the attributions an individual chooses to explain or evaluate an event, generate a variety of emotional experiences. The emotion of pride and feelings of self-esteem are linked with the locus dimension of causality. While anger, gratitude, guilt, pity and shame are all connected with the controllability dimension. The emotional experience associated with causal stability is feelings of hopelessness (hopefulness). Furthermore, Weiner (1985) argues that expectancy and emotion guide motivated behavior. For example, if a boy who lost a race, has a low expectancy of future success and is feeling sad, ashamed and hopeless, behaviors that are not instrumental to winning a future race are likely to be promoted e.g. withdrawal and non-attendance.

Weiner (1985) presents robust empirical support for his theory (e.g. McManah, 1973; Meyer, 1980; Pancer & Eiser, 1977; Stern, 1983), and offers examples of research on topics such as parole decisions and smoking cessation to suggest that his theory generalizes beyond achievement (Weiner, 1985).

Weiner's attributional model of helping behavior

In his attributional model of helping behavior, Weiner (1980) drew on his early papers on attribution, motivation and emotion (Weiner, 1979; Weiner et al., 1979; Weiner & Kukla, 1970). In the context of helping behavior, Weiner (1980) placed importance on perceived personal responsibility (locus and controllability). Weiner's original experimental investigations were carried out with 99 psychology students. Weiner (1980) utilized scenarios such as a drunk or a disabled individual in need of aid. He carried out a series of experiments using this type of scenario. In his final experiment, participants were asked to rate their helping response (on a 10-point scale anchored at the ends with "extremely likely to help" and "extremely unlikely to help") in

eight conditions. The conditions were two causes of falling (an internal cause and an external cause to the person) by two levels of personal control (under personal control and under external control) by two types of emotion (disgust and sympathy). Weiner (1980) used correlations, partial correlations and path models to analysis his results.

Weiner's (1980) model suggests that the attribution of locus and controllability guide our feelings, and emotional reactions provide the motor and direction for behavioral responses (helping behavior). For example if a person's need for help is seen as being internal to that person and controllable (e.g. drunkenness), the observer may feel negative emotion (e.g. disgust or anger) and this may give rise to behavioural avoidance. While if a person's need for help is attributed to external/uncontrollable attributions (e.g. a disability or restricted disabled access), this may generate positive emotion (e.g. sympathy) and give rise to helping behavior (Allen, 1999). Thus, the key aspect of Weiner's model is the mediating role of emotion on the subject's propensity to help. (See figure four). The findings from a number of experimental studies offer support to Weiner's (1980) helping model (e.g. Bentancourt, 1990; Meyer & Mulherin, 1980; Reisenzein, 1986).

Insert Figure 4 about here

Weiner (1980) emphasizes the causality dimensions of locus and control in his model of helping behavior. In later papers he suggests that stability may also play a role (Graham & Weiner, 1991; Schmidt & Weiner, 1988; Weiner, 1985). The first of these papers, outlining Weiner's (1985) attributional model of motivation and emotion, has already been discussed in some depth. In his 1985 paper Weiner proposes that stability may have a similar role in helping behavior as it has in achievement settings.

He suggests that help may be more likely to be extended if the cause of the need is perceived as stable as well as uncontrollable i.e. if it is perceived unlikely that the needy person will be able to help him/ herself in the future. The influence of stability on helping behavior is explored further by Schmidt and Weiner (1988), in a replication study of Weiner's (1980) investigations into helping behavior. The findings of this large study, (496 psychology students were participants), supports Weiner's (1980) original helping model. However, Schmidt and Weiner (1988) also introduce stability as a causal dimension in helping. They suggest that if the cause of a person's difficulty is perceived as stable, there will be a low expectancy of success that an instrumental action will have an effect and help is likely to be withheld. While if the cause of a person's difficulty is perceived as unstable, expectancy of success will be high and help is likely to be offered. As in previous papers (Weiner, 1980; Weiner, 1985), emotion is proposed to mediate the influence of attribution on helping behavior (Schmidt & Weiner, 1988).

Weiner (1980) believed that his model would generalize across a variety of help-giving situations. There have been five investigations, which examine if Weiner's (1980) attributional model of helping behavior is applicable to carers. One of these studies focuses on mothers as carers and four studies focus on professional carers (two of these are carers of clients with intellectual disabilities and challenging behavior). These studies will now be reviewed.

Application of Weiner's (1980) attributional model of helping to carers

Family Carers

Chavira, Lopez, Blacher and Shapiro (2000) examined the applicability of Weiner's (1980) model of helping behavior to mothers of children with intellectual

disabilities. Chavira et al. (2000) examined Latina mothers' attributions, emotions and reactions to the challenging behavior of their children with intellectual disabilities.

One hundred and forty-nine Latina mothers of children with moderate to severe intellectual disabilities were interviewed regarding specific incidents in which their child exhibited challenging behavior. For each behavioral incident, mothers made five attributional ratings based on the dimensions of responsibility, intentionality and controllability. For example, one item was "is (the child) responsible for what he/she did?" Ratings were made on a 3-point scale (0 = no; 1 = somewhat; 2 = yes). Mothers were also asked what their emotional reactions were at the time their child displayed the noted behavior. In addition, mother's initial emotional responses were followed up by asking if they experienced any of a comprehensive list of emotions. Finally, mothers were asked what they did in response to the last time their child engaged in the challenging behavior. The mother's responses were given a score of one to five on a scale that measured harsh/ aggressive behaviors (ranging from no aggression to spanking). This procedure was conducted by the first two authors with an inter-rater reliability score of .90. The main finding was that mothers who ascribed relatively high responsibility to their child were significantly more likely to report negative emotions (anger and frustration) and aggressive/harsh behavioral reactions than mothers who ascribed low responsibility. However, the study found neither a significant relationship between mother's emotional reactions and their harsh/aggressive behavior, nor a mediating role for emotion. Thus, this study does not support Weiner's (1980) helping model.

Professional Carers

Sharrock, Day, Qazi and Brewin (1990) attempted to test the applicability of Weiner's (1980) helping model to professional staff. They also aimed to draw on the 'expectancy of success' component of Weiner's (1985) model of motivation and emotion. Sharrock et al. (1990) recruited thirty-four paramedical professionals working in a medium secure unit for mentally disordered offenders. For all questionnaire measures, staff were asked to refer to one particular 'target' patient who had been on the unit for 14 months and diagnosed as personality disordered with borderline intelligence. The measures looked at staff optimism, attributions, emotional reactions and helping behavior across a range of situations. Sharrock et al. (1990) measured 'optimism' because they suggested that it was closely related to Weiner's (1985) 'expectancy of success' concept (Weiner, 1985). Optimism was defined as the extent to which staff thought they could help the target client.

The optimism measure consisted of 11 negative statements reflecting levels of expectations of the target patient's accomplishments and the extent to which staff considered they could beneficially intervene. For example, one statement was "all one can do for this patient is to look after his/her basic physical and emotional needs.' Each statement had a 5-point scale anchored with 'strongly agree' (scored 1) and 'strongly disagree' (scored 5). A modified form of the Attributional Style Questionnaire (Peterson, Semmel, Baeyer, Abramson & Seligman, 1982) was used to measure attributions, in which staff were asked to write down the major cause of 14 'negative' behaviors, each with reference to the target patient. An example of a negative behavior was acting with hostility to another patient. Respondents were then required to rate the causes of these behaviors along each of four 7-point bipolar scales: internal-external to

the patient, stable-unstable, global-specific and controllable-uncontrollable by the patient. To measure emotional reactions, four 7-point bipolar scales were used relating to anger, disgust, sympathy and pity. For example, the anger scale ranged from 'no anger at all' (scored 1) to 'extreme anger' (scored 7). Since there were high correlations between anger and disgust and between pity and sympathy, these scores were added respectively to produce two scores, referred to as anger and sympathy. Finally, to measure helping behavior, Sharrock et al. (1990) asked respondents to rate how much extra effort they would exert in helping the target patient, ranging from 'no extra effort at all' (scored 1) to 'as much extra effort as possible' (scored 7).

Sharrock et al. (1990) found that stability and controllability were negatively and independently related to levels of optimism. In other words, the tendency for care staff to make attributions towards unstable and uncontrollable factors were associated with higher levels of staff optimism. Using a basic path analysis, Sharrock et al. (1990) also found that helping behavior was most strongly predicted by staff optimism. Emotional reactions did not have a mediating role. Sharrock et al. (1990) conclude that Weiner's (1980) helping model does not generalize to professional carers and suggested that care staff may have learned to not be influenced by their emotional responses. This gradual insensitivity to the emotional effects of challenging behavior has also been noted in carers of people with intellectual disabilities (Hastings, 1995).

Fopmar-Loy and Austin (1997) examined the applicability of Weiner's helping model (1980) to carers of people with Alzheimer's disease. A convenience sample of 54 female nursing staff working in specialized dementia units and facilities were participants. The authors devised an instrument named the 'Formal Caregiver Attribution Inventory (FCAI)' for the purpose of the study. The vignette part of this

inventory described an interaction with a resident who was seated in the dining room but not eating. The four data collection sections of the FCAI were: causal attributions for the story resident's behavior, caregiver expectations for future behavior of the story resident, caregiver feelings about the story resident and caregiving behaviors towards the story resident. The causal attributions section of the FCAI contained a varied set of attribution statements representing possible causes of the stimulus resident's lack of self-feeding behavior to be rated on 5-point scale (1= not a cause, 5 = extremely important cause). Expectation statements reflected expectations for improved functioning, stable functioning and declines in functioning. Emotional reactions contained in the feeling sections were outlined as those used by Weiner (1980) in previous attributional research. Caregiving behavior statements, developed by the investigator, reflected caregiving behaviors that would be expected to promote excess disability, prevent or reverse excess disability and what might be considered neutral behaviors.

The first finding was that causal attributions were significantly correlated with caregiver expectations. For example, participants who rated unstable or reversible factors as the most likely cause of the resident not feeding him/herself were more likely to expect that the resident would be able to feed him/herself in the future. However, causal attributions were not significantly correlated with caregiver emotional reactions. A further finding was that caregiver expectations were significantly related to caregiving behaviors. The predicted relationship between caregiver emotional reaction and caregiving behavior was not supported. Although, casual attributions were significantly associated with the caregiving behavior. The finding that attributions influence expectations is partially consistent with Weiner's (1985) model of motivation and

emotion. However, as no mediating role for emotional reactions were found, these findings do not support Weiner's (1980) helping model.

Professional carers of clients with intellectual disabilities and challenging behavior

Dagnan, Trower and Smith (1998) attempt to replicate the Sharrock et al. (1990) study with care staff who work with people with intellectual disabilities and challenging behavior. In doing so, they explore both the application of Weiner's (1980) helping model and Weiner's (1985) motivation and emotion model.

Participants were 20 residential care staff who worked with people with intellectual disabilities and challenging behavior and 20 care staff who worked with people with intellectual disabilities who did not display challenging behavior. Attributions were measured using the Attributional Style Questionnaire (Peterson et al., 1982). Six examples of challenging behavior were presented and staff were asked to suggest possible causes of the behaviors. Staff then selected the most likely cause and rated their attributions of this cause on seven-point bipolar scales for locus of control, stability, globality and controllability. Staff were asked for their emotional responses to each behavior by rating nine emotions (anger, disgusted, sympathetic, pity, anxious, depressed, happy, loving, relaxed) on a seven-point bipolar scale from 'not at all' to 'extremely.' Staff were asked one question regarding their willingness to provide extra effort to help a person showing each behavior (Sharrock et al., 1990; Weiner, 1980). This was scored on a seven point bipolar scale. Staff were also asked to indicate their agreement or disagreement with five statements concerning potential for changing each behavior scored on a seven-point bipolar scale.

Dagnan et al. (1998) used path analysis to test Weiner's (1980) helping model. This showed that although helping behavior was correlated with negative emotion,

helping behavior was most predicted by the level of optimism. In turn, optimism was most predicted by negative emotion and negative emotion was most predicted by the attribution of controllability. The attribution of controllability was also found to be negatively correlated with positive emotion. However, in contrast to negative emotion, positive emotion did not correlate significantly with optimism or helping. Unlike Sharrock et al. (1990), Dagnan et al. (1998) conclude that they found a key role for emotion, and they report that their findings are consistent with Weiner's (1980) helping model. However, Weiner's (1980) helping model places emphasis on the mediating role of emotion and this role was not reported. Instead, Dagnan et al. (1998) report that optimism mediates helping behavior (although they do not directly report relevant tests to demonstrate this i.e. partial correlation). The emphasis on optimism is more consistent with Weiner's (1985) model of motivation and emotion than his helping model (Weiner, 1980).

A recent paper by Stanley and Standen (2000) also argues that the studies by Sharrock et al. (1990) and Dagnan et al. (1998) are more representative of Weiner's (1985) model of motivation and emotion than his helping model (Weiner, 1980). Stanley and Standen (2000) claim to attempt a purer test of the application of Weiner's (1980) model of helping behavior to care staff who work with clients with intellectual disabilities and challenging behavior. They also aim to compare Weiner's helping model with the optimism models of Sharrock et al. (1990) and Dagnan et al. (1998), and hypothesize that carers' propensity to help would be related to emotional reactions rather than optimism. In addition, they explored if a client's dependency in areas of functioning, which they define as a perceived stable cause for challenging behavior, would reduce optimism. Finally, Stanley and Standen (2000) examine if topography of

challenging behavior (self-injury, aggression and destruction) differentially affects attributions.

Stanley and Standen (2000) presented 50 care staff working in challenging behavior services with six case studies, which represented combinations of topography and dependency (representing 'independent' and 'dependent' functioning in areas such as communication and daily living activities). Each case study was drawn up in the form of a scene depicting an individual exhibiting one combination of topography/dependency. Each contained a specific 'negative outcome' which was intended to elicit causal attributions. The participants were instructed to read each of the six case studies. Seven 9-point scales to be rated (control, negative emotion, positive emotion, locus, stability, optimism, and helping) followed each case study.

Stanley and Standen (2000) conduct the analysis of their results in two stages. Firstly, the predictions relating to the differential effects of topography and the reduction in optimism due to client dependency were tested using a series of two-way ANOVAS. Secondly, Pearson correlations were used to examine the predictions relating to the relative effects of positive emotion and optimism on propensity to help. In addition, Cronbach alpha coefficients were calculated to establish the internal consistency of variables created by adding the scores from all six case studies.

Stanley and Standen's (2000) first finding was that the more independent the person depicted in the scene and the more outer directed the challenging behavior, the greater the carers' attributions of control and negative emotion and the less the propensity to help. Conversely, the more dependent the person depicted in the scene and the more self-directed the challenging behavior, the greater the carers' attributions of stability, positive emotion and propensity to help. Focusing more closely on

Weiner's helping model (1980), there appears to be some support for this model. Perceived control was found to correlate positively with negative emotion and negatively with positive emotion. However, only positive emotion correlated significantly with helping. Additionally, Stanley and Standen (2000) found that optimism predicts emotional reactions, which is not supportive of Weiner's (1980) helping model. However, Stanley and Standen (2000) conclude that Weiner's (1980) helping model does apply to the care situation, providing topography and dependency factors are allowed to vary and providing the emotion directing helping is positive.

Summary of the application of Weiner's (1980) model of helping behavior to carers

The five studies outlined above vary in their findings. Firstly, Stanley and Standen (2000) argue that if topography and dependency factors are allowed to vary and the emotion directing helping is positive, then their findings are supportive of Weiner's (1980) helping model. However, Weiner's (1980) helping model argues that emotions have a mediating impact on helping, but Stanley and Standen (2000) do not directly report the relevant tests to demonstrate this (i.e. partial correlations). Secondly, the studies by Dagnan et al. (1998) and Chavira et al. (2000) report that attributions are correlated with emotions. However, neither study found a mediating role for emotion in helping behavior, and therefore do not support Weiner's (1980) helping model. Finally, the studies by Sharrock et al. (1990) and Fopmar-Lay and Austin (1997) also demonstrate no evidence for Weiner's (1980) helping model. Sharrock et al. (1990) found that attributions influenced optimism and optimism influenced helping behavior. Similarly, Fopmar-Lay and Austin (1995) found attributions influenced expectations and expectations influenced helping behavior. The key role of optimism/expectation in these studies, rather than emotion, is akin with Weiner's (1985) motivation and emotion

model rather than his helping model (Weiner, 1980). In conclusion, although support is mixed, it has been demonstrated that overall, there is little evidence for the application of Weiner's (1980) attributional model of helping behavior to carers.

CRITICAL ANALYSIS OF RESEARCH EXAMINING THE APPLICATION OF WEINER'S (1980) HELPING MODEL TO CARERS

There are a number of difficulties with the five studies that attempt to test the application of Weiner's (1980) helping model to carers. A major theoretical problem and eight methodological difficulties undermine the findings reported in these studies. In order to inform the design of a more definitive test of Weiner's (1980) helping model in the context of challenging behavior, these difficulties will now be discussed and suggestions for amending these failures in future research will be addressed.

Theoretical Problem

The accuracy with which Sharrock et al. (1990), Fopmar-Loy and Austin (1997) and Dagnan et al. (1998) test Weiner's (1980) attributional model of helping behavior must be questioned. These studies are possibly more reflective of Weiner's (1985) motivation and emotion model, in that they place emphasis on optimism (Dagnan et al., 1998; Sharrock et al., 1990) or expectancy (Fopmar-Loy & Austin, 1997). Even as a test of the motivation and emotion model (Weiner, 1985), Sharrock et al.'s (1990) and Dagnan et al.'s (1998) emphasis on optimism rather than Weiner's (1985) concept of expectancy, is questionable. Dagnan et al. (1998) acknowledge that optimism, may not be an accurate representation of Weiner's (1985) 'expectancy of future success' concept. In addition, Dagnan and his colleagues (1998) suggest that as items in the optimism scale require a judgment of the likelihood of change, they may be interpreted as specific examples of stable attributions. Dagnan et al. (1998) found stability and optimism were

positively correlated. Also, it is not clear what exactly these 'optimism' items measure. It may be that they are a measure of self-efficacy (Bandura, 1982).

Stanley and Standen (2000) move closer to the original theory than earlier attempts to test the application of Weiner's (1980) helping model. Although, like some of the previous studies, they also examine optimism. However, Stanley and Standen (2000) do recognize that this is an application of Weiner's (1985) motivation and emotion model rather than his helping model (Weiner, 1980). However, like the Sharrock et al. (1990) and Dagnan et al. (1998) studies, they assume that optimism is an accurate representation of Weiner's (1985) expectancy concept. In addition, they do not consider that the dependency or independency scenarios in their case studies may be interpreted as specific examples of stable attributions. Stanley and Standen (2000) found that stability was correlated with dependent functioning.

Methodological Problems

There are eight major methodological problems with the studies that apply Weiner's (1980) helping model to carers. Firstly, using either one known individual client (Chavira et al., 2000; Fopmar-Lay & Austin, 1995; Sharrock et al., 1990) or multiple unknown clients (Dagnan et al., 1998; Stanley & Standen, 2000) confuses attributional measures. In terms of making attributions concerning an incident of challenging behavior displayed by a known individual, it may be that staff attributions will be influenced by their previous knowledge and experience of that client. While staff who were asked to make attributions about multiple clients may find that because they have been given a lot of information about different clients, it is difficult to separate this information to make attributions about a particular client.

Secondly, the Attributional Style Questionnaire (Peterson et al., 1982), used by Sharrock et al. (1990) and Dagnan et al. (1998) is limited because it only has one item for each attribution. While the linear scales used to measure attributions in the other studies are psychometrically weak: Stanley and Standen (2000) used three 7-point linear scales; Fopmar-Lay and Austin (1995) used five-point linear scales; Chavira et al. (2000) used five 3-point linear scales. In addition, two of the studies did not report any psychometric properties for their attributional measure (Dagnan et al., 1998; Stanley & Standen, 2000).

Thirdly, the studies ask staff to make attributions about challenging behavior, but do not consider whether the perceived function of the behavior influences attributions (Chavira et al., 2000; Dagnan et al., 1998; Fopmar-Lay & Austin, 1997; Sharrock et al., 1990; Stanley & Standen, 2000). In the context of care staff, it could be argued that without knowledge concerning the function of the challenging behavior, the respondents were asked to make attributions when they did not have enough information to do so. In the context of challenging behavior, staff will have a history of information that will include information about the function of the behavior. This is unlikely to be the case in Weiner's (1980) experiments, where respondents were reporting on helping behavior towards strangers. Although Stanley and Standen (2000) do not explore the function of challenging behavior, they do recognize the importance of dimensions of challenging behavior, as they examine the influence of topography on attributions. Topography was found to influence attributions i.e. carers attributions of control were greater for aggressive behavior than for self-injurious behavior. The function of the challenging behavior should contribute more to attributions than topography, because attribution and function are both about causality.

The fourth criticism concerns the way that emotions are measured in the studies. Fopmar-Lay and Austin (1997) state that their emotional reaction measure was similar to that used by Weiner (1980), but they do not give any other information about the emotions they used or how they were measured. While Chavira et al. (2000) do not measure the strength of emotional responses, although they do ask respondents about the presence of different emotional responses. A criticism of the Stanley and Standen (2000) is that they only have two emotion items for participants to rate ('negative emotion' and 'positive emotion' also on 7-point bipolar scales). The difficulty with combining all positive and negative emotions into just two scales is that it is unclear which particular negative and positive emotions are important. Previous research suggests that it is useful to look at different dimensions of negative emotion in the context of challenging behavior (Mitchell & Hastings, 1998). Mitchell and Hastings (1998) distinguished between feelings of depression/anger and feelings of fear/anxiety. Finally, by asking participants to rate nine emotions, Dagnan et al. (1998) measure emotions in a wider way than other studies (e.g. Stanley & Standen, 2000). However, they do not use empirically-derived dimensions of emotions or report psychometric properties of the scales.

A fifth methodological problem, which applies to most of the five studies, is the way that helping behavior has been measured. Sharrock et al. (1990) and Dagnan et al. (1998) measured helping behavior by asking respondents 'how much extra effort they would exert in helping the individual' on a 7-point bipolar scale (ranging from 'no extra effort' to 'as much extra effort as possible'). Stanley and Standen (2000) use a similar 9-point scale. Chavira et al. (2000) measured helping in a different way. They asked their respondents what they did in response to the last time their child engaged in the

identified challenging behavior. The mother's responses were given a score of one to five on a scale that measured harsh/ aggressive behaviors (ranging from no aggression to hitting or spanking). The difficulty with this scale is that it does not relate clearly to helping behavior, because different responses may be appropriate or 'helpful' for different challenging behaviors. Fopmar-Loy and Austin (1997) also measure helping differently to the majority of studies. These authors developed a list of caregiving behaviors as possible behavioral responses to a scenario of an individual with Alzheimer's disease not eating. The behaviors reflected those that would be expected to promote excess disability, prevent or reverse excess disability and neutral behaviors. The authors did not provide any details about how staff would rate these behaviors.

The sixth criticism is also related to helping. In the context of 'challenging behavior' respondents were asked to make a judgment about helping when they did not have any information about the function of the challenging behavior (Chavira et al., 2000; Dagnan et al., 1998; Fopmar-Loy & Austin, 1997; Sharrock et al., 1990; Stanley & Standen, 2000). It is impossible to look at helping behavior in the context of challenging behavior if respondents have no understanding of the behavior's function. As whether or not a response is 'helpful', is directly related to the function of the behavior. For example, if self-injurious behavior has the function of gaining positive reinforcement, helping in the form of social contact, may serve to reinforce the behavior and therefore would not actually be 'helpful.' But if the self-injurious behavior has the function of demand avoidance, then maintaining demands might be a helpful, habilitative response.

In the context of care staff working with challenging behavior, it would have been useful if the studies had explored the actual interventions that staff report they

would make. The only study that attempted to do this was Fopmar-Loy and Austin (1997), who listed a number of caregiving behaviors for respondents to rate. Exploring actual interventions, rather than general judgements of helping, is important because in the context of challenging behavior when help is offered or something is done, the effect of this may not be 'helpful' or what is expected. For example, if challenging behavior has the function of gaining negative reinforcement, helping in the form of removing a task demand may serve to reinforce the behavior. Thus, it is crucial to understand factors related to both habilitative and counter-habilitative staff behavior. There is also the need to develop a more specific measure of helping behavior in the context of challenging behavior.

The seventh difficulty to be outlined concerns the poor ecological validity of the studies. Sharrock et al. (1990) provided respondents with 14 'negative' behaviors and asked them to make ratings concerning one familiar client. While Chavira et al. (2000) asked mothers to recall incidents in which their child exhibited challenging behavior and make ratings concerning those behaviors recalled. These studies were therefore not conducted with events fresh in the respondent's mind. Other studies asked carers to respond to theoretical written scenarios rather than real life situations (Dagnan et al., 1998; Fopmar-Lay & Austin, 1997; Stanley & Standen, 2000).

Finally, the eighth methodological difficulty is concerned specifically with the Stanley and Standen (2000) study and the analysis that they report. Stanley and Standen (2000) calculate reliability scores by adding the six scores from all six case studies for each respondent rather than by examining the scores between subjects. In addition, in the analysis of their results, Stanley and Standen (2000) conclude that optimism is predictive of emotion and emotion is predictive of helping, but they do not

directly report the relevant tests. Using correlation statistics, they report that optimism is related to emotion and that emotion is related to helping, however they make the jump that emotion mediates optimism's influence on helping. Stanley and Standen (2000) do not conduct a partial correlation (partialling out emotion) to test this.

In summary, difficulties with the six studies that attempt to test the application of Weiner's attributional model to carers have been discussed. Theoretical concern have been raised over whether the studies are actually testing Weiner's (1980) helping model, and methodological weaknesses in design and measurement have been put forward. This review will continue by discussing the necessity for future research and by providing suggestions for improving theoretically and methodologically on past studies.

RECOMMENDATIONS FOR FUTURE RESEARCH

Future research is needed in three distinct areas. Firstly, additional data are needed to understand the application of Weiner's (1980) helping model to staff working with people with intellectual disabilities and challenging behavior. The role of cognitive and emotional factors and the pathway they take in influencing helping behavior requires further exploration. Previous studies, have combined Weiner's (1980) helping model and his motivation and emotion model (Weiner, 1985) in their applications. This approach has confused matters and means that a pure test of Weiner's (1980) helping model has not taken place. Further research, which specifically looks at Weiner's (1980) helping model, would provide a clearer picture.

Secondly, taking into consideration the methodological problems associated with existing research, it may be that more experimental designs and measures with established psychometric robustness are needed i.e. in the measurement of attributions and emotional reactions. In particular, the measurement of 'helping behavior' needs

exploring. A general judgment of willingness to help is not useful in the context of intellectual disabilities and challenging behavior. A manipulation of the function of the challenging behavior and an understanding of helping behavior, which is based on actual staff intervention behaviors, would be more clinically relevant and appropriate for this area of work.

Thirdly, the ecological validity of future research is a priority. Research that moves towards staff responding to real cases of challenging behavior, at the time that challenging behavior times place is required. For example, using video stimulation, (such as that used by Mossman et al., in press, in their study of emotional responses), would improve on the methods used in previous papers (i.e. vignettes and recalling past experiences of challenging behavior).

IMPLICATIONS OF A COGNITIVE MODEL FOR CLINICAL PRACTICE

If cognitive models, such as Weiner's (1980) helping model is applicable to care staff working with people with intellectual disabilities and challenging behavior, this would have important clinical implications. The implication of this for assessment will be outlined and considerations for intervention will be discussed.

Assessment of challenging behavior

In terms of assessment, the current review stresses the necessity of extending the functional analysis of challenging behavior to include a functional analysis of staff behavior. Although research is limited, there is enough evidence to warrant a detailed examination of the factors, which may influence staff responses to challenging behavior. A functional analysis that incorporates an understanding of the reinforcing contingencies and /or attributions, beliefs and emotions of staff may assist in understanding the development and maintenance of challenging behavior. This type of exploration may

also present data that helps to explain the observed responses of staff. For example, it has been hypothesized that in intervening with challenging behavior staff are often acting to terminate an aversive experience (Hastings & Remington, 1994). Such research may also lead to a better understanding of why some intervention programs do not work

Interventions for challenging behavior

Focusing on intervention, if staff responses to challenging behavior follow an attribution-emotion-helping pathway, as Weiner's (1980) helping model hypothesizes, then clinicians need to be made aware of this so that they can plan appropriate interventions. Consideration should be particularly given to three areas. Firstly, to the impact that an intervention program may have on staff. For example, a behavioral intervention may expose staff to more frequent challenging behavior in the short term, which could lead to an increase in negative emotion, which in turn could reduce adherence to an intervention. It may be particularly difficult for staff to use different strategies for intervening with challenging behavior, if the strategies they already use are effective in the short term. This may be especially true for interventions that temporarily lead to extinction burst (an increase in challenging behavior). This would suggest that clinicians must pay special attention to interventions that do not typically lead to short term increases in challenging behavior e.g. functional communication training (McConnachie & Carr, 1997). Furthermore, it has also been demonstrated that even when staff believe an intervention will be effective, they may not adhere to guidelines if they perceive the demands of the situation are incompatible (Watts, Reed & Hastings, 1997). Thus, it is essential that clinicians consider the impact that an intervention may have on staff.

The second area that clinicians need to consider is the most appropriate way to support staff in their emotional reactions to challenging behavior, and how to elevate the negative impact of emotional reactions. As discussed earlier, a number of studies have found a relationship between challenging behavior and staff stress and burnout, and there is also the suggestion that negative emotional reactions may lead to stress and burnout in the long-term (Mitchell & Hastings, in press). If this is the case, reducing negative emotions may also result in the reduction of stress and burnout. Different approaches may be useful in this work. For example, an education model, which teaches anxiety or anger management, may provide staff with the appropriate skills to cope with their negative emotions. Alternatively, a counseling approach may also be useful. For example, providing staff with the opportunity for continual discussion of feelings, with a special emphasis on debriefing after critical incidents (when feelings are likely to run high and the use of punishments may be deemed appropriate.) Finally, the use of cognitive-behavioral techniques with groups of staff may be helpful (Kushlick et al. 1997; Kushlick, Dagnan & Trower, 1998). This approach offers an ABC model. In this model, A may be a client's challenging behavior in a particular situation, B is a staff member's belief about that behavior (e.g. that the person is 'attention seeking'), and C is the emotional or behavior consequence that may involve feeling angry and avoiding the person. The main point of this approach is to enable staff to understand how their beliefs and emotions may influence their behavior.

The third areas clinicians must attend to is modifying or adapting 'unhelpful' causal attributions. For example, if challenging behavior is perceived to be controllable by the individual, Weiner's (1980) helping model would suggest that it is more likely that staff will report negative emotions and behave in an 'unhelpful' way. In such

cases, attributional retraining methods which encouraging carers to expand their causal analysis to include new elements and more favorable attributions would be beneficial (Sharrock et al., 1990). An alternative way of modifying staff causal attributions may be through staff training. Previous research has suggested that behavioral knowledge is associated with the accuracy of beliefs about the causes of challenging behavior, and with beliefs about intervening (Oliver et al., 1996). Training in behavioral principles may therefore lead to more 'appropriate' attributions i.e. that challenging behavior is uncontrollable by rather than controllable by the client. Weiner's (1980) helping models would suggest that more 'appropriate' attributions will lead to more positive emotional reactions and more positive emotional reactions will lead to more habilitative behavioral responses ('helping behavior.')

In summary, the clinical implications of applying cognitive models, such as Weiner's (1980) helping model, to staff working with people with intellectual disabilities and challenging behavior have been discussed. Suggestions for extending the functional analysis of challenging behavior to include an analysis of staff behavior, for considering the impact of interventions on staff and for directing interventions towards staff emotional reactions and attributions have been put forward. Ultimately, this area of work is important because it has the potential of improving the quality of life of both individuals who display challenging behavior and of carers (Kushlick et al., 1997).

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Figure 1 Systems model of challenging behavior as applied to self-injury being maintained by positive reinforcement (adapted from Mossman et al., 2000, p. 60 and Oliver, 1995, p. 913)

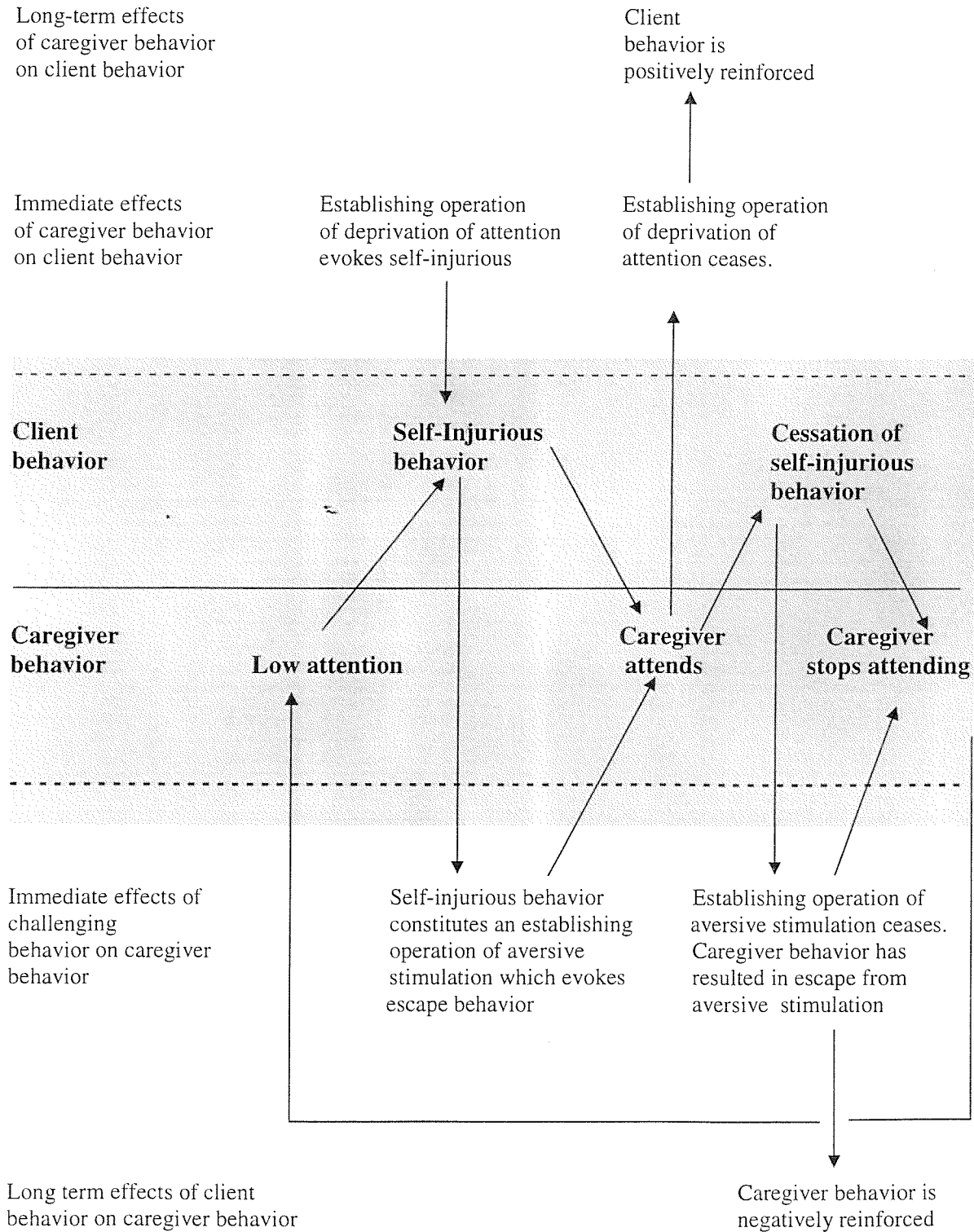


Figure 2 Systems model of challenging behavior as applied to self-injury being maintained by negative reinforcement (adapted from Mossman et al., 2000, p. 60 and Oliver, 1995, p. 913)

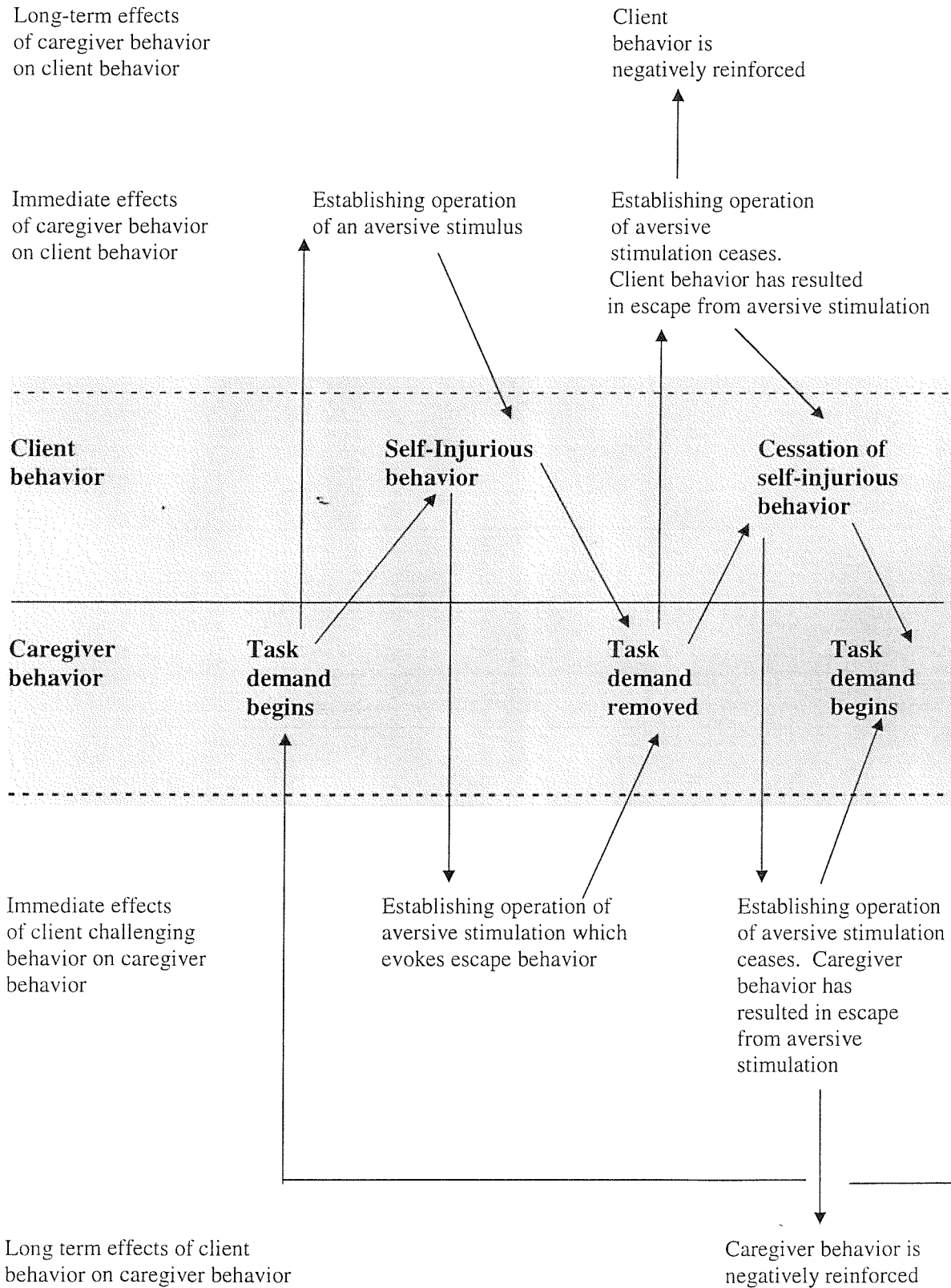


Figure 3 The H model of challenging behavior (Hastings, 1997, p. 776)

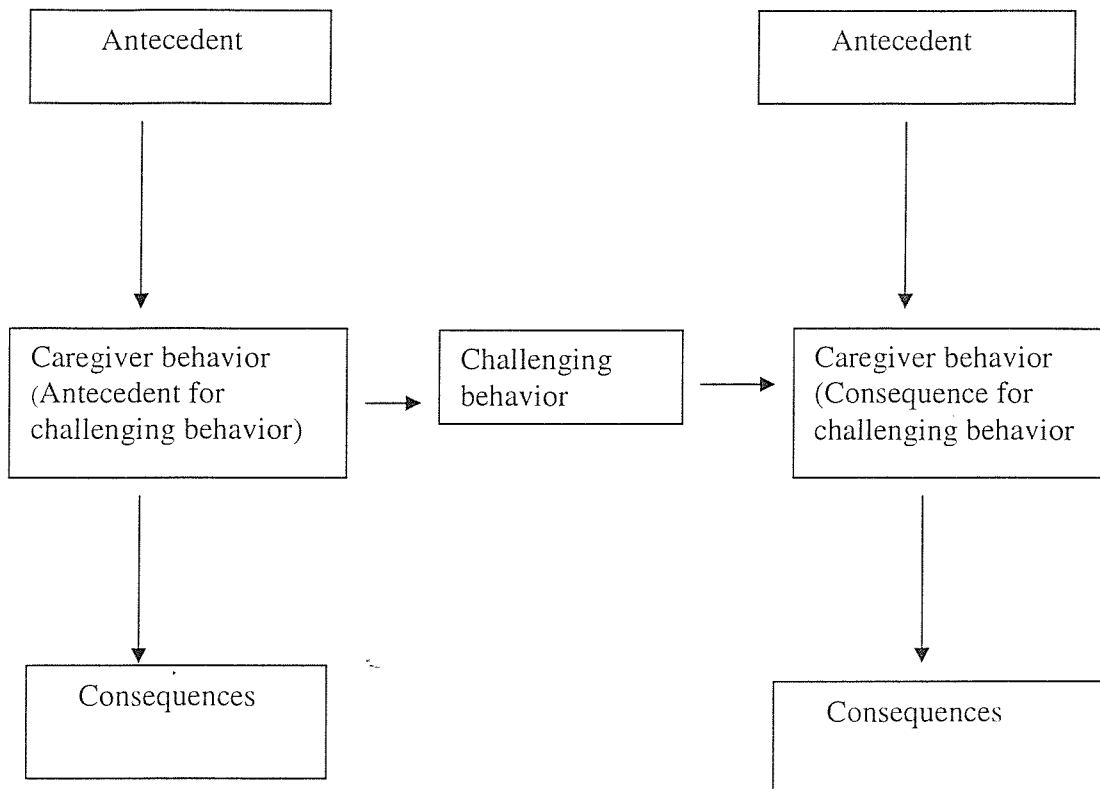
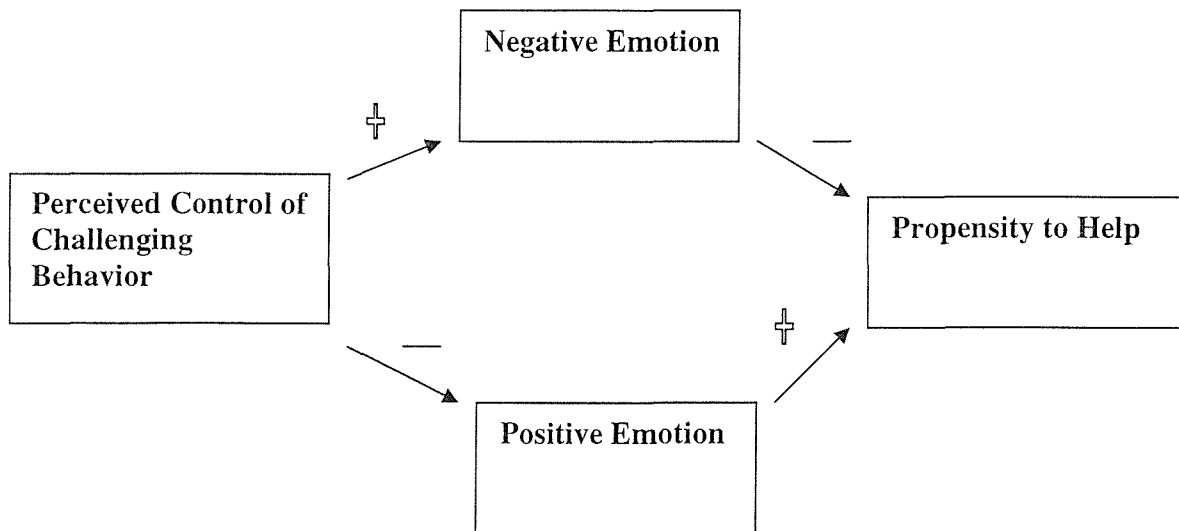


Figure 4 Weiner's (1980) Basic Attributional Model of Helping Behavior (Adapted from Stanley & Standen, 2000, p. 160).



Empirical paper

**Evidence against the application of Weiner's attributional model of helping
behaviour to staff working with challenging behaviour**

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**Evidence against the application of Weiner's attributional model of helping
behaviour to staff working with challenging behaviour**

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Running head

Challenging behaviour and evidence against an attributional model

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Abstract

Weiner's attributional model of helping behaviour proposes that attributions guide emotion and that emotion provides the motor and direction for behavioural responses. Two previous studies have attempted to test the applicability of Weiner's helping model to professional carers of people with intellectual disabilities and challenging behaviour. These studies provided little support for Weiner's helping model, but their applications are theoretically and methodologically limited. The current study aimed to both conduct a more theoretically appropriate test of Weiner's helping model, and to improve methodologically on previous studies

One hundred and twenty three direct care staff participated in the research. They were presented with one of two video stimuli, which depicted self-injurious behaviour that served 'attention seeking' or task avoidance functions. Following this, the participants completed various measures.

Correlational analysis showed: (a) that in the task avoidance condition there was a significant relationship between causal locus dimension scores and reported depression/anger scores. There were no other associations between attributions and emotional reactions; (b) that in the task avoidance condition there was a significant relationship between the depression/anger scores and intervention scores. There were no other associations between emotional reactions and interventions; (c) that there is no evidence that emotion mediated the impact of attributions on interventions.

Implications for research and clinical practice are discussed.

INTRODUCTION

A better understanding of staff experiences of challenging behaviour may be useful in explaining the development and maintenance of challenging behaviour in people with intellectual disabilities (Dagnan, Trower & Smith, 1998). Oliver's (1995) behavioural systems model incorporates challenging behaviour and staff actions into a 'dynamic behavioural system.' In this cyclical system, not only do the actions of other people act as antecedents and consequences for challenging behaviour, but also challenging behaviour often acts as antecedents and consequences for the behaviour of others. For example, if a client's self-injury is positively reinforced, if social contact is not provided, self-injury continues; If staff experience the self-injury as aversive (as Oliver, 1995, suggests), staff will be punished by not providing social contact. Thus, staff escape from the self-injury by providing social contact. Therefore, staff behaviour is negatively reinforced and the client's challenging behaviour is positively reinforced.

Taking a cognitive viewpoint, the aversive experience of challenging behaviour may be explained by the emotional and cognitive responses of staff. There are a number of studies that demonstrate that staff report negative emotions in response to challenging behaviour (e.g. Bromley & Emerson, 1995; Hastings & Remington, 1995). For example, Bromley and Emerson (1995) found that staff reported emotions of sadness in response to self-injury and fear in response to aggression. Studies generally illustrate that staff causal attributions about challenging behaviour appear to reflect models found in the research literature (e.g. Hastings, 1995; Oliver, Hall, Hales & Head, 1996). For example, given a choice of four causal hypotheses, Oliver et al. (1996) found that staff selected the correct behavioural hypothesis approximately 55% of the

time. As research suggests that staff attributions are often appropriate, they may not have a significant or direct impact on the way in which staff respond to challenging behaviour (Hastings, 1999). It may be that other factors mediate the influence of staff attributions on intervention behaviour.

Cognitive models, such as Weiner's (1980) attributional model of helping behaviour, provide a way of understanding staff responses to challenging behaviour. Weiner's (1980) helping model suggests that the attribution of locus (whether the cause is internal or external to the actor) and controllability (whether or not the cause is subject to personal influence) guide our emotional reactions and it is these that provide the motor and direction for behavioural responses (helping behaviour). For example, if a person's need for help is seen as being internal to that person and controllable (e.g. drunkenness), the observer may feel negative emotion (e.g. disgust or anger) and this may give rise to 'unhelpful' behaviour i.e. avoidance. While if a person's need for help is attributed to external/ uncontrollable attributions (e.g. a disability), this may generate positive emotion (e.g. sympathy) and give rise to helping behaviour (Allen, 1999). Thus, the key aspect of Weiner's model (1980) is the mediating role of emotion on propensity to help (see Figure 1).

Insert Figure 1 about here

Two studies have been identified that attempt to test the applicability of Weiner's (1980) helping model to care staff working with clients with intellectual disabilities and challenging behaviour (Dagnan, et al. 1998; Stanley & Standen, 2000). These studies are influenced by Sharrock, Day, Qazi and Brewin (1990), who were the first

researchers to examine the applicability of Weiner's (1980) helping model to professional carers. In their paper, Sharrock et al. (1990) also draw on the 'expectancy of success' component of Weiner's (1985) model of motivation and emotion. This model is based on achievement striving, and argues that the perceived stability of a cause influences expectancy of success (Weiner, 1985). Thus, if conditions (the presence or absence of causes) are expected to remain the same, then the outcome(s) experienced in the past will be expected to reoccur.

Sharrock et al. (1990) asked thirty-four paramedical professionals working in a medium secure unit for mentally disordered offenders to refer to one particular 'target' patient when responding to four measures (optimism, attribution, emotional reactions and helping). The optimism measure asked staff whether they considered they could beneficially intervene to 11 behaviours (on 5-point scales). A modified form of the Attributional Style Questionnaire (Peterson, Semmel, Baeyer, Abramson & Seligman, 1982) was used to measure attributions. To measure emotional reactions, four 7-point bipolar scales were used relating to anger, disgust, sympathy and pity. Finally, to measure helping behaviour, respondents were asked to rate how much extra effort they would exert in helping the target patient on a 7-point bipolar scale.

Firstly, Sharrock et al. (1990) found that stability and controllability were negatively and independently related to levels of optimism. Secondly, using a basic path analysis, they found that helping behaviour was most strongly related to optimism and that emotional responses did not have a mediating role (Weiner, 1985). Thus, Sharrock et al. (1990) conclude that Weiner's (1980) helping model does not generalise to professional carers.

Dagnan et al. (1998) aimed to replicate the Sharrock et al. (1990) study with 40 residential staff who cared for people with intellectual disabilities and challenging behaviour. The staff responded to six examples of challenging behaviour presented in vignettes. Attributions were measured using the Attributional Style Questionnaire (Peterson et al., 1982). Nine possible emotional reactions were measured on seven-point bipolar scales (ranging from 'not at all' to 'extremely.') Willingness to provide extra effort to help the person showing challenging behaviour was measured on a seven-point bipolar scale. Staff were also asked to indicate their agreement or disagreement with five statements concerning potential for changing each behaviour scored on a seven-point bipolar scale.

Dagnan et al. (1998) used path models to analyse their results. These showed that although helping behaviour was correlated with negative emotion, helping behaviour was most strongly predicted by the level of optimism. In turn, optimism was most strongly predicted by negative emotion and negative emotion was most strongly predicted by the attribution of controllability. The attribution of controllability was also found to be negatively correlated with positive emotions. However, in contrast to negative emotions, positive emotions did not correlate significantly with optimism or helping. Unlike Sharrock et al. (1990), Dagnan et al. (1998) conclude both that emotional reactions play a key role in helping behaviour, and that their findings are supportive of Weiner's (1980) helping model. However, this second conclusion can be disputed, because Dagnan et al. (1998) found that optimism not emotion mediated helping.

Stanley and Standen (2000) carried out the second study that aimed to test the application of Weiner's (1980) helping model to staff working with clients with intellectual disabilities and challenging behaviour. Stanley and Standen (2000) also compare Weiner's helping model with the optimism models of Sharrock et al. (1990) and Dagnan et al. (1998) in their investigations. They hypothesise that carers' propensity to help would be related to emotional reactions rather than optimism. In addition, they explore if a client's dependency in areas of functioning, (which they define as a perceived stable cause for challenging behaviour), would reduce optimism. Finally, Stanley and Standen (2000) examine if the topography of challenging behaviour (i.e. self-injury, aggression and destruction) differentially affects attributions.

Stanley and Standen (2000) presented 50 care staff with six case studies, which represented combinations of topography and dependency (representing 'independent' and 'dependent' functioning in areas such as daily living activities). Seven 9-point scales to be rated (control, negative emotion, positive emotion, locus, stability, optimism, and helping) followed each case study. Stanley and Standen's (2000) used two-way ANOVAS and Cronbach alpha coefficients to analyse their results.

Their first finding is that dependency and topography were correlated with attributions i.e. the more independent the person depicted in the scene and the more outer directed the challenging behaviour, the greater the carers' attributions of control. Secondly, perceived control was found to correlate positively with negative emotion and negatively with positive emotion, but only positive emotion correlated significantly with helping. Thirdly, optimism was found to predict emotional reactions, and emotional reactions were reported to mediate the influence of optimism on helping. Stanley

and Standen (2000) conclude that Weiner's (1980) model of helping behaviour does apply to the care situation, providing topography and dependency factors are allowed to vary and providing the emotion directing helping behaviour is positive.

Stanley and Standen (2000) make statistical errors that weaken their conclusions. Using correlation analysis, Stanley and Standen (2000) report that optimism is related to emotional reactions and that positive emotion is related to helping, but they make the jump that emotional reaction mediates optimism's influence on helping. Stanley and Standen (2000) do not conduct a partial correlation (partialling out emotion) to test this.

Support for the applicability of Weiner's (1980) helping model to staff working with client's with intellectual disabilities and challenging behaviour is limited. One reason for this may be because the model is not applicable. Alternatively, the lack of support maybe due to six areas of weaknesses in the previous attempts to apply Weiner's (1980) helping model (Dagnan et al., 1998; Sharrock et al., 1990; Stanley & Standen, 2000). First, by placing emphasis on optimism, previous studies have attempted to examine Weiner's (1985) motivation and emotion model, in addition to his helping model (Weiner, 1980), and have therefore not provided a clear test of the helping model. Second, the measures used to measure attributions, emotional reactions and helping behaviour either lack psychometric properties or are psychometrically weak i.e. the Attributional Style Questionnaire (Peterson et al., 1982) only has one item for each attribution. Third, the studies ask respondents to make a judgement about helping behaviour when they do not have any information about the function of the challenging behaviour. In the context of challenging behaviour this is an impossible task, as whether or not a response is 'helpful,' is directly related to the function of the

challenging behaviour. For example, if self-injurious behaviour has the function of gaining positive reinforcement, helping in the form of social contact, may serve to reinforce the behaviour and therefore would not actually be 'helpful.' Fourth, previous studies have measured general judgements of helping, rather than exploring actual interventions. This is not useful in the context of challenging behaviour, as when something is done, the effect of this may not be 'helpful'. For example, if challenging behaviour has the function of gaining negative reinforcement, helping in the form of removing a task demand may serve to reinforce the behaviour. Fifth, previous studies are limited because they lack ecological validity i.e. staff are either asked to make retrospective responses or to respond to theoretical written scenarios. Finally, previous studies have not controlled for staff demographic variables, (e.g. gender, age, education, training, length of experience, and exposure to challenging behaviour), in their applications of Weiner's (1980) helping model.

Examining the applicability of cognitive models to care staff is important, because if appropriate it may offer the means of making links between staff attributions, emotional reactions and behaviour, and establish a platform for intervening which moves beyond simple contingency management (Kushlick, Trower & Dagnan, 1997).

The current research has three aims. First, it aims to improve methodologically on previous studies. This will be achieved by: The use of a more ecologically valid method of presenting challenging behaviour, namely the use of filmed stimuli; Improving on the measurement of attributions and emotional reactions i.e. by using measures that have psychometric robustness; Developing a measure of helping behaviour, which is based on actual staff interventions and which incorporates a

manipulation of the function of the challenging behaviour. Second, this study aims to conduct a more appropriate test of Weiner's (1980) helping model than previous studies. This will be achieved by solely studying the applicability of Weiner's helping model, and by not testing Weiner's (1985) motivation and emotion model or exploring the concept of optimism (Sharrock et al., 1990). Third, this study aims to control for staff variables (e.g. experience and qualifications) when examining the relationship between the dependent variables.

First, it is hypothesised that attributions will be correlated with emotional reactions (e.g. personal control will be positively correlated with the reporting of negative emotion). Second, it is hypothesised that emotional reactions will be correlated with interventions behaviour (e.g. the reporting of negative emotion will be positively correlated with interventions that reinforce the challenging behaviour/'unhelpful' responses). Third, it is hypothesised that emotional reactions will mediate the impact of causal attributions on interventions ('helping' behaviour.)

METHOD

Participants

Four managers of intellectual disability social services day centres and two managers of community nursing teams in a Southern England city were approached about this research. All of the managers gave permission for their staff to partake in the study. In addition, the service manager of the city's health residential services was approached. Permission was given to ask residential staff attending four training days to participate in the study. One hundred and thirty four care staff were available to take part and one hundred and twenty three staff agreed to participate. Fifty staff worked in residential

settings, 56 staff worked in day services and 12 staff worked in a community nursing team, (missing data = five). Demographic characteristics of the sample are summarised in Table 1.

Insert Table 1 about here

Stimulus materials

Two videos were created in collaboration with a university based Teaching and Media Department for a previous study (Mossman, Hastings & Brown, in press). Two actors, who were both experienced in working with people with challenging behaviour and intellectual disabilities, participated in the videos. One actor took on the role of a person with intellectual disabilities who engages in self-injurious behaviour. A professional make-up artist created the illusion of injury to the face. The second actor took on the role of therapist whose aim was to engage the person with intellectual disabilities in an educational task. The therapist presented eight tasks which all involved the individual with intellectual disabilities copying the therapist's actions (i.e. drink from a cup, stack cups, operate a switch, put a block in a cup, close a book, draw a cross, answer a telephone and wipe mouth with a napkin.) The tasks were presented in the same order in the two videos. A layout of the scene (which was identical for the two videos) is shown in Figure 2.

Insert Figure 2 about here

The self-injury consisted of a clenched fist of the right hand making a forceful contact to the right side of the face. The frequency and force of the hits was the same for both videos. Each video contained four close-up frames of the individual, with two self-injurious hits per close-up. The two videos were approximately five minutes in length. The two videos varied according to the behavioural function of the challenging behaviour displayed. The therapist reinforced the self-injurious behaviour according to two schedules:

Video 1 – positive reinforcement condition.

Self-injury was contingent on receiving no attention from the therapist. This video portrayed a positive reinforcement process.

Video 2 – negative reinforcement condition.

Self-injury was contingent on task demand and followed the presentation of each of the eight tasks. This video portrayed a negative reinforcement process.

Participants watched one of the two videos. Schematic representations of the two schedules are given in Figure 3.

Figure 3 about here

Ecological validity of the stimulus materials

The filmed material was developed by other researchers, and demonstrated to have good ecological validity (Mossman et al., in press). In the present study a measure of the ecological validity of the stimuli was also included. As a part of the measurement of attributions (see below), participants were asked what they thought was the most likely single cause of the challenging behaviour they observed on the video.

This question provides a measure of participants' understanding of the behavioural function of the challenging behaviour and these data can be used to assess the success of the manipulation of information about the behaviours' function in the videos as either correct (a causal hypothesis related to the behavioural function displayed on the video) or incorrect (a causal hypothesis not related to the behavioural function displayed on the video). This is an appropriate measure of validity to use because in terms of the design of this study, manipulation of the function of challenging behaviour is key. (Responses were scored according to the criteria given in Appendix D.)

In order to estimate the reliability of the scoring, the first author and a person unconnected with the research independently scored the responses. Calculation of Cohen's Kappa coefficient for inter-rater reliability indicated a good level of agreement ($Kappa = .80$). Correct responses were given by 44 % of participants in the positive reinforcement condition, and by 63 % in the negative reinforcement condition. This suggests that the video material had adequate ecological validity for the negative reinforcement condition but that this was more limited for the positive reinforcement video. These figures are much lower than those reported by Mossman et al. (in press), who found that the video material had good ecological validity. Correct or partial correct responses were given by 87% of participants in the positive reinforcement condition and by 80% of participants in the negative reinforcement condition (Mossman et al., in press). The difference in responses between the two studies may be due to participants being able to list multiple possible causal hypotheses in the Mossman et al. study (in press), but being restricted to only one causal hypothesis in the current study.

Measures

Staff Questionnaire

The following measures were used. Presentation of these measures was counter-balanced across participants so as not to create spurious associations between key variables:-

Causal Attributions about Challenging Behaviour.

Staff completed an adapted version of McAuley, Duncan and Russell's (1992) Revised Causal Dimension Scale (CDSII.) Participants were asked what they thought was the most likely single cause of the self-injurious behaviour that they saw on the video and to rate this cause on nine-point scales. The CDSII contains 12 items, three for each of four attributional dimensions (locus, stability personal controllability and external controllability.) These scales have good internal consistency and possess adequate construct validity (McAuley et al., 1992). The CDSII was adapted into the third person for quantifying staff explanations for the challenging behaviour seen on the video. In the present study the internal consistency of the adapted CDSII was re-examined for the four subscales using Cronbach's alpha ($n=123$). Cronbach's alpha coefficient was .80 for stability, .79 for locus of causality, .79 for personal control and .75 for external control. Therefore, revision of the CDSII did not affect psychometric properties. This scale is presented in Appendix E.

Emotional Reactions to Challenging Behaviour.

Staff typical emotional reactions to challenging behaviour were measured using a scale developed by Mitchell and Hastings (1998) and a scale specifically designed for this study. The Emotional Reactions to Challenging Behaviour Scale (Mitchell &

Hastings, 1998) asks staff to rate, using a four point scale, the frequency with which they experienced each of 15 emotions in response to challenging behaviour. Two sub-scales are obtained: feelings of depression/anger and feelings of fear/anxiety. These scales, obtained through factor analysis, have good internal consistency and test-retest reliability and are relatively unaffected by social desirability response biases (Mitchell & Hastings, 1998). Internal consistency was also good in the present study. Cronbach's alpha coefficient is .86 for the depression/anger subscale and .69 for the fear/anxiety subscale.

A Positive Emotional Reactions scale was developed for the purpose of this study. The authors generated a list of eight 'positive' emotions as possible reactions to challenging behaviour. The 'positive' emotions were interspersed with the Mitchell and Hastings (1998) scale, providing a 23-item scale (see Appendix F). Respondents (N = 123) in the current study used the Mitchell and Hastings (1998) four-point scale, to rate the frequency with which they experienced each of eight emotions, (23 in total), in response to the challenging behaviour seen on the video.

Factor Analysis

The construct validity of the positive emotion scale was explored using factor analysis. A total of 119 sets of ratings were used. The correlation matrix for the eight items was examined to establish its suitability for factor analysis.

First, the determinant of the matrix was above .0001 (determinant = .119) indicating that the matrix was unlikely to suffer from multicollinearity or singularity. Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was acceptable

at .664. Finally, the Bartlett Test of Sphericity was highly significant (test value = 247.738, $p < .0001$), indicating that the correlation matrix was not an identity matrix.

Initial statistics from a principal components analysis were used to draw a scree plot. This indicated a clear change in the steepness of the curve at two factors. The analysis then proceeded using principal component analysis, and rotation using the varimax procedure. The result of the analysis is summarised in Table 2.

Table 2 about here

Inspection of the reproduced correlation matrix, based on this solution indicated that it was a good model for the data (residuals were low, 46% were below .05). The two factors that emerged from the analysis represented two dimensions of positive emotional reactions: feelings of cheerfulness/excitement (four items, accounting for 27.8% of the variance), and confidence/comfortable (four items, accounting for 27.3% of the variance). Items loading at .40 or above on the two factors were considered as contributing to distinct subscales on a measure of emotional reactions to challenging behaviour.

Item analysis and scale properties for the emotional reactions scale

Cronbach's alpha coefficient was calculated for the two subscales in order to estimate their internal consistency. The values for both the cheerfulness/excited subscale (.72) and confidence/comfortable subscales (.70) were good.

Intervening With Challenging Behaviour.

Staff responses to challenging behaviour and the selection of counter-habilitative interventions were measured using a scale developed for the purpose of this study. A list of possible interventions was generated in two ways. Firstly, from asking six people who were experienced in working with challenging behaviour to list possible responses to the challenging behaviour on the two videos. Secondly, by drawing on the previous literature on staff responses to challenging behaviour (i.e. Hastings, 1995, 1996; Oliver et al., 1996). Seven maintaining responses were generated for both the positive reinforcement and the negative reinforcement challenging behaviour (see Appendix G). Responses were judged to be maintaining, if the response was likely to reinforce the self-injurious behaviour (therefore increasing the likelihood that the self-injurious behaviour would reoccur). For example for the positive reinforcement condition, where the function of the self-injurious behaviour is attention seeking, examples of maintaining responses are 'talking calmly to the individual' and 'explaining to the individual that his behaviour is upsetting to others.' While for the negative reinforcement condition, where the function of the self-injurious behaviour is task avoidance, examples of maintaining responses are 'stop presenting the task to the individual' and 'leave the individual alone/give him some space.' Participants (N=123) were asked if they were in the situation of the staff member on the video, how likely it would be that they would intervene in each of the 14 ways. A seven-point bipolar scale ranging from 'extremely unlikely to respond in this way' to 'extremely likely to respond in this way' was used for each item. For analysis, the 14-item scale was separated into two subscales of seven items; One scale comprising of 'reinforcing responses for the positively reinforced

behaviour' and one scale comprising of 'reinforcing responses for the negatively reinforced behaviour' (as identified earlier). Two items were dropped from the positive reinforcement subscale and one item from the negative reinforcement subscale, as they were found to lower the internal consistency. The final two subscales have adequate internal consistency: Cronbach's alpha coefficient is .70 for the positive reinforcement subscale and .61 for the negative reinforcement subscale. This scale is presented in Appendix H.

Exposure to Challenging Behaviour

In order to control for exposure to challenging behaviour when examining the relationship between the dependent variables, a measure of exposure was included in the study. Staff were asked to report about their experience of four domains of aggressive challenging behaviour in their working environment during the preceding month using the scale developed by Mitchell and Hastings (in press). This scale is presented in Appendix I. First, staff were asked whether or not they had been the target of physical aggression (defined using examples – e.g. biting, punching) either resulting in injury (e.g. bruising, bleeding), or no injury to them, and whether they had been exposed to verbal aggression (defined using examples – e.g. shouting, threats). Second, staff were asked whether or not they had witnessed the same three categories of behaviour directed at other staff or clients. Third, staff indicated whether or not they had witnessed self-injury (defined using examples – e.g. banging head or biting self) resulting in tissue damage and self-injury; not resulting in tissue damage. Finally, staff were asked similarly about aggression toward objects (defined using examples – e.g. kicking

furniture, throwing objects) that either did or did not result in physical damage to property.

Depending on their exposure to challenging behaviour, staff scored zero to three for the physical aggression domains, and zero to two for the self-injury and property aggression domains. As the domains used different scales, scores on the four items were z-transformed, and these standardised scores were summed to produce a total exposure score for each participant. Mitchell and Hastings (in press) report a Cronbach alpha coefficient of .68 for this scale, indicating an acceptable level of reliability. The current study also found good levels of internal consistency (Cronbach's coefficient is .80).

Demographic Information:

A short questionnaire was used to collect the demographic characteristics (i.e. age, gender, length of time working with people with intellectual disabilities, training and qualifications). See Appendix J.

Procedure

Participants were tested at their place of work. Where possible, participants were tested individually. However, time constraints meant this was not possible for the majority of participants who were tested in groups of up to fifteen (20 participants were tested individually and 103 were tested in groups). Participants who were tested in groups were asked to not consult with each other. Participants were asked to watch one of the video scenarios (selection of the video was alternated). Immediately after viewing, participants were asked to complete the questionnaire measures. All the

participants began with the demographic information, but the order of presentation of other measures were counter-balanced across participants.

RESULTS

Preliminary data analysis issues

Four types of preliminary data analyses were conducted. Firstly, in a check for normality of distribution, one sample Kolmogorov-Smirnov tests were conducted. The responses for the positive and negative reinforcement conditions were tested separately because the two groups viewed different video scenes and have different intervention scales. Analysis revealed that for the positive reinforcement condition, the cheerful/exited scores, the fear/anxiety scores and the exposure to challenging behaviour scores differed significantly from normal distributions. For the negative reinforcement condition, the depression/anger scores, the fear/anxiety scores, the cheerfulness/excitement scores and the exposure to challenging behaviour scores differed significantly from normal distributions. Therefore non-parametric tests will be used for the analysis of these variables. All other variables were not significantly different from normal distribution, thus parametric tests will be used to analyse these variables.

Secondly, depending on the distribution of the data, differences between the two videos were explored using either T Tests or Mann Whitney U tests. The depression/anger scores were examined using both analyses, because in the positive reinforcement condition these scores were normally distributed and in the negative reinforcement condition these scores differed significantly from normal distribution. Analysis revealed that there were significant differences between the positive reinforcement condition and the negative reinforcement condition on the personal

control scores (an attribution dimension), the cheerful/excited scores and the confident/relaxed scores (emotional reaction dimensions). See Table 3. Because of the differences between the two conditions, the data for the two conditions will be considered separately.

Insert Table 3 about here

Thirdly, as some of the participants ($N = 9$ for the positive reinforcement condition, 11 for the negative reinforcement condition) were tested individually, and others ($N = 53$ for the positive reinforcement condition, 50 for the negative reinforcement condition) were tested in groups, the data for the two methods of presentation were compared. Either Mann-Whitney U tests or T tests showed that there were no significant differences between individual and group presentation methods on all the dependent measures for the positive reinforcement condition (see Table 4).

Insert Table 4 about here

One significant difference was found between the individual and group data in the negative reinforcement condition, this was for the causal stability scores (see Table 5). As only one significant difference between individual and group scores was found out of a possible eighteen, individual and group data were considered together.

Insert Table 5 about here

Fourthly, in order to identify the variables that needed to be controlled for when examining the relationships between the dependent variables, parametric (Pearson correlation and T tests) or non-parametric (Spearman correlation and Mann Whitney U tests) analyses was conducted between the demographic data and the dependent measures. (Choice of analysis was dependent upon the distribution of scores). Analysis explored if there were any significant relationships or difference between the demographic variables and scores on the dependent measures. The results report that a number of demographic factors would need to be controlled for (see Tables 6 and 7).

Relationships between the dependent measures

The relationships between the dependent measures were analysed using Pearson Parametric correlations. Non-parametric data could not be transformed because of the high frequency of zero scores. Therefore, non-parametric Spearman correlations were also conducted for all correlations. This led to identical patterns of results to those shown in Tables 6 (Pearson correlation matrix for the positive reinforcement condition) and 7 (Pearson correlation matrix for the negative reinforcement condition). Partial correlations were used to control for demographic variables where necessary. These scores are indicated in Tables 6 and Table 7

Tables 6 and 7 about here

In the positive reinforcement condition there are no significant relationships between any of the dependent measures. There are two significant relationships in the negative reinforcement condition. The first significant relationship is between the

participant's locus dimension scores and reported depression/anger scores. This suggests that participants who attribute the cause of the challenging behaviour to factors outside of Mikey's control tend to report high depression/anger scores. Secondly, there is a significant relationship between participant's reported depression/anger scores and intervention scores. This suggests that participant's who report high depression/anger scores, also report that they are more likely to respond to Mikey's challenging behaviour in a reinforcing, (and therefore 'unhelpful') way. There is no evidence that emotional reactions mediate the relationship between attributions and interventions. For this to have been demonstrated the locus dimension score would have needed to be correlated with the intervention score and this correlation would have become non-significant when emotional reactions were controlled for (cf. Baron & Kenny, 1986). These results were not found

Discussion

The first hypothesis that attributions will be correlated with emotional reactions has not generally been supported. However, in the negative reinforcement condition, locus control attributions were correlated with depressed/anger scores. The second hypothesis that emotional reactions will be correlated with intervention has also not generally been supported. Although, in the negative reinforcement condition, depressed/anger scores were correlated with interventions. There is no evidence to support the third hypothesis that emotional reactions will mediate the impact of causal attributions on intervention ('helping' behaviour). Thus, this study provides little evidence to support the application of Weiner's (1980) helping model to care staff working with clients with intellectual disabilities and challenging behaviour.

One reason why the current research does not support Weiner's (1980) helping model may be because of the difference between the frequency of the help offered in the context of challenging behaviour and in the context of Weiner's (1980) research. Weiner (1980) was principally concerned with relatively infrequent events (such as encountering a drunk in distress), while care staff are often faced with a high frequency of challenging behaviour. Additionally, perhaps the theoretical constructs were not operationalised effectively, and if operationalised differently, Weiner's (1980) helping model may have been supported. However, it is also possible that Weiner's (1980) helping model cannot be applied to staff working with challenging behaviour, and perhaps alternative models should be looked to. This argument will be developed further on in the discussion.

This research has five major limitations. First, as the video material gave no contextual information, broad and possibly generalisable attributional styles were likely to have been elicited. Clearly, in clinical settings, a range of contextual factors will also affect staff responses i.e. knowledge of the client's history (Dagnan et al., 1998). Second, the intervention scale used to measure helping behaviour proved to have only adequate internal consistency. Third, although this study improved on the ecological validity of previous studies by using video material, it still remains that staff were asked to respond to an unknown client in an artificial testing situation. Fourth, this study only examines staff responses to self-injurious behaviour. Different topographies of challenging behaviour may produce different responses. For example, studies have found that staff rate aggressive behaviour as more serious than self-injury (Lowe, Felce & Blackman, 1995), and respond with higher levels of intervention than self-injury (Stancliffe, Haydern & Lakin, 1999). Fifth, staff training in challenging behaviour was not controlled when analysing staff

responses. Previous research suggests that staff who are trained in behavioural principles are more likely to adopt behavioural causal beliefs and approaches (Berryman, Evans & Kalbag, 1994; Oliver et al., 1996). An item on training was included, but this information was unable to be utilised because of the lack of information provided by respondents. Information on training may be better gathered in an interview format.

The present data, combined with the general lack of evidence from previous research studies, suggest that Weiner's (1980) helping model cannot be applied to staff working with challenging behaviour, and other models should be investigated. At the theoretical level, we are still searching for alternative models that help us to understand why care staff respond as they do to challenging behaviours.

Alternative cognitive models could be explored. One possibility is that Weiner's (1985) 'expectancy of success concept,' (part of his motivation and emotion model), may contribute to staff responses. This concept has not been directly tested with care staff, although both Dagnan et al. (1998) and Stanley and Standen (2000) found a role for optimism in directing helping behaviour. The role of optimism and 'expectancy of success' require further exploration.

The Theory of Planned Behaviour (TPB; Ajzen, 1985, 1988, 1991) may also help to explain the responses of care staff. This theory implies that individuals make behavioural decisions based on careful considerations of available information. Benson et al. (1980) suggest that it is this planning and cognitive actions on the part of the helper, which separates professional helpers from the kind of non-spontaneous help modelled in Weiner's scenarios.

The key feature in the TPB (Ajzen, 1991) is that intentions, (a person's motivation in the sense of her/his conscious decision to exert effort to enact the

behaviour), determine a person's behaviour. Three determinants of intentions are put forward. Firstly, attitudes, or a person's belief that a behaviour will lead to particular outcome. This appears to be similar to the 'expectancy of success' (Weiner, 1985) or optimism concepts (Sharrock et al., 1990). The second determinant of intentions is a person's beliefs about whether significant others think that he/she should engage in that behaviour. Hastings and Remington (1994) suggest that the rules of other staff are important in determining staff responses to challenging behaviour. The third determinant of intentions is perceived behavioural control (PBC), which is the individual's perception of the extent to which performance of the behaviour is easy or difficult (Ajzen, 1991). The behaviour is more likely to be performed if the individual perceives the performance to be easy (Conner & Armitage, 1998). The PBC concept appears to be similar to Bandura's (1982) concept of self-efficacy (Conner & Armitage, 1998; de Vries, Backbier, Kok & Dijkstra, 1988). High self-efficacy has been found to be correlated with the reporting of fewer negative emotions by care staff (Hastings & Brown, 2001). Both the relationship between PBC and self-efficacy, and the application of the TPB to care staff's wider responses to challenging behaviour require further investigation.

What are the clinical implications of this research? Although the application of Weiner's (1980) helping model has not been endorsed, the current research and reviewed research both suggest that cognitive factors may influence the behavioural responses of staff. The implication of this for assessment, is the necessity of extending the functional analysis of an individual's challenging behaviour to include a functional analysis of staff responses. This may assist in understanding the development and maintenance of challenging behaviour and may also lead to a better understanding of why some intervention programs do not work. In terms of

intervention, attention should be paid to staff motivation, beliefs, attitudes, emotional reactions and confidence level in the carrying out of an intervention. Interventions may include: motivational interviewing techniques (Rollnick, Heather & Bell, 1992), programmes that lead to a prompt reduction in challenging behaviour e.g. functional communication approaches (McConnachie & Carr, 1997), staff training, and supporting staff in elevating the negative impact of challenging behaviour e.g. through teaching anxiety/anger management, counselling approaches and cognitive-behavioural techniques (Kushlick et al. 1997; Kushlick, Dagnan & Trower, 1998).

Ultimately, work that applies cognitive models to the understanding of staff responses to challenging behaviour deserves further attention because it has the potential of improving the quality of life of both clients who display challenging and of care staff (Kushlick, Trower & Dagnan, 1997).

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Table 1: Demographic characteristics of the sample

Characteristic	N (%)	
Gender		
Male	47	(38.2%)
Female	76	(61.8%)
	Mean (SD)	
Age in years	35.92	(9.40)
Experience in intellectual disability services (months)	48.20	(60.86)
Professional Qualification (nursing/social work/occupational therapy)		
Yes	38	(30.9%)
No	80	(65%)
Missing data	5	(4.1%)
Highest Education Achievement		
No formal qualification	8	(6.5%)
GCSE/O levels or equivalent	38	(30.9%)
A level/HNC or equivalent	29	(23.6%)
HND or diploma equivalent	22	(17.9%)
Degree	22	(17.9%)
Masters/doctorate	4	(3.3%)

Table 2. Factor analysis of staff ratings of emotional reactions

Item	Factor loading	
	Factor 1 (confident/relaxed)	Factor 2 (cheerful/excited)
Comfortable	.759	2.805E-02
Self-assured	.753	.105
Confident	.745	6.369E-07
Relaxed	.598	.211
Excited	7.329E-02	.845
Happy	.246	.761
Cheerful	.313	.683
Invigorated	-7.520E-02	.603

Table 3. Differences between the dependent measures on the positive reinforcement condition and the negative reinforcement condition

Scale Score	Positive reinforcement condition		Negative reinforcement condition		P
	Mean	SD	Mean	SD	
Causal Scale – External Control	18.45	5.03	17.85	5.70	.537 (a)
Causal Scale – Locus Causality	13.87	5.47	14.68	6.10	.440 (a)
Causal Scale – Personal Control	12.34	5.42	14.40	5.78	.044 * (a)
Causal Scale – Stability Causality	11.10	4.37	11.95	5.17	.326 (a)
Emotions Scale – Cheerful/Excited	.15	.44	3.02	2.43	.009 ** (b)
Emotions Scale – Confident/Relaxed	3.02	2.43	4.10	2.96	.032 * (b)
Emotions Scale – Depression/Anger	8.04	6.82	6.03	4.67	.180 (a) +
Emotions Scale – Fear/Anxiety	2.08	2.34	1.79	1.87	.725 (b)

* Significant at the 0.05 level ** Significant at the 0.01 level

(a) = t-test (b) = Mann Whitney test + = Similar finding reported by Mann Whitney test

Table 4 Comparing the data for the participants tested individually and the participants tested in groups in the positive reinforcement condition

Scale Score	Participants tested individually		Participants tested in groups		P
	Mean	SD	Mean	SD	
Causal Scale – External Control	18.78	5.07	18.40	5.07	.835 (a)
Causal Scale – Locus Causality	14.44	5.81	13.77	5.47	.737 (a)
Causal Scale – Personal Control	14.11	5.04	12.04	5.47	.292 (a)
Causal Scale – Stability Causality	13.56	3.88	10.68	4.34	.068 (a)
Emotions Scale – Cheerful/Excited	.22	.67	.13	.39	.942 (b)
Emotions Scale – Confident/Relaxed	3.33	2.92	2.86	2.37	.676 (a)
Emotions Scale – Depression/Anger	7.78	6.98	8.08	6.87	.903 (a)
Emotions Scale – Fear/Anxiety	1.11	1.76	2.25	2.39	.142 (b)
Intervention Scale	12.67	3.50	13.31	2.67	.523 (a)

(a) = t-test

(b) = Mann Whitney test

Table 5 Comparing the data for the participants tested individually and the participants tested in groups in the negative reinforcement condition

Scale Score	Participants tested individually		Participants tested in groups		P
	Mean	SD	Mean	SD	
Causal Scale – External Control	16.91	6.47	18.06	5.57	.549 (a)
Causal Scale – Locus Causality	13.27	6.36	15.00	6.06	.401(a)
Causal Scale – Personal Control	11.91	5.19	14.96	5.80	.114 (a)
Causal Scale – Stability Causality	8.82	4.79	12.65	5.04	.025 * (a)
Emotions Scale – Cheerful/Excited	.73	.90	.60	1.43	.234 (b)
Emotions Scale – Confident/Relaxed	4.55	2.50	4.00	3.06	.584 (a)
Emotions Scale – Depression/Anger	6.73	5.76	5.88	4.44	.570 (b)
Emotions Scale – Fear/Anxiety	1.73	1.35	1.80	1.98	.706 (b)
Intervention Scale	19.55	2.16	17.96	2.98	.143 (b)

* Significant at the 0.05 level (a) = t-test (b) = Mann Whitney test

Table 6 Correlation Matrix for the dependent measures in the positive reinforcement condition

	Cheerful/ Excited	Confident/ Relaxed	Depression/ Anger	Fear/ Anxiety	Intervention/ Response
External control	-.0885 (a) .529	-.1309 (b) .350	.1393 (c) .340	.0374 (b) .787	.2018 (b) .155
Locus control	.0384 (d) .793	-.0721 (e) .619	-.0893 (f) .546	.0669 (e) .641	-.1345 (e) .362
Personal control	.1347 (g) .309	.2189 (c) .96	.0471 (h) .735	.0507 (c) .698	.0729 (c) .594
Stability	.0348 (g) .794	-.0927 (c) .485	-.1081 (f) .436	.2254 (c) .081	-.1244 (c) .081
Intervention/ Response	-.0649 (i) .638	.133 .330	.2355 (h) .093	.151 .261	-

Partial Correlations

- (a) Controlling gender, age and professional qualification
 (b) Controlling gender and professional qualification (c) Controlling gender
 (d) Controlling age, professional qualification, length of experience, service type
 (e) Controlling length of experience, professional qualification and service type
 (f) Controlling education and gender
 (g) Controlling gender and age (h) Controlling length of experience and education
 (i) Controlling age

Table 7 Correlation Matrix for the dependent measures in the negative reinforcement condition

	Cheerful/ Excited	Confident/ Relaxed	Depression/ Anger	Fear/ Anxiety	Intervention/ Response
External control	-.003 (a) .979	-.102 (b) .446	.129 (a) .329	.090 (c) .509	-.022 (a) .870
Locus control	-.086 .511	-.091 (d) .493	-.356 .005 **	-.135 .306	-.063 .634
Personal control	-.084 .525	-.006 (d) .959	-.117 .374	-.006 .965	-.198 .129
Stability	-.1708 (a) .196	-.099 (b) .456	-.217 (a) .099	-.011 (a) .935	-.031 (a) .817
Intervention/ Response	-.019 .887	-.203 (d) .119	.279 .030 *	.095 (e) .476	-

* Significant at the 0.05 level ** Significant at the 0.01 level

Partial Correlations:-

(a) Controlling gender (b) Controlling gender and exposure to challenging behaviour

(c) Controlling gender and service type (d) Controlling exposure to challenging behaviour

(e) Controlling service type

Figure 1 Weiner's (1980) Basic Attributional Model of Helping Behaviour
(Adapted from Stanley & Standen, 2000, p. 160).

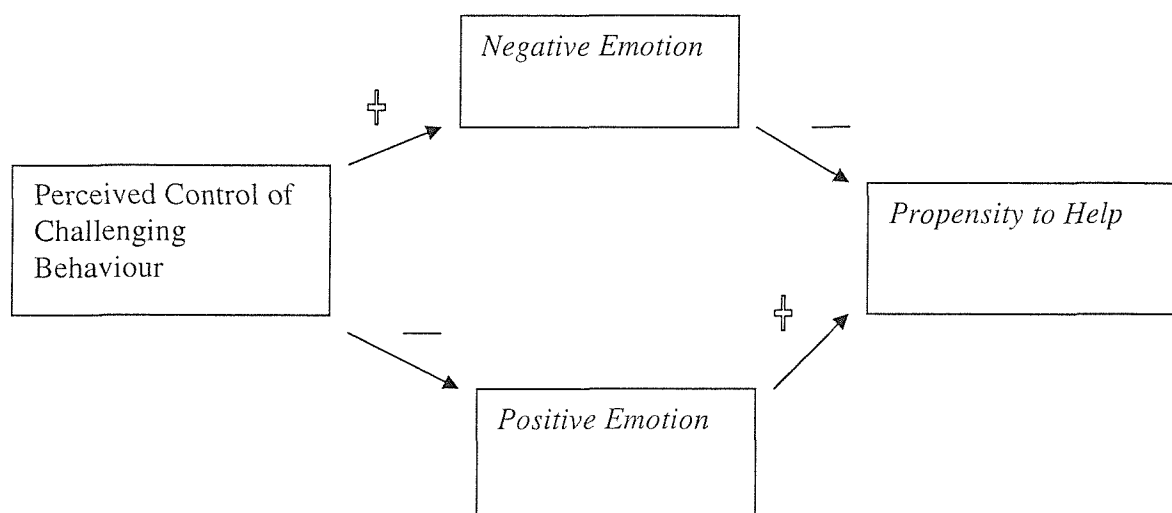


Figure 2 Layout of filmed stimuli (adapted from Mossman et al., in press)

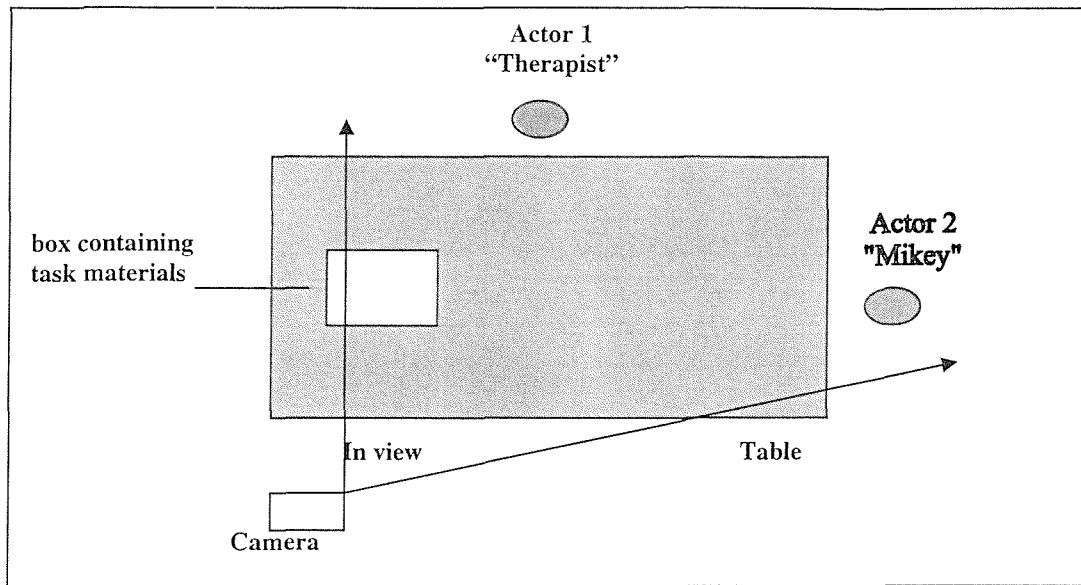


Figure 3 Schematic representation of schedules of self-injurious behaviour
(Adapted from Mossman et al., in press).

1) Positive reinforcement condition

	1		2		3		4		5		6		7		8
Presentation of task		S		*		S		*		S		S		*	
		I		S		I		S		I		I		S	
		B		I		B		I		B		B		I	
				B				B						B	

TIME _____

Total Time = 5 min 33 s

2) Negative reinforcement condition

	1		2		3		4		5		6		7		8
Presentation of task			*				*				*				*
	S		S		S		S		S		S		S		S
	I		I		I		I		I		I		I		I
	B		B		B		B		B		B		B		B

TIME _____

Total Time = 5 min 53 s

SIB = Self-injurious behaviour

* Close-up views of 'Mickey'

Appendices

Appendix A	Ethical approval
Appendix B	Information to participants
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Appendix D	Scoring criteria for function of challenging behaviour
Appendix E	Causal Attribution Scale
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Appendix I	Exposure to Challenging Behaviour Scale
Appendix J	Demographic information sheet
Appendix K (I)	Instructions to authors – Clinical Psychology Review
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Appendix A

Ethical approval

Dear Ms Jones

REC Proposal No: 08/00/1063

Full Title: A cognitive-emotional analysis of the responses of care staff to challenging behaviour in people with learning disabilities: investigating the role of behavioural function

This is to confirm that the Research Ethics Committee has approved the above study. Approval for the study is only granted until the end of July 2001. If your study continues after this date further Ethics Committee approval will be required.

The Ethics Committee will require a copy of the completed study for its records, you are therefore requested to submit a copy of the completed study to the address above. In addition the Committee must be informed of any untoward or adverse events which occur during the course of the study.

The Ethics Committee must also be informed of, and approve, any proposed amendments to your initial application.

Please note it is the policy of the Committee NOT to deal direct with sponsoring companies. All correspondence (including telephone enquiries) MUST be from the first named researcher. Enquiries from other sources will be refused.

Ethics Committee approval means that the proposal is ethically sound. It **does not** mean approval of resources, access to data or any other requirement relating to the project. These must be agreed with the organisation where the research / project is to take place.

✓

Appendix B

Information to participants

INFORMATION SHEET

STUDY TITLE:- *Examining care staff responses to challenging behaviour*

As part of my doctoral degree in Clinical Psychology, I am conducting a research study that looks at people's beliefs and emotional responses to challenging behaviour. Dr Richard Hastings, University of Southampton will supervise the study.

You are being asked to take part in this research because you work with individuals with learning disabilities who sometimes engage in challenging behaviours. If you agree to take part in this study, in your work setting you will be asked to watch a video that will portray a person with learning disabilities and a staff member working together on a task. The person with learning disabilities will occasionally engage in self-injurious behaviour. After viewing the video you will be asked to complete some rating scales and answer some questions about the challenging behaviour you saw on the video. The video will be approximately five minutes long and it is anticipated that the completion of the rating scales and questions will take approximately 15 minutes.

It is anticipated that the information in this study will contribute to our understanding of ways we might best support people who come into contact with challenging behaviours.

If you agree to take part in this study, you will be free to withdraw your participation at any time, including during the viewing of the video. You will not be required to give a reason for your decision.

All the information collected about you during the course of the research will be kept strictly confidential. Any information taking away will not have your name on it so that you cannot be recognised from it. A copy of the findings will be available for your information.

Your participation would be greatly appreciated. If you are willing to participate, please complete and sign the attached consent form.

If you would like any further information about the study, or if you have any questions please do not hesitate to ask me or to contact me at a later date.

THANK YOU

Cheryl Jones (Trainee Clinical Psychologist)

University of Southampton
023 80595321

Appendix C

Consent form

CONSENT FORM

STUDY TITLE:- Examining care staff responses to challenging behaviour

Have you read the Information Sheet? Yes/No

Have you had the opportunity to ask questions and discuss the study? Yes/No

Have you received satisfactory answers to your questions? Yes/No

Have you received enough information about the study? Yes/No

To whom have you spoken?

Do you understand that by completing the questionnaire your responses will be included in the study unless you contact me to state otherwise? Yes/No

Do you understand that you are free to withdraw from the study?

- At any time? Yes/No

- Without having to give a reason? Yes/No

Do you agree to take part in this study? Yes/No

Signed..... Date:

(Name in block letters)

Signed (Researcher) Date:

.....

Cheryl Jones
(Trainee clinical psychologist)

Appendix D

Scoring criteria for function of challenging behaviour

Attention seeking

Correct or partially correct hypothesis

Score 1

Clear statement that the behaviour results in attention from the staff member when attention is at a low level. Alternatively, the behaviour has been learned (e.g. Mickey has learned the consequences of the behaviour, the behaviour has been rewarded in the past); or a clear description of the antecedents or consequences of the behaviour.

Description of the behaviour as 'attention seeking' but without a clear statement of the antecedents or consequences of the behaviour or any other indication that the behaviour is learned.

Incorrect hypothesis

Score 0

Hypotheses either related or unrelated to attention seeking that do not describe the antecedents or consequences of the behaviour. A second order explanatory concept may be described (e.g. inattention, insecurity).

Task avoidance

Correct or partially correct causal hypothesis

Score 1

Clear statement that Mickey is engaging in challenging behaviour in order to escape or avoid the task. Alternatively, a description of the behaviour as learned (Mickey has learned the consequences of the behaviour, the behaviour has been rewarded), or as leading to the avoidance of the task. Statement that Mickey found the task difficult, or disliked the task. Some statement of task difficulty (e.g. Mickey did not understand the task, or task is inappropriate).

Incorrect causal hypothesis Score 0

Hypotheses either related or unrelated to task avoidance that does not describe the antecedents or consequences of the behaviour. A second order explanatory concept may be described (e.g. lack of interest, lack of motivation, Mickey is trying to communicate something).

Appendix E

Causal Attribution Scale

CAUSES OF MIKEY'S SELF-INJURY

- A. What do you think is the most likely single cause of Mikey's self-injurious behaviour, which you saw on the video? Write your answer in the space below (write only one cause – the one you think is most important).
- B. Think about the CAUSE you have written above in A. The questions below concern YOUR impressions or opinions of this cause you have given. Please rate this cause by circling one number for each of the question items. First, read the example below which illustrates how to do this:

EXAMPLE

The question in the first item asks whether the CAUSE you have written above is something that reflects an aspect of Mikey (the client in the video) OR something that reflects an aspect of the situation. If you think the cause reflects an aspect of Mikey you would circle 9 or 8 or 7 depending on how strong your views are. If you think the cause reflects an aspect of the situation you would circle 3 or 2 or 1, again depending on how strong your views are. Alternatively, you may think that the cause you identified is somewhere between being an aspect of Mikey and an aspect of the situation. In this case, you would circle a point somewhere in the middle of the scale as shown below (i.e. point 6, 5 or 4).

Is the CAUSE something.....

That reflects an aspect of Mikey	9	8	7	6	5	4	3	2	1	reflects an aspect of the situation
-------------------------------------	---	---	---	---	---	---	---	---	---	--

Now please begin and circle one item for each of the following question items:

Is the CAUSE you wrote down at A. above something.....

that reflects an aspect of Mikey	9	8	7	6	5	4	3	2	1	reflects an aspect of the situation
-------------------------------------	---	---	---	---	---	---	---	---	---	--

manageable by Mikey	9	8	7	6	5	4	3	2	1	not manageable by Mikey
------------------------	---	---	---	---	---	---	---	---	---	----------------------------

permanent	9	8	7	6	5	4	3	2	1	temporary
-----------	---	---	---	---	---	---	---	---	---	-----------

PLEASE TURN OVER

Challenging behaviour and evidence against an attributional model

Is the CAUSE you wrote down at A. above something.....

Mikey can regulate	9	8	7	6	5	4	3	2	1	Mikey cannot regulate
over which others have control	9	8	7	6	5	4	3	2	1	over which others have no control
inside of Mikey	9	8	7	6	5	4	3	2	1	outside of Mikey
stable over time	9	8	7	6	5	4	3	2	1	variable over time
under the power of other people	9	8	7	6	5	4	3	2	1	not under the power of other people
something about Mikey	9	8	7	6	5	4	3	2	1	something about others
over which Mikey has power	9	8	7	6	5	4	3	2	1	over which Mikey has no power
unchangeable	9	8	7	6	5	4	3	2	1	changeable
other people can regulate	9	8	7	6	5	4	3	2	1	other people cannot regulate

Appendix F

Emotional Reactions to Challenging Behaviour Scale

How did Mikey's self-injury make you feel?

Below is a list of emotions that caregivers have said they experience when they have to work with children and adults who display self-injurious behaviours. We want to know how you felt in response to Mikey's self-injurious behaviour, which you saw on the video. Consider each of the emotional reactions below and circle the response next to each item that best describes how you were feeling whilst watching the video. *Please give a response to all of the items.*

	No, not at all	Yes, slightly	Yes moderately	Yes, very much
SHOCKED	0	1	2	3
CONFIDENT	0	1	2	3
GUILTY	0	1	2	3
HOPELESS	0	1	2	3
COMFORTABLE	0	1	2	3
AFRAID	0	1	2	3
ANGRY	0	1	2	3
INVIGORATED	0	1	2	3
INCOMPETENT	0	1	2	3
HAPPY	0	1	2	3
FRUSTRATED	0	1	2	3
HELPLESS	0	1	2	3
SELF-ASSURED	0	1	2	3
DISGUSTED	0	1	2	3
RELAXED	0	1	2	3
RESIGNED	0	1	2	3
FRIGHTENED	0	1	2	3
CHEERFUL	0	1	2	3
HUMILIATED	0	1	2	3
BETRAYED	0	1	2	3
SAD	0	1	2	3
EXCITED	0	1	2	3
NERVOUS	0	1	2	3

Appendix G

Initial maintaining responses for challenging behaviour

Initial maintaining responses generated for the positive reinforcement challenging behaviour and the negative reinforcement challenging behaviour

MAINTAINING RESPONSES FOR POSITIVE REINFORCEMENT CHALLENGING BEHAVIOUR

- Talk calmly to Mickey and try to reassure him
- Shout at Mickey to stop
- Explain to Mickey that he will hurt himself if he carries on
- Give Mickey a hug
- Explain to Mickey that his behaviour is upsetting to others
- Tell Mickey to stop hitting himself
- Ask Mickey why he is hitting himself

MAINTAINING RESPONSES FOR NEGATIVE REINFORCEMENT CHALLENGING BEHAVIOUR

- Take Mickey out on a trip/walk
- Give Mickey a break and come back to the ask later
- Stop presenting the tasks to Mickey
- Distract Mickey with his favourite item/activity
- Leave Mickey alone/give him some space
- Take Mickey to a quiet/relaxing place
- Take Mickey to the time-out room

Appendix H

Challenging Behaviour and Intervention Scale

How would you deal with Mikey's self-injury?

Below is a list of responses that staff may use when an individual with learning disabilities displays self-injurious behaviour. We want to know how you would respond to Mikey's self-injury that you saw on the video. Consider each of the responses below and circle the number next to each item that best demonstrates the likelihood that you would choose each response to deal with Mikey's behaviour.

	Very Unlikely	Unlikely	Likely	Very likely
Talk calmly to Mikey and try to reassure him	1	2	3	4
Shout at Mikey to stop	1	2	3	4
Take Mikey out on a trip/walk	1	2	3	4
Give Mikey a break and come back to the task later	1	2	3	4
Explain to Mikey that he will hurt himself if he carries on	1	2	3	4
Stop presenting the tasks to Mikey	1	2	3	4
Tell Mikey to stop hitting himself	1	2	3	4
Distract Mikey by presenting him with a favourite item/activity	1	2	3	4
Put Mikey into a time-out room	1	2	3	4
Leave Mikey alone/give him some space	1	2	3	4
Explain to Mikey that his behaviour is upsetting to others	1	2	3	4
Ask Mikey why he is hitting himself	1	2	3	4
Take Mikey to a quiet/relaxing place	1	2	3	4
Give Mickey a hug	1	2	3	4

Appendix I

Exposure to Challenging Behaviour Scale

Your recent experience of Challenging Behaviour

The term 'client' is used to refer to individuals with learning disabilities being cared for within your service. Please answer each part of the following questions

1. Please think about whether you have recently experienced any aggressive client behaviour directed Towards YOU (kicking, biting, scratching etc.) In the past MONTH have you personally experienced:

- (a) Physically aggressive client behaviour directed towards you AND resulting in injury to you e.g. bruising, bleeding or other tissue damage? Yes ☐ No ☐
- (b) Physically aggressive client behaviour directed toward you but NOT resulting in any form of injury to you? Yes ☐ No ☐
- (c) Verbally aggressive client behaviour directed towards you e.g. shouting or screaming at you, verbal abuse or threats Yes ☐ No ☐

2. Please think about whether you have recently witnessed any aggressive client behaviour directed towards OTHERS (kicking, biting, scratching etc.) In the past MONTH have you witnessed:

- (a) Physically aggressive client behaviour directed towards others AND resulting in injury to others e.g. bruising, bleeding or other tissue damage? Yes ☐ No ☐
- (b) Physically aggressive client behaviour directed toward others but NOT resulting in any form of injury to others? Yes ☐ No ☐
- (c) Verbally aggressive client behaviour directed towards others e.g. shouting or screaming at someone, verbal abuse or threat? Yes ☐ No ☐

3. Now please think about whether you have recently witnessed any self-injurious client behaviour (e.g. face-slapping, head banging, scratching or biting SELF). In the past MONTH have you witnessed:

- (a) Self-directed aggressive behaviour that resulted in injury to the client (e.g. bruising, bleeding or other tissue damage)? Yes ☐ No ☐
- (b) Self-directed aggressive behaviour that did NOT result in any form of injury to the client Yes ☐ No ☐

4. Now think about whether you have recently witnessed any aggressive client behaviour towards OBJECTS (e.g. banging or kicking furniture or other property). In the past MONTH have you witnessed:

- (a) Aggressive behaviour towards objects that resulted in damage to property? Yes ☐ No ☐
- (c) Aggressive behaviour towards objects that did NOT result in damage to property? Yes ☐ No ☐

Appendix J

Demographic information sheet

CONFIDENTIAL

Staff Questionnaire:

Please begin here and read each questionnaire carefully. It is important that you try to answer ALL the questions in the order in which they appear, according to your first reaction

The following questions ask for background information about you, your qualifications, training and experience in services for people with learning disabilities (please tick the boxes).

1. Are you male or female? Male ☐ Female ☐
2. What was your age on your last birthday? _____ years
3. Please tick the box below next to your highest educational achievement.
- ☐ No formal qualifications
- ☐ GCSE/O levels or equivalent
- ☐ 'A' level/HNC or equivalent
- ☐ HND or other diploma equivalent
- ☐ Polytechnic /University Degree
- ☐ Masters/Doctoral Degree
4. Do you have any formal qualifications relating to people with learning disabilities? (e.g. nursing, social work, teaching, psychology) Yes ☐
No ☐
- If yes what qualifications are these?
5. Overall, approximately how long have you worked in services for people with learning disabilities? _____ Years _____ Months
6. Have you had any relevant TRAINING for managing client challenging behaviours? (Challenging behaviour refers to behaviour such as aggression, self-injurious behaviour, sexually inappropriate behaviour and repetitive behaviours.) Training might have included assessment of challenging behaviour, a restraint course, breakaway techniques etc. Yes ☐
No ☐

If yes, please describe what sort of training this was, how long ago this took place and the length of the training courses.

Appendix K (i)

Instructions to authors – Clinical Psychology Review

CLINICAL PSYCHOLOGY REVIEW

INSTRUCTIONS TO AUTHORS

AIMS AND SCOPE: *Clinical Psychology Review* publishes substantive reviews of topics germane to clinical psychology. Its purpose is to help clinical psychologists keep up-to-date on relevant issues outside of their immediate areas of expertise by publishing scholarly but readable reviews. Papers cover diverse issues, including: psychopathology, psychotherapy, behavior therapy, behavioral medicine, community mental health, assessment, and child development.

Reviews on other topics, such as psychophysiology, learning therapy, and social psychology, often appear if they have a clear relationship to research or practice in clinical psychology. Integrative literature reviews and summary reports of innovative ongoing clinical research programs are also sometimes published. Reports on individual research studies are not appropriate.

SUBMISSION REQUIREMENTS: All manuscripts should be submitted to Alan S. Bellack, The University of Maryland at Baltimore, Department of Psychiatry, 737 W. Lombard St., Suite 551, Baltimore, MD 21201, USA. Submit three (3) high-quality copies of the entire manuscript; the original is not required. Allow ample margins and type double-space throughout. Papers should not exceed 50 pages (including references). One of the paper's authors should enclose a letter to the Editor, requesting review and possible publication; the letter must also state that the manuscript has not been previously published and has not been submitted elsewhere. One author's address (as well as any upcoming address change), telephone and FAX numbers, and E-mail address (if available) should be included; this individual will receive all correspondence from the Editor and Publisher.

Papers accepted for *Clinical Psychology Review* may not be published elsewhere in any language without written permission from the author(s) and publishers. Upon acceptance for publication, the author(s) must complete a Transfer of Copyright Agreement form.

COMPUTER DISKS: Authors are encouraged to submit a 3.5" HD (10) computer disk to the editorial office. Please observe the following criteria: (1) Send one hard copy when first submitting your paper. (2) When your paper has been refereed, revised if necessary, and accepted, send a disk containing the final version with the final hard copy. If the disk cannot be converted, the hard copy will be used. (3) Specify what software was used, including which release (e.g., WordPerfect 6.0a). (4) Specify what computer was used (IBM compatible PC, Apple Macintosh, etc.). (5) The article file should include all textual material (text, references, tables, figure captions, etc.) and separate illustration files, if available. (6) The file should follow the general instructions on style, arrangement and, in particular, the reference style of this journal as given in the Instructions to Contributors. (7) The file should be single-spaced and should use the wrap-around end-of-line feature, i.e., returns at the end of paragraphs only. Place two returns after every element such as title, headings, paragraphs, figure and table captions, callouts. (8) Keep a back-up disk for reference and safety.

TITLE PAGE: The title page should list: (1) the article; (2) the authors' names and affiliations at the time the work was conducted; (3) a concise running title; and (4) an unnumbered footnote giving an address for reprint requests and acknowledgments.

ABSTRACT: An abstract should be submitted that does not exceed 200 words in length. This should be typed on a separate page following the title page.

KEYWORDS: Authors should include up to six keywords with their article. Keywords should be selected from the APA list of index descriptors, unless otherwise agreed with the Editor.

STYLE AND REFERENCES: Manuscripts should be carefully prepared using the *Publication Manual of the American Psychological Association* (4th ed., 1994) for style. The reference section must be double spaced, and all works cited must be listed. Avoid abbreviations of journal titles and incomplete information.

Reference Style for Journals:

Ravimond, M. J. (1964). The treatment of addiction by aversion conditioning with apomorphine. *Behavior Research and Therapy*, 3, 287-290.

For Books:

Barlow, D. H., Hayes, S. C., & Nelson, R. O. (1984). *The scientist practitioner: Research and accountability in clinical and educational settings*. Elmsford, NY: Pergamon.

TABLES AND FIGURES: Do not send glossy prints, photographs or original artwork until acceptance. Copies of all tables and figures should be included with each copy of the manuscript. Upon acceptance of a manuscript for publication, original, camera-ready photographs and artwork must be submitted, unmounted and on glossy paper. Photocopies, blue ink or pencil are not acceptable. Use black India ink and type figure legends on a separate sheet. Write the article title and figure number lightly in pencil on the back of each.

PAGE PROOFS AND OFFPRINTS: Page proofs of the article will be sent to the corresponding author. These should be carefully proofread. Except for typographical errors, corrections should be minimal, and rewording the text is not permitted. Corrected page proofs must be returned within 48 hours of receipt. Along with the page proofs, the corresponding author will receive a form for ordering offprints and full copies of the issue in which the article appears. Twenty-five (25) free offprints are provided; orders for additional offprints must be received before printing in order to qualify for lower publication rates. All correction offprint requirements should be included on the offprint order form.

COPYRIGHT: Publications are copyrighted for the protection of the authors and the publisher. A Transfer of Copyright Agreement will be sent to the author whose manuscript is accepted. The form must be completed and returned to the publisher before the article can be published.

Appendix K (ii)

Instructions to authors – British Journal of Clinical Psychology

NOTES TO CONTRIBUTORS

1. The *British Journal of Clinical Psychology* publishes original contributions to scientific knowledge in clinical and health psychology. Topics covered reflect the broad role of clinical psychologists and include descriptive studies as well as studies of the aetiology, assessment and amelioration of disorders of all kinds, in all settings and amongst all age groups. Empirical investigations from any theoretical perspective of the relation of intrapersonal and interpersonal processes to disorder are welcome, as are studies of the delivery of health care in hospital or community settings. Relevant populations include people with psychiatric and neuropsychological disorders, and people with learning difficulties/mental retardation. Studies with samples not currently experiencing any disorder may be considered if they bear directly on clinical theory or practice.

The Health Psychology Section of the Journal will be launched in 1996 as a separate journal *British Journal of Health Psychology*—in recognition of the growing importance of the applications of psychology outside the traditional psychiatric domain. Submissions are encouraged of clinical and experimental research on the development and management of medical conditions. Empirical research into psychosocial responses to illness, and the behaviours that put health at risk, is also welcome.

2. The following types of paper are invited:

(a) Papers reporting original empirical investigations.

(b) Theoretical papers, provided that these are sufficiently related to empirical data.

(c) Review articles which need not be exhaustive, but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications.

(d) Brief Reports and Comments (see paragraph 6).

Case studies are normally published only as Brief Reports. Papers are evaluated in terms of their theoretical importance, contributions to knowledge, relevance to the concerns of practising clinical psychologists, and readability. Papers generally appear in order of acceptance, except for the priority given to Brief Reports and Comments.

3. The circulation of the journal is worldwide, and papers are reviewed by colleagues in many countries. There is no restriction to British authors, and papers are invited from authors throughout the world.

4. The Code of Conduct of The British Psychological Society requires psychologists 'Not to allow their professional responsibilities or standards of practice to be diminished by considerations of religion, sex, race, age, nationality, party politics, social standing, class or other extraneous factors'. The Society resolves to avoid all links with psychologists and psychological organisations and their formal representatives that do not affirm and adhere to the principles in the clause of its Code of Conduct. In cases of doubt the Journals Office asks authors to sign a document confirming their adherence to these principles.

5. Papers should be prepared in accordance with The British Psychological Society's *Style Guide*, available at £3.50 per copy from The British Psychological Society, St Andrews House, 48 Princess Road East, Leicester LE1 7DR, England. Contributions should be kept as concise as clarity permits, and illustrations kept as few as possible. Papers should not normally exceed 5000 words. A summary of up to 200 words should be provided, but a shorter abstract with shorter papers. The title should indicate exactly but as briefly as possible the subject of the article, bearing in mind its use in abstracting and indexing systems.

(a) Contributions should be typed in double spacing with wide margins and only on one side of each sheet. Sheets should be numbered. The top copy and at least three good duplicates should be submitted and a copy should be retained by the author.

(b) The journal operates blind review; authors are required to eliminate clues to their identity. Information revealing authorship such as authors' names and institutional affiliations, and personal acknowledgements must be confined to a removable front page, and the text must be free of such clues as identifiable self-citations ('In our earlier work...') and the names of localities or institutions. The paper's title should appear at the top of the first page of text.

(c) Tables should be typed in double spacing on separate sheets. Each should have a self-explanatory title and should be comprehensible without reference to the text. They should be

referred to in the text by arabic numerals. Data given should be checked for accuracy and must agree with mentions in the text.

(d) Figures, i.e. diagrams, graphs or other illustrations, should be on separate sheets numbered sequentially 'Fig. 1', etc., and each identified on the back with the title of the paper. They should be carefully drawn, larger than their intended size, suitable for photographic reproduction and clear when reduced in size. Special care is needed with symbols: correction at proof stage may not be possible. Lettering must not be put on the original drawings but upon a copy to guide the printer. Captions should be listed on a separate sheet.

(e) Bibliographical references in the text should quote the authors' name and the date of the publication thus, Hunt (1993). They should be listed alphabetically by author at the end of the article according to the following format:

Moore, R. G. & Blackburn, L. M. (1993). Sociotropy, autonomy and personal memories in depression. *British Journal of Clinical Psychology*, 32, 461-462.

Stephens, A. & Wardle, J. Cognitive predictors of health behaviour in contrasting regions of Europe. In C. R. Brewin, A. Stephens & J. Wardle (Eds.), *European Perspectives in Clinical and Health Psychology*, pp. 101-118. Leicester: The British Psychological Society.

Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.

SI units must be used for all measurements, rounded off to practical values if appropriate, with the Imperial equivalent in parentheses (see BPS *Style Guide*).

(f) Authors are required to avoid the use of sexist language.

(g) Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre.

Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The materials should be submitted to the Editor together with the article, for simultaneous refereeing.

(h) Brief Reports and Comments are limited to two printed pages. These are subject to an accelerated review process to afford rapid publication of research studies, and theoretical, critical or review comments whose essential contribution can be made within a small space. They also include research studies whose importance or breadth of interest is insufficient to warrant publication as full articles, and case reports making a distinctive contribution to theory or method. Authors are encouraged to append an extended report to assist in the evaluation of the submission and to be made available to interested readers on request to the author. To ensure that the two-page limit is not exceeded, set typewriter margins to 66 characters maximum per line and limit the text, including references and a 100 word abstract, to 150 lines. Figures and tables should be avoided. Title, author name and address for reprints and data of receipt are not included in the allowance. However deduct three lines from the text each and every time any of the following occur:

- (i) title longer than 70 characters,
- (ii) author names longer than 70 characters,
- (iii) each address after the first address,
- (iv) each text heading (these should normally be avoided).

A character is a letter or space. A punctuation mark counts as two characters (character plus space) and a space must be allowed on each side of a mathematical operator.

7. Proofs are sent to authors for correction of print, but not for introduction of new or different material. They should be returned to the Journals Manager as soon as possible. Fifty complimentary copies of each paper are supplied to the senior author on request; further copies may be ordered on a form supplied with the proofs.

8. Submission of a paper implies that it has not been published elsewhere and is not currently under consideration for publication elsewhere. Authors are responsible for getting written permission to publish lengthy quotations, illustrations etc., of which they do not own copyright.

9. The tendency is growing for articles to be reproduced abroad without permission. To protect the interests of authors and journals the BPS requires copyright to be assigned to the Society (by signing a form), on the express condition that authors may use their own material elsewhere at any time without permission.