

Major Research Project:

**The Psychological Impact
of Aggressive Service-User Behaviours
on Direct-Care Staff
in Learning Disabilities Services**

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The psychological impact of aggressive service-user behaviour on direct care staff in learning disabilities services.

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Abstract

A multivariate cross-sectional survey design was used to investigate the relationships between stress-related outcomes and exposure to aggressive service-user behaviour among direct-care staff in learning disabilities services and the role of mediating and moderating factors. The sample consisted of 83 participating direct-care staff, across 23 community residential facilities for adults with learning disabilities, all providing care for at least one individual known to exhibit aggressive behaviour. A battery of self-report questionnaires were completed and returned anonymously by participating staff and a standard service-related questionnaire was completed by each respective service unit manager to assess the characteristics of the participating staff teams as a whole and the overall characteristics of the service-users cared for.

The selection of independent and dependent variables measured in the staff questionnaire was based on Lazarus and Folkman's transactional-process model of stress and coping (Lazarus & Folkman 1984). Staff exposure to aggressive service-user behaviour was conceptualised as a specific stressor which was hypothesised to contribute to a range of important staff outcomes such as general psychological distress, staff burnout and job dissatisfaction, through intervening risk and predictor variables such as staff attributions, perceptions of self-efficacy, and negative emotional responses to aggression. These variables were measured in relation to a hypothetical aggression-related vignette. Coping strategies used in relation to service-user aggression were hypothesised to exert a moderating effect on the emotional responses of staff.

Multiple regression analyses were used to examine the relative importance of predictors of each of the staff outcomes measured. The descriptive analysis showed that staff were found to report more frequent use of problem-focused and emotion-focused coping strategies, in relation to service user aggression, than a group of coping strategies referred to as 'less adaptive coping'. However, only the latter was found to be an important coping variable in predicting staff outcomes in the regression equations, with direct effects on staff burnout and also indirect effects on burnout through depression-related emotional responses to service user aggression. This mediating factor was found

to be more important than anxiety-related emotional responses in predicting the staff outcomes measured in this study.

Staff exposure to service-user aggression, perceived self-efficacy and staff attributions along the dimensions of personal control and locus of causality were not found to be associated with either negative emotional responses to aggressive service-user behaviour or any of the staff outcomes measured in this study. However, attributions of external controllability were found to have direct effects on staff burnout. Given that several hypotheses about the relationships between variables were not confirmed in this study, the general model on which this study was based was adjusted to be more applicable to stress and coping in the context of staff responses to service-user aggression in learning disabilities services. The reconstruction of the model was guided by a path analysis of estimated relationships between variables. The negative consequences of less adaptive coping strategies and depression-related emotional responses in relation to service-user aggression suggested by the results of this study, were discussed with regard to their implications for staff training and support. It was suggested that work on staff emotions may be crucial in reducing staff stress and also in reducing aggressive service- user behaviour which, in turn, may be maintained by the responses of staff.

Introduction

The problem of challenging behaviour in learning disabilities services.

Challenging behaviour is a very widely studied phenomenon in the field of learning disabilities (Blunden & Allen 1987; Emerson & Bromley 1995; Eyman & Call 1977; Jacobsen 1982) and implicit in the term challenging behaviour itself is the recognition that such behaviours present a significant problem for services. In 1988, challenging behaviour was broadly defined by Emerson, Cummings, Barrett *et al* as:

'behaviour of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit or delay access to and use of ordinary community facilities' (Emerson *et al* 1988, p16).

However, the term 'challenging behaviour' is ambiguous, covering a wide range of social behaviours including aggression, self-injury and stereotypy. Recent studies of the way challenging behaviour is defined in practice in learning disabilities services have shown that the behaviours viewed by care staff as most challenging, in terms of the management problems presented, tend to be those behaviours which cause the most social disruption, particularly aggressive behaviours towards the self, others or property (Lowe & Felce 1995; Lowe, Felce & Blackman 1995).

A study by Hastings (1995) involving a content analysis of semi-structured interviews conducted with 19 day care staff in two health service units for people with severe learning disabilities and challenging behaviours, produced similar findings whereby the majority of care staff (74%) considered aggression (e.g. punching or biting others) to be challenging and 58% said that self injury (e.g. head-banging or face-slapping) was challenging. Lowe *et al* (1995) suggest that aggressive, destructive and self-injurious behaviours are more likely to have a direct effect on care workers and are thus viewed as most challenging, possibly because staff often need to physically intervene to ensure the safety of the service-user or others. This notion is supported by the findings of Hastings (1995) in that 74% of staff said that their usual response to aggressive behaviour would be to intervene and an equal number of staff (74%) also said their response to self injurious behaviour would be to intervene.

Of the variety of challenging behaviours commonly displayed by people with learning disabilities, service-user aggression has been found to be the most commonly occurring form of challenging behaviour (Emerson & Bromley 1995). Epidemiological studies have demonstrated overall prevalence rates of aggressive behaviours among people with learning disabilities ranging from 10% (Jacobsen 1982) to 28% (Eyman & Call 1970). It is likely that discrepancies in reported prevalence rates may be a result of differences between sample populations studied and differences in the definitions of aggression, which have often been vague and imprecise, making it difficult to compare studies. More recently, Harris (1993) conducted a survey of the nature and extent of aggressive behaviour amongst people with learning disabilities in a single health district and identified a target group of 168 adults with learning disabilities presenting problems of aggressive behaviour according to a precise operational definition based on the definition below developed by Oliver *et al* (1987), which was found to have good inter-rater reliability:

'We are primarily interested in identifying people who present serious problems such as biting, kicking, scratching etc. which result in injury to others, for example bruising, bleeding, or other tissue damage, we would also like to include all individuals whose actions such as shouting/screaming at others, or violence towards objects may not necessarily result in injury but do present serious management difficulties because of the threat or risk of injury to others' [cited in Harris 1993, p223-224].

The target group was screened through structured interviews with service providers and prevalence rates for aggressive behaviour was found to range from 9.7% among day facilities to 38.2% among hospitals. An overall prevalence rate of 17.6% was estimated from available base population data. The most frequently reported forms of aggressive behaviour consisted of physical and verbal aggression and 12.9% of cases had been involved in an incident of physically aggressive behaviour during the past month.

It is widely recognised that *'aggressive behaviour presents one of the biggest challenges to services for people with learning disabilities'*. (Harris 1993 pp221), and given that aggressive behaviour is a significant problem for care staff in such settings, this study intends to focus on the impact of this type of challenging behaviour on direct-care workers and the psychological processes involved when a staff member is faced with aggressive behaviour exhibited by service-users he or she is caring for on an ongoing basis. Service-user aggression and violence, including violence directed at the self, in

the form of self-injury, are clearly the most dangerous forms of challenging behaviour and the most detrimental to the individual, staff and other service-users and, due to the 'front-line' nature of their work, direct-care staff have an increased likelihood of confronting episodes of violent or aggressive service-user behaviour (Cottle, Kuipers, Murphy & Oakes 1995; Ghaziuddin & Ghaziuddin 1992; Owens & Ashcroft 1985).

Furthermore, such behaviours are now more likely to be encountered by staff working in community settings as a result of de-institutionalisation (Quereshi & Alborz 1992). It is possible that violent or aggressive behaviour may be less well tolerated by staff in the community compared to those working in learning disability institutions. The evidence suggests that service-user characteristics are often viewed as placing more demands on staff in community settings (Bersani & Heifetz 1987; Rose 1993), which may be due to the relative lack of sharply defined staff roles and clear, well-established guidelines suggested to be more commonly found in the traditional long-stay institutions (Stenfert Kroese & Fleming 1992). This study intends to focus on the impact of aggressive service-user behaviour on care staff in community services for people with learning disabilities as opposed to institutional settings. However, due to the dearth of research in this area, this literature review will draw upon relevant findings of studies conducted in other settings such as learning disability and psychiatric hospitals where appropriate.

The psychological consequences of aggressive service-user behaviour for care staff.

Although there is a growing body of literature on the family distress caused by the impact of challenging behaviours on informal carers (Quereshi 1990; Quine 1986; Quine & Pahl 1985), and some recent research has started to examine the emotional impact of challenging behaviours in general on care staff (Bromley & Emerson 1995; Hastings 1995; Hastings & Remington 1995), there has been very little close attention paid to the psychological effects of aggressive forms of challenging behaviour on care staff in learning disabilities services. Much of the literature on service-user aggression in these settings has focused on ways of reducing or managing the aggressive behaviour (Bird, Does, Moniz & Robinson 1989; McDonnell, Dearden & Richens 1991b; 1991c; Whitaker 1993) and has neglected the impact of the behaviour on the care staff involved.

Staff reactions to violent incidents in the workplace has been studied in a range of health and social settings but the majority of research in this area has focused on the effects of in-patient assaults on nursing staff in psychiatric institutions (Aiken 1984; Caldwell 1992; Carmel & Hunter 1989; Lanza 1983; Ryan and Poster 1989; Whittington & Wykes 1992). Studies of this kind, typically involving self-report methodology, have described a variety of short term and long term responses including social, emotional, cognitive and bio-physiological consequences. Some studies have also identified symptoms of post-traumatic stress disorder in psychiatric nursing staff following an assault by a patient staff, akin to that experienced by victims of other traumatic events such as street crime (Caldwell 1992; Conn & Lion 1983).

Although the detrimental effects of patient assaults on the mental and physical well-being of care staff are becoming increasingly recognised in psychiatric settings, the little research which has been done in this area has tended to exclude service-users with learning disabilities and has been carried out in hospital settings. Many different factors may be operating when care staff are exposed to violent or aggressive service-user behaviour in community learning disability settings and although there may be similarities, it is important to be cautious when generalising findings. However, the general literature does suggest that repeated exposure to aggression exhibited by service-users with learning disabilities may contribute to important psychological consequences for care staff in four main areas: negative emotional responses, increased stress among staff, staff 'burnout' and reduced job satisfaction which all have important implications for the quality of life of both staff and the service-users they are caring for. These particular outcomes will therefore be examined in relation to staff exposure to service user aggression in the present study. I will now provide an overview of the existing relevant research literature in each of these areas in turn below.

Service-user aggression and negative emotional responses.

A descriptive study by Lanza (1983) found that psychiatric nursing staff who had been victims of patient assault ($n = 40$) reported a wide range of short term responses (defined as those occurring '*one week or less following the assault*') including a variety of negative emotional states such as anger, fear, anxiety, helplessness, sadness, shock, resignation and depression. However, no one

response was indicated by a majority of staff. The most commonly reported long-term responses included continuing anger, anxiety and fear of the patient who they had been assaulted by. Although this study relied on a small sample, the findings were replicated in a study by Holden (1985) [cited in Lanza 1992] who described a similar variety of emotional reactions to serious episodes of aggression by staff in psychiatric settings.

A major limitation of the above studies was their reliance on retrospective reports of immediate and longer-term responses to the assault. Furthermore, they did not provide any reliable indication of how long it took staff to recover from the assault. Ryan and Poster (1989) attempted to overcome these problems by using a longitudinal design and included a measure of non-assault stressors. A sample of 61 psychiatric nursing staff completed self-report questionnaires at weekly intervals after being physically assaulted by a patient. Nurses were also interviewed at week one and week six, and follow up questionnaires were completed at six months to 1 year later. The study found that assaulted staff typically experienced a variety of short-term responses, particularly anger, during the first six weeks after the event. However, although some staff continued to experience longer term reactions, most staff had recovered from the assault by the sixth week.

Recent research has demonstrated that violent or aggressive service-user behaviour in learning disabilities services also evokes strong negative emotional reactions in care staff (Hastings 1995; Hastings & Remington 1995; Cottle *et al* 1995; Bromley & Emerson 1995) and the variety of reported emotional responses of care staff in these settings seem to be consistent with those of staff who are victims of patient assault in psychiatric in-patient settings. A small interview study carried out in a community learning disabilities setting by Hastings (1995) examined emotional responses to a range of challenging behaviours and found that aggressive behaviours were viewed as subjectively aversive by care staff, eliciting negative emotional reactions such as fear and anxiety (32%) or anger (16%). In a study by Bromley and Emerson (1995), staff exposed to challenging behaviours in a range of learning disabilities settings estimated that significant proportions of the staff in their team would feel sadness, annoyance, anger, and fear in response to self-injury, aggression and destructiveness. However, the evidence suggests that aggressive behaviour may evoke different

emotional responses in staff to those evoked by other forms of challenging behaviour such as stereotypy (Bromley & Emerson 1995; Hastings & Remington 1995), suggesting that staff who are exposed to aggressive behaviours may experience a particular pattern of responses that merit further investigation in their own right.

The emotional reactions of staff exposed to aggressive behaviour are important because they are likely to influence the way a member of staff responds to the service-user. For example, fear may result in an avoidance response and anger may result in a punishing response. There is evidence that approach or avoidance behaviour in staff is influenced by the behaviour of service-users (Dailey *et al* 1974) [cited in Bromley and Emerson 1995] and it is suggested that where negative emotions lead to an aversive state in staff, staff may be motivated to avoid experiencing this state, leading to either escape and avoidance behaviour or defensive responses as a means of coping. (Bromley & Emerson 1995; Hastings 1995). These findings are of much concern, since there is evidence to suggest that these behavioural responses of staff may function to maintain rather than reduce challenging behaviours (Hastings & Remington 1994). This notion is grounded within the behavioural paradigm which views challenging behaviour in terms of its social contingencies or consequences and as a function of the social environment, including the behaviour of care staff. Negative emotional responses may therefore have important implications for a staff member's ability to apply behavioural treatment programmes effectively, in addition to their possible contribution to more chronic staff outcomes including increased stress, staff 'burnout' and job dissatisfaction, when negative emotional responses are experienced on a frequent and ongoing basis.

Service-user aggression and staff stress.

Despite the possibility that direct care staff in learning disabilities settings may find it more socially acceptable to attribute job stress to organisational factors rather than to service-user factors (Rose 1995), aggressive service-user behaviour to self, others or property has been rated by direct-care staff as one of the most stressful aspects of their work in community residential services for people with learning disabilities, (Bersani & Heifetz 1985; Hatton, Brown, Caine & Emerson 1995). Insufficient support and insufficient training for dealing with challenging behaviour has been identified as one of

the most important stressors for staff in community based homes by Ward (1989). Resident behaviour problems in general have been found to be correlated with both stress-related outcomes for care staff using self-report measures (Rose 1993) and, secondly, important service outcomes, such as staff turnover rates (George & Baumeister 1981), particularly where staff do not feel adequately supported.

Furthermore, in addition to evidence that the occurrence of violent or aggressive 'outbursts' is related to staff stress (Corrigan 1993, Bromley & Emerson 1993), studies have also found the emotional impact of working with people with learning disabilities to be a significant source of staff stress (Halliday, Potts, Howard and Wright 1992; Razza 1993; Thomson 1987), suggesting that repeated exposure to aggressive behaviour exhibited by people with learning disabilities may be particularly stressful for staff caring for such individuals. When considering the quality of care services provided for people with learning disabilities who show aggressive forms of challenging behaviours, it is therefore important to address the potentially stressful nature of direct-care work in these settings. Since much of the assistance provided by direct-care staff is in the form of direct interactions between staff and service-users, there is a danger that staff who are stressed may be more likely to have difficulties managing such interactions effectively, particularly where strong emotional reactions are aroused in staff.

Service-user aggression and staff burnout.

Burnout is a specific term used to describe a negative reaction to stress in the workplace, usually among staff whose work involves considerable time in close and intense involvement with other people and particularly where staff-service-user interactions are centred around service-user's current problems (Maslach 1978). In such circumstances, solutions may not always be obvious, ambiguity and frustration become more likely and, as outlined above, interactions may be charged with negative emotions such as anger or fear. It is suggested that chronic stress associated with these circumstances can be emotionally draining and can lead to the development of the burnout syndrome (Maslach & Jackson 1981). Since staff burnout has been found to be related to high levels of absenteeism and staff turnover rates (Maslach 1982), dissatisfaction with work and lowered job performance (Randall

& Scott 1988), it is possible that the consequences of burnout may also contribute to a reduction in the quality of care provided to service users (Maslach 1978, Freudenberger & Richelson 1980).

Maslach and Jackson (1986) defined the burnout syndrome as a tripartite condition comprising of three components: increased emotional exhaustion, de-personalisation and reduced feelings of personal accomplishment. Of these three key aspects of the burnout syndrome, emotional exhaustion (EE) refers to a depletion of emotional resources, de-personalisation (DP) refers to negative, cynical and impersonal or de-humanised attitudes towards service-users and lack of personal accomplishment (PA) refers to a tendency to evaluate oneself negatively concerning work with service-users and personal competence or dissatisfaction with work-related accomplishments. Behavioural theory has been used to explain the development of the burnout condition based on the principles of extinction whereby desirable behaviours in the work situation are decreased through a lack of reinforcing contingent consequences (Lawson & O'Brien 1994) and the three components of burnout can therefore be viewed theoretically as extinction-induced emotional responses. The relationship between exposure to service-user aggression and burnout has yet to be explored. However, given that aggression elicits negative emotions in staff it seems likely that the emotional exhaustion component of the burnout syndrome could be an important outcome of repeated ongoing exposure to aggression.

There has been much interest in the frequent occurrence of the collection of symptoms commonly known as burnout among staff in the helping professions and extensive research has been generated in this area particularly in mental health settings (Pines & Maslach 1978, Randall & Scott 1988, Thornton 1992). However, relatively little research has been conducted with staff whose work involves caring for people with learning disabilities (Aitken & Schloss 1994; Caton, Grossnickle, Cope *et al* 1988; Fimian 1984; Killu 1994). Edwards and Miltenberger (1991) found moderate degrees of burnout among staff at community residential facilities for people with learning disabilities on all three sub-scales of the Maslach Burnout Inventory, relating to each of the proposed components of 'burnout'. However, Lawson and O'Brien (1994) found moderate levels of PA burnout but low levels of DP and EE burnout and findings across studies are not always consistent,

which may be due to the influence of other variables such as organisational factors, differences in staff exposure to certain work related stressors, or resident related stressors such as aggressive service-user behaviour.

Service-user aggression and reduced job satisfaction.

Finally, exposure to aggressive patient behaviour has been found to be associated with decreased levels of job satisfaction in a study by Dougherty, Bolger, Preston *et al* (1992) who examined the impact of exposure to aggressive behaviour on job satisfaction among health care staff in geriatric hospital settings (n = 28). Equally strong correlations were found between reduced job satisfaction, as measured by the Index of Work Satisfaction Questionnaire, and overall exposure to both verbal aggression and physical aggression during the previous month. Regression analyses demonstrated that the only factor which added significantly to aggressive behaviour in predicting job satisfaction was educational level suggesting this to be an important influence on the relationship between exposure to aggressive behaviour and job satisfaction in geriatric settings. Job satisfaction in this study was not found to correlate with perceived self efficacy, coping style, or other demographic variables of age or gender.

However, this study has not been replicated in community learning disabilities services and although there is a considerable body of literature examining correlates of job satisfaction of care staff in such settings (Bersani & Heifetz 1985; George & Baumeister 1981; Hauber & Bruininks 1986; Sarata 1974; Silver, Lubin and Silverman 1984; Sharrard 1992; Hatton & Emerson 1993), the relationship between exposure to challenging behaviours such as service-user aggression and job satisfaction in learning disabilities has yet to be explored.

What factors mediate or moderate the relationship between exposure to service user aggression and staff outcomes.

The research literature reviewed above clearly indicates that aggressive service-user behaviour may have adverse psychological consequences for staff both in the short term in the form of negative emotional responses and in the long term in the form of chronic stress, burnout and decreased job

satisfaction. However, the responses of staff to episodes of service-user aggression or violence have been found to be wide ranging in both the variety and intensity of emotional reactions and not all staff experience adverse effects (Bromley & Emerson 1995, Lanza 1983). In a study by Wykes and Whittington (1991) the psychological consequences of patient assault in a psychiatric hospital, measured using the Spielberger State Anxiety Questionnaire and the Maudsley Strain Questionnaire, were found to be highly variable, further supporting the notion that the relationship between patient assault and stress-related outcomes is not a direct one and that a number of other factors may be involved. It is therefore conceivable that some care staff who are exposed to aggression may be more resilient to stress than others, according to a number of factors which mediate or moderate the relationship between aggression related stress and staff outcomes.

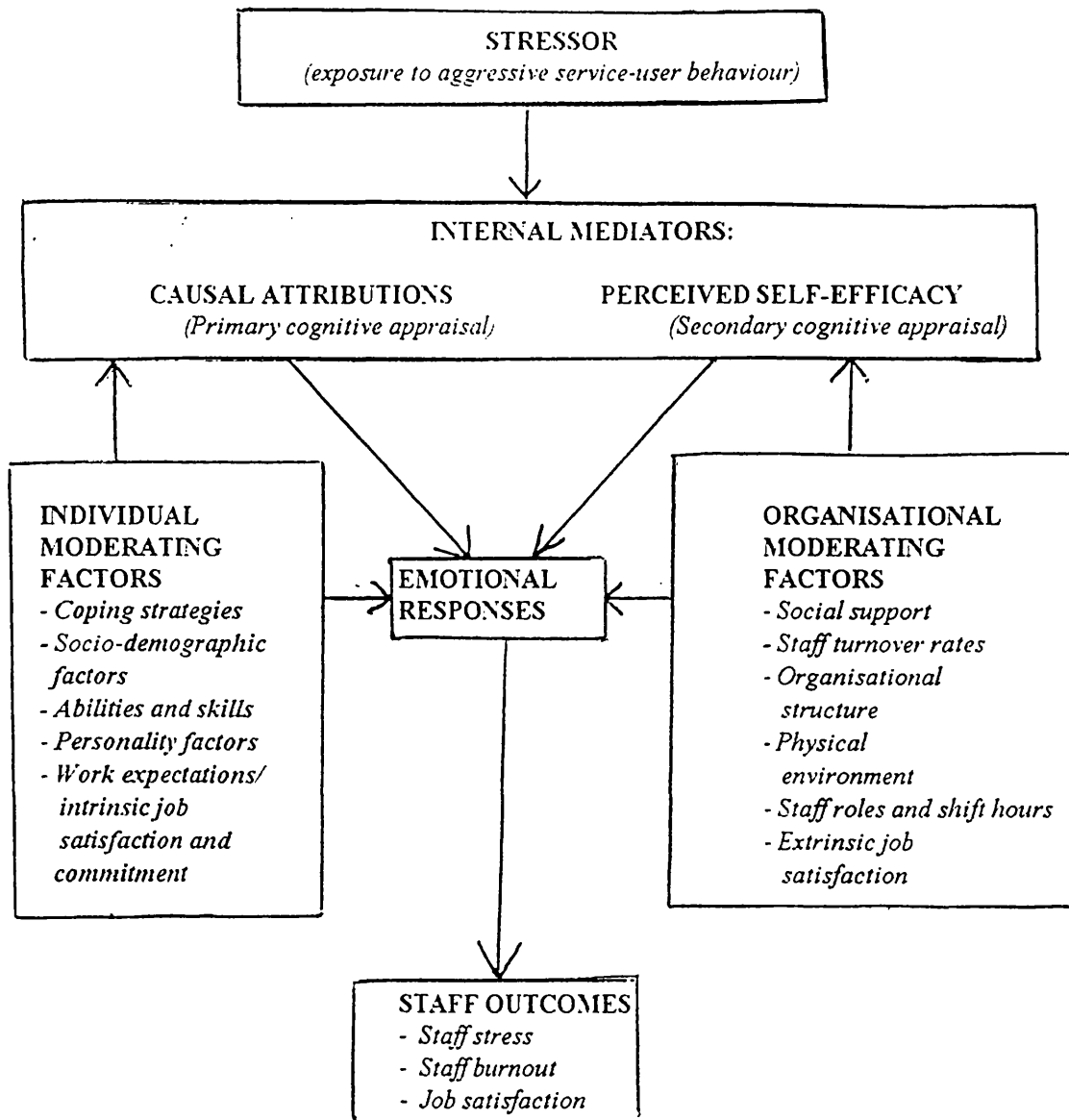
Although, the issue of staff stress in learning disabilities services has received much attention in the literature (Aitken & Schloss 1994; Bersani & Heifetz 1985; Caton *et al* 1988; Halliday *et al* 1992; Hatton *et al* 1995; Rose 1993; Sharrard 1992; Spencer 1983), very little research has focused in depth on the factors which mediate or moderate the impact of situational stress associated with specific and salient stressors such as exposure to service-user aggression. The literature reviewed above suggests that exposure to aggressive service-user behaviour may contribute to high levels of stress, emotional strain and other undesirable outcomes among care staff, which may in turn may have undesirable effects on the behaviour of both staff and service-users. It is therefore important to develop more understanding of the emotional impact of service-user aggression on staff and the factors which help to reduce the negative consequences of emotional strain associated with salient sources of stress such as this. This will enable appropriate strategies to be developed and implemented, aimed at helping care staff manage their responses to challenging behaviour in ways that are beneficial to both staff and service-users. This is of vital importance in the light of evidence suggesting that the ways that direct-care staff respond to and cope with aggressive service-user behaviour may have direct implications for the service-users' quality of life (Hastings & Remington 1994, Hatton & Emerson 1995a).

Hatton *et al* (1995) propose that there is a need for '*comprehensive theoretical research detailing the complex relationships between potential stressors, service-user behaviours, staff resources and coping strategies and different stress-related outcomes*' (Hatton *et al* 1995, pp267). This study therefore intends to explore potential stress associated specifically with service-user aggression and possible staff-related mediators of different stress-related outcomes, within a theoretical framework which I will describe below.

A conceptual model for investigating the impact of aggressive service user behaviour on staff

Within a cognitive-behavioural framework, Lazarus and Folkman's transactional-process model of stress and coping (Lazarus & Folkman 1984) provides a useful theoretical basis for identifying important variables thought to mediate or moderate the relationship between a potential stressor such as aggressive service-user behaviour and important outcomes outlined earlier and it is hoped that the model used in this study will provide a useful conceptual framework with which to establish the relative contribution of these factors. The model has been adjusted and expanded on for use in this study but is largely based on Lazarus and Folkman's conceptualisation of stress as an interaction between the individual and his or her environment. The revised model is presented in the diagram below (Fig. 1) followed by an explanation of its structure and the mechanisms involved.

Fig 1. A model of mediating and moderating factors involved in the process of coping with aggression service-user behaviour.



The model used in this study focuses on service-user aggression as a potential stressor and outlines suggested causal links between factors which hypothesised to mediate or moderate the relationship between exposure to aggression and important staff outcomes. Stress is viewed within Lazarus and Folkman's model as a discrepancy between environmental demands or stressful situations and individual resources or capabilities, and is therefore seen as a complex process involving continuous adjustments and interactions or 'transactions' between the individual and his or her environment. The model suggests that the causal influence of stressful situations is exerted through several important intervening variables or mediators. It is proposed that objective stressors give rise to subjective perceptions and these in turn influence short term responses to the stressor including cognitive, behavioural and affective responses, which can lead to stress related outcomes in the long term with continued exposure to situations that are perceived as stressful. Lazarus and Folkman make a distinction between two kinds of cognitive appraisal processes that take place when an individual is confronted with a stressor. It is suggested that primary appraisal processes involve an evaluation of the stressor itself (e.g. the extent to which it is threatening or controllable) and secondary appraisal processes then involve an assessment of the personal and coping resources available to deal with the stress.

One way in which primary appraisal processes can be conceptualised is within the context of the attributions an individual makes to explain the cause of an event. Attribution theory proposes that people make subjective causal attributions about the cause of events that happen to them, in order to gain a sense of control. This tendency was first labelled "causal reasoning" by Heider (1958) who proposed that the three major ways in which people's causal attributions differ are along the dimensions of internality (whether the cause of an event is seen to reside within the person), externality (whether the cause is to do with other people or circumstances)' and along the controllability dimension (whether the cause is viewed as within the individual's control). Attribution theory has important theoretical and empirical advantages (Fenwick 1995) and offers a useful framework for defining the perceived attributes of a stressor such as service-user aggression. It is believed that certain kinds of attributions lead to better adjustments after an unpleasant incident

(Cottle *et al* 1995) and certain types of attributions can thus be viewed as a mediator of stress related outcomes. This notion is supported by empirical evidence, for instance internal attributions such as self blame have been found to be related to negative health outcomes and poorer adjustment such as loss of self esteem and depression (Beck 1967, Abramson 1978).

According to Lazarus and Folkman's model, secondary appraisal processes also have a mediating influence on the stressor-outcome relationship, whereby the individual evaluates the resources they have at their disposal for dealing with the event and it is suggested that when there is a primary appraisal of harm, loss, threat or challenge, secondary appraisal becomes of great importance (Lazarus & Folkman 1984). Chwalisz *et al* (1992) argue that an individual's subjective perception of their own self-efficacy or confidence in dealing with the situation can be viewed as part of the secondary appraisal process. Since Lazarus and Folkman propose that secondary appraisal processes involves an evaluation of resources available for coping, the resources available are viewed as moderators of the stress-outcome relationship, including both external, environmental factors and internal resources or individual differences.

An important internal moderator which has received much attention by Lazarus and Folkman and in many other psychological theories of stress (Parkes 1994) is the type of coping strategies used to manage the discrepancy between environmental demands and resources in a stressful situation. According to Lazarus and Folkman's 'transactional-process' model, coping is viewed as an active attempt to resolve stressful situations or to alleviate aversive emotional responses to stressors. Coping is conceptualised as consisting of two broad categories of response to a stressor. The model makes a distinction between emotion-focused and problem-focused coping strategies whereby the former refers to strategies which aim to change or regulate the emotional state elicited by the stressor and the latter refers to overt behavioural strategies aimed at altering the stressful situation causing the distress (Folkman & Lazarus 1980). It is suggested that both types of coping may be elicited in a stressful situation and it is proposed that the effectiveness of various cognitive, behavioural and emotional coping strategies depend on perceptions of the nature of the stressor (Folkman & Lazarus 1980, Folkman, Lazarus, Dunkel-Schetter *et al* 1986) suggesting that particular coping strategies

may be more important than others in relation to stress associated with aggressive service-user behaviour.

Various components of the model used in this study are of standard interest in psychological and social research and there is considerable empirical support for Lazarus and Folkman's model of stress appraisal and coping (Folkman *et al* 1986; Lazarus & Folkman 1987; Schieier, Weintraub & Carver 1986). Parts of the model on which this study is based have also been investigated in relation to stress among care staff in learning disabilities settings (Hatton and Emerson 1993; Hatton *et al* 1995; Thomson 1987). However, existing research literature in the field has often lacked a conceptual framework such as this for investigating relationships between stressors, outcomes and mediating or moderating variables and there has been a lack of consensus on how to conceptualise and measure many of the constructs involved. This research will be briefly reviewed below.

Moderators of stress-outcome relations

Moderators of stress-outcome relations among care staff can be divided into two broad categories: those relating to factors within the individual and those relating to the organisation or service with which he or she works. Lazarus and Folkman (1984) argue that moderating factors such as these can influence causal relationships at several points in the stress process and are viewed as resources which are taken into account during appraisal processes.

There has been considerable attention given to the organisational factors which influence the relationship between stressors and outcomes in the literature on staff stress in services for people with learning disabilities (Hatton & Emerson 1993; Rose 1995; Sharrard 1992,). For example, one important organisational factor which has consistently been found to have a moderating or 'buffering' effect on staff stress is social support, particularly from other staff and managers (Allen Pahl & Quine 1990; Browner Ellis, Ford *et al* 1987; Hatton and Emerson 1993; Hatton *et al* 1995; Rose 1993; Stenfert Kroese & Fleming 1992). Several studies have demonstrated the importance of poorly defined staff roles, role conflict and lack of job variety in contributing to stress-related outcomes (Allen *et al* 1990, Hatton & Emerson 1993, Hatton *et al* 1995) and there is evidence to

suggest that a lack of extrinsic rewards in terms of dissatisfaction with pay and opportunities for promotion can influence stress (George & Baumeister 1981).

However, far less attention has been given to individual staff-related factors which moderate the relationship between stress and outcomes in direct-care staff. In the general literature there is some suggestion that personality factors (Evans *et al* 1987, Lee 1993) and demographic factors such as age and sex (Jenkins 1991) may contribute to a greater vulnerability to occupational stress. Job related abilities and skills including social and organisational skills have also been found to be an important moderator of work stress (Bruning & Frew 1987) [cited in Parkes 1994].

Coping as a moderator of staff outcomes:

Individual differences in coping have been widely found to be associated with work related stress (Latack 1986). In a study of appraisal, coping and stress among school teachers (n =316), Chwalisz Altmaier and Russell (1992) found emotion-focused coping to be positively correlated with staff burnout whereas no relationship was found between problem focused coping and burnout. The influence of individual differences in coping on burnout among staff in the human services has been demonstrated in a number of other studies (Leiter 1992a, Turnipseed & Turnipseed 1991, Thornton 1992). Furthermore individual differences in coping has been found to influence stress among informal carers of children with learning disabilities (Quine & Pahl 1991).

There has been some recent interest in the relationship between coping strategies used in general by care staff and stress-related outcomes in learning disabilities services. Using a shortened version of Lazarus and Folkman's Ways of Coping Scale developed by Hatton and Emerson (1995b), one study found the combination of 'wishful thinking' coping strategies and conflict between work and personal or family demands to be associated with symptoms of general distress in a sample of 68 direct-care staff in community residential facilities for people with learning disabilities (Hatton *et al* 1995). However, this study looked at a very limited range of coping strategies grouped into 'wishful thinking' and 'practical coping' and did not include measures of exposure to specific stressors such as challenging behaviour. There is a need for research into the efficacy of coping strategies in

dealing with particular stressors such as service-user aggression, particularly since different stressors are suggested to evoke different types of spontaneous coping (Lazarus & Folkman 1984). Unfortunately, however, there has almost been a complete absence of research into the coping strategies used specifically by staff who are exposed to aggressive service-user behaviour in learning disabilities services. The coping strategies used by care staff exposed to service user aggression are particularly important since it is possible that certain types of coping strategies used by care staff may have implications for whether they tend to approach or avoid service-users who exhibit challenging behaviour such as aggression.

In an exploratory qualitative study by Hastings (1995), 19 care staff were interviewed about coping strategies used to deal with stress associated with challenging behaviour in general and 42% of staff reported using detachment as a way of coping (becoming less emotionally involved with their work over time). This is an important finding in the light of evidence that coping strategies such as disengagement and distancing tend to increase negative emotions (Carver, Scheier & Weintraub 1989). A further 42% of staff in Hastings study used getting support from others as a coping strategy and 37% used taking time out in the form of regular breaks and taking sick leave. However, this study was limited by the small sample size, and the relationship between types of coping responses used in relation to aggressive service-user behaviour and stress-related outcomes was not investigated.

There has been some interest in the relationship between coping with aggression and outcomes for support staff caring for other groups of service-users. For instance Dougherty *et al* (1992) examined coping among health care staff exposed to aggressive service-user behaviour in long-term geriatric hospital settings in an interview study involving asking staff to describe the methods they used to cope with a recent identified aggressive incident. Responses were then dichotomised by the authors into emotion-focused and problem-focused categories of coping and 72% of participants were found to report using problem-focused coping when they were exposed to aggressive service-user behaviour. However, coping styles were very broadly defined and the study was also limited by the

very small sample size ($n = 28$) which may explain why no relationship was detected between type of coping and job satisfaction among staff, the staff outcome variable investigated in this study.

One exploratory longitudinal study examined the efficacy of particular coping strategies used by staff following patient assault in a psychiatric hospital by exploring the relationship between coping and levels of psychological difficulty in staff (Wykes & Whittington 1991). 24 psychiatric staff who had recently been involved in an episode of aggressive physical contact between a patient and themselves were interviewed over a three week period following the event. Participants were interviewed about what they had done to deal with the effects of the violent incident followed by 'probes' for two main types of coping strategy frequently reported by victims in post-traumatic stress disorder research including denial of the event and voluntary re-experiencing of the event. The findings suggested much individual variation in coping strategies used and different strategies were found to be used at different stages after the event. Content analyses revealed eight categories of coping strategies used. However, participants most frequently reported 'talking about the incident' (58%). The number of coping strategy categories used was positively correlated with the level of psychological difficulty reported and high levels of initial psychological difficulty were found to be associated with denial and avoidance strategies. However the use of denial coping strategies was found to be related to a reduction in psychological difficulty over time suggesting that denial may be a particularly effective coping strategy for dealing with the effects of patient assault.

Given that aggressive service-user behaviour frequently occurs in the context of an interaction between service-user and staff member, service-user aggression can be viewed as a specific interpersonal stressor, with specific psychological consequences, suggesting that internal moderating and mediating factors such as coping strategies, attributions and emotional responses may play a crucial role in the impact of such behaviours on staff and the way they respond. Recent studies have demonstrated the importance of staff beliefs about and attitudes towards challenging behaviours (Bromley & Emerson 1995, Hastings 1995) and the coping strategies employed by staff (Hatton & Emerson 1995b, Hatton et al 1995) in influencing staff stress in learning disabilities services. However, the relative importance of these factors and their relation to stress associated with caring

for violent or aggressive individuals has yet to be systematically explored. This study will therefore concentrate on the relationships between individual, staff-related mediating and moderating factors and stress-related outcomes among staff who are exposed to service-user aggression. I shall now go on to explain why negative emotions, attributions and perceived self efficacy are hypothesised in this study as mediators of the relationship between aggressive behaviour and outcomes.

The role of negative emotions

Negative emotional states are typically viewed as dependent variables in research. However, the mediating effects of negative emotions elicited by stressors on chronic stress-related outcomes has often been overlooked in studies of stress and coping (Brown, Carson, Fagin *et al* 1994; Hatton *et al* 1995; Latack 1986; Quine & Pahl 1991). Chwalisz *et al* (1992) suggests that future studies in the area of stress, coping and attributions should include emotional responses as an important variable which may mediate the effects of attributions on coping or outcome.

Furthermore, the emotional responses of care staff in relation to aggression exhibited by service-users in learning disabilities settings are particularly important, since negative affect has been suggested to be an important factor in the process of caring for individuals who display challenging behaviours (Hastings & Remington 1995). There is also evidence that the emotional responses of sympathy and anger are crucial in eliciting or inhibiting helping behaviour (Weiner 1980, Weiner 1986), further suggesting that negative emotional responses elicited in staff may have important implications for the interactions between direct-care staff and service-users.

Given that the research reviewed earlier has indicated that there is considerable variation in the emotional responses of care staff to episodes of aggression, it seems likely that these differences in responding may have differential effects on longer term outcomes such stress, burnout and job satisfaction, whereby staff who experience more negative emotional responses are likely to experience more emotional strain and difficulties coping with demands in the work place.

The role of causal attributions

Lazarus and Folkman's transactional theory of stress proposes that the appraisal process leads directly to emotion (Folkman & Lazarus 1988). Furthermore, the negative emotions which have been found to be related to appraisal in aversive situations including anger, fear, guilt, sadness and resignation (Ellsworth & Smith 1988) have all been found to be associated with exposure to service-user aggression (Bromley & Emerson 1995; Hastings 1995; Lanza 1983; Ryan & Poster 1989), suggesting that the attributions of staff and their emotional responses to aggression may be related. The evidence also suggests that attributions of personal controllability and external controllability (i.e. the extent to which the cause of an aversive event is perceived to be controllable by the individual or others) may play a particularly important role in the generation of affective responses such as guilt and anger respectively (McAuley & Shaffer 1993). However, the role of causal attributions in mediating the emotional responses of staff to episodes of service-user aggression is under-researched. Staff beliefs or attributions about the causes of aggressive service user behaviour are important because beliefs may determine the way that staff respond to such behaviours (Weiner 1985; Sharrock, Day, Quazi & Brewin 1990). It is particularly important to understand which causal attributions may influence which emotional responses of staff dealing with aggressive service-user behaviour, and their relationship to job satisfaction and stress-related outcomes such as psychological distress and burnout.

In the last few years, there has been some interest in the attributions made by direct-care staff to explain the cause of various forms of challenging behaviour (Bromley & Emerson 1995; Cottle *et al* 1995; Hastings 1995; Hastings *et al* 1995). These studies have indicated that there is considerable variation in the attributions made by staff to explain the cause of aggressive service-user behaviour. A survey by Bromley and Emerson (1995) found that 41% of staff believed that challenging behaviour was caused by the service-users internal psychological state or mood. Other less frequently cited causes included environmental factors, self-stimulatory factors and communication or control. Hastings (1995) interviewed 19 care staff about their beliefs as to the causes of challenging behaviour in service users with learning disabilities. Explanations for challenging behaviour included social reinforcement or attention (79%), communication/expression, triggered by events in the physical

environment (58%), emotional reasons (58%), medical/biological (47%) an adaptive responses to the environment (37%) or no apparent reason/don't know (32%). In the latter study, the vast majority viewed challenging behaviour as intentional (74%), suggesting that staff may blame service-users for their behaviours as attempts to achieve something, with an awareness of the effects of their behaviour.

Cottle *et al* (1995) examined the causal attributions of care staff who had been victims of violent incidents (n = 48) in a large psychiatric hospital for people with acute and chronic mental health and or behavioural problems, including people with learning disabilities. Causal attributions were rated by staff using a modified version of the Attributional Style Questionnaire, which had been adapted for use with direct-care staff. Staff responses on this measure a week after the event revealed that, overall, staff rarely blamed themselves for the event and they tended to make attributions which were internal to the client, external to themselves, personal to the client, uncontrollable by themselves and neither uncontrollable nor controllable by the client. The study found that after one month staff made causal attributions which were significantly more internal to the client which is suggestive of an increase of blaming towards the client. Coping efficacy was inferred from measures of anxiety which were found to increase a week after the event and then to return to baseline levels after a month and the investigators concluded that attributing the cause of the incident as internal to the client may be a coping strategy which leads to a reduction in anxiety.

The concept of blame is a recurring theme in the literature on the impact of aggression on care staff. In a study of reported reactions to patient assault by nurses in a psychiatric hospital setting, Lanza (1983) found a tendency for nursing staff to blame themselves for the assault both in the short term and long term. Blame has been suggested to be an important aspect of patient assault, whereby blame is attributed to either the victim, the assaultee or those in authority. The extent to which care staff blame themselves for an aggression related incident can be viewed as highly relevant to the attributional dimension of controllability. If a care-worker believes that service-user aggression is uncontrollable by others including the care worker him or herself, then self-blame is unlikely. However, if the staff member believes that there is something he or she could do to prevent the

behaviour occurring, i.e. the behaviour is viewed as controllable by others, then self blame is a likely outcome in the event of an aggressive incident.

The role of attributions of controllability in determining emotional reactions has also been investigated by attribution theorists in other related areas of research. Weiner (1985) developed an attributional theory of motivation and emotion based upon the principles of attribution theory (Heider 1958), and cites experimental evidence supporting the notion that emotional reactions are primarily determined by attributions of controllability. According to Weiner (1985), when a distressing behaviour of another person is attributed to controllable causes such as selfishness, the emotional response is likely to be anger, whereas distressing behaviours perceived to be uncontrollable by the individual are more likely to result in sympathy. This was supported in a study by Sharrock *et al* (1990) who found a negative correlation between sympathy and staff attributions of controllability for a range of negative institutionally relevant behaviours commonly associated with psychiatric in-patients.

The role of perceived self-efficacy

The notion of self efficacy stems from social learning theory and, in particular, the work of Bandura (1977) who proposed that the belief in one's ability to successfully perform a task that will lead to a desirable outcome, has an important influence on the way people choose to behave in the face of obstacles. Bandura suggested that *'the strength of people's conviction in their own effectiveness is likely to affect whether they will even try to cope with a given situation'* (Bandura 1977, pp193) It is suggested that low self-efficacy expectations may result from perceived personal deficiencies and low self-efficacy has been implicated as an important factor in the development of the burnout syndrome (Leiter 1992b).

Chwalisz *et al* (1992) compared two models of the relationships between causal attributions, self efficacy cognitions, coping strategies and burnout among 316 school teachers. The results suggested that causal attributions and self efficacy cognitions occur simultaneously and as mediators of stress-related outcomes. However, they also found evidence to suggest that the relationship between causal

attributions and coping is mediated by self efficacy, whereby individuals who rated themselves low on self efficacy used more emotion-focused coping strategies and individuals who rated themselves higher on self efficacy used more problem focused coping strategies. However the above study was limited by the use of a cross-sectional design which prevented any examination of the causal relationships between variables.

Methodological problems in the measurement of staff exposure to service-user aggression and mediators and moderators of the stressor-outcome relationship

In order to examine the psychological impact of service-user aggression on direct-care staff and the relative contribution of mediating and moderating factors of interest to this study, there are various methodological problems which need addressing. Although there are well established methods of assessing staff outcomes in the areas of stress, burnout and job satisfaction, very little progress has been made in the measurement of staff exposure to aggression, negative emotional responses, staff attributions, perceived self efficacy and coping strategies used in relation to dealing with aggressive behaviour. I shall briefly outline some of these problems below.

Measuring staff exposure to service-user aggression

Discrepant or vague definitions of aggressive and violent service-user behaviours has posed many methodological problems for the reliable measurement of staff exposure to service-user aggression as a potential source of staff stress. However, a study examining the impact of exposure to various types of patient aggression on staff in a long-term geriatric institutional setting conducted by Dougherty *et al* (1992) defined aggression as '*physical or verbal aggression directed at another patient or staff member or generally disruptive aggressive behaviour*' (pp163). Each of these three types of aggressive behaviour were accompanied by examples of specific behaviours commonly exhibited by aggressive elderly patients. This operational definition formed the basis of a measure of staff reported exposure to each of these three types of aggression using a seven point Likert type frequency scale ranging from 'never' to 'several times a day', producing an overall summary score and scores for each type of aggressive behaviour. Staff were retrospectively asked to report their exposure to each separate type of aggression over the previous month. However, no psychometric data was produced to

support the reliability or validity of this measure and the measure did not take into account the severity of exposure to aggression by distinguishing between potentially traumatic violent incidents resulting in physical injury and incidents of milder nature which did not result in injury.

The criterion of tissue damage has been found to produce high levels of inter-rater agreement between staff in studies attempting to identify adults with learning disabilities who present problems of aggressive behaviour (Reed 1992) and was found to be more useful than a second criterion used in the latter study which specified any act of physical aggression resulting in '*verbal or vocal reports of pain*' from another person (Reed 1992) which produced lower levels of inter-rater reliability. However, although reported injuries involving tissue damage seems to be a promising approach to measuring staff exposure to aggression, relying on the criterion of tissue damage alone when assessing exposure to aggression may lead to the exclusion of some important aggression related incidents.

In the absence of a satisfactory method of measuring exposure to aggressive service user behaviour there is a need for an appropriate measure to be developed in order to examine the impact of such behaviours on staff and the factors which mediate or moderate outcomes for staff. The literature suggests that a useful quantitative measure of staff exposure to aggressive service-user behaviour should firstly differentiate between exposure to: outer-directed aggression toward the staff member him or herself; outer-directed aggression witnessed towards others; outer-directed aggression toward inanimate objects and inner-directed aggression directed the service-user him or herself in the form of self injurious behaviour. Secondly the measure should differentiate between aggression which results in actual physical injury and that which does not, using the criteria of tissue damage to define physical injury and scores should be weighted accordingly. Finally the measure should explicitly concern itself with recent events only, to increase accuracy of recall. Where practical and convenient, preference should be given for recent day to day records completed by staff over a specified time period, allowing for greater accuracy of recording over a longer time scale. These requirements were considered in the present study in the development of a new measure of staff reported exposure to service-user aggression.

Finally, the level of aggressive behaviour occurring in a given service as opposed to staff reports of their exposure to aggression has often been measured by referring to incident records and can be used to validate staff reports of exposure to aggressive service-user behaviour. However, this methodology has limitations since although the recording of violent incidents is normal practice it may not always be reliable. It is not known how accurate reporting of violent incidents in learning disabilities services are, but one study has shown that, in psychiatric services, as few as 20% of incidents are actually reported (Lion, Snyder & Merrill 1981) suggesting that prevalence rates for service-user aggression may not be accurate or an underestimate. This study therefore intends to develop a useful way of assessing the amount of aggression in a given service encompassing a range of indicators including the proportion of service-users who exhibit aggressive behaviour in addition to the number of reported incidents. By using multiple sources of information, this study intends to increase the reliability of measurement of the extent of service-user aggressive behaviour in defined service units.

Measuring staff attributions.

There is a need for research to reliably assess staff attributions made to explain the cause of aggression in order to examine the influence of these attributions on other variables of theoretical interest. Staff attributions made to explain service-user aggression have been examined using open ended questions in either interviews (Hastings 1995) or questionnaires (Bromley & Emerson 1995), and the attributions elicited have subsequently been content analysed by the researchers and grouped into meaningful categories. However, although these methods have elicited useful qualitative data, they do not address attributional dimensions.

The two main approaches to quantitatively measuring attributions in multivariate research involve the rating of attributions along continuous rating scales, either by the researcher or directly, by the research participants themselves. Benson (1988) draws attention to the dearth of research on the validity and reliability of each of a range of attributional measurement techniques currently available. However, in a comparison of three different approaches, this author found the direct rating approach to have greatest validity regarding situation-specific attributional processes and states that this may be due to the requirement that participants interpret the precise meaning of their initial reasons by

placing them on attributional dimensions themselves, thus avoiding the problems encountered in alternative methodology which relies on the experimenter rating each reason on the attributional dimensions (Benson 1988).

The direct rating approach was used by Cottle *et al* (1995) in a study which involved asking staff who had been victims of violent incidents to rate their causal attributions for the event using a modified version of the Attributional Style Questionnaire (ASQ), adapted for use in this context by the researchers themselves. However, no psychometric data has been produced for the modified version of this measure. Furthermore, the ASQ was originally developed as a reliable and valid self-report measure of the degree to which individuals differ in their habitual tendencies to attribute the cause of an event to internal, stable and global factors and involves assessing attributional *style* by asking respondents to rate their attributions across a collection of six given scenarios (Peterson *et al* 1982). In a more recent expanded version, 24 standardised scenarios were used to assess attributional style, which increased the reliability of the scale (Peterson & Villanova 1988). The tendency for respondents to use particular attributional styles can only be reliably assessed with this measure across a number of ratings of standardised situations rather than just one. Hence, the study by Cottle *et al* (1995) could be criticised for its methodological use of the ASQ in terms of using ratings of situational attributions for a single real life event, which the researchers had very little control over, and then inferring a generalised 'attributional style' for each respondent.

Weiner (1985) proposed that the major ways in which individuals differ in their attributions are along the internal/external, stable/unstable and controllable/uncontrollable dimensions and these three dimensions form the basis of the Causal Dimension scale developed by Russell (1982) also involving the direct rating approach to measuring attributions. The original 9 item Causal Dimension Scale was developed as a measure of the respondents' perceptions of causes in a particular situation according to the dimensions of locus of causality stability, and controllability using a set of bipolar rating scales and seems to be a promising measure of attributions made to explain an episode of aggressive service-user behaviour. Although the validity and reliability of the original CDS sub-scales assessing the locus of causality and stability dimensions has consistently

been demonstrated, the assessment of the controllability dimension has been found to have major psychometric limitations. Evidence of low internal consistency for the items included in the latter (Vallerand & Richer 1988) and a tendency for this scale to highly correlate with the locus of causality dimension (McAuley & Gross 1983 [cited in McAuley, Duncan & Russell 1992], Russell *et al* 1987) has led researchers to question the homogeneity and discriminant validity of the control dimension scale in the original CDS. These problems have been suggested to result from the scale's failure to differentiate personal control from external control. The control dimension has been proposed to be particularly important in the relationship between causal dimensions and behaviour in interpersonal relations (Anderson & Arnoult 1985b) [cited in McAuley *et al* 1992] and as outlined earlier may have particular relevance to the impact of aggressive service-user behaviour on care staff. It is therefore particularly important to measure this dimension reliably.

A revised version of the CDS (the CDSII) has since been developed (McAuley *et al* 1992), aiming to further differentiate the controllability dimension by the use of two related but distinct scales measuring causes perceived to be controllable or uncontrollable by the respondent (personal controllability) and causes perceived to be controllable or uncontrollable by other people (external controllability). The final 4 factor structure of the CDSII has been demonstrated by confirmatory factor analysis across a diverse range of samples (McAuley *et al* 1992) and the CDSII has been further validated in a study of the relationship between attributions of control and affective responses by McAuley & Shaffer (1993). The latter demonstrated only moderate correlations between the external control and personal control scales further supporting the view that these scales measure distinct causal dimensions.

The original CDS was developed to assess the causal dimensions of attributions made by individuals to explain outcomes in achievement settings. However, the CDS and CDSII have since been found to be a suitable measure of causal dimensions in the context of other contexts including a range of potentially aversive events, e.g. McAuley & Shaffer (1993). The CDSII has an important advantage in that it can be used to assess causal dimensions of attributions made about a single event and it

appears to have much potential for adaptation into the third person for quantifying staff explanations for service-user's behaviour, in the absence of satisfactory alternatives.

Measuring perceived self-efficacy.

According to Bandura (1977) perceptions of self efficacy are task specific, suggesting that it would be appropriate to assess staff perceptions of self-efficacy specifically in relation to managing aggressive service-user behaviour. Since perceptions of self-efficacy are based on subjective judgements, it is also appropriate to assess this construct using self-report methodology. As it is proposed that people differ in the strength of their self-efficacy convictions, this also suggests that self-rating instruments used to assess self efficacy should include a range of responses which vary in intensity rather than using dichotomous yes/no options, for instance using a bi-polar or Likert type rating scale. The latter was used by Chwalisz *et al* (1992) in the form of single item measure, whereby participants were asked to judge their ability to deal with the most stressful event they had experienced in their job, and were asked '*How confident did you feel about your ability to deal with this event*'. A four point scale was used to rate level of confidence ranging from not at all confident to very confident. Although there is as yet no psychometric data to support the reliability and validity of this measure, this methodology appears to lend itself well to the measurement of the perceived self efficacy of staff in relation to dealing with an episode of service -user aggression.

Measuring emotional responses to aggressive service-user behaviour.

The study by Hastings (1995) involved interviewing residential care staff about their emotional responses to challenging behaviour and performing a content analysis on the data. However, there is a need for a reliable self-report measure of emotional responses to aggressive behaviour that can produce continuous data for use in correlational multivariate research investigating the relationship between emotional responses and other variables of interest.

Since qualitative studies have shown that care staff typically experience a range of negative emotional responses to challenging service-user behaviour (Hastings 1993), Bromley & Emerson (1995) developed a questionnaire designed to measure negative emotional responses to challenging

behaviour in a form which would produce numerical data for quantitative analysis. The questionnaire consisted of 6 items representing the following emotions typically associated with exposure to challenging behaviour: sadness, annoyance, despair, anger, fear and disgust. Each item was accompanied by a 5 point Likert scale to measure the respondent's estimate of what proportion of the staff team as a whole experienced each emotion in response to episodes of challenging behaviour.

Other studies have involved asking participants to directly rate the intensity of pre-determined emotional responses on a Likert style response scale. For instance McAuley and Shaffer (1993) used a 9 point response scale with ratings of the intensity of 13 negative emotions respondents would expect to experience in a hypothetical situation, with response options ranging from 'not at all' to 'very strongly'. Reizenstein (1986) measured how much sympathy (3 items) or anger (3 items) a care worker would feel towards a service-user on a 6 point scale and Lanza (1983) provided nurses who had been victims of patient assault with a list of possible reactions and asked them rate the intensity of their reactions on 5 point Likert style scale ranging from 1 (no response) to 5 (severe response). However, no reliability data was produced for these measures and no attempts to validate victims perceptions were made by comparing them with data from other sources.

The methods of assessing the negative emotional responses of staff described above also have disadvantages in that they only examine a limited range of responses and conceptualise negative emotion as a uni-dimensional construct. There may be distinct dimensions of negative emotions which may be elicited according to other factors. Furthermore, distinct dimensions of negative emotions may have differential mediating effects on staff outcomes. There is clearly a need for research to develop a useful measure of emotional responses to service-user aggression based on these premises.

Measuring coping.

Unfortunately there has been a lack of consensus regarding how to define and measure situational coping (Cohen 1991) making it very difficult to compare studies. However, this study adopts the widely adopted view of coping as a multidimensional construct involving a wide range of cognitive

and behavioural strategies which may be adaptive or maladaptive in dealing with a particular stressor. The conceptual distinction commonly made between two major coping categories, emotion-focused and problem-focused coping, formed the basis of a widely used self-report measure of adult coping developed by Lazarus and Folkman (1980), the 'Ways of Coping Scale', which requires respondents to indicate whether (or to what extent, in more recent versions) they use each of a given set of typical coping problem-focused or emotion-focused thoughts or actions, to cope with a given stressful situation.

However, Carver *et al* (1989) propose that the distinction between emotion-focused and problem-focused coping is too simple and cite many recent research findings suggesting that responses to the Ways of Coping scale form many factors rather than just two. Carver *et al* (1989) also describe two main problems with existing coping scales: Many items are criticised for lacking a clear focus or being ambiguous (i.e. items may describe an act without fully indicating why it is being done, or conceptually distinct qualities may be combined in a single item). Secondly, no existing scales measure all of the specific domains the authors feel are of theoretical interest and items tend to be derived empirically rather than theoretically. Drawing on both theoretical literature and empirical research findings, Carver *et al* (1989) argues that there are several diverse and conceptually distinct coping factors and that since these coping dimensions may have very different implications in terms of a persons coping efficacy, they should therefore be measured separately.

Based on these assumptions and a critical analysis of the Ways of Coping Scale and other commonly used coping measures, Carver *et al* (1989) designed the COPE, one of the most comprehensive multidimensional self-report measures of adult coping behaviour. Carver *et al* (1989) adopted Lazarus and Folkman's procedure to examine coping with a specific event whereby respondents are asked to recall their most stressful event of the last 2 months and to indicate the extent to which each coping statement reflects the way they dealt with this event. However, Carver *et al* (1989) developed 13 theoretically and empirically distinct sub-scales which emerged from a factor analysis of coping items. Some of the sub-scales were designed to reflect theoretical assumptions that coping strategies differ in the extent to which they are functional, whereas other sub-scales have been included because

research has demonstrated their role in either facilitating or impeding an adaptive response to a stressor. The sub-scales are grouped into three second order coping sub-scales including problem-focused coping, emotion focused coping and a third scale loosely defined as 'less adaptive coping'.

In the absence of a pre-existing measure of coping strategies used by staff coping with aggression, the COPE appears to have good face validity since its content represented a very broad range of coping strategies, many of which were similar to those which have previously identified in qualitative studies of coping in psychiatric nurses who have been victims of patient assault (Wykes & Whittington 1991), or of coping in direct-care staff dealing with challenging behaviours in learning disabilities services (Hastings 1995), such as seeking social support and denial or avoidance strategies. The content of the COPE was therefore considered to be applicable to the types of coping strategies one might expect care workers in learning disabilities settings to use, in dealing with stress associated with exposure to service-user aggression.

Measuring staff outcomes.

Fortunately there are established techniques for measuring the staff outcomes of interest to this study, which I shall outline in turn below:

Measuring staff stress.

The measurement of stress in staff typically involves the administration of self report questionnaires designed to measure psychological distress. The General Health Questionnaire has been widely used as a global measure of psychological distress and Goldberg and Williams (1988) emphasize the measure's sensitivity to very transient disorders and problems of recent onset, including anxiety and depression, suggesting that the GHQ may be a particularly useful outcome measure. Furthermore, by avoiding a bi-modal response scale, as used in the Malaise Inventory (Rutter, Graham & Yule 1970), a popular measure of psychological distress in studies of staff stress in learning disabilities services (Allen *et al* 1990, Hatton *et al* 1995), the possibility of acquiescence response bias or 'yes-saying' is reduced.

A variety of scoring methods have been developed for the GHQ including the traditional GHQ scoring method, used to identify probable psychiatric 'caseness' among a given population according to a specified threshold. However, where research designs employ multivariate parametric statistics, the most satisfactory scoring method for the GHQ has been found to be the Likert scoring method whereby values of 0-1-2-3 are assigned to the four point rating scales (Banks *et al* 1980). By summing values across all items, Likert scoring yields a single, quantitative, total GHQ score for each respondent. This scoring method therefore produces a continuous distribution of scores and the higher the score, the higher the severity of distress in the respondent. The Likert scoring method has the advantage of being less wasteful of information than other scoring methods and has been found to produce a wider and more normal distribution of scores (Banks *et al* 1980) lending itself well to correlational analyses and comparisons of levels of distress within and between populations. The shortest version of the GHQ, the GHQ-12, does not, like the GHQ-28 provide a profile of scaled scores according to 4 sub-categories. However when used as a uni-dimensional measure of severity of distress in a broad sense, the GHQ-12 has the advantage in that principle components analysis has identified a large general factor accounting for 45.6 of the variance in the items (Goldberg 1972), in addition to being the least time consuming version available.

Since the GHQ was developed for use with general populations and in non-work settings, a recent study by Borrill, Wall, West *et al* (1996) examined the accuracy of the GHQ-12 when administered as part of a larger questionnaire in NHS work settings and to determine the threshold scores which were most appropriate for identifying 'caseness' in the workforce of NHS Trusts. Psychiatric assessment interviews were conducted on a sample of 600 NHS employees and were compared with their responses to the GHQ-12. The validity of the GHQ-12 was found to be good and the GHQ was deemed suitable for use in a variety of professions within the health service.

Measuring job satisfaction.

According to Herzberg's dual-factor theory of job satisfaction and motivation (Herzberg 1966), job satisfaction is conceptualised as a dichotomous construct, whereby two categories of job-related needs affect job satisfaction. Herzberg proposes that staff evaluate their satisfaction with both intrinsic

aspects of the job (which are suggested to contribute to job satisfaction) and extrinsic aspects of the job (which are suggested to contribute to job dissatisfaction). Based on this theoretical distinction, Weiss, Davis, England & Lofquist (1967) developed the Minnesota Satisfaction Questionnaire (MSQ) a self-report measure of perceived satisfaction with each of 20 aspects or 'facets' of the respondent's present job which are hypothesised to function as 'work reinforcers'. An intrinsic satisfaction scale consists of items representing reinforcers related to job tasks and duties or factors of motivation that arise from the performance of the job itself, including satisfaction with: autonomy; authority; creativity; independence; job security; social status; work variety; achievement; work activity; moral value; skill utilisation and serving the community. The extrinsic satisfaction scale consists of items representing reinforcers related to aspects of the job which are controlled by the organisation or factors that emerge from surroundings in the work environment, including satisfaction with: salary; advancement; recognition/praise; service policies and practices; staff management and quality of supervision. The remaining items measure satisfaction with work conditions and the way co-workers get along together, which are included in the computation of a total overall general job satisfaction score. However, since the measure has been criticised for inappropriate assignment of items to each sub-scale, the items have therefore been re-coded in some studies (Steiner & Truxillo 1987).

The MSQ has frequently been used to assess intrinsic and extrinsic job satisfaction among staff in the helping professions in US and UK studies (Brown *et al* 1994; Koelbel, Fuller & Misener 1991). A US study of job satisfaction among direct care staff (n=852) from various residential facilities for people with learning disabilities (Hauber & Bruininks 1986) examined the factor structure of the Short Form Minnesota Satisfaction Questionnaire which was developed using the one most representative item from each of the 20 Long Form MSQ sub-scales which best correlates with its respective sub-scale (Weiss *et al* 1967). The results supported the existence of intrinsic satisfaction and extrinsic satisfaction as two separate MSQ scales. Normative data was also established for each scale of the short form MSQ in relation to type of residential facility and the relationship between MSQ scores and staff characteristics was explored. The short form MSQ therefore provides a useful, well-validated and relatively brief facet based measure of job satisfaction in care staff, for use as a

staff outcome measure in multivariate surveys. Furthermore the MSQ has an important advantage in that it has been demonstrated that intrinsic and extrinsic job satisfaction may be differentially related to other variables such as staff and service-user characteristics and staff turnover (Lakin, Bruininks, Hill & Hauber 1982).

However, in addition to dual factor theories such as that on which the MSQ is based, job satisfaction has also been viewed as a unitary construct in research. The notion that a person may be satisfied with certain aspects of his or her job and dissatisfied with others led Hoppock (1935) to propose that it is possible for a person to balance various specific satisfactions with various specific dissatisfactions and arrive at a composite satisfaction with the job as a whole. On this premise, Hoppock (1935) developed the Job Satisfaction Blank #5 (JSB) as a brief global measure of job satisfaction consisting of four items, each with equal weighting, each assessing an aspect of overall satisfaction with a person's job, and each accompanied by a 7 point Likert style response format. This measure has also been used successfully in the context of a study of perceived stress and satisfaction of direct-care staff in residential services for people with learning disabilities (Bersani & Heifetz 1985).

Since each of the four JSB items reflect general attitudes towards the job as a whole, rather than different aspects of the job, it has been argued that the JSB is more inclusive measure than facet based measures of satisfaction such as the MSQ. It is suggested that defining overall job satisfaction as the sum of the evaluations of the discrete elements of which the job is composed may lead to neglect of major determinants of job satisfaction and for this reason global ratings of overall job satisfaction are often viewed more inclusive measures of overall job satisfaction (Scarpello & Campbell 1983). The notion that global measures of job satisfaction are not equivalent to the sum of facet satisfactions has been supported by data from empirical studies (Rounds *et al* 1976; Smith *at al* 1969) [cited in Scarpello and Campbell 1983]. It therefore seems appropriate that measures of both global job satisfaction and facet based job satisfaction should both be included together in this study, in order to assess these constructs separately and to determine their relative importance as staff outcomes.

Measuring staff burnout.

Finally, the burnout syndrome has been most frequently measured using the Maslach Burnout Inventory (MBI) developed in the US as a self report measure of staff burnout in human service occupations (Maslach & Jackson 1986). The content material of the MBI was developed from reviews of pre-existing burnout measures and from consistent patterns of findings in exploratory research using questionnaire and interview data. The MBI produces three separate quantitative scores for each of the three different hypothesised components of staff burnout: emotional exhaustion, de-personalisation and lack of personal accomplishment, reflected in three corresponding sub-scales. The items comprising the three sub-scales were generated in factors analytic studies in which the three factors emerged, and the three component structure of the MBI sub-scales has since been well supported in other studies (Green & Walkey 1988) suggesting that the scale has good construct validity.

The original edition of the MBI included response dimensions of both frequency and intensity. However, modern usage tends to make use of the frequency dimension only, since both dimensions tend to correlate together, hence little can be gained by using both. Furthermore, the intensity dimension is most similar to response formats typically used in measures of general mental health and when used in the MBI this would be likely to increase the possibility of spurious relationships with other scales. Normative data has been provided in the MBI manual (Maslach & Jackson 1986) with identified numerical cut off points, enabling researchers to categorise scores into low, moderate and high degrees of burnout for each of the three sub-scales. It is thus possible to compare means and standard deviations with population norms. However, making use of the full range of MBI scores greatly enhances the power of statistical analyses and is therefore strongly recommended by the authors. Scores can be correlated with demographic data and other quantitative measures of other variables of interest and factors which best predict burnout scores can be determined using multiple regression techniques.

Maslach and Jackson (1986) demonstrated moderate to high re-test reliability co-efficients for each sub-scale of the MBI which were significant beyond the 0.001 level. However, the authors draw

attention to the difficulties ascertaining whether re-test co-efficients on stress-related measures such as this reflect reliability or true change over time. A high degree of internal consistency was demonstrated for the MBI using Cronbach's Alpha with coefficients ranging from 0.71 for the Personal accomplishment sub-scale to 0.90 for the Emotional Exhaustion sub-scale ($n = 1,316$). The above co-efficients suggest that, overall, the Emotional Exhaustion sub-scale of the is the most reliable indicator of burnout.

The convergent validity of the MBI has been demonstrated in several studies of human services employees, whereby MBI scores were found to correlate with measures of outcomes hypothesised to be related to burnout (Jackson & Maslach 1982; Maslach 1976; Maslach & Jackson 1982,) [cited in Maslach & Jackson 1986]. The MBI was found to have good discriminant validity, whereby the MBI was distinguished from measures of other psychological constructs which might be confounded with burnout such as job dissatisfaction. The validity of the MBI has been demonstrated in learning disabilities settings by Aitken and Scloss (1994) who found a high correlation between scores on this measure and scores on the Occupational Stress Inventory among care staff.

Finally, as highlighted by the authors, there is a possibility of reactive effects related to personal beliefs about the sensitive issue of staff burnout and it is suggested that burnout is often denied by staff in learning disabilities settings (Freudenberger & Richelson 1980, Monica, 1994, [cited in Lawson and O'Brien 1994]). Maslach & Jackson (1986) found that the MBI did not correlate significantly with a test of the rater's tendency to distort responses due to social desirability bias, the Marlowe Crowne Social Desirability Scale. However, when using the MBI, the authors stress that it is particularly important to reassure respondents that their responses will be confidential and, if possible anonymously returned to the researcher. The authors also suggest that the questionnaire should be framed as a measure of 'job related feelings and attitudes' rather than of 'burnout', in order to minimise reactive effects.

Controlling for social desirability in self-report studies.

The possibility of confounding due to social desirability response bias or 'faking good', is widely recognised to be a major limitation of self report methodology, particularly in studies of attitudes and opinions (Fraboni & Cooper 1989). The inclusion of a self-report measure of this construct which can be correlated with other measures, as used in relation to the MBI by Maslach and Jackson (1986), is the usual way to assess the influence of social desirability response bias. The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe 1960), is the most commonly used measure of social desirability response bias, and fortunately, several short forms of this inventory have been developed through principle components analysis of the original scale which have been found to have good psychometric properties. These short form versions are therefore suitable and economical alternative to the original for use in multi-variate surveys and can be reliably used to control for confounding due to social desirability response bias (Ballard 1992; Fischer & Tick 1993; Fraboni & Cooper 1989; Reynolds 1982; Strahan & Gerbasi 1972).

Aims of the study.

This study intends to explore the ways in which staff internally perceive, explain and cope with episodes of service-user aggression within a cognitive behavioural framework based on Lazarus and Folkman's transactional process model of stress and coping, (Lazarus & Folkman 1984). The aim of this study is therefore to clarify the relationships between staff beliefs or 'attributions', perceived self efficacy, emotional responses and coping strategies and their mediating or moderating effects on job satisfaction and stress-related outcomes thought to be associated with exposure to service-user aggression.

It is hoped that by identifying factors which may reduce negative emotional responses to episodes of aggressive service-user behaviour, and other more long term negative consequences of aggression related stress, the results of this study could be usefully fed back to services, thus helping to inform the practice, training and support of direct-care staff in such settings.

Research Questions

Main research question:

What are the relationships between stress-related outcomes and service-user aggression in learning disabilities services and what is the role of the following factors in mediating or moderating these relationships: negative emotional responses to service-user aggression, aggression-related causal attributions, perceived self-efficacy and the coping strategies used by staff in relation to aggressive service-user behaviour.

Supplementary research question:

What coping strategies are most frequently used by direct care staff in relation to exposure to service-user aggression?

Research hypotheses:

The following research hypotheses were generated from a review of the literature and from the model on which this study is based (Fig 1):

H¹ The role of exposure to aggression in predicting outcomes:

Greater exposure to aggressive service-user behaviour among direct-care staff will be associated with higher levels of stress-related outcomes (as suggested by Corrigan 1993; Cottle *et al* 1995, Dougherty *et al* 1992; Rose 1993).

H² The role of negative emotional responses in predicting outcomes:

The relationship between exposure to aggressive service-user behaviour and outcomes will be mediated by negative emotional responses to service-user aggression, whereby more frequent negative emotional responses to service-user aggression will be related to higher levels of stress-related outcomes.

H³ The role of staff attributions in predicting outcomes:

Causal attributions made by staff about the controllability of the aggression will be important predictors of negative emotional responses to aggressive service-user behaviour and stress-related outcomes. i.e. aggressive behaviour which is viewed as more controllable by the service-user than by others will be associated with more frequent negative emotional responses to service-user aggression and stress-related outcomes (as suggested by Sharrock *et al* 1990; Weiner 1985,).

H⁴ The role of perceived self efficacy in predicting outcomes:

Staff perceptions of self-efficacy in relation to managing service user aggression will influence negative emotional responses to service-user aggression and stress-related outcomes whereby lower self efficacy will be related with more frequent negative emotional responses, and higher levels of stress-related outcomes. (Chwalisz *et al* 1992).

The role of coping in predicting outcomes:

H⁵ The use of less adaptive coping strategies (i.e. focusing on and venting of emotions, mental disengagement and behavioural disengagement) to cope with service-user aggression will be associated with increased negative emotional responses to service-user aggression, job dissatisfaction and higher levels of psychological distress and burnout among staff caring for individuals who exhibit aggressive behaviour.

H⁶ Greater use of coping strategies considered to be adaptive (i.e. problem- focused and emotion focused coping) will be associated with less negative emotional responses to service-user aggression, higher job satisfaction, lower levels of psychological distress and lower staff burnout.

Methodology

Research design.

The present study was based on a cross-sectional, multivariate survey design, involving the anonymous completion of a battery of self-report questionnaires by direct-care staff providing residential services for adults with learning disabilities who exhibit aggressive forms of challenging behaviour. A within-group analysis of an 'at risk' group was used to investigate the research questions of interest to this study, since this would allow an exploration of the risk and predictor variables which account for the variation in outcomes for different individuals who are exposed to service-user aggression service-user behaviour in their work. Risk and predictor factors were conceptualised as independent variables, including measures of: exposure to aggression, staff attributions about the cause of service-user aggression, perceived self-efficacy, coping strategies used, socio-demographic characteristics of staff and service-related characteristics. Stress-related outcomes were conceptualised as dependent variables and included measures of general psychological distress and staff burnout. Emotional responses to service-user aggression, were viewed as both independent and dependent variables at various points in the analyses.

This methodology chapter will now be divided into two sections. The first section will describe the characteristics of the participating services and the direct-care staff involved. The second section will describe the data collection procedure including a description of the measures used in the staff questionnaire. The reliability of newly developed or adapted measures will be presented later in Section 1 of the results chapter.

1: Participants

The characteristics of participating services.

All services approached for recruitment of participants were community residential facilities for adults with learning disabilities, operationally defined according to criteria developed by (Hauber & Bruinninks (1986) as follows: *'any community-based living quarter(s) that provides 24 hour, 7 days-a-week responsibility for room, board and supervision of mentally retarded persons'* (pp96). Furthermore, to ensure that all participating staff had at least some exposure to service-user aggression, only facilities involved in the provision of care for at least one service-user who exhibited aggressive behaviour were involved in the study.

Based on the above criteria, a total of 30 separate community residential facilities for adults with learning disabilities were identified across one health service organisation and 5 charitable or private organisations in the Greater London area. Ethical approval was obtained from the joint UCL/UCLH committees on the ethics of human research (see Appendix viii) and permission was initially granted from senior service managers to involve their respective staff teams in the study. However, only 23 staff teams finally agreed to co-operate with the study comprising 248 direct-care staff, serving a total of 146 residents across the five organisations involved. Discussions with senior managers suggested that a likely reason for non-co-operation may have been related to time constraints, where staff teams were too busy with the day-to-day running of the service to participate in the study.

A standard service-related questionnaire administered to managers of individual service units, was used to obtain relevant information about the overall characteristics of participating staff teams and the service-users cared for by each service unit (see Appendix i) and this information is summarised in Table i and Table ii below.

Table i A summary of the overall characteristics of participating staff teams.

Staff team characteristics (n = 23 teams)	Mean	SD
Total no. staff per team	10.78	4.48
Percentage full-time staff per team	26.39%	21.66
Percentage female staff per team	60.6%	17.32
Percentage staff with formal qualifications per team	81.92%	17.76
Estimated annual staff turnover (no. of staff having left the service in the past year)	21.04%	15.59

Table ii A summary of the overall characteristics of service-users cared for by participating teams

Service-user information (n = 146 service users):	Mean	SD
Total no. service-users per team	6.35	4.75
% service-users per service unit known to exhibit:		
• Physically aggressive behaviour towards others	40.25	33.87
• Physically aggressive behaviour towards objects	47.55	35.15
• Self injurious behaviour	56.41	31.08
% service-users per service unit categorised as having:		
• Severe learning disabilities	57.51	40.06
• Moderate learning disabilities	28.95	33.39
• Mild learning disabilities	14.99	27.34
% service-users per service-unit categorised as having:		
• Severe physical disabilities	13.32	30.20
• Moderate physical disabilities	6.40	15.18
• Mild physical disabilities	24.55	30.53

The means and standard deviations in Table i above shows that there were wide-ranging differences between staff teams in terms of the total number of staff, the proportion of staff working full-time, the proportion of formally qualified care workers and the proportion of female staff, suggesting that these factors need close attention in the data analysis. Three of the 23 participating staff teams had an equal number of male and female staff and a further six teams had a higher proportion of male staff ranging from 56% to 71%. This was an unexpected finding in comparison with other UK studies which typically describe residential staff teams as female dominated (Allen *et al* 1990, Hatton *et al* 1995) with implications for the generalisability of results to other residential services. The average staff turnover rate per team was comparable with high but wide-ranging staff turnover rates in UK community residential services for people with learning disabilities reported in other studies. For example, Felce, Lowe & Beswick (1993) found turnover rates ranging from 5% to 48%.

Table ii shows that the number of service-users cared for by each team was also highly variable and there was much variation in the proportion of service-users exhibiting aggressive forms of challenging behaviour and the degree of both learning disabilities and physical disabilities among service-users. These differences in the characteristics of service users cared for by each team may explain variance in staff outcomes, hence need close examination in the data analysis.

The characteristics of participants.

The participants in this study were all direct-care workers within each of the 23 teams described above. Selection criteria specified that all participating direct-care workers should be paid staff who spend the majority of their working day in '*activities that are involved with the daily care and supervision of residents*' (Hauber & Bruinninks 1986, pp97). Staff members with purely managerial or administrative responsibilities were excluded from the sample.

Of a potential total of 248 direct care staff, questionnaires were returned from 101 staff across the 23 participating teams. Despite explicit instructions to complete every questionnaire item, 18 questionnaires were returned incomplete and thus were excluded from the sample, leaving a total sample of 83 participants. A summary of the socio-demographic data obtained in the staff questionnaire for the actual sample used is presented in Table iii below:

Table iii A summary of the socio-demographic characteristics of participating staff.

Socio-demographic characteristics of participating staff:	
Sex of participants:	
• Female:	45 (54.2%)
• Male	38 (45.8%)
Average age of participants:	32.43yrs (SD = 9.13)
Ethnic status of participants:	
• White	60 (73%)
• Black African	8 (9.6%)
• Black Caribbean	3 (3.6%)
• Black other	2 (2.4%)
• Indian	1 (1.2%)
• Asian other	1 (1.2%)
• Other	6 (7.2%)
No. of participants living with a partner or spouse:	44 (53.0%)
No. of participants caring for one or more dependents at home:	28 (33.7%)
Training and education	
No. of participants with:	
• Degree level of education:	31 (37.3%)
• Formal qualifications in learning disabilities:	27 (32.5%)
• At least some training in managing aggressive service-user behaviour	52 (62.7%)
Previous experience of working in:	
• Specialist learning disability hospital	13 (15.7%) mean duration: 39.08 months (SD = 26.78)
• Specialist psychiatric hospital	14 (16.9%) mean duration: 42.93 months (SD = 77.88)
Average no. of months worked in present post :	28.89 months (SD = 29.64)
Average no. of months worked in learning disabilities services:	68.95 months (SD = 61.98)
No. hours worked per week:	
• Less than 35 hours	7 (8.4%)
• 35 - 40 hours per week	70 (84.3%)
• 41 + hours	6 (7.2%)
Average no. of hours worked per week:	37.66 hours (SD = 4.45)

Response rates.

Response rates for completed questionnaires returned from each participating per service unit were highly variable, ranging from 11.11% to 91.67%. The overall mean response rate, of 35.70%, (SD = 19.27) was much lower than response rates found in other studies in similar settings using similar methods of questionnaire distribution whereby direct care staff were allowed to complete and return questionnaires anonymously by post to researchers in their own time. For example, Stenfert Kroese and Fleming (1992) found a response rate of 60% (n = 30) and Rose (1993) obtained an overall response rate of 79% in small group homes, (n = 39) and 64%, (n = 74) in community units.

Low response rates from some of the staff teams involved in this study may have been related to the length of the staff questionnaire, taking approximately 40 minutes to one hour to complete. Furthermore, due to the anonymous nature of questionnaire completion it was not possible to follow-up non-responders, although individual service-unit managers were asked to give reminders to staff teams at staff meetings following questionnaire distribution. On-site discussions with participating staff teams at the time of questionnaire distribution also implied that many staff had concerns about whether their survey responses would jeopardize their job security or their reputation. Although names were not requested on the questionnaire, many staff feared that they could be identified through the demographic information they were asked to provide about themselves and the service-identification number on each of the questionnaires, required to match individual staff questionnaires with the service they came from. These concerns may have been particularly relevant to smaller staff teams. Furthermore these concerns were evident despite explicit assurances about confidentiality and all staff were informed that only the aggregate survey findings would be fed back to organisations without identifying individual participating services

The response rate for female care-workers in each team was highly variable (mean = 19.24%, SD = 13.44) and there were, on average, fewer questionnaires returned from female staff than expected, given the larger proportion of female staff on average across participating services (see Table i). There was no obvious reason for the lower proportion of female responders in some of the teams. However, this may be an important source of sample bias to consider when interpreting the results.

Furthermore, given the high average percentage of staff with formal qualifications within participating staff teams (see Table i), the proportion of questionnaires returned from qualified staff was also lower than expected.

Table iii also shows that the majority of respondents stated that they worked full time which was also surprising due to the relatively small proportion of full time staff on average per staff team. The average age of respondents within each team was found to be highly consistent the age of respondents in other similar studies (George and Baumeister 1981; Steinfert Kroese and Fleming 1992).

2: Data collection procedure and measures.

An on-site meeting was set up with each individual service unit manager, to discuss the study in more detail and to administer the service-related questionnaire. The staff questionnaires were then distributed to all direct-care workers in each participating service unit, in person where possible and convenient, during staff meetings or hand-over meetings between shifts. All staff questionnaires were accompanied by an S.A.E. and covering letter explaining the study and stating that participation would be on a voluntary basis only (see Appendix ii). Completion of questionnaires indicated informed consent. Managers were not willing to allow questionnaires to be completed during staff meetings, and were particularly concerned that their staff were not pressurized into participating. Hence staff were asked to complete and return the questionnaires in their own time, due to practical and ethical problems associated with asking care staff to complete lengthy questionnaires during busy work shifts.

The design of the staff questionnaire.

The staff questionnaire was divided into four parts and consisted of a battery of self report measures designed to assess the variables of interest in this study. The choice of measures was guided by the theoretical model on which this study is based and measures of potential moderating and mediating factors included in the questionnaire were presented in the order by which the appraisal processes are theorised to occur. Since the questionnaire was designed to generate quantitative data suitable for correlational analysis, the constructs of interest were measured as continuous variables where this was viable. Since a large number of variables were to be assessed, preference was also given to short form versions of established measures, where confidence in the measures' psychometric properties would not be compromised.

Preference was also given to widely used, pre-existing measures with established population norms and psychometric properties. However, where there was an absence of suitable pre-existing measures for certain constructs of interest to this study, it was necessary to either modify existing scales or develop new measures for the purposes of this study. The process of constructing new measures was

always informed by a review of the literature, and guided by important theoretical assumptions. The development and scoring of new measures and psychometric data obtained in this study are described in more detail later in Section 1 of the results chapter.

Part one.

Part one of the staff questionnaire consisted of questions designed to collect standard socio-demographic information and additional questions were included about the respondents' training and experience in learning disabilities services (see Appendix iii for item wording). This was followed by two widely used and well validated job satisfaction measures:

- **A facet based measure of job satisfaction**

The 20 item Short Form Minnesota Satisfaction Questionnaire (Weiss *et al* 1967) was chosen for its brevity and broad content area, yielding an overall summed score for general job satisfaction, and separate scores for both satisfaction with intrinsic facets of the job from the intrinsic satisfaction scale (12 items) and satisfaction with extrinsic facets of the job from the extrinsic satisfaction scale (6 items). Respondents were asked to rate all items on a five point fully anchored Likert style response scale, ranging from 'Not satisfied' (1 point) to 'Extremely satisfied' (5 points). Greater scores therefore indicate greater satisfaction.

- **A global measure of job satisfaction**

The Job Satisfaction Blank #5 (Hoppock, 1935) was chosen as a measure of global job satisfaction. For each of the four JSB items the respondent chooses from among 7 options the statement that best describes how they feel about their job. The sequence of response options for 2 of the items is reversed, to minimise response bias, and this reversal is then corrected for direction of scaling during scoring. The scoring method used was found to be most effective by Hoppock (1935) involves simply summing the four item values, yielding a total score for each respondent ranging from 4 to 28 with greater scores indicating greater satisfaction. Despite having been developed over 6 decades ago, the measure appears to have retained its applicability and validity as a brief global measure of global job

satisfaction (Crites 1966, McNichols *et al* 1978) and, for these reasons the JSB is still commonly in use (Bersani & Heifezt 1985).

Part two

Part two began with a newly developed 10 item self-report measure of the respondent's perception of their recent experience of exposure to service-user aggression which is described in full later in Section 1 of the results chapter. This measure was followed by an open ended question about any relevant training for managing aggressive service-user behaviour (see Appendix iii for item wording). Respondents were then instructed to read the following vignette representing a hypothetical scenario involving a typical episode of service-user aggression and to *'focus on this kind of situation when answering the questions which follow'*:

'John, a young male service-user, is sitting alone at a table working on a jigsaw. A care-worker is sitting on a chair nearby. John becomes more and more agitated and starts repeatedly hitting the table with his fists. Suddenly, John violently kicks the table away from him, and the pieces of the jigsaw fall all over the floor. The care-worker stands up and walks over towards John. John begins to hit his own head repeatedly with his fists and then swings his fists towards the approaching care-worker.'

It was necessary to provide the hypothetical vignette situation on which to base the measures which followed, in order to standardise the type of situation respondents were referring to when completing these measures. The construction of the vignette scenario was informed by discussion with experts in the field and relevant literature (Emerson & Bromley 1995; Hill & Bruininks 1984; Harris 1993; McDonnell *et al* 1991b; 1991c; Reed 1990) and aimed to capture the various categories of service-user aggression used in the measure of staff reported perceptions of exposure to aggressive behaviour at the beginning of this part of the questionnaire: i.e. aggressive behaviors which are directed at furniture or other objects, self-injurious behaviors directed at the service-user himself and aggressive behaviour directed at the care-worker. The vignette was therefore designed to represent a typical scenario (McDonnell *et al* 1991b) involving a complex escalation of service-user behaviors, culminating in aggression directed toward the care worker. Although the service-user referred to in the vignette is male, the gender of the care-worker involved is not specified, to make the vignette equally applicable to both male and female respondents.

The vignette was accompanied by the following newly developed or adapted measures (see Appendix iv and Appendix v for item wording):

- A measure of causal attributions made to explain the cause of an individual's aggressive service-user behaviour based on the Revised Causal Dimensions Scale (McAuley *et al* 1992) which was adapted in this study for use with the third person.
- A modified version of a single item measure of perceived coping efficacy used by Chwalisz *et al* (1992).
- A newly developed measure of the frequency of various emotional responses to aggressive service-user behaviour.

Part three

The third part of the staff questionnaire consisted of the situational format of the COPE inventory (Carver *et al* 1989), a 60 item measure of the frequency of coping strategies used to cope with experiences of service-user aggression over the past month, such as that described in the hypothetical vignette. The reliability and validity of the COPE as a measure of situational coping has been well established (Carver *et al* 1989). Each item is presented in the form of a coping statement and respondents are asked to rate whether they have or have not been using each way of coping on a fully anchored 4 point Likert scale ('*I haven't been doing this at all*' through to '*I've been doing this a lot*'). Items are scored from 0-3 and sub-scale items are summed to produce a profile of scores. (See Appendix vi for examples of COPE items).

The five COPE sub-scales designed to measure conceptually distinct aspects of problem-focused coping are as follows: active coping, planning, suppression of competing activities, restraint coping and seeking social support for instrumental reasons. Five further COPE sub-scales also measure conceptually distinct aspects of emotion-focused coping: positive re-interpretation of events and growth, denial, acceptance, turning to religion and seeking social support for emotional reasons. A further three sub-scales are included which measure other coping responses which are viewed as less adaptive: focusing on and venting of emotions, behavioural disengagement and mental disengagement. Two more sub-scales measuring the use of 'Alcohol/Drug Use' and 'Humour' were

developed after the other scales and have yet to be tested for their psychometric properties, hence were regarded as more exploratory.

Part four

Finally, part four of the staff questionnaire included the following measures:

- **A measure of psychological distress**

The General Health Questionnaire (GHQ) was used as a uni-dimensional index of severity of psychological distress among care workers because it is the best validated instrument of its kind. All versions of the GHQ, have been extensively used and tested in British and International studies to identify probable 'cases' of minor psychiatric disorder (Goldberg & Williams 1988). The 12 item version of the GHQ, the GHQ-12 (Goldberg 1978) was chosen for use in this study because it has the least number of items and is therefore the least time consuming version available, making it particularly suitable for a large scale survey such as this examining many other variables alongside mental health.

- **A measure of staff burnout**

The widely used and tested 22 item Maslach Burnout Inventory 2nd Edition (Maslach & Jackson 1986) was used to produce separate measures of emotional exhaustion burnout (EE), de-personalisation burnout (DP) and personal accomplishment burnout (PA). Each item is written in the form of a statement about job related attitudes and personal feelings. Respondents are asked to rate each item on a 7 point, fully anchored, frequency scale ranging from '*never*' to '*every day*'. In this study, the term used in the original MBI item wording to refer to the people for whom the staff member was providing care for, was changed in this study from 'recipients' to 'service-users' to be consistent with wording used elsewhere in the questionnaire.

Since burnout is conceptualised as a continuous variable, continuous total scores can be computed for each separate sub-scale, whereby high scores on EE (9 items) and DP (5 items) correspond to high levels of burnout in each of these two areas. In contrast, given that all the items in the PA sub-scale (8 items) are written in positive form, this sub-scale is scored in the opposite direction, whereby

lower scores correspond to high degree of burnout. Due to a current lack of understanding of the relationships between the three aspects of burnout, Maslach and Jackson (1986) warn that the MBI should not be used to yield a combined, unitary burnout score. In this study, each sub-scale is therefore treated as a distinct aspect of the burnout syndrome.

- **A measure of social desirability response bias**

A 10 item, short form version of the Marlowe Crowne Social Desirability Scale, the MC1(10) (Strahan & Gerbasi 1972) was used as a practical alternative to the original 33 item scale (Crowne and Marlowe 1960) to assess the internal validity of the study findings by producing an estimate of the proportion of variance due to distortion of responses associated with this extraneous variable. The Marlowe-Crowne 1(10) has been recommended as the preferred alternative of the available short forms as it was found to be the least affected by age and socio-economic status (Fraboni & Cooper 1989). The items included are presented in the form of statements reflecting socially desirable behaviors which are culturally approved of but which are assumed to be extremely unlikely to occur. Each item is accompanied by a True/False dichotomous response format. A balance of positively keyed and negatively keyed items are included to control for acquiescence response set. Item scores are summed with high scores reflecting a tendency to distort responses due to social desirability response bias.

Results

This results chapter will be divided into three main sections:

The first section will describe the reliability of newly developed or adapted measures and the data reduction methods necessary for statistical analysis. The second section will present descriptive statistics for the range of coping strategies used by direct-care staff in relation to service-user aggression. This will be followed by a summary of mean summed scores and standard deviations obtained for the remaining measures of independent and dependent variables.

A third section will then address the main research question by examining the statistical association between independent and dependent variables, beginning with a series of preliminary bi-variate correlations and t-tests to identify possible predictor variables to enter into subsequent multiple regression equations. In order to examine the relative importance of hypothesised mediating and moderating variables in predicting staff outcomes, the results of seven separate multiple regression analyses are then presented for each of the outcomes variables measured. Finally, two path analyses, based on the standardized regression co-efficients generated from the multiple regression analyses, will be presented in the form of two separate path diagrams, to show the estimated relationships between predictor variables and outcomes examined in this study.

Section 1: Reliability of newly developed or adapted measures and data reduction methods:

This section will provide a more detailed description of the development and reliability of the measure of staff training for managing service user aggression, a measure of service-reported aggression using data obtained in the service-related questionnaire and the measure of staff reported perceptions of exposure to service-user aggression. This will be followed by a description of the development and reliability of the adapted CDSII, the measure of perceived self-efficacy and the measure of emotional responses to aggressive service-user behaviour. Finally I will re-examine the internal consistency of the COPE scales and outcome measures reflected in the scores generated by the sample used in this study.

The measure of staff training for managing aggressive service user behaviour

Respondents who indicated that they had received training for managing aggressive service-user behaviour in section two of the questionnaire, were also asked to state what sort of training this was, when this took place and for how long. Responses to this open ended question allowed a distinction to be made between minimal training and more extensive training, according to the following criteria.

- I. **No training:** Participant has attended no training courses relevant to assessing or managing service-user aggression or challenging behaviour.
- II. **Minimal training:** Participant has attended maximum of a one day training course relevant to assessing or managing service-user aggression or challenging behaviour (including two half day training sessions on separate occasions), *or* the participant has attended training in *either* breakaway techniques or control and restraint only.
- III. **More extensive training:** Participant has attended a minimum of two days training in assessing or managing service-user aggression or challenging behaviour (e.g. Gentle teaching courses, Studio III challenging behaviour courses) *or* the participant had attended a minimum of a one day training course in assessing or managing service-user aggression or challenging behaviour *plus*

training in either breakaway techniques and control and restraint *or* the participant has attended training courses in *both* breakaway techniques and control and restraint. Where there was any doubt as to whether reported training met the criteria for this category due to a lack of information training was coded as 'minimal' instead.

The above classification system was used by two raters (including both a professional with experience of direct care work in learning disabilities services and myself) to rate responses to this questionnaire item and a 93% agreement was reached. Disagreements were then resolved through discussion. An even distribution of scores was obtained using this rating method, with 32 participants (38.6%) identified as having had no training for managing aggressive behaviour (scoring '0'), 20 participants (24.1%) having had minimal training (scoring '1') and 31 participants (37.3%) having had more extensive training (scoring '2'). The measure therefore produced a fairly even distribution of scores based on ordinal level of measurement which could be correlated with other continuous variables in the data analysis.

The measure of service-reported aggression.

A crude measure of the amount of service-user aggression that staff teams were exposed to in each participating residential facility, was estimated from multiple sources of data collected from their respective service unit managers in the service-related questionnaire. Total service-reported aggression scores were generated by summing scores across the following service-related variables:

- I. Percentage of staff team who were physically injured as a result of an incident involving service-user aggression in the past month (assigning a score of 1 where any staff have been injured and 0 where no staff have been injured).
- II. Percentage of service-users physically injured as a result of self-injury during the past month (assigning a score of 1 where any service-users have been injured and 0 where no service-users had been injured).
- III. Percentage of service-users exhibiting aggression on a frequent or occasional basis towards others (assigning a score of 1 where 50% or more service-users engage in aggressive behaviour towards

others and a score of 0 where less than 50% of service-users engage in aggression towards others).

IV. Percentage of service-users exhibiting aggression on a frequent or occasional basis towards objects (assigning a score of 1 where more than 40% of service users engage in aggressive behaviour towards objects and a score of 0 where 40% or less service-users engage in aggression towards objects).

V. Percentage of service-users exhibiting aggression on a frequent or occasional basis towards the self, in the form of self injury, (assigning a score of 1 where more than 25% of service-users engage in self-injurious behaviours and 0 where 25% or less service-users engage in self-injury).

Composite aggression scores for each service unit therefore range from 0 - 5 to reflect the amount of service-user aggression staff had been exposed to within each service over the past month. The composite service-reported aggression scores were used to validate the measure of staff-reported exposure to service-user aggression which will be described below.

The measure of staff reported perceptions of exposure to aggressive service-user behaviour.

In the absence of a suitable existing methodology, it was necessary to construct a new self report measure that would reflect the type and severity of each respondent's perceptions of their own recent exposure to aggressive service-user behaviour. Following a review of relevant literature (Bromley & Emerson 1995; Harris 1993; Hill & Bruininks 1984; McDonnell *et al* 1991b; 1991c; Reed 1990) and discussions with experts in the field, various forms of exposure to service-user aggression identified were grouped into four separate categories according to the focus of the aggressive behaviour. These four categories were constructed in order to differentiate staff exposure to :

- I. Aggression directed toward the respondent, with examples of: '*kicking, biting or scratching you*'.
- II. Aggression directed towards others with examples of: '*kicking, biting or scratching others*'.
- III. Aggression directed at the service user him or herself in the form of self-injurious behaviour, with examples of: '*face-slapping, head banging, scratching or biting self*'.
- IV. Aggression directed towards objects and property, accompanied by examples of '*banging or kicking furniture or other property*'.

Four sub-scales were then constructed to represent each of the four categories described above, each consisting of either three or two items of behaviour, as appropriate, aiming to further differentiate the severity of aggression witnessed or personally experienced by the respondent (see appendix vii for item wording). For sub-scales I, II and III, the presence or absence of physical injury involving tissue damage was used to infer severity and the remaining sub-scale distinguished between whether or not the aggression damaged property. Respondents were asked to indicate whether or not they had been exposed to the behaviour described in each item, over the past month, using a 'Yes/No' dichotomous response format

A scoring method was developed whereby a value of '0' was assigned to 'no' responses on every sub-scale item. However, 'yes' responses were given weighted values of 3,2,1 for both of the 3 item sub-scales and weighted values of 2,1 for both of the 2 item sub scales. These values were assigned according to the severity of exposure to the behaviour described in the item, with higher values representing higher severity. The highest item score within each sub-scale was then taken as an indicator of the most severe exposure to the form of aggression represented by the sub-scale. These highest values within each of the four sub-scales could then be summed to yield an total composite score reflecting overall severity of perceived exposure to service-user aggression over the past month, with total scores ranging from 0-10.

Since this measure explicitly focused on the respondents' perceptions exposure to service-user aggression during the past month only it would not have been appropriate to examine the test re-test reliability of this measure, since exposure to service user aggression may vary across time, particularly in services where service-user aggression is exhibited on a low frequency basis. However, a fairly acceptable full-scale alpha co-efficient of 0.68 was obtained in the present study ($n = 83$), suggesting that this measure had a good degree of internal consistency and may be a reliable way of assessing staff perceptions of their recent overall exposure to service-user aggression. Scores produced by this measure did not correlate with scores obtained on the MC1(10) suggesting that staff reported perceptions of exposure to aggression is not influenced by social desirability response bias.

In order to further establish the validity of this measure, summed scores obtained by participating staff in each team could be compared with the service-reported aggression scores for each team, described earlier. A highly significant but moderate Spearman's rank correlation co-efficient of 0.55 ($p < .000$) was found between individual scores obtained for staff reported perceptions of exposure to aggression and service-reported aggression scores for each participant's respective team (indicating 26 - 27% shared variance), suggesting that these measures are reasonably independent of each other. Both measures should therefore be used in subsequent analysis because staff perceptions of exposure to aggression appear to differ from that which is reported to occur in each facility by home managers. It seems possible that staff are reporting exposure to aggression accurately but that this aggression is not reflected in service figures, suggesting that service managers may therefore not be fully aware of the amount of aggression-related incidents that staff are involved in, particularly given that the evidence that violent incidents are often not officially reported (Lion et al 1981).

The adaptation of the CDSII for measuring causal attributions in the third person.

The CDSII (McAuley *et al* 1992) has been found to be a suitable measure of causal dimensions in the context of attributions made to explain many potentially aversive events (e.g. McAuley & Shaffer 1993). However, in the present study, it was necessary to adapt the CDSII for use in the third person as a measure of situation specific causal attributions made by care workers to explain aggressive behaviour exhibited by people with learning disabilities. This adapted measure would therefore produce continuous scores reflecting the causal dimensions attributed to the service-user's behaviour in an aggression-related situation.

The adapted CDSII begins by asking respondents to imagine themselves in the hypothetical aggression-related scenario provided at the beginning of section two and to write their reason for the situation in open ended form, thus eliciting the respondent's main causal attribution. The respondent is then asked to classify their perceptions of the reason stated, along each of four causal dimensions suggested by Weiner (1985) to be important underlying dimensions of causal attributions: locus of causality, stability, personal controllability and external controllability. Each causal dimension is represented by a 3 item sub-scale accompanied by a 9 point bi-polar response scale. Scores are

summed for the three items in each sub-scale, producing total scores ranging from 3 - 27 for each causal dimension measured. Several CDSII items were re-worded so that the statements would refer specifically to the behaviour of service-user in the third person (see appendix iv for re-wording of items) and the original CDSII instructions were adapted as appropriate to refer to the behaviour of the service user in the vignette, asking the respondent to write down what they believed to be *'the major cause for an episode of aggressive behaviour such as this'* and then to rate their *'impressions or opinions of this cause of the episode of aggressive service-user behaviour'*.

The 4 factor structure of the original CDSII has been demonstrated by confirmatory factor analysis across a diverse range of samples and the internal consistency of the CDSII scales has been found to be acceptable across four studies using Cronbach's alpha, with average alpha co-efficients ranging from 0.67 for the locus of causality scale to 0.82 for external control (reported in McAuley *et al* 1992). In the present study the internal consistency of the adapted CDSII was re-examined using Cronbach's alpha (n = 83) and an alpha coefficient of 0.49 was obtained for the stability sub-scale, indicating a low level of reliability for measurement of causal attributions in the third person. Alpha co-efficients of 0.66 were demonstrated for both locus of causality and personal control. However, a higher alpha coefficient of 0.75 was obtained for the external controllability sub-scale suggesting that the properties of this sub-scale were maintained when measuring attributions of external controllability about another person's behaviour. Furthermore this study found no significant correlations between scores on the MC1(10) and scores obtained for the dimensions of locus of causality, personal controllability and external controllability (n = 83), suggesting that scores on these sub-scales are not confounded by social desirability response bias. A small but significant correlation co-efficient was found between MC1(10) scores and the stability dimension scores ($r = 0.21$, $p < 0.05$) which further supports the argument that this is no longer reliable when the CDSII is adapted for use with the third person. Scores on the stability sub-scale were therefore excluded from the data analyses.

The measure of perceived self-efficacy.

The measure of perceived self-efficacy in relation to dealing with aggressive service-user behaviour involved asking staff to rate how confident they felt about their ability to deal with an episode of service-user aggression such as that described in the vignette on a 7 point bi-polar rating scale ranging from '*Not confident at all*' to '*Very confident*', thus providing a quantitative measure of the strength of the respondents conviction that would be able to deal with an episode of service user aggression. This measure was validated by comparing mean scores between staff with formal qualifications in learning disabilities and those without. A t-test was used to compare means using Levenes test for equality of variances. Staff with formal qualifications were found to score significantly higher on perceived self-efficacy, as expected ($T = 2.94$, $df = 80$, $p < 0.004$). A moderate but significant positive correlation co-efficient was also obtained for perceived self efficacy and the length of time the participant had worked in learning disabilities services ($r = 0.29$, $p < 0.004$) further supporting the validity of this measure. Scores obtained in the present study did not correlate with the MC1(10) suggesting that this measure is not subject to the influence of socially desirable responding.

The development of a measure of negative emotional responses to aggressive service-user behaviour.

Bromley and Emerson's self-report measure of negative emotional responses to challenging service-user behaviour (Bromley & Emerson 1995) was modified and expanded on for use in this study, to produce a more useful and comprehensive self-report measure of negative affect experienced by care staff in response to aggressive behaviour. Following a literature review of affective responses to aversive events which have been suggested as having theoretical relevance to attributional style (Ellsworth & Smith 1988; McAuley & Shaffer 1993; Reisenzein 1986), several additional emotional responses were identified which were thought to be relevant to the emotions elicited in staff by exposure to aggressive service-user behaviour. These items were added to Bromley and Emerson's original 6 items to form a scale of 18 adjectives representing a range of possible negative emotional responses to aggressive service-user behaviour.

Respondents were instructed to think about their own experience of exposure to aggressive service-user behaviour such as that described in the vignette and to rate the frequency of their own typical reactions in response. Each item was accompanied by a fully anchored, 4 point Likert scale with the following response options: 'No, never' (0 points), 'Yes, but infrequently' (1 point), 'Yes, frequently' (2 points) and 'Yes, very frequently' (3 points). Each item could thus be scored from 0 - 3. The measure of emotional responses to service-user aggression was presented in each of two similar formats in the staff questionnaire to measure emotional responses to aggression personally experienced by the respondent and emotional responses elicited when the respondent witnesses aggression towards others. Hence, in addition to asking 'How often do you feel each of the following when aggressive behaviour is directed towards **YOU?**', an identical scale was also presented but asking respondents to indicate whether they experience each emotion when witnessing aggressive service user aggression directed towards **OTHERS**, instead of themselves. The order in which the two formats were presented to each participant was randomised to control for order effects (see Appendix v for item wording).

In order to examine the factor structure of this new scale, the data obtained from both versions of this measure was pooled (N=166) and a principle components analysis with Varimax rotation was conducted. Two factors emerged after oblique rotations using the Varimax procedure and extraction of factors with eigenvalues greater than one. Table iv below shows the results of the solutions obtained. Only items with loadings greater than ± 0.4 are listed.

Table iv Factor structure and loadings of emotional responses to aggressive service-user behaviour.

Factor number	Questionnaire items	Factor loadings
Factor 1	(d) Betrayed	0.728
	(k) Sad	0.695
	(f) Hopeless	0.683
	(m) Helpless	0.675
	(h) Angry	0.675
	(r) Humiliated	0.674
	(l) Frustrated	0.658
	(p) Resigned	0.657
	(e) Guilty	0.570
	(n) Disgusted	0.413
	(b) Stressed	0.408
Factor 2	(g) Afraid	0.826
	(q) Frightened	0.820
	(o) Nervous	0.768
	(j) Incompetent	0.607
	(a) Shocked	0.537
	(c) Unconfident	0.412

As a result of the principle components analysis, one item ('unsympathetic') was dropped from the scale because it did not have a factor loading of greater than 0.4 and is therefore not listed in table iv. The items associated with the two factors shown in table iv were then considered to make two separate sub-scales. Item - total sub-scale correlations were conducted and a further 2 items were dropped ('Stressed' and 'Unconfident') because they were each found to have a correlation coefficient of below 0.3 with each of their respective total sub-scale scores. This left 2 sub-scales comprising 10 and 5 items respectively. The sub-scale comprising the final 10 items loading on the first factor were considered to represent depression-related emotions, whereas the sub-scale comprising the final 5 items loading on the first factor were considered to represent fear/anxiety-related emotions.

High correlations were found between the two formats of this measure for both the depression-related emotions sub-scale ($r = 0.85$, $p < 0.000$) and the fear/anxiety-related emotions sub-scale ($r = 0.79$, $p < 0.000$) suggesting that the two formats were closely related, hence little can be gained by using both formats in subsequent analyses. Since this study is more interested in the emotional impact of aggressive service-user behaviour personally experienced by participants themselves as opposed to the impact of witnessing aggression directed towards others, only the emotional responses to aggression directed at the self were included for further analysis.

Cronbach's alpha was used to assess the internal consistency of each sub-scale. High alpha coefficients were obtained for both the 10 item sub-scale representing depression-related emotions (0.87) and the 5 item sub-scale representing fear/anxiety-related emotions (0.81), indicating good homogeneity of content. The correlation between scores on the two sub-scale scores was found to be 0.52 (indicating 25% shared variance) further suggesting that the two sub-scales are reasonably independent and therefore measure different constructs.

The test re-test reliability for the items comprising each sub-scale was assessed at a re-test interval of approximately one month, using the responses of a separate sample of 18 direct care staff on the scale format involving emotional responses to aggression personally experienced rather than

witnessed. Intra-class correlations were used to control for possible bias due to order effects, as a more conservative test-re-test statistic ($n = 36$), and acceptably high intra-class Pearson's correlation co-efficients were demonstrated for the depression-related emotion scores ($r = 0.74$) and the fear/anxiety related emotion scores ($r = 0.81$), which were both found to be highly significant ($p < 0.000$). Finally, scores obtained on both sub-scales in this study ($n = 83$) did not correlate with scores obtained on the MC1(10) suggesting that the reporting of negative emotional responses to aggressive service-user behaviour is not subject to the influence of social desirability response bias.

Reliability of other measures included in the staff questionnaire.

Cronbach's alpha co-efficients were computed for the scores obtained on other measures used in the staff questionnaire as appropriate, to re-examine their internal consistency when used with this sample of direct-care staff, and are presented in Table v below:

Table v Alpha co-efficients obtained in this study for COPE scales and outcome measures.

Measure	No. of items	Alpha co-efficient obtained (n= 83)
Job satisfaction:		
<i>MSQ: Intrinsic satisfaction</i>	12	0.89
<i>MSQ: Extrinsic satisfaction</i>	6	0.80
<i>MSQ: General satisfaction</i>	20	0.80
<i>JSB: Global satisfaction</i>	4	0.72
Burnout:		
<i>MBI: EE</i>	9	0.88
<i>MBI: DP</i>	5	0.80
<i>MBI: PA</i>	8	0.79
GHQ-12 (Likert scoring method)	12	0.75
2nd order COPE scales:		
<i>Emotion focused coping</i>	20	0.90
<i>Problem-focused coping</i>	20	0.83
<i>Less adaptive coping</i>	12	0.72

Table iv above shows that the MSQ alphas were found to be high and comparable with other studies. In the present study, the alpha co-efficient obtained across the four original JSB items was found to be acceptable but slightly lower than coefficients obtained by McNichols (1978) who found JSB alpha co-efficients to range from 0.76 to 0.89. Alpha coefficients computed for the 3 MBI sub-scales were found to be very similar to those obtained by Maslach and Jackson (1986) who found co-efficients ranging from 0.71 for PA burnout to 0.90 for EE burnout ($n = 1,316$). The remaining alpha co-efficients shown in table iv above were found to be acceptable and comparable with other studies.

Finally low alpha co-efficients (below 0.70) were obtained for 4 of the 15 individual sub-scales of the COPE inventory (see appendices). Therefore only the major coping scales combining items were used for statistical analyses of the moderating effects of coping on outcomes.

Section 2: Descriptive Data Analysis:

What coping strategies are most frequently used by direct care staff in relation to aggressive service-user behaviour?

In order to address the above question, means and standard deviations were computed for each of the 15 individual first order COPE sub-scales and for each of the three major second order COPE scales. Table vi overleaf shows the mean scores obtained by staff on each individual first order sub-scale of the COPE along with the second order COPE sub-scales they each belong to, according to Carver *et al* (1989). Overall, the mean scores in Table vi demonstrate that among the present sample of direct-care staff, the full range of coping strategies measured by the COPE are being used to a lesser or greater extent in relation to service-user aggression by this sample of direct-care staff. The most frequently used problem-focused strategies used include: planning, active coping and seeking social support for instrumental reasons. The most frequently used emotion-focused coping strategies used include positive re-interpretation and growth, acceptance and seeking social support for emotional reasons. Finally, table vi shows that overall, the three coping strategies referred to as 'less adaptive' coping are used considerably less frequently by staff than the problem-focused and emotion-focused coping strategies.

Given that possible scores on each individual sub-scale item range from 0 ('never') to 3 ('I've been doing this a lot') with each sub-scale consisting of 4 items, and yielding summed scores ranging from 0-12, mean sub-scale scores of 4 or above can be used to infer significant use of the coping strategy in question. The mean scores given in table vi shows that the most frequently used strategies appear to be the problem-focused strategies followed by emotion-focused coping strategies. This is also apparent from the major second order sub-scale scores presented in table vii.

Of the individual first order sub-scales, small but significant inverse Pearson correlation co-efficients were found between scores on the MC1(10) and both the alcohol and drug use sub-scale ($r = -0.22$, $p < 0.4$) and the mental disengagement sub-scale ($r = -0.23$, $p < 0.04$). Although this may suggest a

tendency for staff to under-report their use of both of these types of coping, the correlation coefficients are not large enough to warrant concern about their validity due to social desirability response bias. None of the remaining first order or second order sub-scale scores correlated with social desirability.

Table vi Means and standard deviations obtained for the individual COPE sub-scales.

COPE sub-scale	Major coping category	Mean summed score (n= 83)	SD
Positive re-interpretation and growth	Emotion-focused	5.80	3.10
Planning	Problem-focused	5.57	3.49
Active coping	Problem -focused	5.19	3.05
Seeking social support for instrumental reasons	Problem -focused	4.93	3.37
Acceptance	Emotion-focused	4.30	2.92
Seeking social support for emotional reasons	Emotion-focused	3.89	2.98
Restraint coping	Problem -focused	3.35	2.78
Humour	(New exploratory sub-scale)	3.05	3.24
Suppression of competing activities	Problem -focused	2.57	2.38
Focus on and venting of emotions	Less adaptive coping	2.28	2.45
Mental disengagement	Less adaptive coping	2.12	2.16
Turning to religion	Emotion-focused	1.43	3.00
Behavioural disengagement	Less adaptive coping	1.24	1.61
Alcohol and drug use	(New exploratory sub-scale)	1.00	2.36
Denial	Emotion-focused	0.98	1.56

Table vii Means and standard deviations obtained for the second order COPE scales.

Coping category	Mean summed score	SD	Possible range of scores
Problem-focused coping (20 items)	21.60	11.68	0-60
Emotion-focused coping (20 items)	16.40	8.51	0-60
Less adaptive coping (12 items)	5.64	4.51	0-36

Means and standard deviations were then computed for each of the scores obtained on each of the remaining measures of staff-related independent variables, and are shown in Table viii below.

Table viii Means and standard deviations obtained for the two measures of exposure to service-user aggression, the measure of perceived self-efficacy in relation to managing aggressive service-user behaviour, the three adapted CDS II sub-scales and emotional responses to service user aggression.

Measures	Mean summed score	SD	Possible range of scores
Service-reported exposure to service-user aggression.	2.72	1.85	0-5
Staff reported perceived exposure to service-user aggression	6.61	2.38	0-10
Perceived self-efficacy in relation to managing service- user aggression	4.99	0.93	0-6
Adapted CDS II sub-scales:			
Locus of causality (3 items)	16.00	3.54	3-27
External controllability (3 items)	15.30	4.62	3-27
Personal controllability (3 items)	14.02	3.84	3-27
Emotional responses sub-scales:			
Depression-related emotions (10 items)	6.87	4.79	0 - 30
Fear/anxiety-related emotions (5 items)	3.32	2.54	0 - 15

Staff attributions about the major cause of the individuals aggressive behaviour.

Despite instructions requiring participants to write down what they believed to be the *major* cause of the individual's aggressive behaviour in the hypothetical vignette, 15 of the 83 participants stated more than one possible cause and many responses were vague or ambiguous. Nearly two-thirds of the responses included frustration on behalf of the service-user as a major cause of the aggression, related either to the task in the vignette, e.g. *'frustration at puzzle being too difficult'* or communication problems e.g. *'lack of communication skills causing frustration'*. However, half of these respondents simply stated 'frustration' without elaborating further, so it was impossible to tell which type of frustration the respondent was referring to.

Approximately one-third of the total respondents specified causes related to difficulties with the jigsaw puzzle in their attribution and a further 12 respondents included boredom as a possible contributing factor. Over one-third of the attributions included an aspect of the interaction or lack of interaction between the service-user and care-worker. Two thirds of these responses specified that the behaviour was due to a lack of involvement on behalf of the care-worker or attention seeking on behalf of the service-user and most of the remainder specified that the behaviour might be due to perceived threat or intimidation arising from the care-worker's presence in the situation. A few respondents gave other possible causes which were internal to the service-user including pain (e.g. constipation, toothache) and depression. Overall the range of staff reported attributions made to explain aggression exhibited by the service user in the hypothetical vignette given were fairly consistent with the range of reasons given by staff to explain the cause of challenging behaviours in general (Bromley and Emerson 1995) in that the majority of the staff in the present sample viewed the cause of the aggression to be related to internal psychological mood states (i.e. frustration either due to communication problems or difficulties completing the jigsaw).

Staff ratings for the attributions given along each of the three most reliable CDSII dimensions used in this study are summarised in table viii above. Given that the possible scores for each causal dimension range from 3 to 27, the mid-point for each dimension is 14. Hence the mean summed

scores suggest that, overall, this sample of direct care staff tended to rate their attributions about the individual's aggressive behaviour as slightly more internal to the individual than to others along the locus of causality dimension, slightly more controllable than uncontrollable by others along the external controllability dimension and neither controllable nor uncontrollable by the individual along the personal controllability dimension. However, the standard deviations for scores on each sub-scale show that there was considerable variation in ratings along each dimension, with most variation in staff ratings of their attributions along the external controllability dimension.

Means and standard deviations were then calculated for each of the scores obtained on each of the measures of outcome variables used in this study and are shown in table ix below.

Table ix Means and standard deviations obtained for outcome measures.

Outcome measure	Mean summed score	SD	Range of possible scores
Psychological distress:			
GHQ-12 scores (Likert scoring method)	11.16	5.71	0 - 36
Burnout :			
MBI sub-scales: (frequency scores)			
- Emotional exhaustion (9 items)	16.54	10.45	0 - 54
- De-personalisation (5 items)	4.00	4.80	0 - 30
- Personal accomplishment (8 items)	33.55	8.19	0 - 48
Facet based job satisfaction:			
MSQ sub-scales:			
Intrinsic satisfaction (12 items)	39.29	7.35	12 - 60
Extrinsic satisfaction (6 items)	16.20	4.30	6 - 30
Global job satisfaction			
JSB (4 items)	20.39	3.10	4 - 28

Comparisons of outcomes with other studies

GHQ-12 comparisons

Although the Likert scaling method (0,1,2,3) was used to calculate GHQ-12 scores to produce continuous data for correlational analysis as shown in Table ix above, it was necessary to re-code the original scores using the traditional GHQ scaling method (0,0,1,1,) to determine the percentage of probable 'cases' of minor psychiatric morbidity among this sample of direct-care staff, in order to make comparisons with other studies. A cut of score of 3/4 points, was used in this study as recommended by Borrill *et al* (1996) who examined sensitivity and specificity figures and found that this threshold provides the best conservative estimate of 'caseness' for a sample of 615 NHS employees, 20.5% of the present sample scored 4 or above and were therefore significantly psychologically distressed.

The case rate among the direct care staff who responded to this survey was less than that of 12,000 NHS staff in a recent survey conducted by Borrill, Wall, West *et al* (1996) who found an overall caseness level of 26.8% and a caseness level of 28.1% among community staff nurses (n = 370). However, Borrill *et al* found unqualified or junior community based nurses to have a 19.3% level of probable caseness (n = 321) which is nearer to the level found in the present study. The level of caseness found among the sample who participated in the present study was also fairly consistent with that found among a representative sample of 5,001 employed UK adults (17.8%) as found by the British Household Panel Survey (1993-1994) [cited in Borrill *et al* 1996].

MBI comparisons:

Normative categories of MBI scores provided by Maslach and Jackson, divide sub-scale scores into high, moderate and low levels of burnout, according to which third of normative distribution the respective scores fall into, whereby upper third scores correspond with high levels of burnout, middle third scores correspond with moderate levels of burnout and lower third scores correspond with low levels of burnout. Using these recommended scoring guidelines, the mean scores on each of the MBI sub-scale shown in Table ix suggests that on average, staff in the present study were experiencing low levels of EE and DP burnout but moderate levels of PA burnout and the standard deviations

show considerable variation among staff on each sub-scale. The means and SDs obtained in this study were highly consistent with reported levels of each type of burnout across direct care staff working in learning disabilities services ($n = 79$) in a US study of burnout (Lawson and O'Brien 1994) but lower on EE and DP than MBI scores obtained in a US study conducted by Edwards and Miltenberger (1991) who found moderate levels of burnout across all three MBI sub-scales in direct care staff in community residential services for people with learning disabilities ($n = 125$).

MSQ and JSB comparisons:

Table ix above shows that the mean scores and standard deviations obtained on the intrinsic and extrinsic scales of the short form MSQ were comparable with, but slightly lower than mean scores obtained on this measure by Hauber and Bruininks (1986) who found a mean score of 46.17 (SD 8.23) on the intrinsic scale and a mean score of 18.93 (SD = 5.96) on the extrinsic scale among direct-care staff working in community residential facilities for people with learning disabilities ($n = 852$). General satisfaction scores obtained in the present study were also slightly lower than Hauber and Bruininks sample (mean = 72.14, SD = 14.72). The MSQ scores of care staff in the present study reflected average satisfaction overall but overall, staff were slightly less satisfied with intrinsic and extrinsic aspects of their jobs than staff in Hauber and Bruinink's study. However, Table ix shows that the mean global job satisfaction score obtained by the sample in this study was reasonably consistent with the overall mean score of 21.1 out of 28 found among direct-care staff in Bersani and Heifetz's (1985) US sample of direct-care staff ($n = 83$, across 22 residences for people with leaning disabilities).

Section 3: Exploratory data analysis

What are the relationships between stress-related outcomes and service-user aggression in learning disabilities services and what is the role of the following factors in mediating or moderating these relationships: negative emotional responses to service-user aggression, aggression related causal attributions, perceived self-efficacy and the coping strategies used by staff in relation to aggressive service-user behaviour.

In order to address the main research question above and test the model on which this study is based, a series of seven separate multiple regression analyses were performed for each of the outcome variables listed in table ix above. This was considered to be an appropriate method for determining the relative contribution of aggression-related causal attributions, perceived self-efficacy, negative emotional responses, coping strategies and other individual or organisational background variables in predicting outcomes. However, taking into account the size of the sample used in this study, and the large number of independent variables available, it was necessary to reduce the number of predictor variables entered into the multiple regression analyses. In order to reduce the number of variables to those which are most important, a separate preliminary analysis was conducted for each outcome variable.

A series of separate bi-variate Pearson's correlations co-efficients were therefore computed in turn for each of 24 independent variables based on ordinal or interval scaling and thought to be associated with the seven outcomes variables, in order to identify possible predictor variables to include in the seven subsequent multiple regression analyses. Possible predictor variables were identified according to a cut off correlation co-efficient of approximately $r = 0.3$. A series of t-tests were also performed where appropriate to compare means between groups based on nominal variables. The predictor variables identified in this exploratory analysis are presented in Tables x, xi, and xii below. Variables which did not meet the criteria for inclusion as predictor variables are omitted and were not included in any further analysis.

Table x Predictor variables found to correlate with stress-related outcomes.(* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$)

Predictor variables	Stress-related outcomes/Dependent variables			
	<i>GHQ-12 scores</i>	<i>MBI scores: Emotional exhaustion</i>	<i>MBI scores: De-personalisation</i>	<i>MBI scores: Personal accomplishment</i>
Less adaptive coping	$r = 0.46^{***}$	$r = 0.55^{***}$	$r = 0.47^{***}$	$r = -0.30^{**}$
Depression-related emotional responses to service-user aggression	$r = 0.26^{**}$	$r = 0.44^{***}$	$r = 0.42^{***}$	
Anxiety-related emotional responses to service-user aggression			$r = 0.22^*$	
Attributions of external controllability		$r = 0.34^{**}$		
Amount of training for managing service-user aggression	$r = 0.25^*$			
Annual staff turnover	$r = 0.23^*$	$r = 0.32^{**}$	$r = 0.40^{***}$	
No. of hours worked per week			$r = 0.24^*$	
Total no. staff in team			$r = 0.23^*$	
Total no. service-users cared for by team				$r = -0.33^{**}$
Level of education				$r = -0.22^*$
No. of dependents cared for at home				$r = 0.26^{**}$

Table xi Predictor variables found to correlate with job satisfaction outcomes.(* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$)

Predictor variable	<i>Global job satisfaction</i>	<i>Intrinsic job satisfaction</i>	<i>Extrinsic job satisfaction</i>
Use of less adaptive coping strategies	$r = -0.34^{***}$	$r = -0.27^{**}$	
Depression-related emotional responses to service-user aggression	$r = -0.26^{**}$		
Attributions of external controllability			$r = -0.24^*$
Annual staff turnover		$r = -0.19$ ($p = < .078$)	
No. of months worked in present post			$r = -0.23^*$
No. of dependents	$r = -0.24^*$	$r = -0.35^{***}$	

Table xii Mean differences between groups obtained using a series of t-tests on dichotomous predictor variables.

Predictor variable	Outcome variable	Mean scores (SD)		t-values/df/signif. * = p<.05, ** = p<0.01, *** = p<0.001
Formal qualifications in learning disabilities	GHQ-12	<i>Yes</i> 2.33 (2.88)	<i>No</i> 4.80 (5.32)	t = -2.06, df = 81*
	MBI: De-personalisation	9.33 (4.07)	12.04 (6.19)	t = -2.74, df = 80**
Previous experience of working in learning disabilities hospital	Extrinsic job satisfaction	<i>Yes</i> 14.01 (4.44)	<i>No</i> 16.60 (4.19)	t = 1.97, df = 81*
Previous experience of working in psychiatric hospital	MBI: De-personalisation	<i>Yes</i> 1.29 (1.59)	<i>No</i> 4.55 (5.04)	t = 4.41, df = 67***
Co-habiting with partner or spouse	MBI: De-personalisation	<i>Yes</i> 3.07 (4.06)	<i>No</i> 5.05 (5.36)	t = -1.88, df = 70 (p<0.064)
Sex of participant	MBI: De-personalisation	<i>Male</i> 5.29 (5.65)	<i>Female</i> 2.91 (3.65)	t = 2.23, df = 61*

Multiple regression analyses.

Each set of possible predictor or independent variables presented in tables xi, xii and xiii above were regressed onto each respective outcome or dependent variable. The unique contribution of each predictor variable (ΔR^2) was then checked to confirm the order of importance of each of the variables suggested by their standardized regression co-efficients.

The results of the multiple regression analyses for each outcome variable are presented in turn, in Tables xiii to xix below. Each predictor variable is listed in each table in order of its relative importance.

Multiple regression analyses for predictors of stress-related outcomes.

Table xiii: Multiple regression analysis of predictors of psychological distress (GHQ-12 scores).

Predictor variable	β	T	P	ΔR^2
1. Less adaptive coping	0.326316	3.025	0.0034	0.08314
2. Training for managing service-user aggression	0.236717	2.396	0.0190	0.05213
3. Formal qualifications in learning disabilities	- 0.167187	-1.6434	0.1063	0.02425
4. Depression-related emotional responses	0.12046	1.165	0.2477	0.01232
5. Annual staff turnover	0.106922	1.073	0.2865	0.01046

Overall the above regression model for predictors of psychological distress was found to be significant (Multiple R = 0.54817, Total R^2 = 0.30049, F = 6.61546, df = 5, P = <0.0000).

Table xiv: Multiple regression analysis of predictors of emotional exhaustion burnout.

Predictor variable	β	T	P	ΔR^2
1. Less adaptive coping	0.402885	4.393	0.0000	0.13417
2. Depression-related emotional responses	0.236353	2.587	0.0115	0.04653
3. Attributions of external controllability	0.212583	2.451	0.0165	0.04178
4. Annual staff turnover	0.178120	2.052	0.0435	0.02928

Overall the above regression model for predictors of EE burnout was found to be significant (Multiple R = 0.67659, Total R^2 = 0.45777, F = 16.46254, df = 4, P = <0.0000).

Table xv: Multiple regression analysis of predictors of de-personalisation burnout.

Predictor variable	β	T	P	ΔR^2
1. Annual staff turnover	0.286107	3.112	0.0027	0.066
2. Less adaptive coping	0.257122	2.727	0.0080	0.05069
3. Co-habiting with partner or spouse	- 0.209728	- 2.478	0.0155	0.04186
4. No. of hours worked per week	0.207274	2.209	0.0304	0.03324
5. Depression-related emotional responses	0.220067	2.078	0.0413	0.02943
6. Sex of participant	- 0.161245	- 1.699	0.0936	0.01968
7. Previous experience of working in a psychiatric hospital	- 0.132475	- 0.518	0.1333	0.01571
8. Anxiety-related emotional responses	- 0.012508	- 0.120	0.9045	0.01571
9. Formal qualifications in learning disabilities	- 0.129037	- 1.310	0.1945	0.01169
10. Total no. staff in team	0.060180	0.613	0.5416	0.00257

Overall the above regression model for predictors of DP burnout was found to be significant (Multiple R = 0.71371, Total R^2 = 0.50938, F = 7.47517, df = 10, P = <0.0000).

Table xvi: Multiple regression analysis of predictors of personal accomplishment burnout.

Predictor variable	β	T	P	ΔR^2
1. Total no. service-users cared for by team	- 0.284370	-2.859	0.0054	0.07892
2. Less adaptive coping	- 0.239846	-2.389	0.0193	0.05508
3. Level of education	0.198451	2.014	0.0475	0.03915
4. No. of dependents	- 0.152754	-1.506	0.1360	0.02191

Overall the above regression model for predictors of PA burnout was significant (Multiple R = 0.49695, Total R^2 = 0.24696, F = 6039503, df = 4, P = <0.0002).

Multiple regression analyses for predictors of job satisfaction

Table xvii: Multiple regression analysis of predictors of intrinsic job satisfaction

Predictor variable	β	T	P	ΔR^2
1. No. of dependents	- 0.331093	- 3.205	0.0020	0.10405
2. Annual staff turnover	- 0.181908	- 1.760	0.0822	0.03141
3. Less adaptive coping	- 0.172106	- 1.636	0.1059	0.02711

Overall the above regression model for predictors of intrinsic job satisfaction was found to be significant (Multiple R = 0.44673, Total R^2 = 0.19957, F = 6.56561, df = 3, P = <0.0005)

Table xviii: Multiple regression analysis of predictors of extrinsic job satisfaction.

Predictor variable	β	T	P	ΔR^2
1. Attributions of external controllability	- 0.231976	- 2.210	0.0300	0.05355
2. No. of months worked in present post	- 0.198978	- 1.860	0.0666	0.03792
3. Previous experience of working in learning disabilities hospital	- 0.160625	- 1.499	0.1378	0.02465

Overall the above regression model for predictors of extrinsic job satisfaction was found to be significant (Multiple R = 0.36599, Total R^2 = 0.13395, F = 4.07280, df = 3, P = <0.0096).

Table xix: Multiple regression analysis of predictors of global job satisfaction.

Predictor variable	β	T	P	ΔR^2
1. Less adaptive coping	- 0.260914	- 2.320	0.0229	0.05703
2. No. of dependents	- 0.161028	- 1.523	0.1318	0.02458
3. Depression-related emotional responses	- 0.133293	- 1.190	0.2378	0.01499

Overall the above regression model for predictors of global job satisfaction was found to be significant (Multiple R = 0.40322, Total R^2 = 0.16258, F = 5.11263, df = 3, P = <0.0028).

When treated as an independent variable in the multiple regression analyses, depression-related emotional responses to service-user aggression was found to be an important predictor of four outcomes (see Tables xiii, xiv, xvi, xix) in contrast with fear/anxiety related emotions which only predicted a very small proportion of the variance in de-personalisation burnout scores alone (see Table xv). According to the model used in this study (Fig 1), it was hypothesised that negative emotional responses to aggressive service-user behaviour would mediate stress-related outcomes, whereby more frequent negative emotional responses to service-user aggression would be related to higher levels of staff stress and burnout and lower levels of job satisfaction (research hypothesis H²). The results of the regression analysis therefore support this hypothesis in that depression-related emotional responses to aggressive behaviour were found to contribute to higher levels of EE burnout, DP burnout, psychological distress, and global job satisfaction. Given that the fear/anxiety-related emotional responses to service-user aggression seem to have a much less important influence on the outcome variables measured in this study, further exploration of emotional responses as a potential mediator of the stress-outcome relationship focused specifically on depression-related emotional responses instead.

In addition to viewing depression-related emotional responses as a predictor of staff outcomes, the model on which this study is based (Fig 1) hypothesises that emotional responses to service-user aggression can also be viewed as a dependent variable which is subject to the influence of other predictor variables itself, including causal attributions (H³), perceived self-efficacy (H⁴) and coping strategies (H⁵ and H⁶). In order to explore the model presented in Figure 1 and more fully address the main research question, it was necessary to conduct a further multiple regression analysis of possible predictors of negative emotional responses to service-user aggression.

In order to reduce the number of variables entered into the multiple regression equation, a series of 22 correlations were conducted to reduce the number of variables entered in the subsequent multiple regression analysis and to determine possible predictors of depression-related emotional responses to aggression. The three variables identified were less adaptive coping ($r = 0.38$, $p < 0.000$), total number of staff in team ($r = -0.21$, $p = 0.05$) and proportion of female staff in team ($r = -0.21$,

$p < 0.05$). Furthermore, a series of seven independent samples t-tests were also performed to identify dichotomous variables which might be possible predictors of depression-related emotional responses to aggression. The difference between mean scores of male and female care-workers was found to be significant on the depression-related emotional responses, with males scoring higher ($t = 2.11$, $df = 81$, $p < 0.04$) and sex of participant was therefore included as a fourth predictor variable. The remaining t-test results were found to be non-significant.

Each of the four identified possible predictors of depression-related emotional responses were then regressed onto depression-related emotions in the multiple regression analysis, the results of which are presented in Table xx below. The results of this regression analysis show that the use of less adaptive coping strategies by staff in relation to service-user aggression was the most important predictor of depression-related emotional responses to aggressive service-user behaviour, accounting for a significant amount of the shared variance in this outcome. However, the coping strategies represented by the remaining two second-order COPE sub-scales, problem-focused coping and emotion-focused coping were not found to be important in predicting any of the outcomes measured in this study.

Table xx Multiple regression analysis of predictors of depression-related emotional responses.

Predictor variable	β	T	P	ΔR^2
1. Less adaptive coping	0.321353	3.085	0.0028	0.09678
2. Total no. of staff in team	- 0.162167	- 1.541	0.1274	0.02413
3. Sex of participant	- 0.150226	- 1.431	0.1563	0.02083
4. Proportion of female staff	- 0.078510	- 0.727	0.4692	0.000537

Overall the regression model for predictors of depression-related emotional responses was found to be significant (Multiple R = 0.45502, Total R^2 = 0.20704, F = 5.09153, df = 3, P = <0.0011).

Path analysis

Guided by Bryman and Cramer (1997), the multiple regression procedures described above were extended to produce two separate path analyses of the expected causal linkages among the most important predictor variables which were found to explain a significant proportion of variance in staff outcomes. The path diagrams in Fig. 2 and Fig 3. overleaf displays all the path co-efficients which were calculated for each of the distinct paths between variables.

Fig. 2 A path model of expected causal relationships between predictor variables and emotional exhaustion burnout among staff.

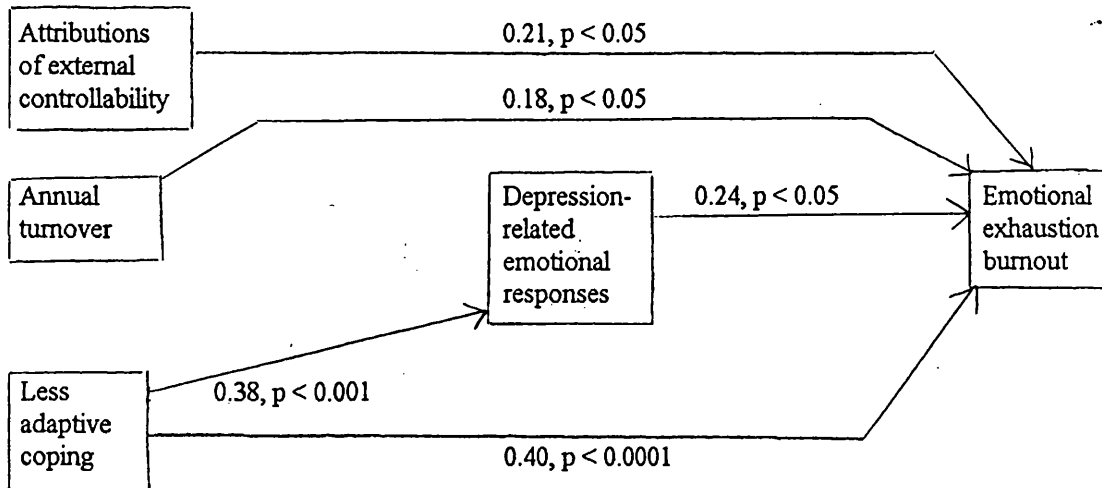
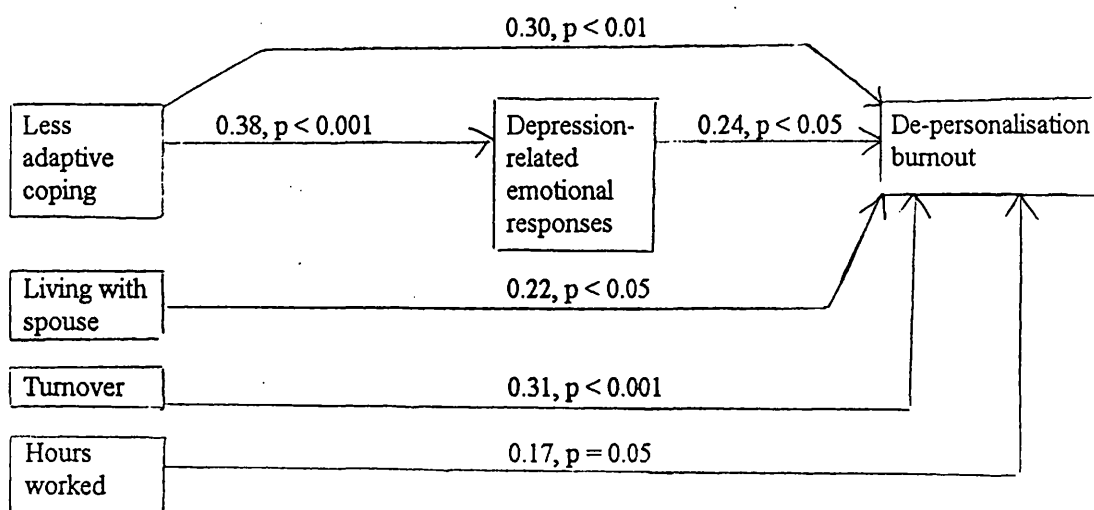


Fig. 3 A path model of expected causal relationships between predictor variables and de-personalisation burnout among staff.



The likely causal relationships between variables shown in Fig 2. and Fig 3. were drawn from the model on which this study is based (Fig 1). The model in Fig 1 proposes that both causal attributions and perceived self efficacy will have direct effects on emotional responses to service-user aggression, which will, in turn have a direct effect on staff outcomes such as burnout. Hence emotions are viewed as mediators of the relationship between appraisal and outcome. Coping strategies used by staff in relation to aggressive service-user behaviour are also suggested to have a direct effect on emotional responses. However, the standardised regression co-efficients obtained and used in the path analyses suggest quite different paths of influence for two components of burnout which were examined more closely.

The path co-efficients shown in Fig. 2. suggests that attributions of external controllability has a direct effect on EE burnout, accounting for 21% of the shared variance in this outcome, but no direct effect on emotional responses to aggressive service-user behaviour. Less adaptive coping was found to have a strong direct effect on EE burnout and Fig 3. shows that less adaptive coping was found to have a direct effect on DP burnout. However, there were also strong indirect paths from less adaptive coping to both EE burnout and DP burnout, through a third intervening variable, depression-related emotional responses. Less adaptive coping strategies were found to have a strong direct effect on depression-related emotional responses, which in turn had a significant positive direct effect on EE burnout and a very small direct effect on DP burnout, suggesting that emotional responses are important in mediating the relationship between coping and outcomes.

A closer examination of the multiple regression analyses revealed that some of the variance in predicting DP burnout could be accounted for by organisational and socio-demographic background factors (see Table xv) which were added to the path diagrams in Fig 2 and Fig 3 as appropriate, including annual staff turnover which accounted for a significant proportion of variance in predicting both EE and DP burnout, and appears to have a direct effect on both of these outcomes. The number of hours worked per week and whether the staff member was co-habiting with a partner or spouse also appear to have direct effects on DP burnout.

Discussion

This final chapter will begin by discussing the main findings of the study, with reference to the research hypotheses and the general theoretical model on which this study was based. Unexpected findings will also be discussed and a revised version of the model will be presented to more accurately represent the relationships between exposure to aggression and staff outcomes and the role of the mediating and moderating variables which were found to be important in the context of the present study. Recommendations will then be made for methodological improvements and future research and the chapter will end with a discussion of the implications of the present study findings for practice including implications for staff training and support in services caring for individuals who exhibit aggressive forms of challenging behaviour.

A summary of the main findings

This results of the descriptive data analysis in the present study demonstrated that each of the 15 conceptually distinct coping strategies measured by the COPE inventory were used in relation to aggressive service-user behaviour by at least some of the sample of direct-care staff in the present study. The wide range of coping strategies endorsed by staff in the present study is fairly consistent with the range used by care staff in relation to challenging behaviours in general, elicited by qualitative methods (Hastings 1995). Overall, the staff reported more frequent use of the coping strategies suggested to be adaptive in the general literature, i.e. the problem-focused and emotion-focused coping strategies. The coping strategies referred to by Carver et al (1989) as 'less adaptive' were found to be used less frequently. The finding that staff reported most frequent use of problem-focused coping strategies, in relation to service-user aggression, was consistent with Dougherty et al's study of staff coping with service user aggression in geriatric settings (Dougherty *et al* 1992).

Although the less adaptive coping strategies were the least frequently reported by staff, the multiple regression procedures used in this study demonstrated that these coping strategies were particularly important in predicting a variety of staff outcomes. More frequent use of the less adaptive coping strategies predicted a significant proportion of variance in the scores obtained on the GHQ, all three

sub-scales on the MBI, the intrinsic job satisfaction sub-scale of the MSQ and Hoppock's measure of global job satisfaction. All correlations with outcomes were all found in the direction expected. Furthermore, greater use of the less adaptive coping strategies in relation to service-user aggression was found to be significantly associated with more frequent depression-related emotional responses to service-user aggression. This confirms research hypothesis H⁵ and supports Carver *et al*'s theoretical assumption that these coping strategies are not adaptive in coping with stressful situations (Carver *et al* 1992). The finding that differences in coping influences work stress is consistent with the general research literature (Chwalisz *et al* 1992; Latack 1986). However, in addition to having direct effects on stress-related outcomes, less adaptive coping strategies was found to have indirect effects on emotional exhaustion burnout and depersonalisation burnout through a third intervening variable, depression-related emotional responses to service user aggression. The finding that emotional responses appear to mediate stress-related outcomes among direct care staff who are exposed to service-user aggression confirms research hypothesis H² and is consistent with the model on which this study is based.

Although the multiple regression analyses found that depression-related emotional responses to service-user aggression, such as sadness, guilt, hopelessness, anger and helplessness, were important predictors of variance in emotional exhaustion burnout, depersonalisation burnout, psychological distress and global job satisfaction among direct-care staff, the fear/anxiety-related emotional responses, such as shock, nervousness, fright and feelings of incompetence, only accounted for a very small amount of variance in depersonalisation burnout alone. However, this study did not include a specific measure of anxiety as an outcome variable which may have had more relevance to the influence of fear/anxiety related emotional responses to aggression. Furthermore, although depression-related emotional responses to aggression were found to be associated with depersonalization and emotional exhaustion burnout, this variable did not predict any of the variance in personal accomplishment burnout. The emotional exhaustion and depersonalisation components of burnout were found to be closely related in this study whereas personal accomplishment burnout was found to be less related and therefore more distinct from the other two burnout components. From a theoretical point of view, it seems that personal accomplishment burnout may have much less

relevance to negative emotions, whereas the development of emotional exhaustion and depersonalised attitudes towards service-users does seem to relate to the emotional experience of care staff who are exposed to service user aggression.

According to the MBI scores obtained by the direct-care staff in this study, the sample were more burned out along the personal accomplishment dimension. However, the burnout profile of the present sample was found to be highly consistent with the findings of Lawson and O'Brien (1994) suggesting that the sample were representative of direct-care staff in learning disabilities services on the scores obtained on this outcome measure. The most important predictor variable of personal accomplishment burnout was the number of service-users cared for by the team, accounting for approximately 8% unique contribution to the variance in scores. The inverse nature of this association suggests that staff who are able to concentrate on a smaller number of residents may be able to gain more personal achievement from their work with residents. Furthermore a significant inverse correlation was found between scores on personal accomplishment burnout and level of education, suggesting that staff who were more highly educated tended to experience less personal accomplishment in their work and were therefore more 'burned out' according to this sub-scale of the MBI. This may be due to higher expectations of work achievements, given that these staff were high achievers academically.

This study found that annual turnover rates accounted for the most variance in depersonalisation burnout, with approximately 7% unique contribution to the variance, which was slightly more than the unique contribution of less adaptive coping strategies. Staff turnover was also found to account for a significant proportion of the variance in predicting levels of burnout in staff on the emotional exhaustion sub-scale of the MBI. These findings were consistent with the close association between turnover and burnout demonstrated by Maslach and Jackson (1982). Although the path diagrams (Fig 2 and Fig 3) suggest that staff turnover rates influence burnout among staff, correlational associations do not imply causality, and one could hypothesise that staff burnout itself may have a causal influence on staff turnover rates, with staff leaving the service due to high levels of work related stress.

The number of hours worked per week was found to be positively associated with higher depersonalisation burnout, in contrast with the findings of Lawson and O'Brien (1994) who found no association between scores on the MBI sub-scales and work hours among care staff in learning disabilities services ($n = 79$). However, this inconsistency could be related to possible sample bias in the present study, given that there were lower than expected response rates from part-time staff in participating teams. In the context of staff caring for individuals who exhibit aggression, the findings of this study may suggest that longer working hours are related to the development of more negative attitudes to service-users. Further research is needed in this area. Staff who were living with a partner or spouse were found to experience less de-personalisation burnout, suggesting that having a partner or spouse at home may be a source of confidant support which moderates negative attitudes towards service-users.

In comparison with the large number of variables found to predict variance in the three burnout components and psychological distress, the regression analyses demonstrated that job satisfaction was significantly predicted by relatively few of the variables examined. This suggests that job satisfaction may be influenced more by other factors which were not explored in this study. An inverse association was found between less adaptive coping and both intrinsic job satisfaction and global satisfaction, but no relationship was found with extrinsic job satisfaction. Less adaptive coping was found to be the only significant predictor of global job satisfaction and the second most important predictor of intrinsic job satisfaction. The most important predictor of intrinsic job satisfaction was the number of dependents cared for at home, accounting for 10% unique contribution to the variance in this outcome. The direction of the association indicated that lower levels of intrinsic satisfaction was related to a greater number of dependents cared for at home. It is possible that staff who care for more dependants at home attach less importance to the job as a source of satisfaction, or have higher expectations of intrinsic job related rewards, hence, are less satisfied with their job. Finally the only significant predictor of extrinsic satisfaction was attributions of external controllability, which accounting for approximately 5% unique contribution to the variance. The direction of this association showed that, where aggressive service-user behaviour is believed to be controllable by others, staff are less satisfied with extrinsic rewards suggesting that staff may not

feel that policies and supervision are adequate, when aggression is perceived as controllable by others.

When considering the main research question in this study it is important to note that, overall, most of the variance in outcomes among staff caring for individuals with learning disabilities who exhibit aggression, was accounted for by only two of the variables measured, less adaptive coping strategies used in relation to service-user aggression and depression-related emotional responses to aggressive service-user behaviour. Furthermore, these variables were both found to highly correlate with each other. The importance of these variables in predicting outcomes supports two of the six research hypotheses H^2 and H^5 . However, the four remaining research hypotheses were not supported by the findings of the present study and will be discussed in turn below.

Unexpected findings.

There were a number of unexpected findings in this study. Firstly, although a strong significant association was found between the reported frequency of negative emotional responses to service-user aggression and stress-related outcomes, the amount of staff exposure to aggression *per se* was not found to have any impact on any of the outcomes examined, despite the use of two comprehensive measures of staff exposure to aggression used in this study. Research hypothesis H^1 was therefore not supported by the findings of this study, in that there was an absence of any statistical association between scores obtained on both service reports and staff reports of exposure to service-user aggression and any of the dependent variables examined in this study. Although some studies have found that challenging service-user behaviour elicits negative emotional responses in care staff (Bromley & Emerson 1995; Hastings 1995), and challenging behaviours have been reported as an important source of stress (Corrigan 1993; Hatton *et al* 1995), the relationship between the amount of exposure to aggression and stress-related outcomes had not previously been tested. It is therefore possible that it is the presence or absence of exposure to service-user aggression which is more important in predicting outcomes than within group differences in the amount of exposure to service-user aggression among care staff who care for one or more aggressive individuals. This is an area for

future research and would require a different study design involving a separate control group who were not exposed to service-user aggression.

A second unexpected finding in this study was the absence of any significant association between perceived self-efficacy in relation to managing service-user aggression and negative emotional responses or stress-related outcomes in this study. This was inconsistent with the proposed model on which this study is based and does not support research hypothesis H⁴. Perceptions of self-efficacy were suggested to mediate the relationship between causal attributions and coping or outcomes by Chwalisz *et al* (1992) and the data obtained in this study did not support either hypothesis. However, it is possible that although some validity data supported the use of the single-item measure of self-efficacy in this study, the measure may not have been reliable and more items may be needed to assess this construct adequately.

A third unexpected finding in this study was the lack of any statistical association between staff attributions of personal controllability made to explain service-user aggression and negative emotional responses to aggression or stress-related outcomes. The results of this study were not consistent with Weiners findings that negative emotions such as anger are more likely to be experienced where the distressing behaviour of another is viewed as controllable by that individual (Weiner 1980, 1986). Hypothesis H³ was therefore not confirmed in this study, suggesting that attributions of personal controllability do not have direct effects on the frequency of negative emotional responses to service-user aggression in learning disabilities settings. However, attributions of controllability were found to be important in predicting stress-related outcomes along the dimension of external controllability, whereby the belief that aggression can be controlled by others predicted a significant proportion of variance in emotional exhaustion burnout. The controllability belief that service- user aggression can be controlled by others, if rigidly held by the care worker, may create unrealistically high goals and grandiose expectations of what is achievable. The resulting sense of loss and disappointment when an episode of aggression is experienced may lead to symptoms of emotional exhaustion burnout in the long term when such emotions are experienced on

a frequent and ongoing basis, hence the association found in this study between attributions of external controllability and emotional exhaustion burnout.

The direct relationship found in this study between attributions of external controllability and emotional exhaustion burnout suggests that where staff believe that others have control over an episode of service-user aggression then they are more likely to feel more emotionally drained in their work, perhaps because they believe that staff are responsible for whether episodes of service-user aggression occur and feel they have a moral obligation to try to control the behaviour. It seems likely that the belief that aggressive behaviour can be controllable by others has an important impact on the care-worker involved in repeated episodes of aggression directed towards him or herself, in that he or she may be left feeling emotionally exhausted by failed efforts to control the behaviour and stop the aggression.

Both problem-focused and emotion-focused coping were not found to be associated with less frequent negative emotional responses or better outcomes as predicted in this study, despite the more frequent use of these so called adaptive coping strategies compared to the less adaptive coping strategies, by the present sample of direct care staff in relation to service user aggression. This finding is not consistent with the general literature within the cognitive behavioural stress and coping framework and does not support Carver et al's assumption that problem-focused and emotion-focused coping strategies are more adaptive. Research hypothesis H⁶ was therefore rejected in this study in favour of the null hypothesis that problem-focused and emotion-focused coping used in relation to service-user aggression as measured in this study have no impact on the stress-outcome relationship.

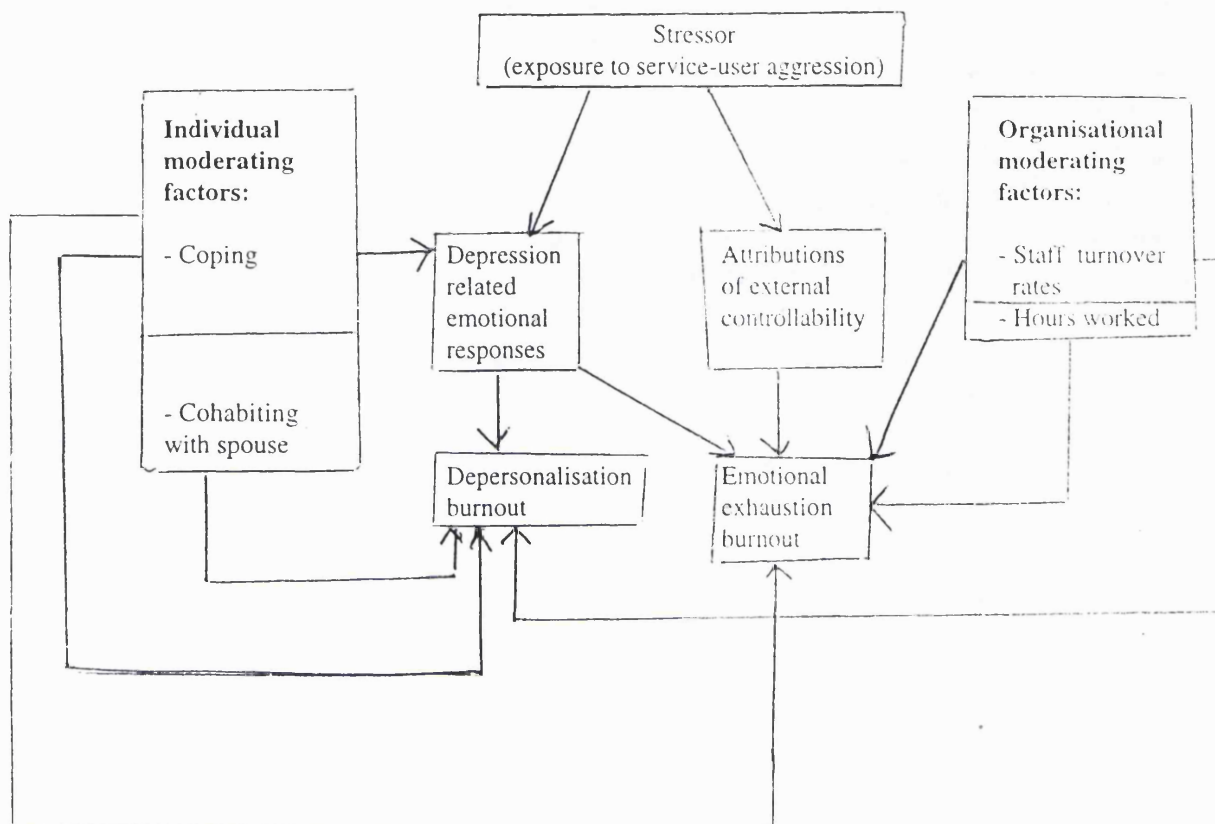
Finally, gender differences were also found to be important in this study, whereby depression-related emotional responses to aggression were more frequently reported by male staff than female staff and depression-related emotional responses to aggression were less frequently reported by staff working in female dominated teams, than in teams with a higher proportion of men. The apparent gender differences in the impact of aggression on staff suggest that there may be social factors operating in the experiencing or reporting of these types of emotions. Lanza (1988) found that female care staff

more readily acknowledged the intensity of their reactions than male care staff in response to patient assault in psychiatric settings, which is not consistent with the findings of this study. However, the measure of emotion as used in this study examined the frequency as opposed to the intensity of emotional responding. Furthermore, Lanza's study was in the context of a psychiatric setting where different factors may be operating. Lanza (1992) also cites evidence suggesting that, in practice, male staff may become actively involved in containing violent behaviour and female staff may be selectively excused. Although no gender differences were reported in overall perceived exposure to service-user aggression in this study, it is possible that female staff are less likely to intervene when aggressive outbursts occur. This study did not include measures of actual staff behaviour in relation to service user aggression, but it seems likely that emotional responding will be related to whether or not the staff member intervenes during an episode of aggressive service-user behaviour and this could explain gender differences in emotional responses. This is an area for future research since the relationship between the cognitive, emotional and behavioural responses of care staff to challenging behaviour is under-researched. When considering gender differences however, it is important to bear in mind possible sample bias in this study whereby fewer female staff participated than expected according to the higher proportion of female staff across the 23 teams, overall.

A revised model of the relationships between exposure to service user aggression and stress-related outcomes in learning disabilities services.

The results of the path analyses (Fig 2. and Fig 3.) supports the hypothesis that emotions do mediate the relationship between coping and outcomes but not between attributions and outcome, as suggested by Chwalisz *et al* (1992). The unexpected findings of the present study therefore indicate that the original model presented in Fig 1 needs adjusting in order to more accurately describe the relationships between the variables examined and their points of influence, in the context of stress associated with service-user aggression in learning disabilities services. The revised model is presented overleaf (Fig 4).

Fig 3 A revised model of mediating and moderating factors involved in the process of coping with aggression service-user behaviour.



Although previous research has demonstrated an association between appraisal processes and emotion, the results of this study suggest that this does not apply in the context of emotional responses to service user aggression among direct care staff. However, this study does support the hypothesis that coping strategies used in relation to aggressive service-user behaviour among direct care staff have an important moderating effect on stress related outcomes and that negative emotional responses mediate the relationship between coping and outcomes.

Given that the broad category of less adaptive coping comprises three distinct coping strategies: focusing on and venting of emotions, mental disengagement and behavioural disengagement, the finding that the less adaptive coping strategies are associated with depression-related emotional responses is consistent with the findings of Carver *et al*'s (1989) suggestion that distancing and disengagement increases negative emotions. According to Carver *et al* (1989) the first of the three coping strategies comprising less adaptive coping, focusing on and venting of emotions, refers to an increased awareness of one's emotional distress, and a concomitant tendency to ventilate or discharge those feelings. Mental disengagement refers to psychological disengagement from the goal with which the stressor is interfering and behavioural disengagement refers to giving up, or withdrawing effort from, the attempt to attain the goal with which the stressor is interfering. The relationship between these coping strategies and negative emotions can be explained in terms of the suggestion that where negative emotions lead to an aversive state in staff, staff may be motivated to avoid experiencing this state, leading to either escape and avoidance behaviour or defensive responses as a means of coping (Bromley & Emerson 1995; Hastings 1995). Unfortunately, however, this has implications for the maintenance of challenging behaviours such as aggression among service-users.

It seems from the present study that the use of these less adaptive coping strategies for dealing with aggression at work has a negative effect on coping outcomes, and theoretically they do seem to be maladaptive strategies as Carver and his colleagues suggest. Furthermore, the use of the particular strategies in this category appears to be much more predictive of staff outcomes in the specific

context of coping with stress associated with service user aggression than coping strategies theoretically considered to be adaptive.

The relationship between more frequent depression-related emotions and higher levels of both both emotional exhaustion and depersonalisation burnout found in the study can be explained within the framework of cognitive behavioural theories about the nature of depression. Depression itself is a clinical condition, viewed within cognitive behavioural theory as a cognitive and affective disorder characterised by a tendency to negatively evaluate oneself, the world and the future (Beck 1976). Beck (1976) suggests that depression is related to feeling overwhelmed by external demands, whereby individuals react by giving up and withdrawing from demands, creating a vicious circle whereby these attitudes and feelings lead to withdrawal behaviours and passivity which lead to further feelings of helplessness. This may explain why coping strategies such as detachment and focusing on venting emotions do not appear to be adaptive in helping staff managing emotional responses but led instead to emotional strain and negative attitudes towards service-users as reflected by EE and DP scores. Beck suggests that loss of status or reputation or the failure to attain an important goal may precipitate depression. Hence when a staff member is involved in an episode of service-user aggression directed towards themselves that they believe others would be able to control, the resulting 'loss of face' may have important psychological consequences in terms of depression-related emotional responses. The staff member may be continually dissatisfied with his or her performance in comparison to the perceived performance of others, resulting in ongoing subjective experiences of inadequacy, failure and inferiority (Beck 1976).

Methodological limitations and implications for future research

1. Measuring staff exposure to service user aggression

The measure of staff-reported perceptions of aggression in this study relied on retrospective reports of the type and severity of exposure to aggression over the past month. The use of retrospective self-report methodology may not have produced reliable data since many factors may have distorted the participants memory for aggression related events. For instance, staff have preferred not to dwell on aversive events, preferring to forget that aggression-related events have happened, in order to be able

to get on with day to day care duties. Unfortunately, the study was limited to the use of retrospective reports of staff exposure due to the nature of the survey design. Although other methods of data collection were considered, there are many practical difficulties associated with gaining the co-operation of busy care staff for research related record keeping activities, in addition to their own paperwork.

This study examined staff perceptions of the type and severity of exposure to service-user aggression using a new measure that requires further validation, particularly regarding the scoring procedure and the weighting of scores. Although the validity of this measure was assessed by comparing scores with service reports of aggression, the correlation between these measures was significant but very modest, perhaps due to problems with the reliability of the latter. Further validation of this measure is needed to improve this measure, which might involve assessing the inter-rater reliability of the weighting of scores used for each item or comparing retrospective reports of staff exposure to aggression with daily or weekly records of staff exposure to each type of aggression 'as it happens'.

It may also be possible to improve the sensitivity of the measure of differences in perceived exposure to aggression by replacing the dichotomous rating method for each item with a Likert type scale. Increasing the number of response options would help to increase the scale's reliability and there might be other important dimensions of exposure to aggression that could be quantified for each item. For instance the new scale did not measure the frequency of exposure to each type of behaviour. However, it might be difficult to reliably assess the frequency of aggressive forms of challenging behaviour using retrospective reports in a survey design.

Furthermore, the content of the measure used to assess staff reported perceptions of exposure to aggression, also included experiences of witnessing aggression towards others and witnessing a service user injure him or herself. Although the measure may produce a reliable overall composite score of exposure to aggression, it may be more useful in a study of the impact of aggression on staff to focus on personally experienced aggression toward the participant only and to discard the other

items. This would be more consistent with the measure of emotional responses to aggression directed at the care worker used for analysis in this study.

Although the measure of service reported exposure to aggression was based on multiple sources of information, it did not include injuries to service-users as a result of aggression which may have resulted in inaccurate total aggression scores. The measure also did not account for differences in the frequency of occurrence of aggressive 'outbursts'. There is evidence that repeated mild episodes of aggression can be particularly stressful for staff (Bromley and Emerson 1993) which may need more attention in future research in this area. There is also a need for research examining the psychological impact of aggression on other service-users.

2. Problems with the measurement of negative emotional responses:

In Lanza's study of the reactions of psychiatric nursing staff who had been victims of patient assault, a relatively high proportion of staff were found to report no reaction at all (Lanza 1983). Although this may be due to an actual lack of reaction, the investigator also noted that statements given by some staff in their reports of how they had been affected indicated a tendency to deny feelings associated with the assault in case they became overwhelmed by them, some stating that they were afraid that allowing themselves to experience emotions in case this would prevent them from being able to function. Others indicated that they expected to be hit or felt that violent assaults were just part of the job and felt that they had no right to experience any reactions. Although no significant relationship was demonstrated in this study between social desirability scores and total scores for emotional responses to aggression on both of the dimensions measured, it is possible that some particular emotional responses may be less likely to be reported, which may have influenced the results. It is also possible that some staff may have simply not been aware of their emotional responses, retrospectively at the time of completing the questionnaire.

Given that this study demonstrated differential effects of two separate types of emotional responses in terms of their contribution to staff outcomes, uni-dimensional measure of negative emotional responses should be avoided in further research, in favour of multidimensional scales such as that

developed in this study. However, there is also a need for further research to examine why the particular emotional responses are experienced and particularly why male staff tend report more frequent negative emotional responses to service user aggression than female staff. Finally, emotional responses were not examined in relation to how victims felt about the perpetrator of aggression, i.e. the service-user that the care worker was caring for on an ongoing basis, before and after the event, which may be related to care staff emotional responses to aggressive behaviour and has important implications for the caring relationship. This is an important area for future research.

3. Coping strategies and social support

There is a possibility that the low response rates in this study may have been partly due to the length of the staff questionnaire, which included a 60 item measure of coping strategies. Although Hatton and Emerson (1995b) have developed a shortened version of Lazarus and Folkman's Ways of Coping measure for use more generally with direct care staff, more research is needed to develop a reliable shortened version of the COPE focusing on the most important coping strategies used to cope with aggressive service-user behaviour, for use in multivariate research such as this. Future studies could include the sub-scales measuring less adaptive coping strategies with the addition of further items to improve internal consistency. Endler and Parker (1990) have criticized the psychometric properties of coping sub-scales consisting of only 4 items.

The finding that emotion-focused coping and problem-focused coping was not associated with any of the outcomes in this study may have been related to methodological limitations of the present study. Unfortunately, due to the large number of distinct coping strategies measured by the COPE inventory, the clustering of a number of discrete coping strategies together during the data reduction necessary to explore relationships between variables may have masked the importance of a particular coping strategy. It is possible that emotion focused and problem focused coping was not reliably measured by the COPE among this sample, despite acceptable alpha co-efficients obtained for the major second order sub-scales suggesting satisfactory internal consistency. There is a need for further testing of the scales psychometric properties on samples of care staff in learning disabilities services.

Given that Wykes and Whittington (1991) found that the number of coping strategies used correlated with level of psychological difficulty, it is possible that overall staff are using a wide range of emotion-focused and problem focused coping strategies in relation to service user aggression but not focusing on those which are most effective. However, this was beyond the scope of the present study and more research is needed to establish the relative importance of individual coping strategies in relation to aggressive service-user behaviour.

Furthermore, as with the measure of emotional responses, the self-report methodology used in this study to elicit coping strategies limits the measurement of coping to the domain of those coping strategies the respondent is consciously aware of and willing to report, which is difficult to overcome in research, particularly given the difficulty of obtaining independent reports of coping by observers. For example Latack (1986) found supervisors were not willing to provide reports of coping in subordinates. There are problems on the retrospective reporting of coping strategies used in specific situations. As with the emotions scale, respondents may also have reported on coping strategies used at different stages of the events they were thinking of when responding. The COPE does not measure all the possible coping strategies that may be used by care staff coping with aggression, which may not be possible to measure in one inventory. Longitudinal research is also needed to examine which coping strategies are effective over time in reducing psychological stress or conversely contributing to negative outcomes such as burnout.

On average staff used getting social support for emotional reasons less frequently than seeking social support for instrumental reasons which theoretically, seems to have greater implications for managing negative emotional responses to service user aggression. The latter is consistent with Hastings (1995) study whereby 42% of 19 care staff dealing with challenging behaviours were found to use 'getting support from others' as a coping strategy. This study viewed the seeking of social support as a coping strategy and measured this construct using two sub-scales of the COPE inventory 'seeking social support for instrumental reasons' and 'seeking social support for emotional reasons'. However, the study did not measure the quantity and quality of social support available and from whom. This would be an important variable to include in future research on the impact of service

user aggression on direct care staff in learning disabilities services. The importance of social support as a moderator of the relationship between stress associated with patient assault and psychological strain was investigated in a preliminary study by Whittington and Wykes (1992) who interviewed 23 psychiatric nurses and one doctor within 72 hours of patient assault and again on two further occasions within the following two weeks. The amount of support provided for staff in the time between the first two interviews were found to correlate with levels of strain.

4. Measuring causal attributions:

Although attributions of external controllability were found to be related to emotional exhaustion burnout in this study, the remaining dimensions of causal attributions were not found to be associated with any of the outcome measures. However this may be due to measurement problems, particularly given the low alphas produced for the stability sub-scale and the modest alphas produced for the personal controllability and locus of causality sub-scales. It is important for research to develop more reliable ways of measuring attributions other than external controllability in the third person. The internal consistency of the adapted CDSII sub-scales may be improved by adding 1 further item to each of the present 3, since the internal consistency of a measure improves with more items (Endler & Parker 1990). Furthermore, there may also be important dimensional properties of attributions which were not measured by the adapted CDSII including the dimensions of globality and the perceived intentionality of aggressive behaviour, which may have relevance to the psychological impact of aggression on staff and the way care staff respond on an affective, cognitive and behavioural basis. There is also a need for further research to examine how the particular beliefs of staff in relation to challenging behaviours are formed, and whether attitudes towards aggression in general are important predictors of staff responding. For instance family and cultural attitudes towards anger and aggression more generally may determine how tolerant staff are towards aggressive behaviour exhibited by the service-users they are caring for. It is also possible that personal attitudes about aggression and personal experience of aggression in a staff member's personal life may also be an important predictor of whether or not an individual chooses to work in learning disabilities settings where aggressive service-user behaviour takes place.

The type of training staff are provided with for managing aggression may have an important influence on beliefs. Although this variable was not found to have any relationship with causal attributions in this study the measure of staff training for managing aggression needs much improvement since this measure did not take into account how long ago training occurred and did not involve any indication of the quality of training.

Although the present study looked at staff beliefs in terms of attributions made about the cause of aggressive behaviour, there was no examination of beliefs about whether service user behaviour should be controlled, eliminated or tolerated. There is a need for research to examine how emotional responses and beliefs effect staff behaviour, motivation towards behavioural interventions and helping responses of staff and the caring relationship. This study did not examine what staff actually do in response to service-user aggression, particularly whether or not staff would intervene. Hastings (1995) found that 74% of care staff reported that they would intervene in response to aggressive service user behaviour. However, observational methods would be a more reliable way to explore this issue.

It is particularly important to further examine the relationship between emotional responses and staff behaviour given that Weiner (1980) found that emotional responses of anger were likely to inhibit helping responses. Anger is one of the emotions comprising the depression-related emotions scale used in this study and it would be important for future research to examine the role of depression-related versus anxiety-related emotional responses in determining staff behaviour and their respective roles in the maintenance of challenging behaviour.

The relationship between burnout and poor job performance has been assumed but not tested, and although the emotional responses of staff in the present study were found to predict emotional exhaustion and depersonalisation burnout, this only implies that negative emotional responses to service user aggression indirectly effects interactions between staff and service-users. Although Lawson and O'Brien (1994) found a relationship between burnout and staff activity and behavioural

effects in learning disability settings, there is a need for more objective indices of job performance other than self-report inventories, such as observational methods.

Although path analysis can examine the pattern of relationships between variables, it cannot establish causal relationships between variables, there is a need for longitudinal research to establish causal links. Studies of stress and health outcome have largely relied on cross sectional designs (Chwalisz *et al* 1992), however, an exploration of the complex circular transactional model and complex relationships between variables require longitudinal research.

Situational versus Dispositional constructs:

This study investigated situational stress associated with exposure to service-user aggression and therefore relied on state measures of independent variables such as attributions, perceived self-efficacy and coping, rather than examine habitual or trait-like tendencies such as attributional 'style' or coping 'style'. Carver *et al* (1989) are explicitly cautious about the relative validity of state or trait theories about these constructs and therefore developed the COPE inventory in a way that could be administered in situational or dispositional formats. It is also possible that certain members of staff are more depression-prone due to their more general beliefs. Hence dispositional measures of attributional style may be an important area for future research to examine in relation to depression-related emotional responses to service-user aggression.

Given that this study focused on situational responses to service user aggression the effects of more stable constructs such as personality and psychological type was not investigated in the present study. However there is some evidence that particular psychological types may be over-represented in the human services (Garden 1989), which has not yet been examined in learning disabilities settings. There is a possibility that different people are attracted to this kind of work due to stable personality characteristics which would suggest that the amount of aggression might therefore have no effects on outcome if this were the case.

This study also did not include a measure of recent life events experienced by staff which may produce high GHQ scores and therefore confound the results. There was also no measure of non-aggression stressors related to the working environment, which may also have contributed to unexplained variance in outcomes. Although selection criteria specified that all participating staff were involved in direct care duties, the amount of hands on direct interaction between staff and service users may have varied from one staff member to another, according to shift patterns. Residential staff work varying shifts and staff who work night shifts may have less interaction with residents. There may also have been considerable diversity among participating staff in terms of grades and responsibilities.

There may also have been considerable diversity among the range of 23 participating staff teams on organisational factors that were not examined in this study. Variance due to diversity among teams was controlled for in this study in terms of the size of the staff team and the degree of learning disabilities and physical disabilities among residents cared for. But there may be other characteristics of the residents of the organisation which contribute to outcomes not measured in this study. For example, there may be powerful aspects of the service culture, such as rules about how to deal with service-user aggression, which may influence staff beliefs and outcomes (Hastings 1995). Staff rules may be generated by staff themselves or supplied more formally and may influence causal attributions. In order to investigate the contribution of organisational factors on the impact of aggression on staff, further research could compare reactions to aggressive service-user behaviour in different settings.

Implications of the study findings for staff training and support in services for people with learning disabilities who exhibit aggressive behaviour.

Given that the results of this study suggests that depression-related emotional responses to service-user aggression play a key role in mediating stress-related outcomes among staff caring for people with learning disabilities who exhibit aggression, there is a need for staff training and support to focus on helping staff manage these emotional responses more effectively. It appears that problem-focused and emotion-focused coping efforts as measured in this study are not sufficient to reduce the

frequency of negative emotional responses in relation to service-user aggression. However, the group of coping strategies referred to as 'less adaptive coping' may need to be discouraged among staff in favour of other more adaptive coping strategies which need clearly identifying in future research.

Staff training and support in the area of emotions is particularly important when considering the evidence the emotional reactions of staff exposed to aggressive behaviour are likely to influence the way a member of staff responds to the service-user. For example, fear/anxiety-related care staff emotional responses may result in avoidance responses and anger/depression-related emotions may result in punishing responses. As highlighted in the literature review at the beginning of this report, there is evidence that approach or avoidance behaviour in staff is influenced by the behaviour of service-users (Dailey *et al* 1974) [cited in Bromley and Emerson 1995] and there is evidence to suggest that these behavioural responses of staff may function to maintain rather than reduce challenging behaviours (Hastings & Remington 1994). Given that negative emotional responses may therefore have important implications for a staff member's ability to apply treatment programmes effectively it seems likely that staff training and support aimed at reducing negative emotional responses to service-user aggression may help to reduce aggressive service-user behaviour through the behaviour of staff. Furthermore, given the demonstrated contribution of negative emotional responses to more chronic staff outcomes, it is important that negative emotional responses to service user aggression are addressed and that staff are equipped to deal with these emotional responses.

The present finding that negative emotional responses to service-user aggression plays a key role in influencing emotional exhaustion burnout and depersonalisation burnout has important implications for helping staff with the emotional aspects of the work. However, in addition to anxiety and stress management training often provided for direct care staff, it is important that staff are helped to deal with depression-related emotional responses to service user aggression such as helplessness, sadness, anger and betrayal. Anger management training may be a particularly useful approach to take in addressing these emotional responses.

A form of stress inoculation training has recently been developed for staff who work with aggressive service-users (Keyes 1990) [cited in Hastings and Remington 1994] which aims to teach staff skills to deal with this aversive aspect of their work. Information is provided to staff about the nature of stress and anger and the effects of their behaviour and staff are then taught coping skills, for example: self instruction on their behaviour, problem solving skills and relaxation techniques. Skills for managing aggression are then rehearsed in role playing exercises. This form of staff training was found to be effective in that less anger was reported afterwards in relation to service-user aggression and less emergency restraint procedures were used. Given that anger is one of the depression-related emotional responses, this may be a very promising area of training for staff who are exposed to service-user aggression.

Furthermore, project managers involved in a PSSRU study in Kent by Knapp, Cambridge & Thomason (1989) identified coping with stress as an important training need in mental handicap services and only 52% of staff had received in-service training. However, in the light of the present study findings, comprehensive training packages aimed at helping staff cope with stress associated with service user aggression should address both coping strategies and negative emotional responses to aggressive service user behaviour.

The need for training for care staff dealing with aggressive or violent service-user behaviour has been emphasised in a DHSS report, Violence to Staff (1988) stating that *'training has a key role within the strategies against violence, and should be provided for all appropriate staff'* (cited in McDonnell *et al* 1991a pp73) but it has not been clear what form training should take in learning disabilities services. Although many staff are trained in the use of control and restraint or breakaway techniques for breaking away from simple grips and holds, such practices are limited to managing situations after they have occurred. It is suggested that prevention of service user aggression and violence, by manipulating antecedents, is better than intervention. Unfortunately, many staff are not trained in the prevention of aggression related incidents. Staff need to be helped to develop skills for dealing with aggression and understanding it.

McDonnell *et al* (1991a) proposes that in services providing care for people with learning disabilities who exhibit aggression, the setting up of a training system is crucial, along with good reporting systems and clear unambiguous guidelines and policies for managing aggression effectively in order to minimise indecision and hesitation which may otherwise occur. McDonnell developed a model of training for care staff in learning disabilities services in health and social services settings, and highlighted the importance of taking into account the context of the setting, the nature and philosophy of the organisational system (Praill & Baldwin 1988; Wahler & Fox 1981).

Unfortunately, where an episode of service-user aggression or violence results in physical injury or distress, staff rarely have procedures for dealing with these effects. McDonnell *et al* (1991a) states that '*trauma of assault should be acknowledged by the caring system*' and proposes that counselling and support facilities should be readily available. Engel and Marsh (1986) have also emphasised the importance of support services for psychiatric staff who have been assaulted to help them cope and it seems equally important to provide opportunities for care staff in learning disabilities settings to work through emotional responses to episodes of service user aggression. The importance of opportunities for de-briefing after the event was highlighted by many participating staff in this study, in the space provided for comments at the end of the staff questionnaire and it seems likely that de-briefing may play a crucial role in helping staff cope with the emotional impact of service-user aggression. However, as pointed out by one participant, it is important that de-briefing is constructive and not an inquest into what the staff member should have done.

The lack of support systems and training to deal with behaviour problems was found by George and Baumeister (1981) to be an important factor related to higher levels of staff turnover. Ward (1989) found that insufficient training and support for dealing with challenging behaviour was an important source of stress in community learning disabilities services. Social support is an important external factor which has been suggested to moderate the detrimental effects of violent service-user behaviour on staff (Wallis 1987) [cited in Whittington and Wykes 1992]. Support from other staff and managers has been found to be important in helping staff cope with distress associated with violent service-user incidents (see Rose 1993; Stenfert Kroese and Fleming 1992). However, demanding

relationships with colleagues has been found to be related to high staff stress (Rose 1993) and staff may need support from outside the organisation in order to feel more comfortable addressing sensitive emotional issues. Opportunities for staff to be supported through externally facilitated staff support groups might therefore be helpful, particularly in relation to helping staff deal with negative emotional responses to service-user aggression, since this study has demonstrated their importance in mediating stress-related outcomes among direct care staff caring for aggressive individuals. Support groups might be most appropriately facilitated by professionals in the learning disabilities field with both knowledge of challenging behaviour and skills in helping people cope with difficult emotions such as clinical psychologists.

References

Abramson, L.Y., Seligman, M.E.P., & Teasdale, J.D. (1978). Learned helplessness in humans: Critique and re-formulation. Journal of Abnormal Psychology, 87, 49-74.

Aiken, G.J.M. (1984). Assaults on staff in a locked ward: Prediction and consequences. Medical Science & the Law, 24 (3), 199-207.

Aitken, C.J. & Schloss, J.A. (1994). Occupational stress and burnout amongst staff working with people with an intellectual disability. Behavioural Interventions, 9 (4), 225-34.

Allen, P., Pahl, J. & Quine, L. (1990). Care Staff in Transition. London: HMSO.

Ballard, R. (1992). Short forms of the Marlowe-Crowne social desirability scale. Psychological Reports, 71, 1155- 60.

Bandura, A. (1977). Self-efficacy: Towards a unifying theory of behaviour change. Psychological Review, 84, 191-215.

Banks, M.H., Clegg, C.W., Jackson, P.R., Kemp, N.J., Stafford, E.M. & Wall, T.D. (1980). The use of the GHQ as an indicator of mental health in occupational studies. Journal of Occupational Psychology, 53, 187-94

Beck, A.T. (1967). Depression: Clinical, Experimental and Theoretical Aspects. New York: Harper & Row.

Beck, A.T. (1976). Cognitive Therapy and the Emotional Disorders. New York : Penguin books.

Bersani, H.A. & Heifetz, L.J. (1985). Perceived stress and satisfaction of direct care staff members in community residences for mentally retarded adults. American Journal of Mental Deficiency, 90, 289-95.

Bird, F., Dores, P.A., Moniz, D. & Robinson, J. (1989). Reducing severe aggressive and self-injurious behaviours with functional communication training. American Journal of Mental Retardation, 94 (1), 37-48.

Borrill, C.S., Wall, T.D., West, M.A., Hardy, G.E., Shapiro, D.A., Carter, A., Goyla, D.A. & Haynes, C.E. (1996). Mental Health of the Workforce in NHS Trusts. Phase 1 Final Report. March 1996. Institute of Work Psychology, University of Sheffield and Department of Psychology, University of Leeds.

Bromley, J. & Emerson, E. (1993). Rising to the challenge? A Survey of Needs and Service Responses to People with Learning Disabilities and Challenging Behaviours in Rochdale. Hester Adrian Research Centre, University of Manchester.

Bromley, J. & Emerson, E. (1995). Beliefs and emotional reactions of care staff working with people with challenging behaviour. Journal of Intellectual Disability Research, 39 (4), 341-52.

Brown, D., Carson, J., Fagin, L., Bartlett, H. & Leary, J. (1994). Coping with caring. Nursing Times, 90 (45), 53-5.

Browner, C., Ellis, K., Ford, T., Silsby, J.T. & Yee, C. (1987). Stress, social support and health of psychiatric technicians in a state facility. Mental Retardation, 25, 31-8.

Bryman, A. & Cramer, D. (1997). Quantitative Data Analysis with SPSS for Windows: A Guide for Social Scientists. London and New York: Routledge.

Caldwell, M.F. (1992). Incidence of PTSD among staff victims of patient violence. Hospital & Community Psychiatry, 43 (8), 838-9.

Carmel, H. & Hunter, M. (1989). Staff injuries from inpatient violence. Hospital & Community Psychiatry, 40 (1), 41-46.

Carver, C.S., Scheier, M.F. & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. Journal of Personality & Social Psychology, 56 (2), 267-83.

Caton, D.J., Grossnickle, W.F., Cope, T.E., Long, C.C. & Mitchell, C.C. (1988). Burnout and stress among employess at a state institution for mentally retarded persons. American Journal on Mental Retardation, 3, 300-4.

Chwalisz, K., Altmaier, E.M. & Russel, D.W. (1992). Causal attributions, self-efficacy cognitions, and coping with stress. Journal of Social & Clinical Psychology, 11(4), 377-400.

Cohen, F. (1991). Measurement of Coping. In A. Monat and R.S. Lazarus (Eds), Stress and Coping: An Anthology - Third Edition. pp 228-44. New York: Columbia University Press.

Conn, L.M. & Lion, J.R. (1983). Assault in a university hospital. In J.R. Lion & W.H. Reid (Eds), Assault within Psychiatric Facilities. pp 61-69. New York: Grune & Stratton.

Corrigan, P.W. (1993). Staff stressors at a developmental centre and state hospital. Mental Retardation, 31, 234-8.

Cottle, M., Kuipers, L., Murphy, G. & Oakes, P. (1995). Expressed emotion, attributions and coping in staff who have been victims of violent incidents. Mental Handicap Research, 8 (3), 168-83.

Crites, J.O. (1966). Test reviews. Journal of Counselling Psychology, 13 (1), 120-22.

Crowne, D.P. & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 24, 349-54.

Dougherty, L.M., Bolger, J.P., Preston, D.G., Jones, S.S. & Payne, H.C. (1992). Effects of exposure to aggressive behaviour on job satisfaction on health care staff. The Journal of Applied Gerontology, 11 (2). 160-172.

Edwards, P. & Miltenberger, R. (1991). Burnout among staff members at community residential facilities for persons with mental retardation. Mental Retardation, 29 (3), 125-128.

Ellsworth, P.C. & Smith, C.A. (1988). From appraisal to emotion: Differences among unpleasant feelings. Motivation & Emotion, 12 (3), 271-302

Emerson, E., Cummings, R., Barrett, S., Hughes, H., McCool, C. & Toogood, A. (1988). Challenging behaviour and community services 2: Who are the people who challenge services. Mental Handicap, 16, 16-9.

Emerson, E. & Bromley, J. (1995). The form and function of challenging behaviours. Journal of Intellectual Disability Research, 39 (5), 388-98.

Endler, N.S. & Parker, J.D.A. (1990). Multidimensional assessment of coping: A critical examination. Journal of Personality & Social Psychology, 58, 844-54.

Engel, F & Marsh, R.N. (1986). Helping the employee victim of violence. Hospital & Community Psychiatry, 37, 159-62

Evans, G.W., Palsane, M.N. & Carrere, S. (1987). Type A behaviour and occupational stress: A cross-sectional study of blue collar workers. Journal of Personality & Social Psychology, 52, 1002-7.

Eyman, R.K. & Call, T. (1977). Maladaptive behaviour and community placement of mentally retarded persons. American Journal of Mental Deficiency, 82, 137-44.

Felce, D., Lowe, K. & Beswick, J. (1993). Staff turnover in ordinary housing services for people with severe or profound mental handicaps. Journal of Intellectual Disability Research, 37, 143-52.

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

Fimian (1984) Organisational variables related to stress and burnout in community-based programs. Education & Training of the Mentally Retarded, 30: 201-9

Fischer, D.G. & Tick, C. (1993). Measuring social desirability: Short forms of the Marlowe-Crowne social desirability scale. Educational & Psychological Measurement, 53, 417-24.

Folkman, S. & Lazarus, R.S. (1980). An analysis of coping in a middle-aged sample. Journal of Health and Social Behaviour, 2, 219-39.

Folkman, S. Lazarus, R.S., Dunkel-Schetter, C., DeLongis, A. & Gruen, R.J. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping and encounter outcomes. Journal of Personality & Social Psychology, 50, 992-1003.

Folkman, S. & Lazarus, R.S. (1988). Coping as a mediator of emotion. Journal of Personality & Social Psychology, 54, 466-75.

Fraboni, M. & Cooper, D. (1989). Further validation of the three short forms of the Marlowe-Crowne scale of social desirability. Psychological Reports, 65, 595-600.

Freudenberger, H.J. & Richelson, G. (1980) Burnout: The High Cost of High Achievement. New York: Doubleday.

Garden, A.M. (1989). Burnout: The effects of psychological type on research findings. The British Journal of Occupational Psychology, 62, 223-34.

George, M.J. & Baumeister, A.A. (1981). Employee withdrawal and job satisfaction in community residential facilities for mentally retarded persons. American Journal of Mental Deficiency, 85, 639-47.

Ghaziuddin, M. & Ghaziuddin, N. (1992). Violence against staff by mentally retarded inpatients. Hospital & Community Psychiatry, 43 (5), 503-4.

Goldberg, D.P. (1972). The Detection of Minor Psychiatric Illness by Questionnaire. London: Oxford University Press.

Goldberg, D. & Williams, P. (1988). A User's Guide to the General Health Questionnaire. London: Oxford University Press.

Harris, P. (1993). The nature and extent of aggressive behaviour amongst people with learning disabilities (mental handicap) in a single health district. Journal of Intellectual Disability Research, 37, 221-42.

Hastings, R. & Remington, R. (1994). Staff behaviour and its implications for people with learning disabilities and challenging behaviour. British Journal of Clinical Psychology, 33, 423-38.

Hastings, R.P. (1995). Understanding factors that influence staff responses to challenging behaviours: An exploratory interview study. Mental Handicap Research, 8 (4), 296-320.

Hastings, R.P. & Remington, R. (1995). The emotional dimensions of working with challenging behaviours. Clinical Psychology Forum, 79, 11-16

Hastings, R.P., Remington, R. & Hopper, G.M. (1996). Experienced and inexperienced health care workers beliefs about challenging behaviours. Journal of Intellectual Disability Research, 39 (6), 474-83.

Halliday, S., Potts, M., Howard, A. & Wright, J. (1992). Caring for people with severe learning difficulties in ordinary houses: Issues of staff stress and support. Mental Handicap, 20, 137-43.

Hatton, C. & Emerson, E. (1993). Organisational predictors of staff stress, satisfaction and intended turnover in a service for people with multiple disabilities. Mental Retardation, 31 (6), 388-95.

Hatton, C. & Emerson, E. (1995a). Staff in services for people with learning disabilities: An overview of current issues. Mental Handicap Research, 8 (4), 215-9.

Hatton, C. & Emerson, E. (1995b). The development of a shortened Ways of Coping questionnaire for use with direct care staff in learning disabilities services. Mental Handicap Research, 8 (4), 237-51.

Hatton, C., Brown, R., Caine, A. & Emerson, E. (1995). Stressors, coping strategies and stress related outcomes among direct care staff in staffed houses for people with learning disabilities. Mental Handicap Research, 8 (4), 251-71.

Hauber, F.A. & Bruininks, R.H. (1986). Intrinsic and extrinsic job satisfaction among direct-care staff in residential facilities for mentally retarded people. Educational & Psychological Measurement, 46, 95-105.

Heider, F. (1958). The Psychology of Interpersonal Relations. New York: John Wiley.

Herzberg, F. (1966). Work and the Nature of Man. Cleveland, OH: The World Publishing Co.

Hill, B.K. & Bruininks, R.H. (1984). Maladaptive behaviour of mentally retarded individuals in residential facilities. American Journal of Mental Deficiency, 88 (4), 380-7.

Hoppock, R. (1935). Job Satisfaction. New York: Harper and Brothers.

Jacobsen, J.W. (1982). Problem behaviour and psychiatric impairment within a developmentally disabled population 1: Behaviour frequency. Applied Research in Mental Retardation, 3, 121-39

Jenkins, R. (1991). Demographic aspects of stress. In C.L. Cooper and R Payne (Eds) Personality and Stress: Individual Differences in the Stress Process, pp 107-132. Chichester: John Wiley and Sons.

Killu, K. (1994). The role of direct care staff. Behavioural Interventions, 9 (3), 169-76.

Knapp, M., Cambridge, P. & Thomason, C. (1989). Final Report of an Evaluation of the Care in the Community Initiative. Kent: PRSSU.

Koelbel, P.W., Fuller, S.G. & Misener, T.R. (1991). Job satisfaction of nurse practitioners: An analysis using Herzberg's Theory. Nurse Practitioner, 16 (4), 43-56.

Lakin, K.C., Bruninks, R.H., Hill, B.K. & Hauber, F.A. (1982). Turnover of direct-care staff in a national sample of residential facilities for mentally retarded people. American Journal of Mental Deficiency, 87, 64-72.

Lanza, M.L. (1983). The reactions of nursing staff to physical assault by a patient. Hospital & Community Psychiatry, 34, 44-7.

Lanza, M.L. (1988). Assault response questionnaire. Issues in Mental Health Nursing, 9 (1), 17-29.

Lanza, M.L. (1992). Nurses as patient assault victims: An update, synthesis and recommendations. Archives of Psychiatric Nursing, 6 (3), 163-71.

Latack, J.C. (1986). Coping with job stress. Journal of Applied Psychology, 71, 377-85.

Lawson, D.A. & O'Brien, R.M. (1994). Behavioural and self-report measures of staff burnout in developmental disabilities. Journal of Organisational Behaviour Management, 14 (2), 37-54.

Lazarus, R.S. & Folkman, S. (1984). Stress, Appraisal and the Coping Process. New York: Springer.

Lazarus, R.S. & Folkman, S. (1987). Transactional theory and research on emotions and coping. European Journal of Personality, 1, 141-69.

Lee, C., Ashford, S.J. & Jamieson, L.F. (1993). The effects of Type A behaviour dimensions and optimism on coping strategy, health, and performance. Journal of Organizational Behaviour, 14, 143-57.

Leiter, M.P. (1992a). Coping patterns as predictors of burnout: The function of control and escapist coping patterns. Journal of Organisational Behaviour, 12 (2), 123-44.

Leiter, M.P. (1992b). Burnout as a crisis in self efficacy: Conceptual and practical implications. Work & Stress, 6 (2), 107-15

Lion, J.R., Snyder, W. & Merrill, G.L. (1981). Under-reporting of assaults on staff in a state hospital. Hospital & Community Psychiatry, 32, 497,

Lowe, K. & Felce, D. (1995). How do carers assess the severity of challenging behaviour? A total population study. Journal of Intellectual Disability Research, 39, 117-27,

Lowe, K., Felce, D. & Blackman, D. (1995) People with learning disabilities and challenging behaviour: The characteristics of those referred and not referred to specialist teams. Psychological Medicine, 25, 595-603.

Maslach, C. (1978). The client role in staff burnout. Journal of Social Issues, 34 (4), 111-24.

Maslach, C. & Jackson, S.E. (1981). The measurement of experienced burnout. Journal of Occupational Behaviour, 2, 99-113.

Maslach, C. (1982). Burnout: The Cost of Caring. New Jersey: Prentice Hall, Engelwood Cliffs.

Maslach, C. & Jackson, S.E. (1986). The Maslach Burnout Inventory Manual (2nd Edn.). Palo Alto, CA: Consulting Psychologists Press, Inc.

McAuley, E., Duncan, T.E. & Russell, D.W. (1992). Measuring causal attributions: The Revised Causal Dimension Scale (CDSII). Personality & Social Psychology Bulletin, 18 (5), 566-73.

McAuley, E., & Shaffer, S. (1993). Affective responses to externally and personally controllable attributions. Basic & Applied Social Psychology, 14 (4), 475-85.

McDonnell, A., Dearden, B. & Richens, A. (1991a). Staff training in the management of violence and aggression: 1 - Setting up a training system. Mental Handicap, 19, 73-6.

McDonnell, A., Dearden, B. & Richens, A. (1991b). Staff training in the management of violence and aggression: 2 - Avoidance and Escape Principles. Mental Handicap, 19, 109-12.

McDonnell, A., Dearden, B. & Richens, A. (1991c). Staff training in the management of violence and aggression: 3 - Physical Restraint. Mental Handicap, 19, 151-4.

McNichols, C.W., Stahl, M.J. & Manley, T.R. (1978). A validation of Hoppock's job satisfaction measure. Academy of Management Journal, 21 (4), 737-42.

Menaghan, E.G. & Merves, E.S. (1984). Coping with occupational problems: The limits of individual efforts. Journal of Health & Social Behaviour, 25, 406-23.

Owens, R.G. & Ashcroft, (1985). Violence: A Guide for the Caring Professions. London: Croom Helm.

Parkes, K.R. (1994). Personality and coping as moderators of work stress: Models, methods and measures. Work & Stress, 8 (2), 110-19.

Peterson, C., Semmel, A., Bayer, C., Abramson, L.Y., Matalsky, G. & Seligman, M.E.P. (1982) The Attributional Style Questionnaire. Cognitive Therapy & Research, 6, 287-99.

Peterson, C. & Villanova, P. (1988). An expanded Attributional Style Questionnaire. Journal of Abnormal Psychology, 97, 87-9.

Pines, A. & Maslach, C. (1978). Characteristics of staff burnout in mental health settings. Hospital & Community Psychiatry, 29, 233-7.

Praill, T. & Baldwin, S. (1988). Beyond hero innovation: Real change in unreal systems. Behavioural Psychotherapy, 16, 1-14.

Quereshi, H. (1990). Parents Caring for Young Adults with Mental Handicap and Behaviour Problems. University of Manchester: Hester Adrian Centre.

Quereshi, H. & Alborz, A. (1992). Epidemiology of challenging behaviour. Mental Handicap Research, 5, 36-51.

Quine, L. (1986). Behaviour problems in severely mentally handicapped children. Psychological Medicine, 16, 895-907

Quine, L. & Pahl, J. (1985). Examining the causes of stress in families with severely handicapped children. British Journal of Social Work, 15, 501-17.

Quine, L. & Pahl, J. (1991). Stress and coping in mothers caring for a child with severe learning difficulties: A test of Lazarus's transaction model of coping. Journal of Community & Applied Social Psychology, 1, 57-70.

Randall, M. & Scott, W.A. (1988). Burnout, job satisfaction and job performance. Australian Psychologist, 23 (3), 335-47.

Razza, N.J. (1993). Determininants of direct-care staff turnover in group homes for individuals with mental retardation. Mental Retardation, 31, 284-91.

Reed, J. (1990). Identification and description of adults with mental handicaps showing physically aggressive behaviours. Mental Handicap Research, 3 (2), 126-36.

Reisenzein, R. (1986). A structural equation analysis of Weiner's attribution-affect model of helping behaviour. Journal of Personality & Social Psychology, 50 (6), 1123-33.

Reynolds, W.R. (1982). Development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. Journal of Clinical Psychology, 38 (1), 119-25.

Rose, J. (1993). Stress and staff in residential settings: The move from hospital to the community. Mental Handicap Research, 6, 312-32.

Rose, J. (1995). Stress and residential staff: Towards an integration of existing research. Mental Handicap Research, 8 (4), 220-36

Russell, D. (1982). The Causal Dimension Scale: A measure of how individuals perceive causes. Journal of Personality & Social Psychology, 42 (6), 1137-45.

Russell, D., McAuley, E. & Tarico, V. (1987). Measuring casual attributions for success and failure: A comparison of methodologies for assessing causal dimensions. Journal of Personality & Social Psychology, 42, 1248-57.

Rutter, M., Graham, P. & Yule, W. (1970). A Neuropsychiatric Study in Childhood. London: Spastics International Medical Publications in association with Heinemann Medical Books Ltd. , Philadelphia.

Ryan, J. & Poster, E. (1989). The assaulted nurse: Short term and long term responses. Archives of Psychiatric Nursing, 3, 323-31.

Sarata (1974). Employee satisfactions in agencies serving retarded persons. American Journal of Mental Deficiency, 79 (4), 434-42.

Scarpello, V. & Campbell, J.P. (1983). Job satisfaction: Are all the parts there? Personnel Psychology, 36, 577-600.

Sharrard, H.E. (1992). Feeling the strain: Job stress and satisfaction of direct care staff in the mental handicap service. The British Journal of Mental Subnormality, 38 (1,: 32-8

Sharrock, R., Day, A., Quazi, F. & Brewin, C.R. (1990). Explanations by professional care staff, optimism and helping behaviour: An application of attribution theory. Psychological Medicine, 20, 849-55.

Schieier, M., Weintraub, J. & Carver, C. (1986). Coping with stress: Divergent strategies for optimists and pessimists. Journal of Personality and Social Psychology, 51, 1257-64.

Silver, E.J, Lubin, R.A. & Silverman, W.P. (1984). Serving profoundly mentally retarded persons: Staff attitudes and job satisfaction. American Journal of Mental Deficiency, 89 (3), 297-300.

Spencer, D.A. (1983). Stress in work with people with learning disabilities. Mental Handicap, 11,7-8

Steiner, D.K. & Truxillo, D.M. (1987). Another look at the job satisfaction life satisfaction relationship: a test of the dissagregation hypothesis. Journal of Occupational Behaviour, 8, 71-7.

Steinfert Kroese, B. & Fleming, I. (1992). Staff's attitudes and working conditions in community based group homes of people with learning disabilities Mental Handicap Research, 5 (1), 82-91.

Strahan, R. & Gerbasi, K.C. (1972). Short homogeneous version of the Marlowe-Crowne social desirability scale. Journal of Clinical Psychology, 28, 191-3.

Thomson, S. (1987). Stress in working with mentally handicapped people. In: R Payne and J Firth Cohens (Eds) Stress in Health Professionals. pp 151-65. Chichester: John Wiley & Sons.

Thornton, P.I. (1992) .The relation of coping, appraisal and burnout in mental health workers. Journal of Psychology, 126 (3), 261-71.

Turnipseed, D.L. & Turnipseed, P.H. (1991). Personal coping resources and the burnout syndrome. Journal of Social Behaviour & Personality, 66 (3), 473-88.

Wahler, R.G. & Fox, J.J. (1981). Settings events in applied behaviour analysis: Toward a conceptual and methodological expansion. Journal of Applied behaviour Analysis, 14, 327-38.

Ward, L. (1989). 'An ordinary life': The early views and experiences of residential staff in the Wells Road service. Mental Handicap, 17, 6-9.

Weiner, B. (1980). A cognitive (attribution) - emotion - action model of helping behaviour: An analysis of judgements of help giving. Journal of Personality and Social Psychology, **39**, 186-200

Weiner, B. (1985). An attributional theory of achievement, motivation and emotion. Psychological Review, **92**, 548-73.

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

Weiss, D.H., Davis, R.V., England, G.W. & Lofquist, L.H. (1967). Manual for the Minnesota Satisfaction Questionnaire. Minnesota studies in vocational rehabilitation, No. 22. Minneapolis: University of Minnesota.

Whitaker, S. (1993). The reduction of aggression in people with learning difficulties: A review of psychological methods. British Journal of Clinical Psychology, **32**, 1-37.

Whittington, R. & Wykes, T. (1989). Hidden injury. Nursing Times, **85**, 30-2.

Whittington, R. & Wykes, T. (1992). Staff strain and social support in psychiatric hospital following assault by a patient. Journal of Advanced Nursing, **17**, 480-6.

Wykes, R. & Whittington, T. (1991). Coping strategies used by staff following assault by a patient: an exploratory study. Work & Stress, **5** (1), 37-48.

Appendices

Appendix i: Service-related questionnaire for home leaders of participating services.

Appendix ii: Covering letter to staff.

Appendix iii: Socio-demographic questionnaire

Appendix iv: Adapted causal dimension scale and perceived self efficacy item

Appendix v: Emotions scale

Appendix vi: Examples of COPE items

Appendix vii: Measure of service-user aggression

Appendix viii: Letter of ethical approval.

Appendix i:

Service Related Questionnaire for Home Leaders of Participating Services

Service identification no: [] (This number will enable me to match this questionnaire to individual questionnaires completed by staff in this home).

Today's date: [] / [] / 19 []

Name of respondent:

.....

Position/job title:

.....

The following questions aim to obtain general background information about the service provided in this home, including a description of the staff team as a whole and service-user characteristics:

PART 1

CHARACTERISTICS OF THE STAFF TEAM WITHIN THIS HOME, AS A WHOLE.

Since participation in this survey is on a voluntary basis, I need the following information in order to estimate how far the questionnaires returned actually represent the staff team in this home as a whole. I also need this information to estimate how far the survey findings can be generalised to other similar services.

For the purposes of this survey, I am defining 'direct care staff' as all staff who perform direct care duties.

- The term includes both qualified and unqualified care workers, nursing and other support staff.
 - The term excludes those staff who have purely managerial responsibilities.
-

1(a) In total, how many direct-care staff care for residents in this home? (Please include yourself if you fit the definition of direct care staff given above)

[]

Thinking about your staff team in more detail.....

1(b) How many of these direct-care staff work full-time? []

1(c) How many of these direct-care staff work part-time? []

1(d) How many of these direct-care staff are male? []

1(e) How many of these direct-care staff are female? []

1(f) How many of these direct-care staff have formal qualifications? []

1(g) How many of these direct-care staff are unqualified? []

1(h) How many of these direct-care staff fall into the following ethnic groups?

White	[]	Pakistani	[]
Black Caribbean	[]	Bangladeshi	[]
Black African	[]	Chinese	[]
Black other	[]	Asian other	[]
Indian	[]	Other	[]

- 1(i) How many of these direct-care staff have been employed within the home for less than three months? []
- 1(j) Approximately how many direct care staff have left the home in the past year? []

PART 2

CHARACTERISTICS OF RESIDENTS OR 'SERVICE-USERS' CARED FOR IN THIS HOME.

I need this information in order to be able to estimate how far the survey findings can be generalised to other similar services.

- 2(a) How many service-users in total are cared for in this home? []
- 2(b) Please state the number of service-users cared for in this home, who could be broadly described as having each of the following:
- | | |
|--------------------------------|----------|
| Mild learning disabilities | [] |
| Moderate learning disabilities | [] |
| Severe learning disabilities | [] |
- 2(c) Please state the number of service-users cared for in this home, who could be broadly described as having each of the following:
- | | |
|--------------------------------|----------|
| Mild physical disabilities | [] |
| Moderate physical disabilities | [] |
| Severe physical disabilities | [] |
- 2(d) Please state the number of service-users cared for in this home, who could be categorised as regularly showing each of the following behaviours on a **FREQUENT** basis:
(i.e. at least once a week)
- Physically aggressive behaviour towards **OTHER PEOPLE** (e.g. biting, kicking or scratching others)? The term 'others' includes both staff and other residents. [].
 - Physically aggressive behaviour towards **OBJECTS** (including banging or kicking furniture or other property)? []
 - Self-injurious behaviours (including face-slapping, head banging, scratching or biting **SELF**)? []

2(e) Please state the number of service-users cared for in this home, who could be categorised as tending to show each of the following behaviours, but only on an **OCCASIONAL** basis: (i.e. less frequently than once a week)

- Physically aggressive behaviour towards **OTHER PEOPLE** (e.g. biting, kicking or scratching others)? The term 'others' includes both staff and other residents [].
- Physically aggressive behaviour towards **OBJECTS** (including banging or kicking furniture or other property)? []
- Self-injurious behaviour (including face-slapping, head banging scratching or biting **SELF**)? []

2(f) As far as you know, over the past **MONTH**, approximately **how many direct-care staff** in this home have been involved in at least one service-user aggression related incident, which has resulted in physical injury to the staff member? (i.e. bruising, bleeding or other form of tissue damage). Please refer to incident book, if there is one.

[] **individual staff members**

2(g) As far as you know, over the past **MONTH**, approximately **how many service-users** in this home have exhibited at least one episode of self-directed aggressive behaviour, which has resulted in physical self-injury to the service user? (i.e. bruising, bleeding or other form of tissue damage). Please refer to incident book, if there is one.

[] **individual service-users**

Please make sure you have completed all the questions and return this questionnaire to Georgia Mitchell

Many thanks for your time and co-operation in this study.

Appendix ii:

(covering letter to staff)



Sub-Department of Clinical Health Psychology

UNIVERSITY COLLEGE LONDON

GOWER STREET LONDON WC1E 6BT

Daytime contact no. (The Willesden Centre) Tel: 0181 451 8283

CLINICAL PSYCHOLOGY DOCTORATE STUDY AT UNIVERSITY COLLEGE, LONDON:

'The psychological impact of aggressive service-user behaviour on direct-care staff'

Dear care-worker,

I am a psychologist doing a survey of the views of direct-care staff working across several services for people with learning disabilities who show aggressive forms of challenging behaviour. I would be very grateful if you could fill in the attached questionnaire. If you do decide to participate, your questionnaire will be a valuable contribution to our study. However, you do not have to complete and return this questionnaire if you do not wish to take part.

How could this study help you? Your help in this survey will contribute to our understanding of how staff cope with aggressive behaviour, an area which is currently under-researched. It is hoped that the overall results could be usefully fed back to your service to help improve future staff training and support. The findings will also be used to develop a booklet for staff, highlighting the ways of coping which are found to be most effective when caring for individuals who show aggressive behaviour. This booklet will be distributed to all interested staff in your service.

What will happen to my answers? The information you give is **CONFIDENTIAL** and it will not be possible for individuals to be identified. The organisation where you work will at no time have access to any of the questionnaires completed by individuals. However, the general findings will be provided to all participating services. I will not be making any comparisons between the different services involved in the wider survey.

How do I fill in the survey? This survey is divided into four sections:

- Section A: Details about you and your job, including questions about your training, qualifications and about how satisfied you are with your job. You will not be asked to give your name.
- Section B: Your experience of various forms of aggressive resident behaviours and how you think and feel in response to such behaviour.
- Section C: How you may cope with stress associated with aggressive resident behaviour.
- Section D: Your job-related attitudes and about your general health and well-being.

I appreciate that you could be very busy in your job, but if you complete the questionnaire a section at a time, it shouldn't take too long to complete. This is not a test and there are no right or wrong answers to any of the questions included in the survey. We want to know *your* personal views on the issues raised in the questionnaire and the way *you* react to certain situations. Please answer all the questions as openly and honestly as possible. Read each question carefully but respond according to your first reaction and do not spend too long on any one question. Please complete the questionnaire for your current job or the job you do most of the time. If you have any queries about this study or the questionnaire, please contact me at the above address or contact number. When you have completed the attached questionnaire, please place it in the envelope provided, seal it and return to Georgia Mitchell. Many thanks for your time and co-operation.

Ms. Georgia Mitchell B.Sc

Clinical Psychologist in Training, U.C.L.

Appendix iii:

(Socio-demographic questionnaire)

CONFIDENTIAL

Staff Questionnaire:

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

Part 1

The following questions ask for background information about you, your qualifications, training and experience in services for people with learning disabilities and about how satisfied you are with your job (please tick the appropriate box for each question).

A1. Are you male or female? *Male* [] *Female* []

A2. What was your age on your last birthday? [] *years*

A3. Are you currently living with a partner/spouse? *Yes* [] *No* []

A4. How many dependents do you **care for** at home (including children, older relatives etc.)?

none [] *one* [] *two* [] *three* [] *four* [] *five* [] *more than five* []

A5. Please tick the statement below that most accurately reflects your educational achievements.

No formal qualifications []

GCSE/O'levels or equivalent []

'A' levels/HNC or equivalent []

HND or equivalent []

Polytechnic/University Degree []

A6. Do you have any formal qualifications relating to caring for people with learning disabilities? *Yes* [] *No* []

If yes, what qualifications are these?

A7. What other professional qualifications do you hold?

A8. Approximately how long have you worked in THIS particular home?

Number of months? [] *or years?* []

A9. Approximately how many hours do you work in this home each week? [] *hours*

A10. Overall, approximately how long in total have you worked in services for people with learning disabilities?

Number of months? [] *or years?* []

A11. Have you ever worked in a specialist **learning disabilities** hospital? *No* [] *Yes* []

If yes, for how many months? [] or years? []

A12. Have you ever worked in a specialist **psychiatric** hospital? *No* [] *Yes* []

If yes, for how many months? [] or years? []

Finally, I would like to know how you would describe your ethnic status.

This will provide an estimate of how much the views of different ethnic groups are represented in the whole survey. I am NOT intending to compare the views of different ethnic groups or to use this information in any other way.

How would you describe your ethnic status?

<i>White</i>	[]	<i>Pakistani</i>	[]
<i>Black Caribbean</i>	[]	<i>Bangladeshi</i>	[]
<i>Black African</i>	[]	<i>Chinese</i>	[]
<i>Black other</i>	[]	<i>Asian other</i>	[]
<i>Indian</i>	[]	<i>Other</i>	[] Please specify.....

Appendix iv:

(Adapted causal dimension scale and perceived self efficacy item).

Try to imagine yourself as the care-worker in the description above. Although there is less information here than you might actually have when working with someone like John, draw on your own experience and opinions of the reasons why aggressive service-user behaviour might occur, whilst answering the questions below.

Please write down in the dotted box below what you believe to be the **major CAUSE** of the individual's aggressive behaviour:

Think about the CAUSE you have written in the box above. The question items below concern YOUR impression or opinions of the cause you have given. Please rate this cause by circling one number for each of the question items which follow after you have read the EXAMPLE of how to do this below:

EXAMPLE:

The question in the first item (a) asks whether the CAUSE you have written in the box above is something that reflects an aspect of the individual service-user OR something that reflects an aspect of the situation. If you think the cause reflects an aspect of the individual, you would circle 9 or 8 or 7 depending on how extreme 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 extreme your views are. Alternatively, you may think the cause is somewhere in the middle, between the two extremes, in which case you might want to circle number 5 in the middle as in the completed example below.

Is the cause something.....	9	8	7	6	(5)	4	3	2	1	
that reflects an aspect of the individual										reflects an aspect of the situation

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

Is the CAUSE something.....

that reflects an aspect of the individual	9	8	7	6	5	4	3	2	1	
										reflects an aspect of the situation
manageable by the Individual	9	8	7	6	5	4	3	2	1	not manageable by the individual
permanent	9	8	7	6	5	4	3	2	1	temporary
that the individual can regulate	9	8	7	6	5	4	3	2	1	that the individual cannot regulate
over which others have control	9	8	7	6	5	4	3	2	1	over which others have no control
inside of the individual	9	8	7	6	5	4	3	2	1	outside of the individual
stable over time	9	8	7	6	5	4	3	2	1	variable over time

under the power of of other people	9	8	7	6	5	4	3	2	1	not under the power of other people
something about the individual	9	8	7	6	5	4	3	2	1	somethingabout others
over which the the individual has power	9	8	7	6	5	4	3	2	1	over which individual 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

B7. How confident do YOU feel about your ability to deal with an episode of service-user aggression such as that described above? (Please circle one number only).

Not at all confident 0 1 2 3 4 5 6 Very
confident

Appendix v:

(Emotions scale)

Here is a list of emotions that some care staff say they experience in situations involving aggressive service-user behaviour. Thinking about your own recent experience of aggressive service-user behaviour and your own typical reactions, please indicate whether you experience each of the emotions below when aggressive service-user behaviour is directed towards **YOU** (please circle one number only for each emotion).

How often do you feel each of the following, when aggressive behaviour is directed towards **YOU**:

	No never	Yes, but infrequently	Yes, frequently	Yes, very frequently
(a) <i>SHOCKED</i>	0	1	2	3
(b) <i>STRESSED</i>	0	1	2	3
(c) <i>CONFIDENT</i>	0	1	2	3
(d) <i>BETRAYED</i>	0	1	2	3
(e) <i>GUILTY</i>	0	1	2	3
(f) <i>HOPELESS</i>	0	1	2	3
(g) <i>AFRAID</i>	0	1	2	3
(h) <i>ANGRY</i>	0	1	2	3
(i) <i>SYMPATHETIC</i>	0	1	2	3
(j) <i>INCOMPETENT</i>	0	1	2	3
(k) <i>SAD</i>	0	1	2	3
(l) <i>FRUSTRATED</i>	0	1	2	3
(m) <i>HELPLESS</i>	0	1	2	3
(n) <i>DISGUSTED</i>	0	1	2	3
(o) <i>NERVOUS</i>	0	1	2	3
(p) <i>RESIGNED</i>	0	1	2	3
(q) <i>FRIGHTENED</i>	0	1	2	3
(r) <i>HUMILIATED</i>	0	1	2	3

(s) Is there anything else you would typically feel when aggressive service-user behaviour is directed towards **YOU**?

Appendix vi:

Examples of COPE items and their respective sub-scales (in brackets):

- I've been accepting the reality of the fact that it has happened (Acceptance).
 - I've been letting my feelings out (Focus on and venting of emotions).
 - I've been asking people who have had similar experiences what they did (Seeking social support for instrumental reasons).
 - I've been getting sympathy and understanding from someone (Seeking social support for emotional reasons).
 - I've been thinking about how I might best handle the problem (Planning).
 - I've been day-dreaming about things other than this (Mental dis-engagement).
 - I've been saying to myself 'this isn't real' (Denial).
-

Appendix vii:

(Measure of perceived exposure to service-user aggression)

Part B

The following section asks questions about: your recent experience of aggressive service-user behaviours, any relevant training you have had for managing aggression, how you understand the cause of such behaviours and how you feel in situations involving service-user aggression.

The term 'service-user' is used to refer to residents with learning disabilities cared for by your service.

B1. Please think about whether you have recently experienced any aggressive service-user behaviour towards YOU (e.g. kicking, biting, scratching etc.). In the past MONTH have you personally experienced:

(a) *Physically aggressive service-user behaviour towards you AND resulting in injury to you, e.g. bruising, bleeding or other tissue damage?* Yes [] No []

(b) *Physically aggressive service-user behaviour towards you but NOT resulting in any form of injury to you?* Yes [] No []

(c) *Verbally aggressive service-user behaviour towards you? e.g. shouting or screaming at you, verbal abuse or threats.* Yes [] No []

B2. Now please think about whether you have recently witnessed any aggressive service-user behaviour towards OTHERS (e.g. biting, kicking, scratching etc.). In the past MONTH have you witnessed:

(a) *Physically aggressive behaviour towards others AND resulting in injury to others (e.g. bruising, bleeding or other tissue damage)?* Yes [] No []

(b) *physically aggressive behaviour towards others but NOT resulting in injury to others?* Yes [] No []

(c) *verbally aggressive behaviour towards others, e.g. shouting or screaming at others, verbal abuse or threats towards others .* Yes [] No []

B3. Now please think about whether you have recently witnessed any self-injurious service-user behaviours (e.g. face slapping, head banging, scratching or biting SELF). In the past MONTH have you witnessed:

(a) *Self-directed aggressive behaviour AND resulting in self-injury (e.g. bruising, bleeding or other tissue damage)?* Yes [] No []

(b) *Self-directed aggressive behaviour but NOT resulting in any form of self injury?* Yes [] No []

B4. Now please think about whether you have recently witnessed any aggressive service-user behaviour towards OBJECTS (e.g. banging or kicking furniture or other property). In the past MONTH have you witnessed:

(a) *Aggressive behaviour towards objects AND resulting in damage to property?*

Yes [] No []

(b) *Aggressive behaviour towards objects but NOT resulting in damage to property?*

Yes [] No []

B5. Have you ever had any relevant TRAINING for managing aggressive service-user behaviour? (e.g. assessment of aggressive behaviour, restraint courses, breakaway techniques etc.) Yes [] No []

If **yes**, please describe below what sort of training this was, when this took place (if it was some time ago, just state the year) and for how long:

Appendix viii:

(Letter of ethical approval)



The University College London Hospitals

The Joint UCL/UCLH Committees on the Ethics of Human Research

Committee A Chairman: Dr F D Thompson

Please address all correspondence to:

Mrs Iwona Nowicka
Secretary to Ethics Committees
9th Floor, St Martin's House
140 Tottenham Court Road, LONDON W1P 9LN
Tel. 0171- 380 9579 Fax 0171-380 9536

Ms Georgia Mitchell
71 Holst Lodge
Fairacres
Bromley
Kent BR2 9BW

27 September 1996

Dear Ms Mitchell

Study No:	96/95 <i>(Please quote in all correspondence)</i>
Title:	The psychological impact of aggressive service-user behaviour on direct-care: the role of staff attributions and coping strategies in mediating emotional responses, job satisfaction and stress-related outcomes

Thank you for your letter of the 10th September 1996 supplying further information at the request of the Committee. I am writing to let you know that this application is now approved and you may go ahead with your study.

Please note that it is important that you notify the Committee of any adverse events or changes (name of investigator etc) relating to this project. You should also notify the Committee on completion of the project or indeed if the project is abandoned. Please remember to quote the above number in any correspondence.

Yours sincerely

Dr F D Thompson
Chairman