STAFF EMOTIONAL REACTIONS, SELF-EFFICACY AND MANAGEMENT OF CLIENT AGGRESSION IN A TREATMENT AND RECOVERY SERVICE

By

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Thesis submitted to

The Faculty of Medicine and Biological Sciences, University of Leicester

in partial fulfilment of the degree of

Doctorate in Clinical Psychology

School of Psychology – Clinical Section

June 2004

UMI Number: U187751

UMI

Dissertation Publishing

ProQuest

Acknowledgements

ABSTRACT

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Objectives. The aim of the research was to explore the emotional reactions of nursing staff to patient aggression within a psychiatric setting. More specifically, it aimed to investigate a number of factors associated with staff emotional reactions, including their perceived self-efficacy in dealing with such behaviour. The study additionally aimed to investigate the association between the negative emotions experienced by nursing staff and the intended management of aggressive behaviour.

Design. A cross-sectional correlational design was utilised to examine staff emotional reactions, self-efficacy and management of patient aggression. Various statistical analyses were employed to examine the nature of staff emotional reactions and the association between these and demographic, support, and management variables.

Method. Sixty-Six staff working within a NHS Treatment and Recovery Service completed a self-report questionnaire. Participants rated their emotional reactions and perceived self-efficacy after reading a vignette of patient aggression directed towards them. Staff then rated how likely they would manage the incident of aggression. Finally, demographic, support and training information was elicited.

Results. Significant associations were found between staff emotional reactions and perceived self-efficacy. Associations were found between various dimensions of emotional reactions and experience and support variables. Regression analyses revealed that perceived self-efficacy was a negative predictor of the fear/anxiety dimension of negative emotional reactions. For the depression/anger dimension, perceived self-efficacy was a negative predictor and support from the team leader was a positive predictor. Perceived self-efficacy was associated with various experience variables and training in breakaway techniques. Correlational analysis highlighted that negative emotional reactions were linked to more punitive, firm and avoidant management strategies.

Conclusion. The results are consistent with much of the literature surrounding staff emotional reactions to challenging behaviour and are discussed in relation to previous research. Clinical implications of the research are explored, and it is concluded that different interventions are needed to address staff negative emotional reactions to patient aggression. Further, measures could be adopted to increase perceived self-efficacy and support. Directions for future research are suggested and final conclusions made.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1. INTRODUCTION

1.1 Overview

According to the media, aggression is a problem within many working environments and it is one that is increasing (Omerov, Edman & Wistedt, 2002). Indeed, successive British Crime Surveys highlight a dramatic rise in the number of work-related violent incidents (Health and Safety Advisory Committee; HSAC, 1997). Recently, greater attention has been paid to the extent of violence and aggression within the health service, and although not a new problem, it is felt by many that it is getting worse (Wells & Bowers, 2002; Whittington & Wykes, 1996; Rippon, 2000). Some researchers state that the increase in assaults within hospitals is a major public health issue and reflects the overall increase in violence in society (Shepherd, 2001).

Perhaps because of the apparent increase in violence in health care settings, there has been a marked rise in the number of research papers focussing on this issue (Cutcliffe, 1999). Within this there has been increased attention paid to the problem of aggression directed towards nurses by patients[1] (Whittington, 1997). Although a report produced by the HSAC (1987) found that aggression was a significant problem affecting a wide range of occupations in the health service, nurses have consistently been shown to be more exposed to aggressive acts (Whittington, 1997). For example, a recent British Crime Survey identified that nurses had a 5 per cent risk of being physically assaulted which was the second highest of all occupational groups and four times the national average (Budd, 1999).

Although exposure to patient aggression may have become an unfortunate reality for many nursing staff, research consistently highlights that it can result in significant harm and distress. For instance, Conn and Lion (1983) found that the majority of victims of assault agreed that the emotional impact of having been attacked far exceeded the impact of physical injury.

Clearly, patient aggression will have physical and psychological ramifications for the nurse involved, for example, in terms of sickness and a reduction in confidence

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[1] The term 'patient' is used intentionally throughout this paper. Despite changes in terminology, the use of this term is acceptable in medical contexts where 'patient' is the normal word to use for the recipient of medical services (BPS, 2003).

(Chaloner, 1995). There is also recognition that the negative effects experienced by the victim may have a detrimental effect upon the patients in their care. For example, following an assault a nurse may feel anger or anxiety, and as a result become 'overcontrolling' towards the patient, for example, more likely to use restraint (Whittington & Wykes, 1994a), which may then become an important factor in the process of reinforcing and escalating aggression (Lowe, 1992).

Although a large number of research studies have now been produced investigating this area, Rippon (2000) argues that little empirical research has been conducted within health care workplaces into incidents of aggression, and the psychological sequelae that result. According to Duxbury (2002), only recently has the impact of verbal abuse been recognised within the literature.

However, there does appear to be increased attention paid to this important area, and the current study aimed to contribute by investigating the emotional reactions of psychiatric staff to patient aggression and their subsequent management of such behaviour. Within the introduction a number of areas are addressed. The literature on staff emotional reactions to patient aggression is reviewed, including a discussion on the factors found to affect and ameliorate such reactions (for example, staff perceived self-efficacy). In doing so, the author utilises the literature from both the psychiatric and learning disabilities fields, which appear to be the two areas where this research has predominated. The literature on the management of aggression is also addressed, and primarily the work concerning the role of staff emotional reactions in the management of patient aggression.

First, however, more detail on the nature and extent of aggression within the health service is provided, and in particular within psychiatric services. It must be noted that within the constraints of this study it would be impossible to write at length about all the issues pertaining to this area. Accordingly, such a review is selective in nature.

1.2 The extent of the problem

Numerous early studies attest to the fact that violence and aggression are common within healthcare settings. An often cited study was conducted by the Health Service Advisory Committee (HSAC, 1987). This study sampled 5000 healthcare workers from

all disciplines and classified violence into four categories: major injury, minor injury, threat with a weapon, and verbal abuse. A response rate of 60 per cent was achieved, with the findings indicating that 11.5 per cent of staff had experienced an injury (major and minor), with a further 22.1 per cent having experienced a threat with a weapon (1987, p. 2). Although this study was comprehensive, according to Wells and Bowers (2002) there are a number of weaknesses, including the fact that it did not account for assaults not causing a physical injury or threats of violence where no weapon was involved.

Locally, an annual survey of staff working in the Leicestershire Partnership NHS Trust found that 47 per cent of staff reported violent or aggressive behaviour towards them, with 20 per cent feeling that their working environment was not safe (Haslam & Passmore, 2003). More recent research indicates that there are approximately 130 violent and aggressive incidents each day within the National Health Service (NHS; Harrison, 2003, cited in Haslam & Passmore, 2003).

A number of other large-scale studies have confirmed high levels of aggression in the health service (Health Service Report, 1998). Whittington, Shuttleworth and Hill (1996) produced figures indicating that 21 per cent of staff had experienced assaults in the previous year, with 43 per cent suffering some form of abuse. In this study, nurses experienced the highest proportion of assaults, although the findings need to be interpreted with caution due to the small response rate (38 per cent).

Generally, research highlights that nurses may be more exposed to violence and aggression than other professionals (Mahoney, 1991; Nolan, Dallender, Soares, Thomsen & Arnetz, 1999), and that aggression is endemic throughout the healthcare system. Ryan and Poster (1993), for example, found that 54 per cent of their participants reported an assault in the preceding six months. However, these authors asked for volunteers from the Nursing Times, and it could be argued that those who did respond had experienced higher levels of aggression and were therefore more motivated to take part. Nevertheless, these findings are echoed in research examining violence in Accident and Emergency Departments, with one study finding that only nine per cent of respondents had never experienced violence in their career (Schneiden

& Marren-Bell, 1995). High rates of aggression have also been found within learning disability services (Jacobsen, 1982).

Within the psychiatric nursing literature, violence and aggression has long been recognised and researched (Whittington, 1994; Bowers, Whittington, Almuik, Bergman, Oud, & Savio, 1999). Serious incidents have been found in both prospective and retrospective studies (Larkin, Murtagh & Jones, 1988). In the aforementioned HSAC (1987) study, the prevalence of violence was found to be higher for nurses working in psychiatric settings than any other NHS settings.

Indeed, assaults on psychiatric nurses are said to be relatively common (Adams & Whittington, 1995; Baxter, Hafner & Holme, 1992; Nolan et al., 1999) and have steadily increased over previous decades (Haller & Deluty, 1988). For instance, one study found that 50 per cent of psychiatric nursing staff had been physically assaulted during their careers (Weiser, Levkowitch, Shalom & Neuman, 1994). According to Whittington (1994), the average frequency of assaults on nursing staff working in psychiatric facilities is one every 11 days, although this figure is likely to obscure any significant peaks and troughs (Whittington, 1997).

Research from other countries is consistent with the above. Studies conducted in Sweden have found that psychiatric nurses face a high frequency of violent acts by patients (Soares, Lowoko & Nolan, 2000). Arnetz, Arnetz and Petterson (1996), for example, found that 29 per cent of Swedish nurses had experienced violence at work, and 35 per cent had been threatened. Studies in Australia have found similar results. Delaney, Cleary, Jordan and Horsfall (2001) found that 88 per cent of nurses in their study had been assaulted in the previous two years (defined by the completion of a 'Staff Accident and Injury Report Form', p. 79). Fourteen (27 per cent) of these had sustained some form of physical injury. Baxter, Hafner and Holme (1992) found that only 18 per cent of the 263 nurses in their sample reported having never experienced an assault, with 22 per cent of them reporting more than 10 assaults (p. 568).

According to numerous authors, research attempting to establish the extent of aggression and violence towards nursing staff is hindered by a variety of factors (Barlow, Grenyer & Ilkiw-Lavalle, 2000). Specifically, the many different

4

methodologies and designs adopted make comparisons problematic. Whittington (1994), who reviewed 12 studies between 1980 and 1990, asserts that one needs to consider the setting in which studies have been conducted. Although, as shown, he concluded that nurses frequently experienced assaults, one cannot directly compare studies that have taken place in a special hospital and a general psychiatric unit.

There have also been few studies investigating this phenomenon on a national basis. Rather, studies tend to be limited to wards within hospitals or comparisons between a number of units in one geographical area (Arnetz, Arnetz, & Petterson, 1996). Similarly, it is difficult to make meaningful comparisons between different nations. For example, research indicates that as a society America is more violent than England. Therefore, research indicating that American psychiatric facilities are more violent than those in the UK may just reflect this general trend (Whittington, 1994).

Authors also accept that there is a tendency for nurses to under-report their experiences of assault (Ryan & Poster, 1989; Rippon, 2000; Omerov, Edman & Wistedt, 2002). Lion, Snyder and Merill (1981), for instance, found that there were five times as many assaults on nursing staff than were officially reported. The study mentioned by Baxter *et al.* (1992) also established that the self-reporting of nurses tends to under, rather than overestimate the actual rate of assaults. Reasons for this under-reporting are vast, and include poor reporting mechanisms and extensive paper work. Rippon (2000) contends that additional factors such as peer pressure not to report, apathy, lack of confidentiality and support contributes to the level of under-reporting.

Estimating the prevalence is difficult due to the lack of clarity regarding the behaviour under investigation (James, Fineberg, Shah & Priest, 1990). Nolan *et al.* (1999) argue that the term 'violence' has been applied to disparate behaviours including mild verbal abuse to more serious physical abuse. The study mentioned by Arnetz *et al.* (1996), for example, did not define violence and no distinction was made between abusive language, threats or actual physical assaults. Due to the lack of generally agreed definitions, Rippon (2000) states that the current data is often less than reliable and often skewed.

Finally, different methods have been adopted to collect information, with studies utilising official records, interviews with staff or large-scale surveys. It is important to be aware, therefore, that the different methods adopted will give rise to divergent conclusions (Breakwell, 1989).

Despite the methodological weaknesses of many of the studies in this area, there is increasing evidence that nurses, and in particular those working in psychiatric facilities, face a high incidence of patient aggression. In response to this, the Department of Health (DoH, 1999) announced a 'zero tolerance' campaign against violence towards NHS staff. This, and numerous previous reports (*e.g.* HSAC, 1987, 1997) made various recommendations to address this issue and improve staff safety, including providing personal alarms to staff, making environmental changes to wards and providing training courses in the prevention and management of violence. Additional recommendations have been made for those experiencing assaults, including offering post trauma support such as counselling and debriefing (DoH, 1999).

According to Benson, Secker, Balfe *et al.* (2003), however, there is a risk that understanding why aggressive behaviour arises may become of secondary importance to a policy of zero tolerance, and failure to meet targets may lead to a decrease in staff morale and confidence (2003, p. 924). It could also be argued that unless such guidelines are mandatory and enforced, they will have little effect on the working environment of nurses and other staff (Haslam & Passmore, 2003).

1.3 Staff emotional reactions to challenging behaviour

Psychiatric nursing work is demanding, and often includes the confrontation of difficult and challenging behaviours on a frequent basis (Sullivan, 1993). As stated, it has been discovered that the emotional impact of facing patient aggression often exceeds the impact of any physical injury (Conn & Lion, 1983). Indeed, although the psychological and emotional effects may be less visible than any physical injury, they may be equally debilitating.

Exposure to patient violence and aggression has been linked to negative effects in a number of different domains, including social, psychological, emotional, cognitive and biophysiological. According to Rippon (2000), being a victim of an aggressive attack

by a patient may result in immediate, short- or long-term effects. Research has highlighted, for example, that the long-term effects of exposure to such behaviour can include post-traumatic stress disorder (Flannery, 1996; Wykes & Whittington, 1991, 1994), and high levels of stress (Whittington & Wykes, 1992, 1994c; Mason & Chandley, 1999).

Of concern to the current study are the often intense emotional reactions experienced by staff in response to 'challenging' patient behaviour, for example, aggression (Grube, 2003). According to Wykes and Mezey (1994), these 'symptoms' are not abnormal but are normal responses to abnormal circumstances. Such emotions include anger, guilt, shame, humiliation, depression and anxiety.

An early study, specifically examining the effects of violence on health care staff, was conducted by Lanza (1983), who identified a range of short and long-term responses in emotional, social and biophysiological functioning. It was noted that many of the participants in the study reported minimal reactions to incidents, which was considered to reflect an element of denial or, perhaps, desensitisation to the job (1983, p. 47). Despite this, short-term reactions indicated by 30 per cent (N = 12) of the sample included anxiety, anger, sadness, depression, shock and fear. The most frequent long-term reactions were anger, anxiety, and fear of the patient who committed the assault. It must be noted that the above study was retrospective, with staff filling out questionnaires up to one year following an assault. According to Whittington and Wykes (1992), recall over long periods is rarely accurate, and victims need to be approached as soon as possible after an incident. This could account for participants reporting minimal reactions.

A more rigorous prospective study was conducted by Ryan and Poster (1989). These authors followed up 61 victims of assaults for one year and found the highest number of moderate to severe responses were reported in the emotional and biophysiological categories. Consistent with Lanza (1983) and others (Holden, 1985), the most common emotional response was anger followed by anxiety (1989, p. 327). Recovery following an assault could also be prolonged, with approximately one-fifth of participants experiencing severe psychological and emotional effects one year after an assault.

Further studies seem to have produced mixed results. For example, Adams and Whittington (1995) found 29 per cent of a sample of hospital and community based psychiatric nurses reported verbal aggression over a ten week period, which often produced high levels of anxiety and traumatic stress. Additionally, females reported higher anxiety levels than males, although the difference was not significant. Although the authors acknowledge the sample size was small (N = 68), they contend that verbal aggression can generate high levels of anxiety in psychiatric nurses. However, great variability has been found in other studies. Whittington and Wykes (1994b), for instance, found that average levels of anxiety were "unremarkable", although a small group of assaulted staff experienced severe anxiety in the absence of serious physical injury (1994b, p. 612). Such variability has also been found in earlier studies (Whittington & Wykes, 1989; Wykes & Whittington, 1991).

Despite these inconsistencies, more recent research has confirmed the findings of Lanza (1983) and Ryan and Poster (1989). Arnetz and Arnetz (2001), for example, found reactions of anger, sadness, disappointment and fear were not uncommon, despite the majority of assaults not resulting in physical injury. This has been confirmed by Omerov, Edman and Wistedt (2002), who additionally found significant gender differences. In this study males reported being more frightened that women, whereas women reported being more surprised.

Primarily, the research cited above has investigated only a small number of possible emotional reactions. According to Cheung, Schweitzer, Tuckwell and Crowley (1997), further research is needed to clarify the range and severity of emotional reactions that could follow an aggressive incident and how it can best be managed. Within this area there also appears to have been little research effort into factors that may be related to staff emotional reactions. One area that appears to have addressed this more fully is within learning disability services.

1.3.1 Learning disability staff emotional reactions

Over the previous decade, research within the learning disabilities domain has investigated the area surrounding staff emotional reactions to challenging behaviour (CB), including aggression. Qualitative, correlational, and later experimental research

8

has been conducted that supports the hypothesis that challenging behaviours elicit negative emotional reactions from staff.

Hastings (1995) conducted interviews with staff working in units for people with learning disabilities and CB. Content analysis of the interviews revealed that staff found CB, and primarily aggression and self-injury, aversive and elicited negative emotional states such as fear, sadness and anger. Working in such environments was also seen as stressful. In relation to self-injury, participants reported that their negative feelings diminished over time, a finding supported by Cottle, Kuipers, Murphy and Oakes (1995). Hastings (1995), like Lanza (1983), posited that this could be due to them habituating to the behaviour, or, alternatively, that other factors in the service environment becoming more salient than their feelings (1995, p. 314).

However, it was not clear whether this finding applied to aggressive service user behaviour, and it could be that, in relation to aggression, the negative emotional reactions remain prominent. Moreover, Fallon (1983) found that staff do not develop 'immunity' to the effects of self-injurious behaviour. In fact, it was found that initial feelings of optimism and empathy changed after several months to frustration, anger and guilt.

Despite the limitations of Hastings' (1995) study (the very small sample size), additional research has confirmed many findings. An exemplar is a study conducted by Bromley and Emerson (1995), who found that staff typically experience a range of emotions in response to CB. Of interest to the current study, it was found that 42 per cent of the sample responded with annoyance to aggressive behaviour, with 24 per cent responding with anger and 19 per cent with fear.

A strength of the above is that a large sample was adopted and staff reactions were examined within a number of different settings. However, only one geographical area was investigated, and the psychometric qualities of the measure adopted are unknown. Therefore, one should be cautious in generalising the findings.

Additional research has identified that the type of behaviour is a significant factor that effects the emotional reactions of staff. Hastings and Remington (1995), for example,

9

found that aggression and self-injury were associated with more negative emotions (such as sadness and fear) than stereotyped behaviours (defined as highly consistent and repetitive motor or posturing behaviours; Baumeister & Forehand, 1973). It was additionally found that previous experience of CB influenced responses, whereby experienced individuals rated the behaviour as less disturbing and fearful than inexperienced individuals.

Bell and Espie (2002) criticise much of the research in this area for primarily focussing on negative emotional reactions, and contend that participants in the Hastings and Remington (1995) study put forward additional positive reactions (such as sympathy). To address this, Bell and Espie (2002) developed an analogue measure that examined positive and negative emotions and attitudes. This exploratory study found that positive and negative emotions do, indeed, coexist. Generally, the staff group working on a challenging behaviour unit had positive attitudes towards the residents (including empathy and feelings of a need to help) and low levels of feelings of disgust, despair and anger.

Again, limitations restrict the generalisability of the above. For example, the authors failed to examine the impact of experience and training on staff responses, and it could be that these factors influenced the balance between positive and negative emotions. There was also no differentiation between different forms of behaviour, and there were a wide variety of behaviours displayed on the unit. Therefore, it is not possible to identify which particular behaviours elicited which emotional responses. It could, based on previous research, be argued that aggressive behaviours were more related to negative reactions from staff. This could account for the wide range of scores for particular emotions as staff may have been considering particular forms of CB when responding.

In addition to the numerous methodological weaknesses noted above, according to Mitchell and Hastings (1998), there has also been a problem with the measurement of staff emotional reactions, a criticism that can also be levelled at the literature within the psychiatric domain. Previous research has primarily adopted rating scale methods, whereby a small number of possible emotions are listed and staff indicate the extent to

which they experience each one. Alternatively, studies have only examined one possible emotion, such as anxiety.

Although such approaches have their advantages, for example, ease of administration, Mitchell and Hastings (1998) highlight a number of important limitations. These include: (1) only a small number of emotions have been used and have not been adopted on the basis of the emotions experienced by staff; (2) the emotions adopted have represented researchers 'best guesses' (Hastings & Remington, 1995); (3) there is a lack of psychometric data available of the scales adopted (Bell & Espie, 2002).

In response to this, Mitchell and Hastings (1998) developed a rating scale of staff emotional responses to aggressive behaviour; the Emotional Reactions to Aggressive Challenging Behaviour Scale (emotional responses scale). Items were selected from previous research on staff working within the learning disabilities arena. The literature concerned with staff responses to assaults in psychiatric settings was also consulted (Lanza, 1983; Ryan and Poster, 1989). Eighty-three care staff from 23 community residences participated in the initial development stage of the research. Participants were asked to rate the frequency with which they experienced each emotion when aggressive service user behaviour was directed at them. Aggressive challenging behaviour was topographically defined as aggression toward self, property destruction, or physical aggression toward staff/others.

Factor analysis revealed that staff emotional reactions could be described along two dimensions: feelings of fear/anxiety and feelings of depression/anger. The two positive emotions initially listed (confident and sympathetic) were excluded from the analysis, as participants did not rate these as central to their reactions to this behaviour. Psychometric properties of the scale were found to be good (see Method section for full description), and the ratings were not significantly affected by a social desirability response bias (1998, p. 447).

Findings from this initial study also highlighted gender differences, whereby males scored higher (mean = 8.05) on the depression/anger subscale than females (mean = 5.87). Conversely, females scored higher on the fear/anxiety subscale than males (mean = 3.78 and 2.79 respectively).

The authors acknowledged that the above study was exploratory and there is a need for continued research. They argue, for example, that the scale should be investigated with staff working within different contexts, such as those working with psychiatric populations. They also argue that it could be utilised to examine staff responses to CB, and hypothesised that high scores on the dimensions of negative affect may be associated with various staff behaviours (such as punitive intervention responses). The present research, adopting the scale developed by these authors, addressed some of the issues raised above.

Due to a lack of a psychometrically robust measure of positive affect, Jones and Hastings (2003) revised the original scale and added eight positive affect items. Factor analysis revealed two dimensions: feelings of cheerfulness/excitement (four items), and feelings of confidence/relaxed (four items). Although only a small number of items were included, Cronbach's alpha coefficients were good (.72 and .70 respectively). The aim of Jones and Hastings (2003) study was to investigate an amended version of Weiner's (Weiner, 1980) helping behaviour model[2]. Little evidence was found for the predicted associations between causal attributions and both positive and negative affect. The authors concluded that there was no evidence that Weiner's helping model could be amended to account for staff working with challenging behaviour.

At the time of writing, no other research appears to have adopted the amended version of the emotions scale, and sought to investigate both positive and negative emotional reactions. Again, the current study sought to redress the balance and investigate these factors. However, adopting the original scale, a number of studies have sought to identify additional factors that affect staff reports of their emotional reactions.

In an experimental study conducted by Mossman, Hastings and Brown (2002), for instance, staff reported more negative emotions after witnessing self-injurious behaviour depicted in a video than under a control condition. It was additionally found that the function of the self-injury was important. Participants were shown videos showing self-injury serving one of three functions (attention seeking, task avoidance

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[2] Such a model draws on relationships between attributions and helping behaviour with the implication that emotional reactions mediate these associations (Jones & Hastings, 2003).

and a non-social function). Staff who watched the task avoidance scenario reported more negative emotions than the other two groups.

Hastings (2002a) states that the effect sizes for the above comparisons were large (most over 1.0), which is strongly supportive of a causal role for CB in staff negative emotional reactions. However, this study only explored self-injurious behaviour and it would be interesting if the results could be replicated with aggressive patient behaviour.

Extending the work of Mossman *et al.* (2002), Hastings, Tombs, Monzani and Boulton (2003), found that experienced staff reported fewer negative emotions than students, a result which supports staff reports that they tend to feel less disturbed by challenging behaviours over time. It was also found that the more severe form of self-injury led to increased negative emotions. No associations between age and gender and negative emotional reactions were found. This study also did not confirm the finding of Mossman *et al.* (2002) that escape-maintained self-injury was associated with relatively high levels of negative emotional reactions. However, Hastings *et al.* (2003) acknowledge that further factors were included in their design which may affect caregivers' emotional reactions to CB (2003, p. 64).

In an attempt to explore additional variables, Hastings and Brown (2002a) examined a number of psychological factors that may be linked to staff emotional reactions. An interesting finding was that staff perceived self-efficacy was an important factor in relation to negative emotional reactions.

1.3.2 Self-efficacy and emotional reactions

The concept of self-efficacy was developed from social learning theory (Rotter, 1966), and is concerned with judgements of how well one can execute courses of action required to deal with prospective situations (Bandura, 1982, p. 122). Specifically, Bandura (1997) defines the concept as "the belief in one's capabilities to organise and execute the course of action required to produce given attainments" (1997, p. 3). Self-efficacy is not a measure of the skills one has, but a belief about what one can do under different sets of conditions with whatever skills one possesses. According to Bandura (1982), those who judge themselves inefficacious in coping with environmental demands dwell on their personal deficiencies and imagine potential difficulties as more

13

formidable than they really are. For example, nurses who judge themselves inefficacious in certain aggression management techniques, such as control and restraint, may conjure up images of harm, whereas those with greater feelings of efficacy will anticipate calm situations and will be more motivated to undertake such an action (Lee, 2001).

As self-efficacy is said to be domain specific, one's self-efficacy belief is likely to differ depending on the activity to which it is related (Bandura, 1997). The stronger the sense of personal efficacy, the greater the perseverance and the higher the likelihood that the chosen activity will be performed successfully. There has been a large volume of research that has identified self-efficacy as an important variable in predicting behaviour and in understanding emotional arousal. Bandura (1982) asserts that perceptions of self-efficacy affect emotional reactions, and especially anxiety and stress reactions to unfamiliar or potentially aversive events. From a social learning perspective, it is mainly perceived inefficacy in coping with potentially aversive events that make them fearsome. Moreover, perceived inefficacious in coping with potential threat leads individuals to approach such situations anxiously, and experiencing disruptive arousal may further lower their sense of efficacy that they will be able to perform skilfully (1982, p. 140).

Given that self-efficacy is implicated in emotional arousal it is perhaps surprising that this concept has not been applied extensively to the field of staff emotional reactions to challenging behaviour. Recently, Hastings and Brown (2002a) investigated a number of factors in relation to staff emotional reactions, including self-efficacy. First, these authors found that individuals who viewed behavioural factors (behavioural causal beliefs) as likely causes of challenging behaviours reported more fear/anxiety emotional reactions. There was also evidence that being formally trained as a teacher was associated with more depression/anger emotional reactions, whereas those with higher levels of behavioural knowledge were less likely to report these emotional reactions (2002a, p. 148). The only demographic variable found to make a significant independent contribution to the prediction of emotional reactions to challenging behaviour was the qualified status of staff. Those with formal teaching qualifications reported more depression/anger emotional reactions than unqualified support staff.

More importantly, adopting a validated measure of self-efficacy (Difficult Behaviour Self-Efficacy Scale; DBSES, Hastings & Brown, 1999), it was found that staff perceptions of their own efficacy in dealing with challenging behaviours independently predicted both fear/anxiety and depression/anger emotional reactions. Hastings and Brown (2002a) argue that this is important as the effect was independent of any effects of levels of behavioural knowledge or formal qualifications, and the effect replicated across both dimensions of emotional reactions.

Although this study adopted the validated measure of emotional reactions (Mitchell & Hastings, 1998) there are a number of weaknesses. For example, the challenging behaviours investigated were not defined and it is therefore not clear how these results would apply to specific behaviours such as patient aggression. Additionally, the sample consisted of educational staff working in schools for children with learning disabilities and/or autism. Hastings and Brown (2002a) acknowledge that the effect of staff self-efficacy needs to be replicated in other samples. If the effects of self-efficacy can be replicated the authors suggest this could be an area for intervention with staff in terms of techniques to bolster staff feelings of efficacy.

At the time of writing, no other research had specifically examined self-efficacy in relation to emotional reactions to challenging behaviours. Research has been conducted utilising the DBSES. Hastings and Brown (2002b), for example, found that self-efficacy mediated the effect of child behaviour problems on mothers' anxiety and depression but moderated the impact on fathers' anxiety[3]. Lee (2001) also adopted the self-efficacy scale in a small questionnaire survey with seventy-six Accident and Emergency staff. In brief, it was found that the mean level of self-efficacy was relatively low, suggesting that participants did not feel able to manage the violent behaviour of their patients. However, higher levels of self-efficacy were associated with having experienced higher levels of verbal aggression in the three months preceding the study and being of management grade.

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[3] According to Hastings and colleagues, if self-efficacy mediates the relationship it carries the effect. Thus, challenging behaviours may reduce staff self-efficacy and it is this that leads to negative affect. If it acts as a moderator, however, there is no causal relationship. Therefore, those with high levels of self-efficacy are less affected by exposure to challenging behaviours (Hastings & Brown, 2002b).

Interestingly, although research indicates that staff confidence in dealing with challenging behaviours improves after training (Allen & Tynan, 2000; McDonnell, 1997), Lee (2001) did not find that training in aggression management techniques (mainly breakaway and control and restraint techniques) resulted in greater feelings of self-efficacy. This finding may be due to the fact that participants in the study did not receive continuous training. It could also suggest that training of staff should go beyond the teaching of traditional aggression management techniques, and as Hastings and Brown (2002a) contend, include aspects that can increase feelings of self-efficacy.

Clearly, the findings of Hastings and Brown (2002a) need to be confirmed. It would also be interesting to investigate, like Lee (2001), additional factors that may be related to self-efficacy. This is important, as a staff member with high efficacy beliefs may, when faced with aggressive patient behaviour, be able to prevent any damaging emotional consequences. An aim of the current study was to address some of these issues.

1.4 Management of aggression

There has been much debate about the management of aggressive incidents, and in particular the use of many 'traditional' approaches such as seclusion, restraint and medication (Crichton, 1995a). According to Whittington (1994), potential or actual aggression almost always calls for some reaction from nursing staff, and in the immediate situation a primary task is to make the situation safe (Crichton, 1995a). Intervention strategies are varied, and range from increased supervision of the patient to seclusion, medication (with, or without, the patient's consent) and restraint. These strategies are often used in some combination, and may start with the least intrusive, moving onto the more intrusive and controlling if it is deemed necessary.

According to Duxbury (2002), despite a shift in the perceived value of some approaches, research tends to suggest that aggressive incidents continue to be managed in a reactive way. In an earlier study by this author, for example, the management of aggression relied heavily upon a 'biomedical' model, which emphasises patient factors in the development of aggression, such as illness. Within this, there was a noticeable emphasis on controlling interventions such as sedation, restraint and removal from the area, with little emphasis being placed on 'talking' interventions (Duxbury, 1999, p.

110). This is confirmed by the Royal College of Psychiatrists (1998), which found the most commonly applied interventions are escape and control techniques (for instance, sedation and restraint).

Duxbury (2002) argues that adopting such techniques is problematic as it is based on the philosophy of control and ignores additional factors in the development of aggression, such as staff-patient interactions. Various authors have noted the negative impact that staff controlling styles can have and may not be in the best interests of patients (Harris & Morrison, 1995), with patients in Duxbury's (2002) study viewing staff 'controlling' styles to be a large part of the overall problem.

Indeed, many of the strategies employed by staff may be counter-habilitative and could contribute to the long-term maintenance of such behaviours. Daffern and Howells (2002) contend that the use of strategies such as seclusion and restraint may precipitate aggression, model aggressive ways of interacting or reinforce aggression, depending on the function of the behaviour. For example, secluded patients often receive special attention from staff which may inadvertently reward the aggressive behaviour.

A key question, therefore, is why staff behave in ways that may lead to the maintenance of aggression. According to Duxbury (2002), the present format of training in aggression management perpetuates the principles of reactivity as they rely heavily on traditional approaches to aggression management. Additionally, preventative approaches, with an emphasis on increased communication, have largely been ignored in such training. However, research within other areas has found that staff are able to report appropriate long-term intervention strategies for the remediation of aggression, and that additional training in the use of psychological interventions (such as de-escalation[4]) would be unlikely to have a major impact on their behaviour (Hastings, 1996).

A number of researchers have searched for models that can help elucidate the factors that determine how staff respond to challenging behaviours (Hastings, 2002a). Clearly, the intervention strategies adopted will depend on many different factors, for example,

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[4] De-escalation is the term applied to a combination of verbal and non-verbal interactions which can, when used appropriately, reduce the threat of violence. For example, non-verbal communication skills and engaging in conversation (DoH, 1999).

the individual nurse's perception of the situation (Finnema, Dassen & Halfens, 1994). Additionally, a number of cognitive models have been postulated to play a key role, for example, the theory of planned behaviour (TPB; Ajzen, 1991). This theory postulates that individuals make behavioural decisions based on a consideration of the available information. A key feature of this theory is that intentions (a person's motivation) determine an individual's behaviour. Ajzen (1991) proposes three determinants of intentions. The first is an individual's belief that a behaviour will lead to a particular outcome. For example, using control and restraint will lead to the elimination of aggressive patient behaviour. The second is perceived behavioural control, which is an individual's perception of the extent to which performance of the behaviour is easy or difficult, whereby the behaviour is more likely to be performed if the individual perceives it to be easy. The final determinant is a person's belief about whether significant others (such as colleagues) think they should engage in that behaviour. Although such a model holds promise, according to Jones and Hastings (2003) it is still to be explored in relation to staff behaviour towards challenging patients.

Research has additionally examined the impact of staff beliefs on their behaviour, and it has been found that attitudes relate to the care and interventions used by staff with patients in longstay psychiatric services (Conning & Rowland, 1992). Research has also investigated cognitive-emotional models of staff behaviour. Specifically, dimensions of staff attributions or causal beliefs, and in particular the attribution of controllability, have been found to play a part in self-reported 'helping' behaviour, with the staff members' emotional response mediating this effect (McGuinness & Dagnan, 2001, p. 301).

According to Jones and Hastings (2003), the research surrounding attributions, emotional reactions and helping behaviour is contradictory, and there is only weak evidence for any effect of staff beliefs about challenging behaviours on their actions. Additionally, although such beliefs may have a role, Hastings and Remington (1994) identify various factors that may influence staff behaviour. For example, they argue that both formal aspects of the service culture (such as policies and procedures) and informal aspects (especially working relationships within staff groups) will affect staff behaviour towards those displaying challenging behaviour. Therefore, they argue that it

is important to explore the impact of these external sources of information on staff behaviour and beliefs.

Many of the factors noted above may have some kind of impact on the way in which staff behave toward people engaging in aggressive behaviour. Additionally, it has also been argued that an important motivating factor for staff in the use of intervention strategies may be the aversive nature of challenging behaviours. Therefore, although the above models may be pertinent in our understanding of staff actions, the current study will focus on the research that claims that the emotions experienced by staff play a key role in their responses (Hastings, 2002a).

1.4.1 Emotional reactions and management

"If you are exposed to violence on a daily basis then that must have an effect on the way you work" (Nurse Manager; Haslam & Passmore, 2003, p. 20).

During incidents of patient aggression there is often little time to consider all possible interventions, and a nurse may have to take immediate action (Finnema, Dassen & Halfens, 1994). It may be that aggressive acts are sufficiently distasteful or threatening to staff as to precipitate immediate and non-reflective action (Hastings & Remington, 1994). As highlighted, a growing body of research demonstrates that challenging behaviour (including aggression) is aversive to staff and, according to a number of authors, staff behaviour serves to avoid or escape these aversive experiences (Hall & Oliver, 1992; Oliver, 1995). It has been speculated that the emotional reactions of staff to aggressive patients influence the choice of interventions (Marangos-Frost & Wells, 2000). Therefore, feelings such as anxiety could lead to staff becoming overly defensive or punitive towards the patient (Benson et al., 2003). As stated, it may be that such actions on the part of staff have a powerful influence on the development and maintenance of such behaviours. Staff behaviour, in addition to potentially reinforcing aggressive incidents, could also be negatively reinforced as aversive challenging behaviours are terminated or avoided (Hastings & Brown, 2002a).

Within the learning disabilities arena there is some support for the above. Participants in the Hastings (1995) study, for example, recognised that their emotional reactions influenced their behaviour, especially in the immediate situation whereby they were

motivated to escape or avoid the situation. Bromley and Emerson's (1995) findings revealed that the emotional reactions of staff were a significant predictor in the patients receiving anti-depressant and anti-psychotic medication.

Within the psychiatric literature, Whittington and Wykes (1992, 1994a & b) put forward a circular model that proposes that being the victim of aggression leads to increased anxiety and stress, and that feeling stressed affects nurses' behaviour towards patients. Further, some of the behaviour exhibited by nurses helps to generate more anger and aggression. According to these authors, two aspects of nurse behaviour are considered particularly relevant to the model. For example, nurses may cope with their anxiety by avoiding interactions with patients (escape/avoidance coping), thereby creating an atmosphere of social distance. Alternatively, the nurse can use confrontive coping strategies that includes expressing their anger or acting in a way that frustrates patients (for example, intruding on personal space). It is also argued that nurses using this method may prefer to over-control potential risky situations by the use of physical restraint (Whittington & Wykes, 1994a & b).

Various aspects of the model have been supported by empirical research. It was found, for example, that more staff adopted escape/avoidance and confrontive coping strategies to cope with their anxiety and this may have implications in the causation of aggression (Whittington & Wykes, 1994b). However, their research primarily investigated whether it could be shown that certain aspects of staff behaviour are implicated in increasing the risk of violence by psychiatric in-patients (Whittington & Wykes, 1994a). Alternatively, their work has investigated the coping strategies adopted by nursing staff after an aggressive incident. For example, in Whittington and Wykes (1994b) study, staff were interviewed first three days and then two weeks after being physically assaulted by a patient. It was therefore not concerned with how anxiety (or stress) affected the immediate reactions of staff. Therefore, although authors such as these (Whittington & Mason, 1995) claim that nurses' experience of anxiety is an important motivating factor in the use of aggression management techniques it is not explicitly investigated. Despite the appeal of Whittington and Wykes model, with respect to the current study there are a number of additional weaknesses. For example, they only consider anxiety and other stress responses, and fail to investigate the full

range of emotions noted by staff. As research has identified, staff report various emotions in response to challenging behaviours and research needs to address these.

Hastings (2002a) proposes a model whereby staff emotional reactions play a causal role in staff responses to challenging behaviour. It is argued that exposure to such behaviour elicits negative emotional reactions, which accumulate over time to affect staff stress and burnout levels. As with Whittington and Wykes (1994a), staff stress and burnout are hypothesised to affect staff interactions.

Although Jones and Hastings (2003) state there is supportive data for some aspects of this model (associations between challenging behaviour and staff emotional reactions, and associations between emotional reactions and staff stress; Mitchell & Hastings, 2001), there has not yet been a full test of this model published. Additionally, although the emotional reactions of staff has received some attention by researchers focusing on helping behaviour in a variety of settings (Dagnan, Trower & Smith, 1998; Sharrock, Day, Qazi & Brewing, 1990), Mitchell and Hastings (1998) assert that the results of these studies has been mixed.

Despite the obvious importance of this area, unfortunately, according to Hastings and Brown (2002a), there are no published studies exploring the potential link between the negative emotions of staff and their behaviour. However, according to Mitchell and Hastings (1998), from both a behavioural and cognitive-emotional perspective, staff emotional reactions play a pivotal role in determining the way in which they respond to challenging behaviours (1998, p. 442). Additionally, despite various models being available to account for staff behaviour, according to Jones and Hastings (2003), staff affective responses are seen to play a crucial role.

Clearly, the decision to implement any intervention strategy will be influenced by various factors, many of which have been alluded to above (both cognitive and environmental). However, the impact of staff negative emotional reactions has intuitive appeal and warrants further exploration

1.5 Implications

As highlighted, research indicates that when faced with patient aggression, nurses are likely to experience a range of negative emotions. Due to the aversive nature of such behaviour, staff may engage in avoidant behaviours or react more punitively toward the patient. Clearly, the emotional reactions experienced may affect the way in which the nurse behaves toward and treats the patient, and according to Arnetz and Arnetz (2001), such staff behaviours may be reflected in more negative patient perceptions of the quality of care provided. Therefore, as Allen (1999) contends, there are good reasons for endeavouring to deal directly with the often strong emotions generated by patient challenging behaviour.

For the staff who are victims of patient aggression, it is important that the emotional (and psychological) affects are recognised and responded to appropriately to prevent long-term damage to the individual (Chaloner, 1995; Shepherd, 2001). Hastings (2002a), for example, has explored the relationship between challenging behaviour and staff psychological well-being. He proposes that the negative emotional reactions experienced by staff may mediate the impact of behaviour on staff stress and burnout. Thus, the day-to-day emotions accumulate over time and eventually affect staff mental health and well-being. Such an assertion is supported by Mitchell and Hastings (2001), who found that staff emotional reactions were strong predictors of their reported burnout.

Intuitively, the emotions experienced by nurses may linger and interfere with normal working and leisure lifestyles. Additional studies suggest that staff experiencing higher levels of stress/burnout are more likely to quit their jobs or absent themselves from work (Hastings, 2002a). Therefore, employers who fail to recognise the importance of this area could incur increased costs of staff leaving and having to train new staff (Allen, 1994). Further, it could also impact on patient behaviour due to the lack of continuity of care.

The value of supportive relationships as a protection against staff emotional reactions has intuitive appeal. Indeed, there is a wealth of literature attesting to the fact that effective support mechanisms can reduce the negative effects of patient aggression (Hatton & Emerson, 1993; Sullivan, 1993). In the older adult literature, for example,

Harbourne (1996) postulated that the production of negative emotions in response to violence is linked not only to exposure to violent incidents, but the absence of formal support systems.

In a study conducted by Jenkins, Rose and Lovell (1997), it was found that lack of staff support was the best predictor of staff depression, which they argue is consistent with the wider literature which shows social support to be an important mediator of depression. Alternatively, anxiety was affected by more immediate work factors such as challenging behaviour and not staff support.

It has therefore been highlighted within the nursing literature that support services should be made available to assaulted staff (Ryan & Poster, 1989; Delaney et al., 2001). For example, although there is a debate as to the usefulness of debriefing (Shepherd, 2001), it has been recognised as a forum in which victims can discuss and recognise their emotional reactions, acknowledge them as a normal response and provide support in a structured setting. Indeed, it is recognised within the NHS that opportunities to access debriefing should always be available to staff (Lippiatt & Jefferies, 2002).

Staff emotional reactions might also be targeted in the immediate situation through the development of anxiety-reduction techniques (Mitchell & Hastings, 2001) or providing help with managing anger. Overall, according to Wykes and Whittington (1994a) debriefing, formal and informal counselling systems and enhancement of staff coping strategies are methods that can be adopted to reduce the negative impact of an aggressive incident.

Empirically, it has been found that staff support is lacking. For example, Delaney et al. (2001) found that only twenty percent of nurses who had experienced a serious incident received follow-up counselling and support, a finding which is supported by Hasslam and Passmore (2003).

1.6 Summary and aims of research

Given the level of aggression faced by health service staff, and in particular those working within psychiatric services, it is evident that research in this area is of

paramount importance. It has consistently been demonstrated that when faced with patient aggression, nurses experience a range of both long and short-term emotional consequences. Not only do these have implications in terms of staff stress and sickness levels, but they have also been posited to play a role in staff immediate behavioural responses to aggression. As shown, staff behaviour can lead to the reinforcement of aggression and increase the likelihood of it occurring again.

Although research has consistently identified a range of negative emotional reactions experienced by staff, there are a number of inconsistencies in the data, with some studies finding a link between various demographic variables (such as gender) and others not. Identifying such factors is crucial as it would allow the identification of potential vulnerable staff groups and provide support where necessary. There have also been few studies that have adopted psychometrically valid measures of staff emotional reactions (Mitchell & Hastings, 1998; Jones & Hastings, 2003). Studies adopting such measures are needed to clarify early research findings and also, as Bell and Espie (2002) advocate, examine both positive and negative emotional reactions. It would also be useful to examine the emotional reactions within a different context, such as staff working in psychiatric settings. To this end, the current study aimed to investigate, using measures developed within the learning disabilities field, nursing staff emotional reactions in a psychiatric service.

It is also important to investigate factors that may have an impact on the experience of emotional reactions in relation to aggressive patient behaviour, with such research likely to inform staff training and support interventions (Mitchell & Hastings, 1998). According to Hastings and Brown (2002a), very little is still known about the factors which might predict staff emotional reactions to aggressive behaviour, and many of the factors identified need replicating within differing fields. Therefore, this study aimed to explore the association between the emotional reactions experienced by nursing staff and their perceived self-efficacy in dealing with such behaviour. Further, to explore the association between these reactions and various demographic/experience variables. Despite there being a wealth of literature on staff support and stress, there is also a lack of research investigating staff immediate emotional reactions and support. This study therefore additionally sought to investigate the association between staff emotional reactions and their perceptions of support.

24

There have been few studies that have examined whether emotional reactions have any affect on staff behaviour towards patients. The key for both research and practice is the exploration of potential links (and associations) between staff emotional reactions and behavioural responses. Mitchell and Hastings (1998) argue that the validated measure developed could be used to investigate the interactions of staff with patient's displaying such behaviours.

The information gathered is likely to be practically useful for a number of reasons. Identifying and confirming variables related to staff emotional reactions, and investigating how staff emotions are related to how they (staff) manage service user aggression, may lead to the development of staff training or support interventions addressing the issues. Given their role and knowledge, clinical psychologists would be in a position not only to inform discussions in this area but also develop and implement any training identified.

In summary, the current study aimed to extend and complement existing research in this area. It also sought to satisfy the needs of the service in question, which felt this research was timely as much of the previous research within this service has been conducted with the patient population. Consequently, there is concern within the service that patients are effectively a 'captive' population and there is a danger of their compliance resulting in some of them being over-researched (Stowers, personal communication).

1.7 Research questions and hypotheses

Based on the above theoretical background and on the expressed needs of staff working in the Treatment and Recovery Service, the current research had the following aims and hypotheses.

1. **To investigate the association between emotional reactions and perceived self-efficacy.**

Staff reporting greater perceived self-efficacy in dealing with patient aggression will report fewer fear/anxiety and depression/anger emotional reactions and greater positive emotions than those reporting lower perceived self-efficacy.

2. **To investigate the association between emotional reactions to aggressive behaviour and demographic variables.**

A) Experienced and higher grades of staff will report fewer negative emotional reactions and greater positive emotional reactions than inexperienced or lower grades of staff.

B) Staff reporting higher levels of support (colleagues, team leader and manager) will report fewer negative emotional reactions and greater positive emotional reactions than those indicating lower levels of support.

C) Females will report fewer depression/anger negative emotional reactions than males.

D) Males will report fewer fear/anxiety negative emotional reactions than females.

3. **To investigate the association between self-efficacy and demographic and training variables.**

A) Experienced and higher grades of staff will report greater perceived self-efficacy than lower grade and inexperienced staff.

B) Staff members trained in aggression management techniques will report greater perceived self-efficacy than those not trained in the techniques.

4. **To investigate the importance of self-efficacy and demographic variables in predicting staff emotional reactions.**

Staff perceived self-efficacy will independently predict both fear/anxiety and depression/anger dimensions of negative emotional reactions.

5. **To investigate the association between emotional reactions, perceived self-efficacy, demographic variables and management strategies.**

Staff reporting greater negative emotional reactions (fear/anxiety and depression/anger) will favour more punitive/firm and avoidant management strategies[5].

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[5] The categorisation of management strategies is discussed more fully in the method section.

2. METHOD

2.1 Design

The purpose of the study was to examine the relationship between staff emotional reactions and various factors, including perceived self-efficacy, experience, support and management of patient aggression. In order to examine these relationships the study primarily adopted a cross-sectional, correlational design utilising the answers on the psychometric tests from the staff group. Stepwise multiple regression was adopted to identify which specific variables, if any, predicted or influenced the emotional reaction scores.

The sample was self-selecting and provided a cross-section of both qualified nursing and support staff employed within two Treatment and Recovery settings in Leicestershire (see below for description of setting).

2.2 Participants

Eighty-seven qualified nursing and support staff were approached to take part in the study. Overall, 66 individuals consented to participate and completed the staff questionnaire, giving a response rate of 76 per cent. All staff grades were invited to participate, although to be eligible they had to spend the majority of their working time in 'activities' involved in the daily care and supervision of patients. Participants were excluded from the study if they were not involved in the day-to-day care of the patients (such as administrative staff) and those who did not give their consent to participate.

Twenty-One participants were male (31.8 per cent), and 45 were female (68.2 per cent). Their ages ranged from 22 to 61 years, with a mean of 39 (SD = 9.9). Participants had spent an average of 9.5 years in their job (SD = 8.8). Sixty (90.9 per cent) of the participants worked full-time. The full demographic characteristics of the sample are presented in the results section.

2.2.1 Power analysis

A power analysis was conducted prior to the study in order to estimate the number of participants required. To determine sample size, Cohen's (1988) power tables were

consulted. Advice was also sought from a medical statistician. The significance level (p value) was set at p<0.05 for both calculations.

For the correlations, sample size was based on the one-tailed Pearson's Product Moment Correlation Coefficient. To find a medium effect size (r) of 0.4, with a power of 0.83 (83 per cent), power calculations revealed that a total of 40 participants would be required. For the multiple regression analysis, sample size was calculated based on a multiple regression model with four predictor variables, using the r^2 value given in Hastings and Brown (2002a) for a similar model, of $r^2 = 0.24$, and Cohen's (1988) power tables. To find a minimum effect size (r^2) of 0.25, and a power of 0.89 (89 per cent) calculations revealed that a total of 50 participants would be required. Based on a multiple regression model with six to eight predictor variables, using an r^2 value of 0.25, and a power of 0.83 (83 per cent), calculations revealed that a total of 50 participants would be required.

2.3 Setting

The research took place within the Treatment and Recovery Service (formally Rehabilitation Service) in Leicestershire, which offers care to patients with ongoing and complex mental health problems. At the time of writing the service had a population of approximately 450 service users, with one third occupying a National Health Service (NHS) bed and the remainder living at various levels of independence in the community. The service has a range of inpatient beds in a variety of community-based settings, and these vary in size and patient mix, although there are many similarities between the establishments that allows for choice and flexibility.

The study took place within two inpatient facilities. These units were chosen due to the similarities of client presentation and options for the management of patient aggression (these units are the only ones within the service that have a seclusion facility). Unit One provides care for 36 residents with enduring mental health problems associated with challenging behaviours. Unit Two can accommodate up to 21 residents, and serves patients with a history of long-term mental health problems. It additionally offers relapse and respite care (see Appendix 1 for more details on the units and service investigated).

2.4 Measures

Data were gathered using a self-report questionnaire containing four sections. The first part consisted of a vignette of aggressive patient behaviour and questions about staff members' emotional reactions and perceived self-efficacy in relation to such behaviour. The second part contained questions relating to the preferred management strategies in relation to the behaviour depicted in the vignette. Participants were then asked about their perceived levels of support when dealing with aggressive patient behaviour and how useful they would find a range of measures for dealing with such behaviour. Finally, in part four, questions were asked about demographic information and previous experience of aggression management training. Table 1 gives a summary of the measures adopted. Following this, information about the measures utilised and the psychometric qualities, where applicable, is presented. A copy of the questionnaire is available in Appendix 2.

Table 1. Summary of Measures

Measure/Questions	Author	Subscales/facets measuring
Emotional Reactions to Aggressive Challenging Behaviour Scale	Mitchell & Hastings (1998)	Fear/anxiety Depression/anger Confident/relaxed Cheerful/excited
Difficult Behaviour Self-Efficacy Scale	Hastings & Brown (1999)	Perceived self-efficacy
Management Strategies	Developed for the study	Likely management strategies for patient challenging behaviour
Support	Developed for the study	Perceived levels of support and preferences for training
Demographic	Developed for the study	Age, gender, grade, qualification status, length of time in job and inpatient settings, aggression management training undertaken, shift pattern.

Note: The above were measured using a vignette developed for the study. This vignette, and all the measures, can be found in the 'Staff Questionnaire' contained in Appendix 2.

<u>2.4.1 Vignette</u>

To elicit responses on the various questionnaires it was decided to use a vignette methodology, which has been utilised in a number of studies in this area (Hastings & Remington, 1995). For the purpose of the present study, the behaviour in the vignette was topographically defined as verbal and physical aggression towards staff. Aggressive behaviour was chosen as research highlights that such behaviours elicit strong emotional responses from staff members (Hastings, 1995; Hastings & Remington, 1995). Consistent with the literature, a number of 'patient' factors that are commonly associated with aggressive behaviour, such as being male and relatively young, were also incorporated (Haller & Deluty, 1988).

The final vignette was produced based on typical aspects of real incidents that took place at the units under investigation (found in Appendix 2 with the questionnaire). It described a situation with 'Steve'[6], a 28-year-old man living in a treatment and recovery unit. During the day, Steve appeared agitated. A staff member (*i.e.* the participant) suggested that Steve calmed down as he was disturbing other residents, and at this point he became both verbally and physically aggressive towards the staff member.

Immediately following the vignette, a number of questions were asked to assess participants' views regarding its validity, how likely they are to face such a situation and whether they had experienced such behaviour in the past. Participants rated these questions on a 5-point bipolar Likert scale ('not at all realistic' to 'very realistic').

<u>2.4.2   Measurement of emotional reactions</u>

The current study adopted the Emotional Reactions to Aggressive Challenging Behaviour Scale (Mitchell & Hastings, 1998; Jones & Hastings, 2003). A number of factors led to the choice of this measure. As stated previously, there are a number of weaknesses surrounding the research on care staff emotional reactions to challenging behaviour. For example, only a small number of emotions have been assessed and there is limited psychometric data about the rating scales adopted. When reviewing the literature, there is a lack of measures designed to investigate this area, and Wykes and

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[6] Fictitious character.

Whittington (1991) state that there is no generally agreed method of assessing the psychological consequences of violent incidents.

Recently, Rossberg, Hoffart and Friis (2003) presented a review of 'Feeling Word Checklists' that have been designed to study staff members' feelings. For example, Colson, Allen, Coyne *et al.,* (1986) examined staff members' emotional reactions using a checklist of 16 words describing feelings. For nurses, a number of different sub-scales were created, including being angry, positive and fearful.

Rossberg, Hoffart and Friis (2003) criticise many of the scales in this area, stating that they lack clarity and many are restricted to a two-point (yes/no) scale. In response to this, these authors developed an extended feeling word checklist containing seven factors (such as rejected, bored and overwhelmed) and a wide variety of potential staff emotions. However, although this, and other such scales, can be used on wards where patients display aggressive behaviour they are primarily designed to study staff members' emotional responses to their patients generally, and not necessarily in relation to aggression or other forms of challenging behaviour.

When researching this area it is important to have a measure that relates directly to the research questions. Only one questionnaire was found that specifically examined staff emotional reactions to patient aggression, and this was adopted because it appeared the most appropriate for the study's aims and hypotheses. Additionally, it is increasingly being used within the learning disabilities arena, investigating a range of factors associated with staff emotional reactions. Furthermore, Mitchell and Hastings (1998) argue that the applicability of the scale should be investigated in other contexts, such as staff working in psychiatric settings. This is consistent with Hastings (1997) assertion, in that the first priority within research surrounding care staff is that a common approach to measurement should be adopted to allow comparison between staff working in a variety of different contexts.

The scale adopted also appeared to represent more fully the range of emotions experienced by staff when faced with challenging behaviour, including aggression. Additionally, the items within the scale were developed using information from transcripts of interviews with staff and not the researchers 'best guesses' (Mitchell &

Hastings, 1998). The literature was also extensively reviewed, including that concerned with responses to assaults in psychiatric settings (Lanza, 1983; Ryan & Poster, 1989).

2.4.2.1 Emotional Reactions to Aggressive Challenging Behaviour Scale (Mitchell & Hastings, 1998; Jones & Hastings, 2003: Appendix 2).

Originally, this measure was developed to assess staff members' negative emotional responses to aggression (Mitchell & Hastings, 1998). Staff were asked to rate, using a 4-point scale of 0-3, the frequency with which they experience each of the 15 negative emotions in response to incidents of aggressive challenging behaviour directed toward them. Two sub-scale scores are obtained: feelings of depression/anger (10 items; minimum score = 0, maximum scores = 30), and feelings of fear/anxiety (5 items; minimum score = 0, maximum score = 15). Scores on each sub-scale are obtained by summing the scores on the constituent items. This scale, derived through factor analysis, has good internal consistency and test-retest reliability and is relatively unaffected by social desirability response biases (Mitchell & Hastings, 1998; Jones & Hastings, 2003). For example, Cronbach's alpha coefficients were calculated for the two subscales in order to determine their internal consistency. The values for both the fear/anxiety (α = .82) and depression/anger (α = .85) subscales were high. The correlation between the two subscales scores indicated that the subscales did measure different dimensions of negative emotional reactions.

Correlations between the sub-scales of the above and measures of care staff psychological well-being (such as the Maslach Burnout Inventory; Maslach & Jackson, 1986) have provided support for the validity of the scale, and in particular the depression/anger sub-scale (Hastings, 2002).

This measure has been revised since its initial publication. Due to the lack of a similar psychometrically robust measure of potential positive affect, Jones and Hastings (2003) developed a rating scale following the same design as the negative affect scale. Eight positive affect items were added to the questionnaire and two sub-scales were derived through factor analysis: feelings of cheerfulness/excitement (4 items; minimum score = 0, maximum score = 12), and feelings of confidence/relaxed (4 items; minimum score = 0, maximum score = 12). Again, internal consistency of these sub-scales was good

(cheerful/excited α = .72; confident/relaxed α = .70), taking into account the small number of items constituting these scales (Jones & Hastings, 2003, p. 195).

The present study followed the methodology of Mitchell and Hastings (1998), whereby staff were asked for their typical emotional reactions to aggressive patient behaviour. However, it was possible that many staff members had not being exposed to such behaviour within their employment. Therefore, the descriptive vignette ensured the identical presentation of patient challenging behaviour in which to consider their responses.

2.4.3 Measurement of perceived self-efficacy

Following a review of the literature, a five-item self-report questionnaire developed by Hastings and Brown (Difficult Behaviour Self-Efficacy Scale; 1999) was selected as suitable for measuring staff members' perceived self-efficacy. According to Lee (2001), this is the only available scale that directly addresses the self-efficacy of staff dealing with difficult patient behaviour.

According to Hastings and Brown (2002b), self-efficacy is best studied within a defined domain (for example, difficult behaviour) in order to understand its potential effects. Therefore, although there may be more established measures of self-efficacy, the instrument adopted here may be more accurate because it is domain specific and therefore suitable to the current study. Further, one of the main aims put forward in this study was to examine the association between self-efficacy and staff emotional reactions, in order to confirm or refute the findings of Hastings and his colleagues. Therefore, methodologically, it made sense to adopt the same rating scale as these authors.

2.4.3.1 Difficult Behaviour Self-Efficacy Scale (DBSES; Hastings & Brown, 1999: Appendix 2).

This scale consists of five self-efficacy items: feelings of (1) confidence; (2) a rating of how difficult they find it to work with difficult behaviours; (3) a perception that they have a positive impact on the difficult behaviours which they deal with; (4) satisfaction in dealing with difficult behaviour; and (5) and control experienced by respondents in response to difficult behaviour.

Responses to each question are indicated by completing a seven-point Likert scale. The scale is scored by summing the selected numbered responses on each of the five questions: a higher summed score indicates greater self-efficacy. Psychometric data on this scale is limited, although preliminary data shows that the scale has a high degree of internal consistency (Cronbach's alpha = 0.94; Hastings & Brown, 2002a). This has been confirmed in a study conducted within a study conducted within an Accident and Emergency Department (Lee, 2001; Cronbach's alpha = 0.88). Kline (1993) stipulates that an acceptable alpha value is 0.70 or higher.

2.4.4 Measurement of management strategies

A number of approaches to managing patient aggression have been identified in the literature. Generally, approaches include preventative measures, de-escalation approaches and more traditional methods such as restraint, medication and seclusion (Duxbury, 2002). Initial information about potential management strategies was obtained from a number of previous studies (Crichton, 1995b; Meddings, 1996; Meddings & Levey, 2000), and reflected the various approaches adopted by staff. Staff intervention choices for aggressive patient behaviour can be measured in a number of ways, for example, by asking staff how they normally respond to such behaviour, or by asking how they would respond to a target individual (described in a written scenario; Hastings, 1997). Therefore, the investigation of such strategies seems to be idiosyncratic to a particular study.

Discussions with various senior nurses at each of the two units elicited a list of potential management strategies for aggressive patients, and in particular, for the vignette utilised. This resulted in 20 strategies being developed, including: give p.r.n. medication (medication 'prescribed when necessary'); remove the patient from the area; and use of control and restraint techniques. Participants were asked, if they were faced with the behaviour depicted in the vignette, how likely it was that they would intervene using each of the full range of 20 strategies. A seven-point bipolar rating scale anchored at 'very likely' and 'very unlikely' was used for each item.

Similar to previous research (Meddings, 1996), factor analysis was undertaken on the management questions. Factor analysis assesses the degree that the individual items on

a scale cluster together around one or more dimensions, and Watson (1995) argues that statistical factor analysis provides researchers with a rigorous means of testing data collection tools.

The 20 items of the management questions were subjected to principal components analysis (PCA) using SPSS. Prior to performing PCA the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. The Kaiser-Meyer-Oklin value was .673, exceeding the recommended value of .6 (Kaiser, 1970, 1974). The Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance (p=.000), supporting the factorability of the correlation matrix.

Principal components analysis revealed the presence of six components with eigenvalues exceeding 1. It was decided to retain all six components for further investigation. To aid in the interpretation of these six components, Varimax rotation was performed. The six-factor solution explained a total of 67.452 per cent of the variance. Items loading at .45 or above onto the six factors were considered as contributing to distinct subscales on the measure of management of aggressive challenging behaviour. Fuller details of the six-factor solution are provided in Appendix 3. The interpretation of the components is consistent with participants' ratings during the development of the management questions and also the researcher's expectations.

2.4.5 Perceived support

Questions were asked about the participants' perceived level of support, and in particular how supported they felt by immediate colleagues, team leaders and managers. These questions were asked to determine the level of satisfaction with existing support systems regarding difficult situations at work. Additionally, participants were asked to rate what they would find helpful in dealing with aggressive patient behaviour, including training, supervision and de-briefing. Questions were coded as 'very' to 'not at all' and rated on a seven-point Likert scale.

2.4.6 Demographic, occupational information and training information

Demographic data including age, gender and grade were elicited. Data were collected regarding experience (formal qualifications, length of time qualified, length of time in current job, and length of time working in psychiatric inpatient settings). Finally, participants were asked about aggression management training undertaken (for example, control and restraint) and indicated their response on a two-point (yes/no) scale. If training had been undertaken, staff members were asked to comment on its usefulness. Participants rated the usefulness on a seven-point bipolar scale (very useful-not at all useful).

In summary, following discussions with staff members and reviewing the literature, a staff questionnaire was developed. This included a vignette of patient aggression and questions to elicit participants' emotional reactions and perceived self-efficacy. Additional questions elicited potential management strategies, perceived levels of support and finally a range of demographic and training variables.

2.5 Pilot study

The staff questionnaire described above was developed on the basis of discussions with senior nurses within the two units under investigation. A formal pilot study was also conducted with seven staff members from these units. Primarily, the pilot study was conducted to determine whether the study design and questions were acceptable and understandable to the participants. Additionally, the pilot was conducted to ensure that the staff questionnaire had 'face validity'. The pilot study revealed that the questionnaire was appropriate, and as no changes were made to the questionnaire the data collected during the pilot study was included in the final analysis (See Appendix 4 for more details on the piloting process).

2.6 Procedure

Ethical consent was obtained for the study from the Local Research Ethics Committee for the NHS Trust (see Appendix 5). The study was also approved by the University of Leicester Clinical Psychology Research Committee.

Managers of the Treatment and Recovery Service and Consultant Psychiatrists gave the author permission to approach care staff and also provided information about the units investigated and strategies for recruiting participants.

Initially, letters inviting staff to participate and information sheets were left at the various units at least one week prior to the author visiting (see Appendix 6 for letter of invitation and Appendix 7 for information sheet). Visits were made to the units on several occasions over a three-month period in order to be able to approach all care staff on the daytime rota. It must be noted that staff employed within these units follow an internal rotation system of employment. Therefore, by visiting the units over a three-month period it was hoped that all staff members could be approached. At this stage any questions raised by staff were clarified and support was provided, through the relevant management, to any individual distressed by thinking about aggression. No support was required by anyone participating in the study.

Verbal consent for participation in the study was obtained. Consenting staff members were given the questionnaire pack in an envelope and time was arranged for them to complete the questionnaire. The length of time to complete the questionnaire ranged from 20 to 50 minutes. A supply of the questionnaires was left in a designated area of staff rooms to enable those staff on night shift and/or vacation to participate in the study. Self-addressed envelopes were provided so that participants could return the completed questionnaire pack anonymously by post, or alternatively give them to the author, in person, in sealed envelopes. After completion, participants were verbally debriefed by the author as to the aims of the study. For those not completing the questionnaire within three weeks reminders were issued once by the author.

Although the questionnaire contained information that could potentially lead to the identification of a participant (such as grade), confidentiality and anonymity were maintained as much as possible. Participants' names were not required and a coding system was adopted so that the author could identify particular units and individual questionnaire packs. Only the author had access to the completed questionnaires.

The findings from the research will be disseminated to all interested parties, including participants, in a number of ways. A summary of the main findings will be available

and will be written in a form that is comprehensible to the lay person. Presentations will also made to the relevant teams, and any implications arising from the results will be fully explored to ensure that the study could benefit future practice. It is anticipated that this research will contribute to the continued classification of one of the units as a 'Practice Development Unit.'

3. RESULTS

3.1 Overview

The following chapter presents the results obtained in relation to the research questions. First, the rationale behind the statistical analysis applied is discussed. The research findings are then subdivided into a number of sections. Initially, as participants were recruited from two units, analysis was conducted to determine whether there were significant differences in demographic variables. The characteristics and demographics of the sample are then presented. The reliability of the two main questionnaires (emotional reactions and self-efficacy) was then determined. The research questions and hypotheses were then tested. A flowchart and summary of the analysis are given in Figure 1.

Figure 1. Stages of study analysis.

Selection of Statistical Analysis

↓

Preliminary Analysis:

Analysis of Group Differences

Sample Characteristics

Descriptive Statistics for Standardised Measures

Reliability of Measures

↓

Hypothesis 1, 2 and 3

Correlational Analysis

Analysis of Group Differences

↓

Hypothesis 4

Multiple Regression

↓

Hypothesis 5

Correlational Analysis
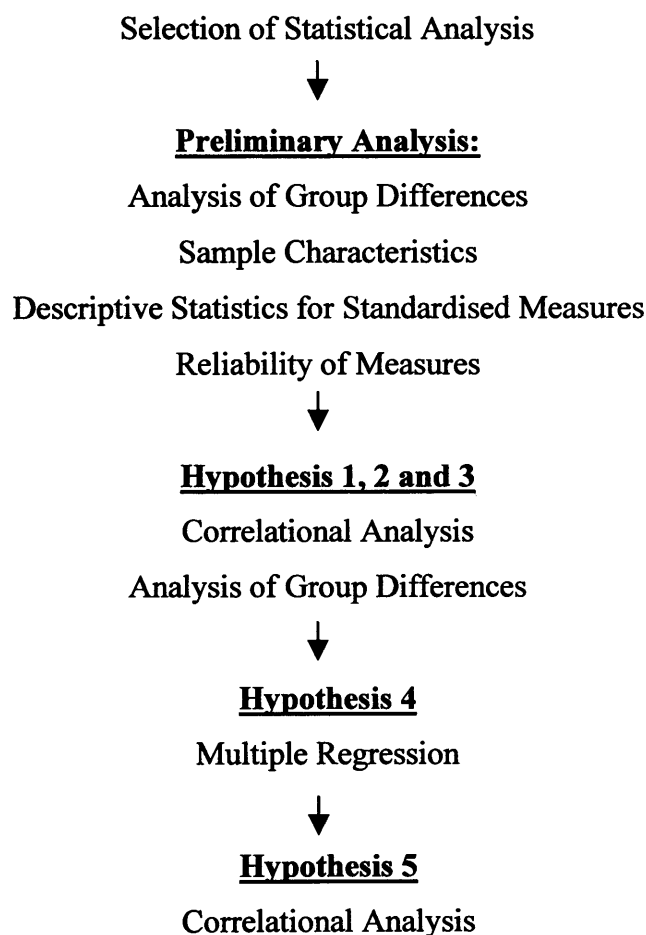
3.2 Statistical procedures for analysis

Before commencing statistical analysis, the data was checked to determine whether it met the assumptions for parametric analysis. According to Clark-Carter (1997), the main assumption is that the "population scores, from which the sample came, is normally distributed" (1997, p. 203). Additionally, the data must be interval or ratio scale. Further criteria exist for certain parametric tests, for example, if two groups are studied the variance of the scores within the groups must be similar (*i.e.* there is homogeneity of variance).

Most of the data in the present study were ordinal in nature. For example, questions concerning management strategy, support, what would be helpful, and the usefulness of aggression management training are measured on Likert scales and are ordinal variables. Ordinal variables are categorised and can be ordered in terms of more or less, and are customarily analysed using non-parametric tests (Kinnear & Gray, 1999). However, there is some debate in the literature as to whether data needs to be interval or ratio before applying parametric tests. Clark-Carter (1997) asserts that statisticians are less concerned with the above criterion and within psychological research parametric tests are routinely applied to ordinal variables (Bryman & Cramer, 1990, p. 118).

To identify whether the ordinal data within the study were normally distributed they were visually inspected using histograms with a superimposed normal distribution curve for each factor. Using this approach, a number of variables were positively/negatively skewed. Additionally, the Shapiro-Wilk (SW) test was used to determine whether scores on these variables differed significantly from a normal distribution. This test was utilised as it is considered more accurate than the Kolmogorov-Smirnov test and is more appropriate for small samples (Field, 2000; Kinnear & Gray, 1999). Using this procedure, all variables in this category had significant Shapiro-Wilk values ($p < 0.05$) and were therefore not normally distributed (all support questions, usefulness of control and restraint and breakaway). Of the management questions, only the factors of 'punitive' and 'avoidant/firm 2' were considered normally distributed. As with the support questions, the factors of 'firm', 'medical/help', 'talking/caring', and 'punitive 2', had significant Shapiro-Wilk values ($p < 0.05$) and were not normally distributed. According to Pallant (2001), this is

relatively common with scales and measures used in the social sciences, and does not necessarily indicate a problem with the scale. Rather, it reflects the underlying nature of the construct being measured.

The variables of age, length of time qualified, length of time in current job, length of time working in in-patient settings are interval. Additionally, the scale scores on the questionnaires adopted (emotional reactions and self-efficacy) are interval (Palmer, personal communication). As above, these variables were first visually inspected using histograms with a superimposed normal distribution curve for each variable. This approach revealed that a number of variables were skewed.

Additionally, the Shapiro-Wilk (SW) test was used to determine whether scores on these variables differed significantly from a normal distribution. Using this procedure, a number of variables had significant Shapiro-Wilk values ($p < 0.05$), including: years qualified, years in the job, years working in in-patient settings, cheerful/excited scores, and confident/relaxed scores. Values conforming to the normality principal were: participants' age, total self-efficacy scores, fear/anxiety scores, depression/anger scores. Although calculations and plots were undertaken for all scores, it was not deemed appropriate to present all raw data in the Appendices.

Where data violates the assumptions for parametric analysis, a number of options are open to the researcher. First, a combination of parametric and non-parametric tests can be utilised, depending on whether the assumptions have been met. However, it has been found that non-parametric tests are not as 'powerful' as their parametric equivalents, which may result in differences not being detected even when they exist (Type II errors; Pallant, 2001). Alternatively, data can be 'transformed' which involves mathematically modifying the scores using various formulas until the distribution looks more normal, although there is considerable controversy regarding this approach (Pallant, 2001, p. 78).

However, there is an additional option. It is noted in the literature that the assumptions underlying parametric analysis are overly restrictive and are relatively unaffected by violation of the assumptions – in effect, parametric tests are 'robust' (Clark-Carter, 1997; Howell, 1997; Palmer, personal communication). Bryman and Cramer (1990)

41

highlight that statistics have been applied to data that has been artificially set up to violate the normality assumption. It was found that the results did not differ greatly from data that did not violate these assumptions, confirming the robustness of these statistics.

In this study, it was decided that when the data violated more than one assumption for parametric tests (not normally distributed and ordinal data), non-parametric tests would be used in the analysis of these variables. These were then compared to parametric analysis, with no significant differences evident. Results from the parametric analyses are therefore presented in the following sections.

3.2.1 Tests utilised

The following tests were used in the analysis of the data set:

- Independent t Test to compare group differences.
- Chi-square to look at differences between categorical variables.
- Pearson's Product Moment Correlation Coefficients (Pearson's r) (one-tailed) to measure associations between variables.
- Stepwise Multiple Regression analysis to predict subscale scores on the emotional responses scale. Stepwise analysis examined which independent variables best predicted the dependent variable (fear/anxiety and depression/anger subscales).
- The internal consistency of the two psychometric tests was examined. In order to do this, Cronbach's alpha was calculated.

In line with much psychological research, the significance (p value) value was set at $p < 0.05$ (Clark-Carter, 1997). All of the analyses were conducted using the Statistical Package for Social Sciences (SPSS) for Windows, Version 11.

3.3 Preliminary analysis

3.3.1 Analysis of group differences

As participants were recruited from two units, an analysis was conducted to examine whether there were differences in the sample characteristics of the two groups. To examine differences between the staff in the two units in relation to gender and number of staff qualified, 2x2 chi-square tests were performed. The assumption concerning the 'minimum expected cell frequency', which should be five or greater, was not violated

in the two analyses. Table 2 gives the frequencies of qualified staff and gender for the two units.

Table 2. Frequencies of gender and qualified staff by unit.

Variable	Frequency (N)	
	Unit one	Unit two
Gender		
Male	13	8
Female	31	14
Qualified		
Yes	21	12
No	23	10

No significant differences were found between the groups in relation to gender ($\chi^2 = 0.079$; df = 1; p = 0.779, not significant), or the amount of staff who were qualified ($\chi^2 = 0.068$; df = 1; p = 0.794, not significant).

To examine if the staff from the two units differed in relation to age, length of time qualified (if qualified), length of time working in the job, and length of time working with inpatients, independent t-tests were adopted. Levene's test for equality of variances was not significant for three of these variables (length of time qualified, length of time in job, and length of time working in in-patient settings), suggesting homogeneity of variance. For age, Levene's test was significant (F = 4.14, p < 0.05). In this case, the alternative t-value, which compensates for the fact that the variances are not the same, was utilised. Mean scores on the above variables are presented in Table 3.

Table 3. Means and standard deviations (SD) for age and experience variables.

Variable	Unit	N	Mean	Standard deviation	t-value	Significance
Age (years)	One	44	38	9	1.007	n/s
	Two	22	41	12		
Length of time	One	21	5.5	8.5	0.271	n/s
qualified (years)	Two	12	6.2	9		
Length of time in	One	44	8.4	8	1.5	n/s
job (years)	Two	22	11	10		
Length of time – in-	One	44	6.7	5.2	1.5	n/s
patient (years)	Two	22	9	7		

Note. n/s = not significant.

There was no significant difference between the groups for age (t(29.4) = 1.007, p = 0.269, two-tailed). There was no significant difference between the groups for the length of time qualified (t(64) = 0.271, p = 0.787, two-tailed), the length of time working in the job (t(64) = 1.5, p = 0.144, two-tailed), or in length of time working in in-patient settings (t(64) = 1.5, p = 0.151, two-tailed).

The lack of difference between unit one and two in the above variables suggest they represent, in some respects, a homogenous sample. Therefore, it was considered acceptable to collapse the results from the two units when examining responses to the questionnaire.

3.3.2 Sample characteristics

Twenty-one male and 45 female (n=66) nursing staff completed the questionnaire, giving a response rate of 76 per cent. Forty-four participants (66.7 per cent) worked at unit one, with the remaining 22 (33.3 per cent) working at unit two. The mean age of participants was 39 years (SD = 9.9 years), with the majority of staff working full-time (90.9 per cent, n = 60). Table 4 shows the full demographic characteristics of the sample.

Table 4. Demographic characteristics of the participants.

Variable	Total participants (n=66)
Age (yrs)	
Mean	39
Range	22-61
SD	9.9
Gender (%)	
Female	68.2
Male	31.8
Unit (%)	
One	66.7
Two	33.3
Shift-pattern (n)	
Full-time	60
Part-time	5
Missing	1

The mean length of time working in their current job was 9.5 years (SD = 8.8), with the mean length of time working in in-patient settings was 7.5 years (SD = 5.9). For those

staff classified as qualified (n=33), the mean length of time qualified was 5.7 years (SD = 8.7). Fifty per cent (n=33) indicated that they had obtained formal qualifications for their job, including R.M.N (registered mental nurse). Participants included healthcare support workers, nursing assistants, through to grade H. The number of participants in each grade is shown in Table 5.

Table 5. Participants grade.

Grade	Description	Number of participants	Percentage
A	Healthcare support worker (HCSW)	13	19.7
B	As above with possible qualification (NVQ)	19	28.8
C	As above (more experience)	1	1.5
D	Newly qualified nurse (associate)	2	3.0
E	Primary nurse	24	36.4
F	Primary nurse	5	7.6
G	Clinical leaders (team)	1	1.5
H	Management grade	1	1.5
I	Management grade	0	0

Table 6 illustrates that the majority of staff had undertaken some form of aggression management training. No other training, apart from Control and Restraint and Breakaway, was noted by participants.

Table 6. Aggression management training.

Variable	Response	N	Per cent
Breakaway	Yes	33	50
	No	33	50
Control & Restraint	Yes	59	89.4
	No	7	10.6

Note. Overall n = 66.

3.3.3 Descriptive statistics for standardised questionnaires

Table 7 illustrates the descriptive statistics for the emotional responses scale.

Table 7. Descriptive data for the emotional responses scale.

	Mean	Standard deviation	Range
Depression/anger	9.97	4.97	0-24
Fear/anxiety	6.05	2.52	0-12
Confident/relaxed	4.56	2.33	0-10
Cheerful/excited	1.73	1.79	0-6

Note: N = 66.

The mean scores for the participants in relation to depression/anger and fear/anxiety responses were high. Few studies have reported mean values utilising this scale. In the original development of the measure, Mitchell and Hastings (1998) reported mean scores for the depression/anger subscale of 6.87 (SD = 4.79), and fear/anxiety subscale of 3.33 (SD = 2.54). Additional data presented by Jones and Hastings (2003) indicate mean scores ranging from 8.08 (SD = 6.87) to 6.03 (SD = 4.67) for the depression/anger subscale, depending on the function of the self-injurious behaviour. Similarly, means for the fear/anxiety subscale ranged from 2.25 (SD = 2.39) to 1.79 (SD = 1.87). Both studies recruited participants from learning disability services.

Mean scores for both the positive emotion scales were also high. Jones and Hastings (2003) are the only authors to report mean values with these subscales, ranging from 2.96 (SD = 2.37) to 4.10 (SD = 2.96) for the confident/relaxed subscale, and 0.13 (SD = 0.39) to 0.62 (SD = 1.34) for the cheerful/excited subscale.

Table 8 illustrates the descriptive data for the DBSES scale.

Table 8. Descriptive data for the DBSES.

	Mean	Standard deviation	Range
Perceived self-efficacy	24.44	3.90	15 – 33

Note: N = 66; DBSES = Difficult Behaviour Self-Efficacy Scale.

Similar to the scores on the emotional responses scale, mean scores for perceived self-efficacy were high. Again, few studies have reported these values. Participants in Lee's (2001) study displayed a mean of 20.38 (SD = 5.50, range = 5-34). Hastings and Brown

46

(2002b) present means ranging from 23.45 (SD = 8.58) for mothers, and 22.40 (SD = 6.46) for fathers.

3.3.4 Reliability of measures

The measures of staff emotional reactions and self-efficacy were examined to determine whether the scales displayed internal consistency, indicating that each was measuring one construct. To determine the internal consistency of the emotional responses scale and DBSES, Cronbach's alpha (α) reliability coefficient was calculated. The analysis indicated that internal consistency for all scales except the confident/relaxed and cheerful/excited subscales on the emotional responses scale were acceptable, with alpha levels above 0.7 in each case (Clark-Carter, 1997). A summary of the analysis is shown in Table 9.

Table 9. Summary of reliability analysis.

Measure/subscale	No. of items	Cronbach's α
Self-efficacy	5	0.74
Emotional reactions		
Depression/anger	10	0.84
Fear/anxiety	5	0.78
Confident/relaxed	4	0.63
Cheerful/excited	4	0.50

The reliability of the above measures will be discussed more fully in the Discussion. A number of questions were asked at the beginning of the questionnaire to assess the participants' view of the realism of the vignette, how likely they were to face such a situation, and whether they had faced such a situation before. Table 10 shows the mean ratings for these variables.

Table 10. Mean ratings for vignette realism, likelihood of facing situation, and whether participants have faced such a situation.

Variable	N	Mean	Standard deviation
Realistic vignette	66	4.41	0.7
How likely to face situation?	66	4.20	0.9
Have you faced this situation?	66	2.18	1.5

In response to the above, nursing staff were positive about the realism of the vignette utilised (1 = not at all realistic; 5 = very realistic). Similarly, staff believed they were likely to face such a situation in their work (1 = not at all likely; 5 = very likely). In relation to whether staff had faced such a situation (1 = yes, definitely; 5 = no, never), over 51 per cent reported definitely having faced such a situation, with only 15 per cent never having faced such a situation. The above findings suggest that the vignette adopted was realistic and represented a situation that could, and had, occurred, in the working lives of the participants.

3.4 Research findings

3.4.1 Hypothesis one – association between emotional reactions and self-efficacy

Staff reporting greater perceived self-efficacy in dealing with patient aggression will report fewer fear/anxiety and depression/anger emotional reactions and greater positive emotional reactions than those reporting lower perceived self-efficacy.

In order to examine the relationship between the emotional responses scale, and its various subscales, and the DBSES, Pearson's product-moment correlation coefficients (r) were calculated. As specific predictions were made, one-tailed tests were adopted. Table 11 summarises the analyses.

Table 11. Correlations between emotional reactions and self-efficacy.

| | Emotional reactions to aggressive challenging behaviour scale | | | |
	D/A	F/A	C/R	C/E
Self-efficacy (DBSES)	-0.363**	-0.421**	0.328**	0.068 n/s

Note. D/A = Depression/anger score; F/A = Fear/anxiety score; C/R = Confident/relaxed score; C/E = Cheerful/excited score. n/s = not significant. ** correlation significant at the p<0.01 level.

The results in Table 11 highlight a significant negative correlation between perceived self-efficacy and depression/anger responses (r(66) = -0.363, p<0.01) and fear/anxiety responses (r(66) = -0.421, p<0.01) on the emotional responses scale. Therefore, individuals reporting higher feelings of perceived self-efficacy report lower levels of negative emotions, including feelings of depression/anger and fear/anxiety. According

to Cohen's (1988) guidelines, the above correlations suggest a medium strength relationship between the variables.

A significant positive correlation was found between self-efficacy and the positive emotions scale of confident/relaxed (r(66) = 0.328, p<0.01), indicating that participants reporting greater feelings of self-efficacy also reported greater levels of positive emotions of confidence/relaxed. No association was found between the cheerful/excited scale and perceived self-efficacy (r(66) = 0.068, p = 0.294). Therefore, this aspect of emotional experience appears not to be relevant to reported self-efficacy.

3.4.2 Hypothesis two – association between emotional reactions, demographic, support and experience variables.

A) Experienced and higher grades of staff will report fewer negative emotional reactions and greater positive emotional reactions than inexperienced and lower grades of staff.

First, in order to examine the relationship between staff grade and emotional reactions, the participants were split into two equal groups. Grades A–D were collapsed into one group, as was grade E-I. Discussions with Ward Managers revealed that when staff reached grade E their responsibilities increase and it made practical sense to split the participants into these categories. Table 12 illustrates the means and standard deviations of the staff groups in relation to negative emotional reaction scores.

Table 12. Means and standard deviations of emotional reactions scores.

Variable	Recoded grade	N	Mean	Standard deviation
Depression/anger	A-D	35	10.63	4.7
	E-I	31	9.23	5.2
Fear/anxiety	A-D	35	5.97	2.1
	E-I	31	6.13	3.0
Confident/relaxed	A-D	35	4.77	2.5
	E-I	31	4.32	2.1
Cheerful/excited	A-D	35	2.23	1.9
	E-I	31	1.16	1.4

The relationship between staff grade and scores on the emotional responses scale were assessed using independent sample t-tests. Levene's test for equality of variance was not significant (p>0.05) for the depression/anger, fear/anxiety, and confident/relaxed

49

subscales of the emotional responses scale. For the cheerful/excited subscale, Levene's tests was significant (F=4.97, p<0.05). Therefore, the alternative t-value was utilised in this case. As specific predictions were made, one-tailed tests were used. No significant differences were found between staff grade and depression/anger scores (t(64)=1.15, p=.128), and fear/anxiety scores (t(64)=.247, p=.401). Therefore, there was no statistically significant difference in the negative emotions scores of the higher and lower staff grades.

No significant differences were found between the staff groups and the positive emotions scale of confident/relaxed (t(64)=.779, p=.219). This suggests there was no statistically significant difference between the staff groups and feelings of confident/relaxed. However, a significant difference was found between staff grade and the emotions scale of cheerful/excited (t(61.7)=2.56, p<0.01). This suggests that lower grades of staff (A-D) report more feelings of cheerfulness/excited than higher grades of staff (E-I).

Independent sample t-tests were also utilised to examine the differences between participants classified as qualified or not. Levene's test for equality of variance was not significant (p>0.05) for the depression/anger, fear/anxiety, and confident/relaxed subscales of the emotional responses scale. For the cheerful/excited subscale, Levene's tests was significant (F=6.217, p<0.05). Therefore, the alternative t-value was utilised in this case. As specific predictions were made, one-tailed tests were used. Table 13 displays the results of the analyses.

Table 13. Comparison of emotion scores between qualified/not qualified.

Variable	Qualified	N	Mean	Standard deviation	t-value	Significance
D/A	Yes	33	9.12	5.20	1.396	n/s
	No	33	10.82	4.66		
F/A	Yes	33	6.03	2.90	.048	n/s
	No	33	6.06	2.12		
C/R	Yes	33	4.36	2.10	.685	n/s
	No	33	4.76	2.55		
C/E	Yes	33	1.12	1.39	2.897	**
	No	33	2.33	1.96		

Note. D/A = Depression/anger score; F/A = Fear/anxiety score; C/R = Confident/relaxed score; C/E = Cheerful/excited score. ** = significant at the p<0.01 level; n/s = not significant.

As highlighted, no significant differences were found between staff classified as qualified or not on both dimensions of the emotional responses scale (depression/anger and fear/anxiety). Therefore, there was no statistically significant differences in the negative emotions scores and staff classed as qualified or not.

No significant differences were found between the staff and the positive emotions scale of confident/relaxed. However, a significant difference was found between staff grade and the emotions scale of cheerful/excited. This suggests that unqualified staff report more feelings of cheerfulness/excited than qualified staff.

In order to examine the relationship between the emotional responses scale, and its various subscales, and measures of experience (length of time qualified, length of time in the job, and length of time working in in-patient settings), Pearson's product-moment correlation coefficients (r) were calculated. As specific predictions were made, one-tailed tests were adopted. Table 14 summarises the analyses.

Table 14. Correlations between emotional reactions and measures of experience.

Variable	Emotional reactions to aggressive challenging behaviour scale			
	D/A	F/A	C/R	C/E
If qualified, how long qualified (N=33)	-.218*	.017 n/s	.022 n/s	-.353**
Years working in the job	-.259*	-.328**	.245*	-.05 n/s
Years working in in-patient settings	-.136 n/s	-.157 n/s	.193 n/s	.113 n/s

Note. D/A = Depression/anger score; F/A = Fear/anxiety score; C/R = Confident/relaxed score; C/E = Cheerful/excited score. n/s = not significant.
* correlation significant at the p<0.05 level; ** correlation significant at the p<0.01 level.

Results from the analyses demonstrate that scores on the depression/anger subscale were significantly negatively correlated with both length of time qualified and years working in the job, although the strength of the association was small (less than .30; Cohen, 1988). Therefore, individuals who had been qualified and worked in their job longer reported lower levels of depression/anger negative emotions. However, the

length of time working in in-patient settings was not associated with depression/anger emotional reactions.

There was a significant negative correlation between the fear/anxiety subscale of the emotional responses scale and years working in the job. The strength of this association was medium (Cohen, 1988). No other significant associations were found. Therefore, individuals with more experience in terms of years in the job reported lower levels of fear/anxiety emotions, although this was not affected by the length of time qualified or years spent working in in-patient settings.

A significant positive correlation was found between feelings of confidence/relaxed and years spent in the job. No other significant associations existed. Therefore, individuals with more years spent working in their current job reported increased levels of confidence/relaxed emotions, although the strength of the correlation (.245) suggests only a small relationship between feelings of confidence/relaxed and time spent in the job.

Finally, a significant negative correlation was found between feelings of cheerfulness/excited and time qualified (if qualified). Therefore, individuals who had been qualified longer reported lower levels of cheerfulness/excited emotions. The effect of this correlation is medium (Cohen, 1988). No other associations were found, and therefore time spent in their current job and in-patient settings were not associated with cheerful/excited scores.

B) Staff reporting higher levels of support (colleagues, team leader and manager) will report fewer negative emotional reactions and greater positive emotional reactions.

In order to examine the association between the emotional responses scale, and its various subscales, and the perceived level of support reported by participants, Pearson's product-moment correlation coefficients (r) were calculated. As specific predictions were made, one-tailed tests were adopted. Table 15 summarises the analyses.

Table 15. Correlations between emotional reactions and support.

	Emotional Reactions to Aggressive Challenging Behaviour Scale			
Variable	D/A	F/A	C/R	C/E
Support – Colleagues	0.263*	0.201 n/s	0.149 n/s	0.255*
Support – team leader	0.466**	0.239*	0.054 n/s	0.191 n/s
Support – team manager	0.351**	0.218*	-0.126 n/s	0.030 n/s

Note. D/A = Depression/anger score; F/A = Fear/anxiety score; C/R = Confident/relaxed score; C/E = Cheerful/excited score. n/s = not significant.
* correlation significant at the p<0.05 level; ** correlation significant at the p<0.01 level.

Results from the analyses demonstrate significant positive correlations between support from colleagues and depression/anger negative emotions and feelings of cheerfulness/excited. Therefore, staff reporting higher support in their colleagues also reported lower levels of feelings of depression/anger and cheerful/excited. However, the associations were only significant at p<0.05 level and the r values, according to Cohen (1988) are small, indicating only a small strength of association between these variables. No significant associations were found between support from colleagues and feelings of fear/anxiety and confidence/relaxed.

Significant positive correlations were found between feelings of depression/anger and feeling supported by the team leader and team manager. According to Cohen (1988), the strength of the associations between these variables is medium. Therefore, participants reporting more support from their team leader and team manager also report lower levels of feelings of depression/anger. Additionally, small significant positive associations (r=.10 to .29; Cohen, 1988) were found between feeling supported by the team leader/manager and feelings of fear/anxiety. Therefore, participants indicating higher levels of support in their team leader/manager reported lower levels of feelings of fear/anxiety. No significant associations were found between feelings supported by the team leader/manager and feelings of confidence/relaxed and cheerful/excited.

C and D) Females will report fewer depression/anger and greater fear/anxiety negative emotional reactions than males.

In order to examine the differences between males and females on the two negative emotion subscales of the emotional responses scale, independent samples t-tests were conducted. Levene's test for equality of variances was not significant (p>0.05), suggesting that the variances of the two groups were equal. Therefore, the assumption of homogeneity of variance has not been violated. There was no significant differences between male and female scores on the fear/anxiety subscale (t(64)=1.59, p=0.059, one-tailed), and the depression/anger subscale (t(64)=.072, p=0.47, one-tailed). Table 16 displays the results from these analyses.

Table 16. Comparisons of fear/anxiety and depression/anger between gender.

Variable	Gender	N	Mean	Standard deviation	t-value	Significance
Fear/anxiety	Male	21	5.33	2.67	1.59	n/s
	Female	45	6.38	2.41		
Depression/	Male	21	9.90	6.47	.072	n/s
Anger	Female	45	10.0	4.19		

Note. n/s = not significant.

3.4.3 Hypothesis three – association between self-efficacy, aggression management training and experience variables.

A) Experienced and higher grades of staff will report greater perceived self-efficacy than lower grade and inexperienced staff.

As above, in order to examine the relationship between staff grade and self-efficacy, the participants were split into two equal groups. Grades A–D were collapsed into one group, as was grades E-I. Table 17 illustrates the means and standard deviations of the staff groups in relation to self-efficacy scores.

Table 17. Means and standard deviations of self-efficacy scores.

Variable	Recoded grade	N	Mean	Standard deviation
Self-efficacy	A-D	35	23.97	0.69
	E-I	31	24.97	0.66

The relationship between staff grade and scores on the DBSES were assessed using independent sample t-tests. Levene's test for equality of variance was not significant

(p>0.05), indicating homogeneity of variance. As specific predictions were made, one-tailed tests were used. No significant differences were found between staff grade and perceived self-efficacy scores (t(64)=1.036, p=.304). Therefore, there was no statistically significant difference in the self-efficacy scores of the higher and lower staff grades.

The relationship between qualified and non-qualified scores on the DBSES were assessed using an independent samples t-test. Levene's test for equality of variance was not significant (p>0.05), indicating homogeneity of variance. As a specific prediction was made, a one-tailed test was used. No significant difference was found between qualified status and perceived self-efficacy (t(64)=.786, p=.218).

In order to examine the relationship between the DBSES and measures of experience (length of time qualified, length of time in the job, and length of time working in in-patient settings), Pearson's product-moment correlation coefficients (r) were calculated. As specific predictions were made, one-tailed tests were adopted. Table 18 summarises the analyses.

Table 18. Correlations between self-efficacy and measures of experience.

Variable	DBSES
If qualified, how long qualified	.185 n/s
Years working in the job	.508**
Years working in in-patient settings	.388**

Note. DBSES = Difficult Behaviour Self-Efficacy Scale. n/s = not significant; ** correlation significant at the p<0.01 level.

Results from the analyses demonstrate that there was a significant positive association between scores on the DBSES and the length of time participants had worked in their job. According to Cohen (1988), the size of the correlation is large, indicating a strong relationship between perceived self-efficacy and years in the job. Therefore, individuals who had worked in their job for a longer period of time reported higher levels of perceived self-efficacy. There was also a significant positive association between years spent working in in-patient settings and self-efficacy. The strength of the relationship between these two variables was medium (Cohen, 1988). Therefore, individuals who had spent longer working in in-patient settings reported higher levels of self-efficacy.

However, no significant association was found between self-efficacy and length of time qualified.

B) Staff members trained in aggression management techniques will report greater perceived self-efficacy than those not trained in the techniques.

In order to examine the difference between participants who had undertaken aggression management training (breakaway and control and restraint), independent samples t-tests were adopted. Levene's tests for equality of variance were not significant (p>0.05) for both breakaway and control and restraint training, suggesting homogeneity of variance. In order to maximise the power of an independent samples t-test, the aim should be to keep the group sizes as equal as possible. In the case of participants undertaking control and restraint training, the groups were unequal (yes = 59; no = 7). In this case, non-parametric tests could be utilised. However, no differences were found between both parametric and non-parametric, and therefore only the results from the parametric analysis will be presented. Table 19 displays the results of the analyses.

Table 19. Results of aggression management and self-efficacy analyses.

Variable	Training undertaken	N	Mean	Standard deviation	t-value	Significance
Breakaway	Yes	33	25.61	3.54	2.527	**
	No	33	23.27	3.96		
Control &	Yes	59	24.63	4.01	1.137	n/s
Restraint	No	7	22.86	2.55		

Note. n/s = not significant; ** significant at p<0.01 level.

There was a significant difference between those who had undertaken breakaway training and those who had not. Therefore, individuals who had undertaken breakaway training reported significantly greater levels of self-efficacy than those not trained in such techniques. There was no significant difference between those trained or not in control and restraint techniques in relation to perceived self-efficacy.

Finally, Pearson's product-moment correlation coefficients (r) were calculated between self-efficacy and the usefulness of the aggression management training undertaken. As specific predictions were made, one-tailed tests were adopted. No significant associations were found between self-efficacy and the usefulness of breakaway training

(r(33)=.139, p=.221), or between self-efficacy and the usefulness of control and restraint training (r(59)=-.125, p=.174).

3.4.4 Hypothesis four – predicting fear/anxiety and depression/anger emotional reactions.

Staff perceived self-efficacy will independently predict both fear/anxiety and depression/anger dimensions of negative emotional reactions.

Multiple regression is used to explore the relationship between one continuous (dependent or criterion) variable and a number of independent (predictor) variables. Although based on correlation analyses, multiple regression allows a more sophisticated exploration of the interrelationship among a set of variables. In effect, regression allows a mathematical model of the relationship between the variables to be created, which explains and accounts for some of the variance in scores (Clark-Carter, 1997).

According to a number of authors (such as Brace, Kemp, & Snelgar, 2000), Stepwise Multiple Regression is the most sophisticated of the statistical regression methods. Within this model, each variable is entered in sequence and its value assessed. If adding the variable contributes to the model then it is retained, but all other variables in the model are then re-tested to determine if they are still contributing to the success of the model. If they no longer contribute significantly, they are removed (2000, p210). According to Brace, Kemp, and Snelgar (2000), this method ensures that the researcher finishes up with the smallest possible set of predictor variables included in the model.

The results from the correlational analyses demonstrated a number of associations between the variables under investigation and negative emotional reactions (fear/anxiety and depression/anger subscales). To investigate more fully the combined relationship of these variables, further analyses were undertaken. The analysis focussed on two regression models: one for each dimension of negative emotional reactions to aggressive challenging behaviour. The predictor variables were those identified in the correlational analyses as being associated with each dimension of negative emotional reactions.

For the fear/anxiety dimension of emotional reactions there were four predictor variables: perceived self-efficacy, how supported staff felt by team leader and team manager, and how long participant had worked in their job. For fear/anxiety scores the model to emerge from the regression analysis contained one predictor variable; perceived self-efficacy, accounting for 16.5 per cent of the variance (Adjusted R square = .165; $F_{1,64}$ = 13.803, p<0.0005). Scores on support by team leader/manager and years in the job were unable to predict scores on the fear/anxiety dimension of negative emotional reactions. Therefore, those with greater feelings of efficacy in dealing with aggressive challenging behaviour reported fewer fear/anxiety emotional reactions. Table 20 shows that perceived self-efficacy was a negative predictor of fear/anxiety negative emotional reactions to challenging behaviour.

Table 20. Results of the regression model for fear/anxiety subscale.

Predictor variable	Beta	P
Perceived self-efficacy	-.421	p < 0.0005*

Note: * Significant at p<0.001.

A multiple regression analysis using stepwise analysis was performed between the depression/anger dimension of emotional reactions as the dependent variable, and perceived self-efficacy, how supported by colleagues/team leader/team manager, years in the job, and how long qualified as predictor variables. The significant model to emerge contained two predictor variables: support from team leader and perceived self-efficacy, which combined accounted for 25.3 per cent of the variance (Adjusted R square = .253; $F_{2,63}$ = 12.036, p < 0.0005). Participant scores on support from colleagues/team manager, years in the job and how long qualified were removed from the analysis. Table 21 shows that perceived self-efficacy was a negative predictor and support from the team leader was a positive predictor of depression/anger negative emotional reactions.

Table 21. Results of the regression model for depression/anger subscale.

Predictor variable	Beta	P
How supported by team leader	.396	p = 0.001**
Perceived self-efficacy	-.253	p = 0.027*

Note: * Significant at p<0.05; ** Significant at p<0.01

The analysis above reveals that participants with greater feelings of perceived support in their team leader and higher levels of perceived self-efficacy report fewer depression/anger emotional reactions.

3.4.5 Hypothesis five – association between negative emotional reactions and management of aggression.

Staff reporting greater negative emotional reactions (fear/anxiety and depression/anger) will favour more punitive/firm and avoidant management strategies.

Staff rated the most likely ways of managing the behaviour depicted in the vignette as "call on colleagues" (M=1.74, SD=1.59), "talk him down" (M=2.30, SD=1.74), and "remove him from the area" (M=2.33, SD=1.82). The management strategies rated as least likely were "carry on as if nothing happened" (M=6.03, SD=1.44), "leave the area" (M=5.50, SD=1.83), and "call the police" (M=5.39, SD=2.09).

As stated in the Method section, the management strategy variables were subjected to factor analysis. Six management factors emerged from the analysis (see Appendix 3 for factor analysis matrix, items and factor loadings). Table 22 briefly highlights the factors and associated variables.

Table 22. Management strategy factors.

Factor	Variables
One: Firm	Timeout from preferred activities; remove him from the area; assert yourself; tell him to go to his room; evacuate others.
Two: Punitive	Not carry on as if nothing happened; control and restraint; restrain physically; use seclusion; impose a sanction
Three: Medical/Help	Give p.r.n (prescribed when necessary) medication; call on colleagues
Four: Talking/Caring	Spend time and diffuse the situation; ask what's wrong immediately
Five: Punitive 2	Call police; withdraw time allocated to him
Six: Avoidant/Firm 2	Leave the area, Not talk him down; impose a sanction

To examine the association between the fear/anxiety and depression/anger subscales and the management strategy factors, Pearson's product-moment correlation coefficients (r) were calculated. Table 23 displays the analyses for fear/anxiety emotional reactions and management strategies.

Table 23. Correlations between fear/anxiety emotions and management strategies.

	Fear/anxiety subscale
Factor	
One – Firm	-0.222*
Two – Punitive	-0.307**
Three – Medical/Help	-0.116 n/s
Four – Talking/Caring	0.104 n/s
Five – Punitive 2	-0.098 n/s
Six – Avoidant/Firm 2	-0.231*

Note. *= correlation significant at the $p<0.05$ level; ** = correlation significant at the $p<0.01$ level; n/s = not significant.

The results in Table 23 highlight a significant negative correlation between fear/anxiety emotional responses and factor one (firm management), two (punitive), and six (avoidant/firm). According to Cohen (1988), the strength of the relationship between fear/anxiety responses and factor one and six are small, whereas the relationship between fear/anxiety responses and factor two is medium. Therefore, individuals reporting higher levels of feelings of fear/anxiety also report that they are more likely to use firm, punitive, and avoidant/firm management strategies. No other significant associations were found.

Table 24 displays the analyses for depression/anger emotional reactions and management strategies.

Table 24. Correlations between depression/anger emotions and management strategies.

	Depression/anger subscale
Factor	
One – Firm	-0.212*
Two – Punitive	-0.275*
Three – Medical/Help	0.093 n/s
Four – Talking/Caring	0.039 n/s
Five – Punitive 2	-0.329**
Six – Avoidant/Firm 2	-0.294**

Note. *= correlation significant at the $p<0.05$ level; ** = correlation significant at the $p<0.01$ level; n/s = not significant.

The results in Table 24 highlight a small significant negative correlation between depression/anger emotional responses and factor one (firm management) and two (punitive). A medium strength negative correlation was found between depression/anger emotional responses and factor five (punitive 2) and six (avoidant/firm 2). Therefore, individuals reporting higher levels of feelings of depression/anger also report that they are more likely to use firm, punitive (one and two), and avoidant/firm management strategies. No other significant associations were found.

3.5 Other analyses

The majority of nursing staff reported feeling supported in their work, rating towards to positive end of the seven point Likert scale. They felt particularly supported by their colleagues (M = 1.88, SD = 1.44), followed by support from their team leader (M = 2.02, SD = 1.63), and team manager (M = 2.71, SD = 1.96). Participants felt significantly more supported by colleagues than team managers (t(65) = 4.5, p<0.001). Additionally, they felt significantly more supported by their team leaders than team managers (t(65) = 3.78, p<0.001).

In response to questions about what would be helpful in dealing with aggressive incidents, staff were positive about all suggestions: training (M = 1.58, SD = 1.2), supervision (M = 2, SD = 1.5), and debriefing (M = 1.9, SD = 1.5).

Table 25 provides a summary of the hypotheses, and whether the results support or refute the hypotheses made. A full summary of the results is presented in the Discussion section.

Table 25. Summary of hypotheses.

Hypothesis	Prediction	Supported/Not Supported
Hypothesis One	Staff reporting greater perceived self-efficacy in dealing with patient aggression will report fewer fear/anxiety and depression/anger emotional reactions and greater positive emotional reactions than those reporting lower perceived self-efficacy	Partially supported
Hypothesis Two	A) Experienced and higher grades of staff will report fewer negative emotional reactions and greater positive emotional reactions than inexperienced or lower grades of staff	Partially supported
	B) Staff reporting higher levels of support (colleagues, team leader, manager) will report fewer negative emotional reactions and greater positive emotional reactions than those indicating lower levels of support	Partially supported
	C) Females will report fewer depression/anger emotional reactions than males	Not supported
	D) Males will report fewer fear/anxiety negative emotional reactions than females	Not supported
Hypothesis Three	A) Experienced and higher grades of staff will report greater perceived self-efficacy than lower grade and inexperienced staff	Partially supported
	B) Staff members trained in aggression management techniques will report greater perceived self-efficacy than those not trained in the techniques	Partially supported
Hypothesis Four	Staff perceived self-efficacy will independently predict both fear/anxiety and depression/anger dimensions of negative emotional reactions	Supported
Hypothesis Five	Staff reporting greater negative emotional reactions (fear/anxiety and depression/anger) will favour more punitive/firm and avoidant management strategies	Supported

4. DISCUSSION

4.1 Overview

In this section the aims of the study are reiterated, followed by a summary of the results obtained in relation to the hypotheses. The findings are then discussed in relation to the literature outlined in the introduction. The main limitations are then delineated, followed by a consideration of the implications of the study. Finally, some directions for future research will be put forward and conclusions reached.

4.2 Aims of the study

Overall, the main aim of the study was to investigate the emotional reactions of nursing staff (qualified and unqualified) to aggressive patient behaviour. This was achieved by utilising scales developed within the learning disabilities field. Primarily, the study sought to explore the relationship between a number of factors and staff emotional reactions to challenging behaviour, including staff perceived self-efficacy and support. The role of demographic and training variables in relation to both emotional reactions and perceived self-efficacy was explored. Finally, the study examined the associations between staff reported negative emotional reactions and the management of aggressive patient behaviour.

4.3 Summary of results

Initially, it would be helpful, without deeper interpretation, to give a summary of the results. First, self-efficacy was found to be negatively associated with both fear/anxiety and depression/anger negative emotional responses. This suggests that staff reporting higher perceived self-efficacy report fewer feelings of fear/anxiety and depression/ anger in response to a written vignette. As predicted, staff reporting greater feelings of perceived self-efficacy also reported greater feelings of confidence/relaxed. No associations were found between self-efficacy and feelings of cheerfulness/excited. Overall, there is support for hypothesis one.

No significant differences were found between higher and lower grade staff on the fear/anxiety, depression/anger and confident/relaxed subscales of the emotional responses scale. Similarly, there were no significant differences between qualified and non-qualified staff on these dimensions of emotional reactions. However, lower grade

and unqualified staff reported greater feelings of cheerfulness/excited than higher and qualified staff.

Results suggest that individuals with more years post qualification experience report lower depression/anger and cheerful/excited emotional reactions than those with less years experience post qualification. No differences were found on the fear/anxiety and confident/relaxed subscales and length of time qualified.

Associations were found between length of time working in the current job and feelings of depression/anger, fear/anxiety and confident/relaxed. Therefore, staff with more years in the current job reported lower negative emotions and greater feelings of confidence/relaxed than those with fewer years in the current job. No association was found between length of time in current job and feelings of cheerfulness/excited. Furthermore, no associations were found between years working in in-patient settings and any of the dimensions of emotional reactions.

Overall, there was partial support for hypothesis two (a), with different results being found from the subscales of the emotional responses scale.

In relation to perceived support, results highlight that participants reporting higher perceived support in their colleagues reported lower feelings of depression/anger and cheerful/excited. Perceived support in colleagues was not found to be associated with feelings of fear/anxiety or confident/relaxed. A similar pattern of results was obtained for support in team leader and manager. Higher perceived support in team leader and manager was associated with lower feelings of fear/anxiety and depression/anger. However, no association was found between these aspects of support and reported positive emotions (confident/relaxed and cheerful/excited). Overall, hypothesis two (b) is partially supported.

Against the prediction made, results indicate that there were no significant differences between male and female participants on the two dimensions of negative emotional reactions. Therefore, hypotheses two (c and d) were not supported.

In relation to perceived self-efficacy, no differences were found between participants classified as high or low grade or between qualified and unqualified staff. Similarly, length of time post qualification was not associated with self-efficacy. However, higher self-efficacy was reported in participants with more years in the current job and working in in-patient settings, suggesting that these measures of experience did have an effect. Therefore, there is partial support for hypothesis three (a).

In terms of aggression management training, individuals who had undertaken breakaway training reported higher perceived self-efficacy in dealing with aggressive patient behaviour. However, having undertaken control and restraint training had no effect. Additionally, the perceived usefulness of both forms of training had no effect on the reported levels of self-efficacy. Hypothesis three (b), therefore, is partially supported.

Multiple regression analyses revealed that scores on perceived self-efficacy were able to independently predict both fear/anxiety and depression/anger emotional reactions, therefore confirming hypothesis four. Additionally, it was found that higher perceived support in team leader predicted lower depression/anger scores. Other variables initially associated with these dimensions of negative emotional reactions did not appear to have a significant effect.

Higher scores on both dimensions of negative emotional reactions were found to be related to certain management strategies. Specifically, higher fear/anxiety responses were associated with firm, punitive and avoidant/firm management strategies. Scores on this dimension of negative emotional reactions was not associated with medical/helping, talking/caring or other punitive (punitive two) strategies. High scores on the depression/anger dimension of emotional reactions were associated with firm, avoidant/firm and all punitive management strategies. As above, no associations were found between depression/anger scores and both medical/help and talking/caring management strategies. Hypothesis five is therefore supported.

4.4 Interpretation of results

4.4.1 Negative emotional reactions

A primary objective of the current study was to examine the emotional reactions of staff in relation to a range of variables. In order to integrate the results, and to facilitate readability, the findings will be discussed in sections and not necessarily as separate hypotheses.

Initial descriptive statistics reveal that the participants were experiencing a range of emotions to aggressive patient behaviour. Although no normative data is available, compared to previous studies (e.g. Mitchell & Hastings, 1998), staff reported high negative emotional reactions (fear/anxiety and depression/anger) to a written vignette of patient aggressive behaviour. Furthermore, they reported high positive emotions of confidence/relaxed and cheerful/excited. Therefore, as noted by Bell and Espie (2002), there appears to be a coexistence of both positive and negative emotional reactions.

Mitchell and Hastings (1998) assert that the negative emotions measured on their scale may be experienced more in response to severe forms of challenging behaviour. Therefore, although the behaviour in the vignette may be described as quite mild in nature, participants may have been thinking about more severe forms of behaviour when responding, and thus reported greater negative feelings. Without debriefing data from the participants this comment is highly speculative.

It is also acknowledged that nurses underestimate the extent of their emotional responding (Benson *et al.,* 2003; Hastings, 2002b). Consequently, the high rate of negative emotions in the current study could actually be an under-representation of the true extent of emotions experienced. This is of obvious importance, as research indicates that staff negative emotional reactions are linked to stress (Mitchell & Hastings, 2001), which in turn has been linked to various factors, such as staff sickness (Hastings, 2002a). It could therefore be argued that the participants in the current study are vulnerable to experiencing stress, which consequently may have implications for the service. Obviously, this is only conjecture and further research would be needed to clarify this issue.

A number of relationships were found between negative affect and various measures of experience. First, both fear/anxiety and depression/anger dimensions of negative affect were associated with years spent in the current job: individuals with more years at the current job reported fewer negative emotions. This is consistent with the findings of previous work. For instance, participants in Hastings' (1993) study reported that their feelings diminished over time. Similarly, Hastings and Remington (1995) found that experienced individuals rated challenging behaviours as less disturbing than inexperienced individuals. The authors consequently concluded that negative feelings become less intense with experience (1995, p. 15).

A number of implications follow from this finding. First, it could be that inexperienced participants in this study, as measured by 'years in the job', are particularly vulnerable to the negative effects of patient challenging behaviour. Consequently, it could be argued that support, in its various forms, should be targeted to this particular group. It has also been postulated that reporting of fewer negative emotions may reflect a coping strategy that enables staff to continue in a stressful situation (Hastings & Remington, 1995). Therefore, as Lee (2001) contends, modelling of senior staff plays a large role in nurse training, and it may be that over time inexperienced members of staff 'learn' these ways of coping.

According to Hastings *et al.* (2003), however, the lower reporting of negative emotions could be a warning sign that staff are in fact finding it difficult to cope and are potentially denying the effects on themselves. As with that study, it is not possible to confirm this interpretation with the current data set and further work would be required. If this were to be the case, however, there may be numerous consequences to staff in terms of long-term physical and mental health difficulties.

With regard to the lack of effect of length of time in in-patient settings, it could be that 'years in the job' is a more suitable measure of experience for the current population. Participants may, for example, have many years' experience working in in-patient settings. However, the patient group within these settings may not have exhibited challenging behaviour. One would therefore not expect this type of experience to be associated with reduced negative affect.

The lack of associations between staff grade/qualified status and negative affect is, in hindsight, not surprising. Although it could be argued that qualified and higher-grade staff may report fewer negative emotions, it might be that experience generally (as measured by 'years in the job') is more important. For instance, it is possible that an individual could be a 'B' grade with 20 years experience, whereas someone could be an 'F' grade with only four years experience. Therefore, the predicted differences would not be found.

This could also account for the differential effects that were found for the negative dimensions and years qualified (if qualified), whereby individuals with more experience post qualification also reported fewer depression/anger negative emotions. No association was found between this variable and fear/anxiety responses. For example, an individual may have been qualified for a number of years but still experience many of the feelings contained on the fear/anxiety dimension (afraid, nervous and shocked), but not feelings of depression/anger (humiliated, angry and disgusted). This may be especially so if the person has not had many years' experience in their current job, which appears to be associated with fewer fear/anxiety and depression/anger responses.

Although gender differences have been found elsewhere (Mitchell & Hastings, 1998), the current study failed to find significant differences. This could suggest that both males and females in the current sample are vulnerable (or not) to experiencing the negative effects of patient aggression. The results are also consistent with those of Hastings *et al.* (2003) who failed to find gender differences in relation to self-injury and negative emotional reactions.

4.4.2 Positive emotional reactions

In relation to positive emotional reactions, a number of interesting findings emerged. The dimension of confident/relaxed was only associated with years spent in the current job. Intuitively, this is to be expected as it could be argued that the longer an individual spends in a job they may become more confident, relaxed, self-assured and comfortable. As argued above, other measures of experience may not play a role in increasing feelings of confidence in relation to challenging behaviour.

It is interesting to note that the positive dimension of cheerful/excited was associated with staff grade, qualified status, and length of time qualified. In essence, lower grade, unqualified and those qualified for the least amount of time reported greater feelings of excitement, happiness and cheerfulness. This observed effect is difficult to interpret, but could be explained by the notion of responsibility. For example, qualified staff ultimately have more responsibility than unqualified staff, and by implication they may feel more responsibility for the patients in their care. They may also be expected to take a more active role in relation to managing patient aggression. In turn, either the increased responsibility or exposure to challenging behaviour (due to the increased role), leads to these staff members not reporting greater feelings of cheerful/excited as their lower grade/unqualified colleagues may. Clinically, this may be of benefit. As noted above, nurse training is largely an apprenticeship process (Lee, 2001), and it could be that senior staff model a more calm way of dealing with patient aggression, thus helping to calm the situation down. In the absence of any debriefing data from participants such interpretations and implications cannot be explored.

However, if this is the case how does one reconcile this finding with the non-significant results of other measures of experience and feelings of cheerfulness/excited (*e.g.* years in job/in-patient)? Again, it could be responsibility, rather than experience measured in years, that impacts on this dimension of positive affect. Ultimately, the current study is unable to answer these questions. It is also one of only two studies using this measure of positive affect, and the findings need to be approached with a degree of caution due to the psychometric qualities of these subscales. Nevertheless, the findings may be considered of value in generating hypotheses for future work using more rigorous and psychometrically valid measures of positive affect.

In hindsight, it was perhaps naïve to combine the positive emotion dimensions together within the hypotheses. Although both dimensions describe positive feelings, these are qualitatively quite different. To feel confident, relaxed, comfortable and self-assured, is quite different from feeling excited, happy, cheerful and invigorated. Therefore, future studies may wish to separate hypotheses based on these dimensions.

The above results suggest that the associations between emotional reactions and measures of experience are more complex than perhaps initially envisaged.

Many of the findings above may be an artefact of the crude measures of experience. As Hastings *et al.* (2003) assert, in reality staff will have a range of experience that impacts on the reported negative (and positive) emotions. These unknown factors could ultimately have impacted on the findings and further work is required to clarify the issues raised. The differential effects between the negative dimensions could also be seen to support Mitchell and Hastings' (1998) claim that the scale does in fact measure different dimensions of negative emotional reactions.

4.4.3 Emotional reactions and support

The value of supportive relationships in reducing the negative impact of patient aggression has been noted. Within the current study it was predicted that perceived support would be associated with the emotional reactions of staff (Hypothesis two b). This prediction was partially supported.

In general, participants felt supported by colleagues, team leaders and team managers. Staff felt more supported by their colleagues than either team leaders or managers, and more supported by team leaders than managers. This is not surprising given that staff will spend the majority of their time with colleagues rather than team leaders and/or managers, and therefore will perceive a greater level of support. It is also consistent with research highlighting that staff feel less supported by senior managers (Haslam & Passmore, 2003).

Initial examination revealed that, in relation to positive affect, feelings of cheerfulness/excited were associated with perceived support from colleagues, but not team leader and manager. One could speculate that this may be due to the relationship that exists between colleagues. For example, it may be that in this population there is a degree of camaraderie between the members of the team, which therefore impacts on the feelings contained in this dimension. Feelings of confidence/relaxed were not associated with support on any level. This is surprising and one could perhaps expect staff who feel more supported to feel more confident and relaxed. However, these findings may be due to the crude way in which support was conceptualised, and as a consequence it has not been possible to find any associations with this aspect of positive affect. Moreover, as stated, one needs to be cautious when examining the

70

findings in relation to the positive dimensions of the emotional responses scale due to the psychometric qualities.

In relation to negative affect, it was found that higher perceived support in the team leader and manager was associated with lower feelings of fear/anxiety and depression/anger. No association was found between fear/anxiety responses and support from colleagues, whereas there was a small association between this aspect of support and depression/anger emotions. These results, given the finding that participants reported greater support in their colleagues, is perhaps not to be expected. One could argue that they are in some way due to the poor conceptualisation of support. However, this pattern of findings can be explained by looking at the literature on stress.

As stated, social support is seen as important in reducing any negative effect of exposure to aggression (Whittington & Wykes, 1989). However, according to Leather, Lawrence, Beale and Dickson (1998), there is evidence that only certain types, or sources, of support, will buffer certain types of stressor. It has been found, for example, that it is only the perception of formal support within the organisation that is likely to buffer any negative effects arising from exposure to stressors within the workplace (such as patient aggression). Additionally, more informal support, such as that received from colleagues and friends, may be less likely to have an effect. Therefore, in relation to the current findings, support from the team leader and/or manager will have a larger effect.

Multiple regression was undertaken to assess the contribution of a range of variables, including the support variables, to the prediction of negative affect. Although it was only predicted that self-efficacy would independently predict negative emotional reactions (hypothesis four), it was found that perceived support from the team leader predicted lower scores on the depression/anger dimension, and accounted for 20.5 per cent of the variance. Support from colleagues and team manager was not able to predict scores on this dimension. No form of support was able to predict scores on the fear/anxiety dimension.

Given the argument above regarding the differential effect of various forms of support, this result is not unexpected, whereby support from the team leader is seen as more important than that from colleagues. One can also explain the lack of prediction from the team manager. For example, team managers in the current study are not involved in the day-to-day running of the wards. Therefore, it could be that team leaders provide the formal support needed after an incident. Moreover, they will be able to give permission to the staff member to take time to recover emotionally, which is seen as critical in the care of victims (Shepherd, 2001). Therefore, support from the team leader was the most significant predictor.

It is interesting to note, however, that support from the team leader or manager was not able to predict scores on the fear/anxiety dimension, despite initial associations being found. However, it must be acknowledged that the initial associations were small for this dimension of negative affect, whereas the associations between depression/anger and support from team leader/manager were medium. Therefore, support was not found to be a significant predictor for fear/anxiety responses.

This finding can also be explained by way of the aforementioned study by Jenkins *et al.* (1997). These authors found that staff support was a significant predictor of depression but not anxiety. They postulate that anxiety appears to be affected by more immediate work factors such as challenging behaviour and not staff support, whereas depression may be related to broader, less immediate aspects of the work environment, such as staff support. It could be argued that the current study supports the conclusions of both Jenkins *et al.* (1997) and Leather *et al.* (1998), whereby different types of support are important for certain types of negative affect (stressor).

It must be acknowledged that the amount of variance explained by support from the team leader was modest. However, within the generic stress literature it has been argued that any particular variable is unlikely to account for more than four to seven per cent of the variance, due to the complex nature of stress (Zapf, Dormann, & Frese, 1996). It is plausible that staff emotional reactions are similarly complex with many factors impacting and affecting their expression. Furthermore, staff support, in the study by Jenkins *et al.* (1997), only accounted for 12.6 per cent of the variance of

depression, even though it was the best predictor. Therefore, the amount of variance explained here is of a similar order.

Lack of staff support has often been cited as an important influence on staff stress (Hatton *et al.*, 1999). Therefore, it is perhaps not surprising that perceived support in the current study was associated with negative affect. The pattern of results suggest that support may be important in the emotional responding of staff. It may be that support from 'team leaders' should be given a priority in any future research as this study is not able to determine what aspects of this, or other forms of support, lead to the above findings.

4.4.4 Perceived self-efficacy

A further objective of the present study was to examine negative and positive affect in relation to perceived self-efficacy (hypothesis one), and also whether self-efficacy could predict both dimensions of negative affect (hypothesis four). More detailed examination between self-efficacy and experience and training variables was also undertaken (hypothesis three). All hypotheses gained partial support.

As stated, self-efficacy is an individual's belief about the degree to which he or she can succeed at a given task or behaviour (Bandura, 1986). The mean level of self-efficacy held by the participants, compared to previous studies, was relatively high. This could reflect the nature of the environment in which the study took place. For example, Lee's (2001) study took place within A&E departments, and although violence is high within some of these units (Schneiden & Marren-Bell, 1995), it is recognised that psychiatric nurses face the highest incidence of patient aggression (Adams & Whittington, 1995).

Therefore, the high mean level can be explained by way of Lee's (2001) finding that staff who had experienced greater verbal aggression in the three months preceding the study had higher self-efficacy. Although no measure of exposure was taken in the current study, it could be argued that the frequency of violence within the current units has resulted in increased self-efficacy. According to Lee (2001), this may be due to staff having greater experience in managing such behaviour, and therefore greater self-efficacy. As noted, further research will need to clarify these issues.

Both dimensions of negative affect were found to be associated with self-efficacy, whereby individuals reporting greater self-efficacy reported lower levels of negative affect. The importance of perceived self-efficacy in the emotional responding of staff was confirmed by the multiple regression analysis, which, as anticipated, independently predicted both fear/anxiety and depression/anger emotional responses. Whilst a number of variables were associated with fear/anxiety emotional reactions, only perceived self-efficacy was found to be a predictor variable within the multiple regression model, accounting for 16.5 per cent of the variance. For the depression/anger dimension, perceived self-efficacy, along with support from team leader, was the only predictor variable, accounting for 4.8 per cent of the variance explained by the model. In total, perceived self-efficacy and support in the team leader accounted for 25.3 per cent of the variance. Overall, these findings suggest that individuals reporting greater perceived self-efficacy report fewer negative emotional reactions.

It is important to note that the variance explained by self-efficacy was modest. The unexplained variance could be accounted for by a variety of factors. In Hastings and Brown's (2002a) study, for example, behavioural causal beliefs was found to be a significant predictor of fear/anxiety emotional responses, whereas behavioural knowledge and formal qualifications as a teacher were significant predictors of depression/anger emotional responses. It is highly probable that these, and other variables, may be relevant in explaining the unaccounted for variance.

However, as mentioned above, the amount of variance explained is similar to other studies in the area of stress. Additionally, although Hastings and Brown (2002a) did not report the variance explained by self-efficacy, the amount explained by self-efficacy and behavioural causal beliefs for the fear/anxiety dimension was only 49 per cent (R=0.49), leaving 51 per cent unaccounted for.

These findings are consistent with Bandura's (1997) general theory of self-efficacy, which posits that perceptions of self-efficacy are related to emotional reactions, especially anxiety and stress reactions. For example, people experience anxiety when they perceive themselves ill equipped to manage potentially threatening events (Bandura, 1982, p.141). Therefore, although self-efficacy is an important predictor for

depression/anger emotional responses, the above argument could account for the fact that it accounted for more of the variance of fear/anxiety.

The current research confirms the work of Hastings and Brown (2002a), and suggests that factors such as self-efficacy may affect the extent to which staff experience negative emotional reactions to aggressive patient behaviour. For example, it may be that staff with high levels of perceived self-efficacy are not afraid of a difficult task, such as aggressive behaviour of patients. Rather, by viewing aggressive behaviour as a challenge negative feelings of fear, anger, or depression are reduced. Such a factor may be particularly amenable to interventions with staff and could be a priority for staff support. For example, it may be that weak self-efficacy beliefs can be strengthened during a course of training. Unlike Hastings and Brown (2002b), the exact function of self-efficacy was not studied in this work and more detailed exploration would be needed to determine if self-efficacy serves both a moderating and a mediating effect.

In relation to the positive dimensions of emotional reactions, only confident/relaxed was found to be associated with self-efficacy. This was to be expected, as the variables contained in this subscale can be said to be similar to self-efficacy. For example, it would be expected that an individual who feels self-assured and confident would also report greater feelings of perceived self-efficacy. No association was found between feelings of cheerful/excited and self-efficacy. Ultimately, it may be that perceived self-efficacy is not important in this facet of emotional responding.

Self-efficacy was also examined in relation to a number of experience and training variables. Both years in the current job and in-patient settings were associated with self-efficacy, the largest effect being found in relation to years 'in the job'. Unlike previous work (Lee, 2001), the current study failed to find an association between staff grade and self-efficacy. One might expect, like Lee (2001), that higher self-efficacy would be found in higher grades of staff. However, as argued above, the measures of experience in this study are crude, and actual years in the job (and in-patient settings) may reflect a more accurate measure of experience in this study. This may also explain the lack of associations between the other variables (qualified status and length of time qualified) and feelings of self-efficacy.

Overall, these findings could suggest that participants' belief that they can manage the aggressive behaviour of their patients increase with time. This could be affected by various factors. For example, as Lee (2001) contends, it is possible that participants with more experience (years in the job and in-patient settings) had had more experience in dealing with aggressive behaviour and, therefore, feel more competent in dealing with it. Alternatively, participants, over the years, may have undertaken more training (*e.g.* breakaway) which has led to an increased belief that they can deal with aggressive behaviour. Further research may help clarify these issues. This result could also account for the finding that participants with more 'years in the job' report fewer negative emotional reactions.

In relation to aggression management training, half of the sample described having undertaken breakaway techniques (N=33). The majority of the sample had undertaken control and restraint training (N=59). Findings reveal that although the perceived usefulness of breakaway training had no effect, individuals who had received training in these techniques reported greater perceived self-efficacy than those who had not. Training in control and restraint and the perceived usefulness of this training had no effect on perceived self-efficacy.

It is interesting to compare the present research with the work of Lee (2001), who failed to find an association between aggression management training and perceived self-efficacy. This may be due to the different populations studied in Lee's (2001) research. For example, participants in the current study may have more need to use their breakaway skills which beneficially impacts on their belief that they can manage aggressive behaviour. Lee (2001) also failed to differentiate between various forms of training and it could be that this led to significant results for breakaway training (or other forms) being obscured.

There may also be a number of reasons why breakaway training had a significant effect whilst control and restraint did not. Breakaway training is seen as important as it can help the victim to neutralise the hostile confrontation and make an escape (Mason & Chandley, 1999). Control and restraint, although seen as an effective method of managing aggression, requires regular training and updates. It is also seen as mechanistic and requires a team of three to be maximally effective (Mason &

Chandley, 1999). Consequently, due to the nature of breakaway techniques it may leave the staff member with more self-efficacy beliefs in dealing with aggressive behaviour than control and restraint training. Ultimately, more research will be needed to examine which aspects of this training impact on increased self-efficacy. However, given that only half the sample had undertaken this training it could be argued that a priority should be to afford the other half the opportunity to.

4.4.5 Emotional reactions and strategies used for the management of aggression

An additional objective of the study was to examine the association between negative emotional reactions and the management of patient aggression (hypothesis five). Participants were asked to report the likely management strategies to the behaviour depicted in the vignette. Individually, participants noted a number of strategies as being particularly likely, including calling on colleagues, talking the patient down and removing him from the area. Carrying on as if nothing had happened, leaving the area and calling the police were seen as the least likely strategies to employ in that situation.

The findings above are consistent with previous studies investigating staff attributions and management of challenging behaviour (Crichton, 1995a; Meddings, 1996). The strategies also appear appropriate as it is recommended in the literature that responses of other patients may reinforce aggression and it is advisable to remove the aggressive patient from the area (Mason & Chandley, 1999; Daffern & Howells, 2002). Moreover, it is seen as good practice to call on colleagues in aggressive situations. Strategies such as calling the police are also rarely used in the immediate management of patient aggression in psychiatric hospitals, which is consistent with the responses of participants (Daffern & Howells, 2002).

A number of interesting associations were found between the two dimensions of negative affect and aggression management. For example, staff who reported greater feelings of fear/anxiety also reported that they would be more likely to use a range of firm (such as remove from area), avoidant/firm (such as leave the area and impose a sanction) and punitive management strategies. The strongest association was found between this dimension and punitive management strategies, including using control and restraint, seclusion and imposing a sanction. Such strategies would be considered punitive and controlling within the literature (Mason & Chandley, 1999).

This is consistent with the argument that strategies such as seclusion are used as a result of high levels of nurse anxiety and stress. Due to this, nurses cope by 'going in strong' and using strategies such as restraint (Whittington & Wykes, 1994b). Whittington and Mason (1995) claim that nurses experience high anxiety as a result of aggression and this is an important motivating factor in the decision to implement seclusion.

It is perhaps surprising that fear/anxiety responses were not more strongly associated with the avoidant/firm 2 factor, as many authors note that high levels of anxiety were associated with escape strategies (Genest, Bowen, Dudley & Keegan, 1991). However, it is noted within the literature that high anxiety may lead to the nurse avoiding the patient after the event, rather than in the immediate situation (Whittington & Wykes, 1994a). Additionally, this factor not only contained an 'avoidance style' strategy (leaving the area) but also a 'firm' strategy (imposing a sanction). Therefore, a stronger relationship was not found. Depression/anger responses were also associated with firm, punitive and avoidant/firm management strategies. This is consistent with Mitchell and Hastings' (1998) argument that high depression/anger scores may be associated with punitive intervention responses.

Interestingly, the strongest association was found in relation to the punitive 2 factor, which includes 'call the police' and 'withdraw time allocated to him'. It may be that some of the variables contained within this dimension of emotional responding can explain this finding. For example, feelings such as getting angry and being disgusted, rather than feeling frightened and afraid (fear/anxiety dimension), result in the staff member being more likely to call the police. This could also explain the lack of a relationship between fear/anxiety emotions and the punitive 2 factor. Similarly, this could explain the stronger association between depression/anger scores and the avoidant/firm 2 factor than fear/anxiety responses, whereby such responding is more likely to lead to the staff member imposing a sanction than fear/anxiety responding.

The findings in relation to depression/anger emotional responses are also consistent with the confrontive coping hypothesis, for example, the desire to express anger on the part of staff may lead to a preference for certain strategies (call police) when others (such as de-escalation) would be appropriate.

As predicted, increased negative emotions were not associated with either talking/caring and medical/help management factors. This is not surprising because one would perhaps expect that as negative emotional reactions increase, the likelihood of spending time with the patient and talking to them to diffuse the situation becomes less likely, especially as because using diffusion to calm the patient may require the use of increased cognitive demands in an already demanding situation (Lee, 2001). However, the finding related to medical/help strategies is less obvious. For example, it has been found that increased emotional responding on the part of staff was a significant predictor of the receipt of anti-psychotic medication (Bromley & Emerson, 1995), and it is referred to as a punitive strategy in the literature. However, it is reported that in the psychiatric sector nurses appear to adopt the use of physical measures and/or the use of seclusion rather than medication, which could explain the lack of associations (Duxbury, 1999).

Unfortunately, there are few studies relating to the predicted relationship between staff emotional reactions and behavioural responses to challenging behaviour (Wanless & Jahoda, 2002). Many studies have explored the effect of emotional reactions on patient care generally (Arnetz & Arnetz, 2001) or on staff behaviour after the event (Whittington & Wykes, 1994a). However, the current findings do support earlier research conducted by Hastings (1995), which found that staff recognised that their emotional reactions did impact on their behaviour in the immediate situation.

Overall, the findings of the current study tentatively support the notion that the strategies employed by nurses to manage aggressive patients are possibly selected on the basis of characteristics unrelated to the causes of aggression (Daffern & Howells, 2002), for example, due to the aversive nature of the behaviour.

One of the problems with many of the strategies noted above is that they may precipitate aggression, model aggressive ways of interacting with others, or reinforce aggression (Daffern & Howells, 2002). According to a number of authors (Duxbury, 1999, 2002) preventative approaches to aggression management are largely ignored in the current training and there is a reliance on measures such as restraint. However, although it could be argued that training should consider a range of preventative strategies, if it ignores staff affective responses the 'traditional' and familiar strategies

79

may continually be adopted. Consequently, any intervention designed to reduce negative affect could possibly impact beneficially on the care of aggressive patients.

As elucidated earlier, participants in the current study reported greater negative emotions than previous studies utilising this scale. Therefore, they may be more likely to adopt punitive management strategies than staff in other services.

The reader is cautioned not to over interpret the findings above (and in relation to all hypotheses). Many of the associations found were small, suggesting that there is not a very good relationship between some variables (Cohen, 1988). Furthermore, as will be discussed later, causation cannot be implied from correlational associations alone. Therefore, although the findings are in agreement with the theories noted above, there might be a plethora of additional factors involved in the choice of management strategy for patient aggression (attributions, personality, and training). Therefore, the findings and arguments must be considered speculative and future research should seek to clarify these issues.

4.5 Methodological critique

As with any piece of research, the present investigation exhibited certain flaws in the research design and methodology that need to be acknowledged.

4.5.1 Type I and II errors

When conducting research there is the possibility of reaching the wrong conclusion (Pallant, 2001). Within the literature two basic errors are identified: Type I and Type II errors (Brace, Kemp, & Snelgar, 2000). A Type I error occurs when one accepts the experimental hypothesis in error (believing there is a difference/association when there is not). An exemplar of this is in psychological research. If the significance level is set at 0.05, a Type I error will occur on one in 20 occasions, on average (Brace, Kemp, & Snelgar, 2000). In relation to the current study, this may have been a problem for a number of the aims as they involved a large number of correlations.

A number of ways exist to reduce the chance of Type I errors, including adopting a lower significance level ($p<0.01$) or applying a stringent correction for such errors (such as a Bonferroni correction). Although making such a correction can reduce the

chance of a Type I error, it would increase the chance of making Type II errors as the two types of error are inversely related (Brace, Kemp, & Snelgar, 2000). In the current study many analyses reached a significance level of $p<0.01$, thus reducing the chance of a Type I error. However, a number of analyses did not (for example, those surrounding hypothesis two b and five). It could therefore legitimately be argued that some of these findings were due to chance. Despite this, analyses that reached a significance of $p<0.05$ were discussed in this study since such findings can indicate future areas for research, although caution should be used when interpreting these results. On a similar note, many of the associations reaching a significance of $p<0.05$ were classified as 'small' (Cohen, 1988), suggesting that the relationship between the two variables was not particularly strong. Consequently, caution is needed when interpreting the results. As above, however, these were discussed in the current work as they can indicate areas for future work.

The second error one can make is the Type II error, which refers to the possibility of rejecting the experimental hypothesis in error (believing there is no association when there is). Again, there are ways of rectifying this problem, including adopting an adequate sample size. Undoubtedly, one would like to adopt a test that correctly identifies a difference or association, which Pallant (2001) refers to the *power* of a test. A number of factors were undertaken to increase the power of the tests used in the study. First, as noted above, parametric tests were used which are considered more powerful than non-parametric equivalents. Sample size also has an effect on the power of a test. Prior to commencing the study, Cohen's (1988) power tables were consulted to determine the sample size needed to achieve a sufficient power. This revealed that approximately 40 to 50 participants would be required. In fact, a sample of 66 was achieved, therefore increasing the confidence that the statistics used were correct and the results obtained were not due to insufficient power. Despite this, a larger sample using the same questionnaire may have strengthened the findings obtained.

4.5.2 Measures adopted

This section will discuss limitations of the measure adopted to obtain data for the study, starting with the measure of staff emotional reactions.

Emotional Reactions

Selection of the emotional responses scale (Mitchell & Hastings, 1998) was guided by the literature surrounding learning disability patients. Additionally, at the time of writing it was the only scale specifically designed to measure care staff emotional reactions to challenging behaviour.

As the emotional response scale is relatively new, there is little validation data available on the two negative subscales. Indeed, in a recent study conducted by Hastings *et al.* (2003), it was found that the two subscales (fear/anxiety and depression/anger) did not have good internal consistency for students, and consequently only the total negative emotions score was used for their analyses. However, in addition to previous research (Mossman *et al.*, 2002), the current study found this aspect of the scale to have very good internal consistency. This provides further validation of the measure and indicates that it is a useful tool in examining care staff negative emotional reactions in a variety of contexts. Adopting such a scale also overcomes many of the problems noted by Mitchell and Hastings (1998), for example, only examining a small number of emotions.

Nevertheless, the scale would benefit from a more thorough examination of its properties. It would also benefit from more extensive studies in order to develop normative data. Without such data, it has not being possible, apart from in a crude way, to compare the findings to previous studies.

A limitation of the scale also came to light during the research process. It was found that the positive subscales did not have satisfactory levels of internal consistency (Cronbach's alpha of less that 0.7 for both subscales), suggesting that for this sample they are not measuring unitary constructs. It was not within the remit to further explore the reliability of this scale and it is therefore not possible to determine the reasons for this. However, it may be, as found by Mitchell and Hastings (1998), that participants in this study did not rate the positive emotions as central to their emotional reactions to aggressive patient behaviour. It must also be noted that these subscales were developed specifically for a study examining causal attributions, affective responses and helping behaviour (Jones & Hastings, 2003). No other study in the field has adopted the amended version of the scale and it may be that the subscales are only reliable for that

study. Therefore, the reader must be cautious when interpreting the findings in relation to this aspect of the emotions scale.

Clearly, it is possible that staff may have a range of positive emotions towards patients displaying difficult behaviour. Indeed, studies have found that both positive and negative emotions do exist (Bell & Espie, 2002; Hastings & Remington, 1995). Rossberg *et al.* (2003) also found a number of subscales that described meaningful positive emotional profiles, although these described feelings towards psychiatric patients generally and not specifically to those displaying challenging behaviour. Therefore, the investigation of the co-existence of positive emotions seems to warrant further research and in a clinical context. It may be that the scale developed by Bell and Espie (2002) may be more suitable than the one adopted here.

Self-efficacy

As above, the DBSES is a relatively new research tool and there is little validation data available. However, the reliability of the scale has been demonstrated on a number of occasions, including the present study. Additionally, as noted by Lee (2000), the DBSES is the only available scale that directly addresses the perceived self-efficacy of staff dealing with difficult behaviour, such as that depicted in the vignette. Therefore, although other scales may be available, the one adopted here may be a more accurate measure of self-efficacy of staff dealing with such behaviour.

A further point is that, to date, no normative data has been produced. Therefore, as with the emotional response scale, future research should attempt to examine the properties of the scale more directly and develop normative data.

Management strategy

Perhaps the most problematic area of the questionnaire related to the management of patient aggression. Many of the questions contained in the staff questionnaire, and in particular questions surrounding management, were constructed for use in this study. The development of the management strategies is open to criticism. The strategies were developed after discussions with nursing staff but it could be argued that a different group might have developed alternative strategies. It is difficult to determine how to rectify this problem. Clearly, the author could have adopted more rigorous development procedures, including using a qualitative methodology to identify categories, themes

and concepts. However, it is recognised that there is limited research in this area and the current study wished to highlight general themes that can lead to future research.

Although factor analysis was adopted to separate management strategies, it was not the aim to construct a psychometrically valid questionnaire in relation to management questions. Rather, the categorisation of management strategies into factors was primarily adopted to reduce the chance of making Type I errors as a large number of correlations would have been required to analyse this area, a strategy adopted in previous doctoral research (Meddings, 1996). A criticism of this is that no measure of reliability or validity was obtained and it is acknowledged that this aspect of the measure may have affected the results obtained. Further attention to the development of reliable and valid measurement in this area should be a priority for future research.

There may also be difficulties with the way management strategies were analysed. As stated, the author grouped, using factor analysis, various management strategies together, a strategy similar to that adopted by Jones and Hastings (2003). However, there may be differences between some of the management strategies contained in the factors (punitive items such as 'control and restraint' and 'use seclusion') that renders it less useful to consider them as a group, rather than separately.

Vignette

The current study adopted a vignette to measure the variables of interest. Therefore, participant responses were based on a theoretical, rather than real-life, situation. A descriptive vignette was chosen as it offered a reasonable stimulus control and is useful in researching this area (Wanless & Jahoda, 2002). However, it only offered an abstract event that may not have personal significance for staff. This is borne out in some of the informal discussions during the pilot process. A number of staff noted that the management of client aggression depends, to a great extent, on whether the staff member knows the patient. As such, the vignette failed to take account of relationships that exist between staff and patients that will undoubtedly affect the strategy undertaken.

Additionally, in relation to emotional reactions, it is unlikely that the vignette adopted would evoke the same range and depth of emotional reactions as a real incident of aggressive client behaviour. It might be that the difference between the artificial nature

of the vignette and real-life patients is such that an accurate picture of the emotional reactions, and expected management behaviour, cannot be gained. Indeed, research conducted by Wanless and Jahoda (2002) found that stronger emotional responses were evoked in response to real incidents of aggression. However, although this study did attempt to examine the responses to real incidents, it relied on retrospective self-report data, and it did not examine the immediate responses that staff have at the time of an incident of aggression.

In defence of the vignette methodology, however, it must be noted that many vignettes closely approximate challenging residents (Moniz-Cook, Woods, & Gardiner, 2000). For example, in the current study the scenario depicted in the vignette was an amalgamation of a number of real incidents that took place within the units investigated. Indeed, participants were positive about the realism of the vignette, in addition to stating that they were likely to face such a situation in their current work. Therefore, any suspicions surrounding the validity of the vignette are somewhat countered.

Further, the vignette allows one to overcome some problems associated with responses to a real event. For example, it is noted that the validity of self-report reactions to a traumatic event is limited to approximately one week (Horowitz, Wilner, Kaltrieder, & Alverez, 1979). Thereafter, forgetfulness and less conviction are common, thus making responses suspect. It also allowed the author not to offer a definition of aggression in the questionnaire, instead leaving this open to the individual nurse after reading the vignette. Additionally, measurement of emotional responses after a real event causes problems of equivalence of stimulus between participants and it is not possible to ensure that the stimulus content or context of such events is identical for each participant. Moreover, the current questionnaire used the vignette as a stimulus control and then asked participants to consider their typical emotional reactions.

It must finally be noted that only a small number of studies have examined the association between challenging behaviour and emotional reactions (Hastings, 2002a), and none have been conducted within the psychiatric field adopting the measures utilised here. Therefore, it was felt important not to waste resources on time consuming and expensive research that may not have produced significant results. However, the

findings must be accepted with caution and may not be directly transferable to real life situations.

4.5.3 General

A number of general limitations warrant attention. First, the participants cannot be regarded as a random sample of nursing staff in psychiatric inpatient units. The nature of the sample, therefore, imposes limits on the generalisation of the results beyond the current area of study. It would therefore be useful to replicate the present study in a different setting to clarify if the results can be more widely generalised to psychiatric settings. Despite this, a response rate of 76 per cent was achieved which provided an adequate cross section of both qualified and unqualified nursing staff, although it must be acknowledged that there may have been differences between responders and non-responders. For example, non-responders may be experiencing the most intense emotional reactions to patient aggression, or recognise that their emotions influence the management strategy adopted. Consequently, they may have decided not to take part.

The study also relied on self-report data. Therefore, the accuracy of the data is dependent on participants accurately reporting. There is consequently a risk of measurement error in relation to defensive responses and bias. As noted earlier, for example, there is a tendency for nursing staff to under-report their emotional responses to challenging behaviour (Hastings, 2002; Wanless & Jahoda, 2002).

The design of the study, whereby a cross-section of nursing staff participated and the findings were subjected to mainly correlational analysis, precludes an understanding of causal relationships. As Hastings (2002a) rightly argues, within behavioural science research it is difficult to rule out alternative explanations. Correlational designs, even those adopting complex modelling techniques, cannot be employed to establish causality. Answers to such questions will require more imaginative and methodological sound research designs than used thus far.

Despite the limitations noted above, the reliability of the study is to some extent confirmed by the fact that the findings are consistent with other research in the field. Additionally, it is reasonable to assume that the findings have implications for other

mental health workplace settings. Undoubtedly, more research is needed to confirm the findings. Suggestions for this work are made below.

4.6 Implications

Bearing in mind the limitations and the need for further research, the results of the study suggest implications for both clinical practice and theory. Given the need for further work in this area, the following implications are put forward tentatively.

4.6.1 Clinical implications

There are a few immediate implications, mainly in relation to staff support and training. The current work suggests that the level of emotional reactions was relatively high, confirming the hypothesis that staff find aggressive behaviour aversive. It is noted in the literature that staff report fewer negative emotions to hypothetical vignettes (Wanless & Jahoda, 2002). It could therefore be argued that real life situations result in more intense reactions. An implication of the current work, therefore, is that it makes practical sense to deal directly with the often strong emotions generated by patient challenging behaviour (Allen, 1999). Obviously, the resources available to deal with such emotions are wide and diverse, although a number of suggestions can be made. It must be noted that participants in the current study rated the options offered (training, supervision and de-briefing) highly.

Attempts to minimise the emotional and psychological effects of aggressive incidents have resulted in calls for the routine provision of early psychological intervention for victims. In the immediate aftermath of an aggressive incident, staff need to have both the physical and emotional effects addressed. A number of measures are available to facilitate this. For example, stress reduction techniques could be offered to deal directly with the emotions generated by the aggressive behaviour. The effectiveness of stress reduction techniques has been demonstrated (Allen, 1999).

In addition, although technical de-briefing may take place routinely, it may be that emotional de-briefing is more important. Forms of de-briefing vary, although a primary aim is to discuss and recognise the emotions and acknowledge that these are a normal response. Support to deal with these emotions is then provided in a structured setting (Shepherd, 2001). Indeed, within the NHS 'zero tolerance' campaign it was

recommended that opportunities to reflect, monitor incidents and access formal de-briefing should always be available to staff involved in incidents (Lippiatt & Jefferies, 2002).

Similarly, Mason and Chandley (1999) discuss one-hour sessions called 'me-times'. These sessions are used to identify feelings such as anger, fear and a desire to punish. It is argued that raising and sharing these issues creates a healthier therapeutic environment. These sessions could be facilitated by the unit team leaders, therefore going someway to increasing staff members' perception of support in this area. Staff may need further help to manage anger and anxiety, and may benefit from regular counselling as a group, or individually

More long-term measures can also be adopted to enable staff to deal with this aversive aspect of their work. Training could also endeavour to address the emotions elicited by patient challenging behaviour. Nurses need to be educated on how they can expect to feel should they become involved in an incident, and the sorts of strategies that may be helpful. According to Whittington and Wykes (1992), such forewarning might aid their capabilities to cope with such emotional effects.

Stress inoculation training, an approach developed for helping staff who work with aggressive individuals, may be useful (Keyes, 1990). In this procedure staff are given information about stress and anger, and the effects on behaviour. They are then taught a number of coping skills, such as problem solving and relaxation skills. Data suggests that staff report less anger after such training, and use emergency restraint procedures less (Keyes, 1990).

Clearly, whilst every individual who has been involved in an aggressive incident may not want to receive support from managers or colleagues, this option should be available. It could be argued that any attempt to provide the formal support mechanisms noted above could increase an individual's perception of support from their team leaders and managers. This is particularly important, given the significance of perceptions of support, particularly team leader, in predicting depression/anger emotional reactions. Given the associations between staff emotional reactions and self-

reported burnout (Mitchell & Hastings, 2001), it could be that by providing the support above will beneficially impact on general staff psychological well-being.

There was mixed evidence as to the effect of staff experience on the emotions elicited. However, some of the findings tentatively suggest that certain staff groups might be vulnerable to experiencing negative affect (for example, inexperienced staff members). Differential effects of challenging behaviour should be acknowledged within support programmes. For example, the negative affect is influenced by the participants' experience and it may need to be acknowledged that inexperienced staff members may need more support. The acknowledgement of differences between staff groups will go some way to ensuring that the emotions identified and discussed are not denigrated or dismissed, but rather seen as normal and understandable.

The effect of perceived self-efficacy was powerful in the present study. This is important, as a professional with strong self-efficacy beliefs might be able to prevent the emotional damages that may ensue after an aggressive incident. Furthermore, if a staff member has high efficacy beliefs and feels able to cope with patient aggression, then they might intervene as indicated therapeutically, rather than react to their own fear/anger (Thackrey, 1987). For example, increased self-efficacy may reduce feelings of depression/anger and fear/anxiety in the encounter with the aggressive patient and help reduce the tendency to 'shoot first and ask questions later' (Whittington & Wykes, 1994b). According to Lee (2001), staff members' self-efficacy would appear to be central to the ability to work effectively with aggressive patients – staff cannot be expected to work with this group if they feel they are unable to work with them

Therefore, techniques to increase feelings of efficacy could be a fruitful avenue for intervention with staff. Hastings (2002a) argues that cognitive-behavioural techniques or training knowledge and skills could directly improve staff self-efficacy. Additional beneficial areas could include self-confidence and assertiveness training. As mentioned, research highlights that training can improve staff members' confidence to work with aggressive individuals (Allen & Tynan, 2000; Thackrey, 1987). Training, therefore, could include an extra component aimed at boosting feelings of self-efficacy.

This study revealed differences in self-efficacy beliefs dependent on the training staff had received, whereby individuals who had undertaken breakaway training had higher

efficacy beliefs than those who had not. Training in control and restraint methods (C&R), however, was not found to impact on such beliefs. However, although the majority of staff had received training in C&R techniques, only 50 per cent had received breakaway training. Although the preparation and training of staff in the management of violence and aggression can take many forms, it could be argued that they should be tailored to be maximally beneficial. In terms of self-efficacy, therefore, it seems reasonable to recommend that all staff members be afforded the opportunity to undertake this training. Additionally, it may be that constant refreshers are required to ensure that self-efficacy beliefs are continually addressed.

General experience (years in the job and working in in-patient settings) was also found to be associated with efficacy beliefs. Although it is not possible to determine what aspect of this has led to the increase in these beliefs, it could be argued that junior staff, in terms of years, should be targeted more intensively for such training. This would ensure that perceptions of self-efficacy are bolstered as soon in a person's career as possible

Approaches to aggression management are often said to be reactive, with little analysis of what is happening and why. As highlighted, staff affective responses to challenging behaviours are seen to play a crucial role in the management of such behaviour, a conclusion tentatively supported by the current work. It could therefore be argued that specific training in the management of aggressive behaviour may not ensure that staff implement the 'correct' interventions when faced with difficult behaviour. Instead, other factors, such as their emotional reactions, may influence the options elected. Practically, these factors need to be considered in any training in this area. Staff training could address the relationship between emotional reactions and behaviour. Improving staff knowledge has been shown to impact beneficially on causal attributions and it might do the same with emotions. Such training could also include some form of affect management so that staff are able to reduce the effect of their emotional reactions. Mason and Chandley (1999) highlight that there are a number of 'slow down' approaches that reduce the speed of decision making and also that of the emotional reactions. For example, methods could include talking in a slow voice and using calming gestures to manipulate the responses of the aggressor(s). According to

Mason and Chandley (1999), these approaches slow the cognitive pace and help to begin to identify the issues of importance.

It could also be argued that the approaches to reduce negative affect noted above are likely to impact positively on staff behaviour towards their patients. For example, it may lead to the reduction of inappropriate techniques to manage aggression and reduce the probability of staff actions in some way reinforcing the behaviour in which they are trying to extinguish. Additionally, the ability to 'let off steam' may prevent future expression of anger, and increase the ability of staff to remain calm in difficult circumstances.

Although a range of professionals could provide many of the strategies explicated above, clinical psychologists may be particularly suitable in facilitating the support groups and training initiatives. In addition to the direct work with nursing staff, psychologists could work indirectly to reduce the negative emotions by improving organisational support, thus raising staff perceived support.

Ultimately, longitudinal research would be needed to find out whether measures to reduce negative affect, strengthen perceived self-efficacy, or support, have been successful. The scales adopted here could be used to evaluate the intervention programmes aimed at these areas, and may also be useful as an early warning sign of more serious (such as stress) difficulties in staff. Again, clinical psychologists, with their experience and expertise in research, could be best placed to undertake such work.

4.6.2 Theoretical implications

Overall, this study adds to a developing field of literature concerning the emotional reactions of staff to patient challenging behaviour. The study targeted the lack of research within this field and aimed to address this gap. Findings support those gained within the learning disabilities arena. Ultimately, this was the first study to adopt measures designed in the learning disabilities arena and apply them to a psychiatric population. Preliminary psychometric data supports the reliability and validity of both the negative affect dimensions of the emotional responses scale and the DBSES. It has therefore, as recommended by Hastings (1997), taken a common approach to the

measurement of the variables in question and not just compared the findings to the same population.

As elucidated earlier, there are a number of theoretical models available that try to explain why staff respond as they do to challenging behaviour, many of which assert that affective responses play a key, or even causal role (Whittington & Wykes, 1994b; Hastings, 2002a). However, there is still little objective evidence of many of the relationships noted in the literature. Although more work is needed on the role of emotional reactions, the current study provided tentative supportive evidence of the theoretical link between emotions and staff immediate behavioural responses to challenging behaviour (by finding associations between emotional reactions and staff intervention responses). It additionally highlights that staff do not work in a vacuum and there are various factors that determine their response to difficult behaviour. Theoretically and practically, it is important as it adds to the body of work that suggests the 'circle' of aggression can be broken by intervening at an emotional level with staff.

4.7 Future research

Although a number of suggestions for future research have been highlighted, several further issues warrant consideration. First, the area would benefit from more extensive and rigorous studies being undertaken to confirm the conclusions reached. Larger samples selected from different geographical locations would increase the generalisability of the findings and give more conclusive results.

Future work could start to adopt more ecologically valid methodology than the use of written vignettes, for example, adopting videos of challenging behaviour (see, Mossman *et al.,* 2002). Utilising such designs, work should endeavour to investigate the validity of previous work conducted within the learning disabilities field. For example, the author only examined a small number of potential factors that could correlate with the negative affect experienced. Therefore, the importance of variables identified elsewhere, such as the amount of behavioural knowledge and causal beliefs (Hastings & Brown, 2002a; Jones & Hastings, 2003) need to be confirmed within a psychiatric population. This is particularly relevant as much of the research in the learning disabilities field surrounds self-injury, and as Jones and Hastings (2003) concede, many of the findings may be specific to this form of behaviour. Further

exploration of the plethora of variables will help refine many of the models proposed in this area.

As acknowledged, the positive dimensions of the emotional responses scale lacked sufficient internal validity. Therefore, the examination and modification of these scales should be a priority for future research. Once the issue of measurement has been resolved, it will be possible to fully explore the coexistence of positive and negative affect.

Ultimately, more work is needed on the variables included in the current study. The present work has gone some way in confirming the importance of self-efficacy. In line with Hastings and Brown's (2002a) recommendation, work is therefore needed to explore what factors might be related to staff feelings of efficacy. For instance, what are the factors contained within breakaway training that leads to increased efficacy beliefs and are these linked to perceptions of skills or deficiencies? Further, it was argued that the high rate of self-efficacy found in the current study might be related to exposure to challenging behaviour. However, no measure of such exposure was taken in the present study and the exploration of such factors is needed. Only with such research will specific training be developed to boost feelings of self-efficacy.

Support was also found to be an important variable in relation to negative affect. However, it has not been possible to determine what aspects of the support structure led to these associations and the list of variables that may be associated with the effectiveness of support is potentially daunting. Hence, there is a clear need for studies investigating this area. Research could also evaluate any formal support services offered, and it may be beneficial to ask individual victims what they have found helpful. A fuller understanding of the complex relationships between variables will enable more effective interventions in terms of organisational changes and work towards improving the well-being of staff. As argued in the literature (Mitchell & Hastings, 1998; Hastings & Brown, 2002a), the measures used in the present work may have some value in evaluating such approaches.

The management of patient aggression and emotional reactions is an important issue that merits far more attention than it would appear to be receiving at present. Therefore,

a key issue for future work is to fully explore the relationship between the affective responses of staff and the management of patient aggression. As stated, staff beliefs about intervention choices have usually been measured in two ways: by asking staff how they normally respond, and asking how they would respond to a target individual in a written or video vignette (Hastings, 1997). Such self-report data, however, may not necessarily reflect staff actual behaviour. What is needed is an examination of the immediate responses that staff make at the time of an incident in actual clinical settings. Ultimately, this will require better methodology than that adopted here. For instance, observational research could consider staff responses to challenging behaviours in detail. Further, longitudinal research would permit examination of causal relationships, in particular whether the negative affect experienced by the staff member influences their actions in the immediate situation

4.8 Conclusions

The main purpose of the present study was to explore the emotional reactions of nursing staff to patient aggression, and in particular to investigate the associations between these reactions and perceived self-efficacy and management of aggression. Although there is a need for caution, the current study has usefully supported previous research into staff emotional reactions to challenging behaviour, as well as providing new insights.

First, the study highlights that participants experience a range of negative and positive emotions in relation to patient aggression. Additional analyses suggest there are several variables that are related to negative and positive affect. Although many of the predicted associations between experience (such as staff grade) were not fully supported, depression/anger, fear/anxiety and confident/relaxed emotional responses were positively associated with years spent in the current job. Post qualification experience, in terms of years, was also associated with depression/anger emotions. Variables of staff grade, qualified status and years qualified were found to be associated with feelings of cheerfulness/excitement. The above supports previous work that suggests that experience effects the emotional responses of staff.

The importance of support was also confirmed. Perceived support in colleagues was associated with depression/anger and cheerful/excited emotional reactions.

Associations were also found between perceived support in team leader and manager and the negative dimensions of depression/anger and fear/anxiety.

Staff perceived self-efficacy was found to be negatively associated with both dimensions of negative affect, and positively associated with feelings of confidence/relaxed. A number of factors were associated with perceived self-efficacy, including having undertaken breakaway training and years spent in the current job/in-patient settings.

Further analysis of the associations between variables and negative affect revealed that perceived self-efficacy was able to predict both fear/anxiety and depression/anger emotional reactions, whereas perceptions of support from the team leaders predicted scores on the depression/anger dimension. No other variable was able to predict negative affect.

The findings provide some tentative support for the hypothesis that staff negative affect is associated with intervention responses to challenging behaviour. Both depression/anger and fear/anxiety dimensions of negative affect were related to a range of firm and punitive intervention responses, including using control and restraint procedures, seclusion, imposing a sanction, and calling the police.

Psychometric information confirmed the internal consistency of the negative dimensions of the emotional responses scale. However, the data indicates that further refinement of the positive dimensions is needed. The measure of perceived self-efficacy used in this study was also found to have good internal properties. Although these measures were effective it is concluded that they would benefit from further development and comprehensive psychometric evaluation.

The research points to the need to consider staff emotions in relation to aggressive patient behaviour. Special consideration is needed in the aftermath of an incident and support mechanisms should be in place to care for the victims of aggression. Training should also be available to address the psychological factors, such as perceived self-efficacy, that may help staff cope and deal with the negative emotional aspect of their work. By doing so, perceptions of support may increase which may further impact on

the emotions experienced. Psychologists are well placed to be involved in this. This study is also important theoretically as it is the first to address these issues utilising validated measures from another domain, and has provided tentative support for a number of models surrounding staff responses to challenging behaviour.

As with any piece of work, there are a number of methodological and design limitations. Therefore, future research should establish and confirm the findings of the current work using different methodologies and research designs. In particular, it is clear that a great deal of research is still needed to fully understand the relationship between staff emotional reactions and their intervention behaviours towards challenging behaviours.

Affective responses of staff to the challenging behaviour of patients are important to understand from both a theoretical and practical perspective. From a practical perspective, for example, how staff cope with their emotions is of significance to their own well-being. Theoretically, staff affective responses may partially determine their responses to challenging behaviour, which in turn have been postulated to play a role in the development and maintenance of such behaviour. Attention must be paid to this area because although most physical injuries heal relatively quickly, the emotional effects may linger. It is a realistic expectation that aggression and violence will occur and therefore it is the responsibility of services to make efforts to reduce the emotional trauma it can generate. Although there are a plethora of unexplained and unexplored hypotheses surrounding this area, the present study provides a new contribution to the area of care staff emotional reactions to challenging behaviour.

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Appendix 1

Details of Units and Service Investigated

Treatment and Recovery Service

Leicestershire Partnership NHS Trust provides services for a combined population of over 940,000. The Treatment and Recovery Service looks after approximately 500 patients, most of whom suffer from severe chronic mental disorders (70 per cent of the diagnoses being schizophrenia), both in health settings and the community. In addition to various community initiatives (such as specialist day care facilities) there are currently seven inpatient facilities within this service. Many of these offer specialist services, for example, one unit specialises in service users with Huntington's Disease (HD) and Acquired Brian Injury, whilst another offers care to those of advanced age.

Patients who are referred to the Treatment and Recovery Service suffer from enduring mental health and social difficulties. These will include severe and complex problems which have been unresponsive to all appropriate interventions available to referrers. An individuals ongoing mental health problems will have resulted in difficulties maintaining daily living skills, social relationships, acceptable behaviour and social support networks. Patients' disabilities should be severe and chronic, usually of a psychotic nature, resulting in them being in contact with Psychiatric Services for more than a year.

Official records indicate that the incidents of 'untoward incidents' (challenging behaviour, which can include: threatening behaviour, assaults on staff and others) varies within the service. For example, on one unit there were over 300 reported incidents in 12 months, the majority being assaults on staff members and threatening behaviour. Other units, such as the challenging behaviour unit, only reported approximately 200 incidents in the same 12 months. However, it is acknowledged that the official figures surrounding untoward incidents are an underestimation of the extent of the problem, particularly in the units that face this problem on a daily basis.

The current research took place within two of the seven inpatient facilities. Unit One provides care for 36 residents with enduring Mental Health problems associated with challenging behaviours. It comprises four, ten bedded bungalows, one of which is currently closed. Unit Two comprises both an assessment and relapse facility. Overall, it can accommodate up to 21 residents, providing them with individualised 24 hour care. Both unit one and two provide a district wide service.

Appendix 2

Staff Questionnaire

STAFF QUESTIONNAIRE

STAFF EMOTIONAL REACTIONS, SELF-EFFICACY AND MANAGEMENT OF CLIENT AGGRESSION IN A TREATMENT AND RECOVERY SERVICE

Phil Charlesworth
Trainee Clinical Psychologist
School of Psychology – Clinical Section
University of Leicester
104 Regent Road
Leicester, LE1 7LT

0116 252 2162
e-mail: pmc8@le.ac.uk

Thank you for completing this questionnaire and returning it using the envelope provided.

Code Number _____
Unit _____

Questionnaire

Thank you for agreeing to participate in this study about staff's emotional reactions, self-efficacy and management of aggression in the Treatment and Recovery Service. It is completely confidential, and you are not required to put your name on it. It will be analysed outside the service and a summary, but not individual responses, will be given to participants and managers.

Please read through the story below and answer the questions that follow.

Story

'Steve' is a 28-year-old man who has been staying in a treatment and recovery unit for over a year. During the day Steve appears to have been agitated, pacing around and being noisy. You suggest that it is time he tried to settle down as he is disturbing the other residents. At this point he becomes verbally abusive towards you; shouting, screaming and swearing at you. As you continue talking to him he pushes you against a wall and punches you in the shoulder.

1) In your opinion, how realistic is the above story?

   Not at all realistic 1 2 3 4 5 *very realistic*

2) How likely are you to face this type of situation in your current work?

   not at all likely 1 2 3 4 5 *very likely*

3) Have you faced this type of situation before?

   Yes, definitely 1 2 3 4 5 *no, never*

Based on what you know from this story and other information you know about people like Steve, please answer the following sections.

Below is a list of emotions that staff have said that they experience when they have to work with <u>people</u> who display aggressive behaviour. I want to know how *you* typically feel in this situation. Think about the behaviour described above. Consider each of the emotional reactions, and select the response next to each item that best describes how you feel when working with <u>people</u> who display aggressive behaviours

	No, never	Yes, but infrequently	Yes, frequently	Yes, very frequently
SHOCKED	0	1	2	3
CONFIDENT	0	1	2	3
GUILTY	0	1	2	3
HOPELESS	0	1	2	3
COMFORTABLE	0	1	2	3
AFRAID	0	1	2	3
ANGRY	0	1	2	3
INVIGORATED	0	1	2	3
INCOMPETENT	0	1	2	3
HAPPY	0	1	2	3
FRUSTRATED	0	1	2	3
HELPLESS	0	1	2	3
SELF-ASSURED	0	1	2	3
DISGUSTED	0	1	2	3
RELAXED	0	1	2	3
RESIGNED	0	1	2	3
FRIGHTENED	0	1	2	3

CHEERFUL	0	1	2	3
HUMILIATED	0	1	2	3
BETRAYED	0	1	2	3
SAD	0	1	2	3
EXCITED	0	1	2	3
NERVOUS	0	1	2	3

Below are several questions that ask about your responses to aggressive behaviour displayed by the clients you work with. Think of the behaviour described in the story, read each question, and place a circle around the number on the scale that reflects your own views. If your views are described best by the end points of the scale, please circle either number 1 or number 7. If your views are somewhere in between the two end points, please select a position on the scale that reflects where you feel your views should be placed. Please select a response for all of the questions.

How confident are you in dealing with the aggressive behaviours of the patients you work with?

1   2   3   4   5   6   7

Not at all   Very
confident   confident

How difficult do you personally find it to deal with the aggressive behaviours of the patients you work with?

1   2   3   4   5   6   7

Very   Not at all
difficult   difficult

To what extent do you feel that the way you deal with the aggressive behaviours of the patients you work with has a positive effect?

1   2   3   4   5   6   7

Has no   Has a very
positive   positive
effect at all   effect

How satisfied are you with the way in which you deal with the aggressive behaviours of the patients you work with?

1   2   3   4   5   6   7

Not satisfied   Very
at all   satisfied

To what extent do you feel in control of the aggressive behaviours of the patients you work with?

1   2   3   4   5   6   7

Not in control   Very much
at all   in control

Next, I would like to ask you about how you might handle the situation with Steve.
What are you most likely to do in this situation? Circle to response on the scale that best describes how likely you are to take that course of action when faced with this type of behaviour.

4) use seclusion? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

5) tell him to go to
his room? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

6) remove him from
the area? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

7) ask him what's wrong
immediately ? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

8) spend time with him to
diffuse the situation .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

9) carry on as if nothing
has happened? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

10) call on colleagues? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

11) give p.r.n. medication? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

12) leave the area? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

13) withdraw time allocated
to him? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

14) impose a sanction e.g.
cancel leave? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

15) restrain him physically .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

16) assert yourself and say
"not here to be abused" .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

17) a short period of timeout
from preferred activities? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

18) use breakaway
techniques? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

19) use control and restraint
techniques? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

20) talk him down
(counsel him)? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

21) evacuate other people? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

22) call the police? .... *very likely* 1 2 3 4 5 6 7 *very unlikely*

23) other (please specify)?
.... *very likely* 1 2 3 4 5 6 7 *very unlikely*

Now, I would like to ask you about how supported you feel in your work.

24) How supported do you feel by colleagues in dealing with incidents such as in the story

very 1 2 3 4 5 6 7 *not at all*

25) How supported do you feel by your team leader in dealing with incidents such as in the story?

very 1 2 3 4 5 6 7 *not at all*

26) How supported do you feel by your team manager in dealing with incidents such as in the story?

very 1 2 3 4 5 6 7 *not at all*

How helpful would you find the following in dealing with incidents such as these?

27) training   *very* 1 2 3 4 5 6 7 *not at all*

28) supervision   *very* 1 2 3 4 5 6 7 *not at all*

29) de-briefing   *very* 1 2 3 4 5 6 7 *not at all*

30) other (please specify)

....   *very* 1 2 3 4 5 6 7 *not at all*

Finally, I would like to ask you some questions about yourself.

The following questions ask for background information about you and your experience working with aggressive clients. Please tick the appropriate boxes or write in the spaces provided.

31) How old are you?   ....

32) Are you   male? ....   Female? ....

33) What grade are you?   A .... B .... C .... D .... E .... F ....

G .... H .... I ....

34) If qualified, how long have you been qualified?   .....years ..... months

35) Do you have any formal qualifications for your job?

If yes, please specify ....

36) How long have you been working in your job?   .....years ..... months

37) How many years have you worked in in-patient settings

with this client group?   .....years ..... months

38) Have you had training in aggression management?

    a)   control and restraint   yes .... no ....

        if no, please state why ....

        if yes, how useful was this training?   *very* 1 2 3 4 5 6 7 *not at all*

    b)   breakaway   yes .... no ....

        if yes, how useful was this training?   *very* 1 2 3 4 5 6 7 *not at all*

    c)   other (specify) ....

        if yes, how useful was this training?   *very* 1 2 3 4 5 6 7 *not at all*

39) Do you usually work   full-time .... part-time ....

Thank you very much for completing this questionnaire.

Please put it in the sealed envelope and then in the labelled envelope in the office.

If you have any additional comments you would like to make, feel free to use the space

below or attach an extra sheet.

Appendix 3

Factor Analysis of Management Strategy

Factors for management strategies, items and factor loadings (the variance accounted for is in percentage).

Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Firm: 14.46%	**Punitive: 14.13%**	**Medical/ Help: 11.7%**	**Talking/ Caring: 10.53%**	**Punitive 2: 8.4%**	**Avoidant/ Firm 2: 8.3%**
Timeout (.801)	Not carry on as if nothing happened (-.829)	p.r.n (when necessary) medication (.819)	Spend time diffuse situation (.869)	Call police (.789)	Leave area (.717)
Remove from area (.729)	Control & Restraint (.774)	Call on colleagues (.752)	Ask what's wrong (.829)	Withdraw time allocated (.588)	Not talk him down (-.643)
Assert self (.685)	Restrain physically (.664)				Impose sanction (.567)
Tell go to room (.575)	Seclusion (.594)				
Evacuate others (.474)	Impose sanction (.493)				

Note: Figures in brackets show the loadings of each of the variables on the six factors that were selected.

Appendix 4

Pilot Process

Pilot Process

According to Clark-Carter (1997), a pilot study is crucial, especially when a questionnaire is being used on a new population or when the researcher has created questions. Pilot studies are considered important as they allow the researcher to ensure that questions measure what is intended, are understandable and are free from jargon (Barker, Pistrang and Elliott, 1994; Dillman, 1978). Additionally, they allow one to assess the motivation of potential participants and the time taken to complete the questionnaire. Dillman (1978) outlines a number of ways to pilot a questionnaire, including discussions with colleagues, managers and with the target population. In the current study a number of stages were followed:

1. The objectives, method and questionnaire were discussed with a number of clinical psychologists working within the Treatment and Recovery Service. Additionally, senior nurses were consulted throughout the questionnaire development, which allowed the vignette and management questions to be developed. Other questions, such as those surrounding support, training requirements and demographic questions were also developed, refined and altered during the initial stages. A key theme at this stage was to ensure that the questionnaire topics appeared in a logical sequence.

2. The study was explained to various management groups within the chosen service. This allowed permission to be gained to approach staff members.

3. A pilot study was conducted with seven workers working with the Treatment and Recovery Service. The full procedure adopted for the main study was followed, although during this stage participants completed the questionnaire whilst the author was at the unit. Participants were asked to complete the questionnaire and comment on the comprehensibility of the questions, the sequencing of the topics, the validity of the vignette and management questions.

The direct feedback from the participants revealed that the questions and their order made practical sense. The vignette was also viewed as realistic. A number of respondents note that potential management strategies would depend on whether they knew the client. It was explained that the vignette was adopted to ensure that participants' responses could be considered comparable, although this weakness of the design would be discussed more fully in the final piece of work. No difficulties were

noted during the completion of the questionnaire, and as no changes were recommended to the questions or format, the data collected during this stage was included in the final analysis.

Appendix 5

Health Authority Ethical Approval

DC/ep

08 July 2003

Mr Phillip Charlesworth
School of Psychology – Clinical Section
The Ken Edwards Building
University of Leicester
University Road
Leicester
LE1 7RH

Dear Mr Charlesworth

Re: Staff emotional reactions, self-efficacy and management of client aggression in a Treatment and Recovery Service

Thank you for submitting your project for consideration by the Research and Development Operation Group on 8th July 2003. You will be pleased to know that this has received formal Trust approval to proceed subject to ethical approval.

Members of the group made a few additional comments. Some concern was expressed about the ability of the study to identify as many as 50 potential participants, especially given that the rate of co-operation may not be as high as expected. It would also be useful to know whether or not the questionnaire to be used has been appropriately validated.

This letter also acts as confirmation of Trust Approval for the study to proceed, subject to the following conditions (for compliance with Research Governance:)

- The agreed protocol is adhered to.
- Any changes in the protocol, timescale etc are notified to the R&D Office
- At the conclusion of the study, a final report form is completed and a summary of the main findings submitted to the Trust.
- A copy of any subsequent publication is lodged with the Trust.
- That paperwork related to the study may be subject to audit at any time.
- Confirmation of local ethical approval

Regards.

PP Dr Dave Clarke
R&D Manager

Leicestershire, Northamptonshire **NHS**
and Rutland
Strategic Health Authority

Ethics Administration
Direct dial: 0116 295 7591

07 August 2003

7088 Please quote this number on all correspondence

Mr Philip Charlesworth
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Tel: 0116 295 7500
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Mini Com: 0116 295 7501

Dear Mr Charlesworth

Re: Staff Emotional Reactions, Self-Efficacy and Management of Client Agression in a Treament and Recovery Service, ethics ref: 7088

The Leicestershire Local Research Committee (Committee One) reviewed your application at the meeting held on 01 August 2003. The documents reviewed were as follows:

Protocol lptfomh0285rp030616
Investigator Brochure N/A
Subject Information Sheet lptfomh0285is-p030616
Subject Consent Form lptfomh0285cf-p030616
Protocol Amendments N/A
Methods of initial recruitment to study
Compensation arrangements for subjects

The Committee is prepared to offer a favourable opinion to this application subject to submission of the following information and/or amendments, which are detailed below:

1. In this instance the committee would consider that completion of the questionnaire constitutes consent, so the Consent Form is unnecessary.
2. On the questionnaire, the committee questions the value in collecting ethnic origin data (Q33) as this will not be included in the analysis - please remove it.
3. Please spell out that support will be facilitated through management.
4. It is unacceptable for managers to remind their staff to fill in the questionnaire, especially if the issue is to do with level of support.
5. The questionnaire could be mailed back to the researcher and not necessarily completed at the visit.
6. On the PIS:

(i) Please address point (5) above and make it clear the participant that they need not complete it at the visit.

(ii) You state twice that this research is part of your training - please address this issue once only.

(iii) Please include that the questionnaire will be kept confidential from management but that it is not anonymous (it might be possible to identify a member of staff from the details given in the questionnaire).

(iv) In the section 'Why have I been chosen' it states that participants will be asked to fill in 'a number of questionnaires', but in the section 'What do I have to do' it refers to a 'staff questionnaire divided into a number of parts'. This latter description is more accurate.

(v) Please amend the final sentence of the paragraph under the heading 'Will my taking part in this study be kept confidential' to state that management supports this research, as the current wording re: written consent may be viewed as coercive. Please make it clear that staff will be allowed to complete the questionnaire during work time.

(vi) Please prefix the complaints paragraph with 'We do not believe that taking part in this study will cause you harm', amend 'nay' to read 'any', and 'should' to read 'will'.

7. On the letter of invitation, please spell it out that staff do not need to take part.

The Committee has delegated authority to the Chair to agree these amendments once they have been received. Subject to the Chair's agreement a formal letter offering favourable opinion will then be issued.

When submitting the response to the Committee, please send revised documentation where appropriate underlining the changes you have made and giving revised version numbers and dates.

Your application has been given a unique reference number. Please use it on all correspondence with the LREC.

Yours sincerely

PCRabey

Dr PG Rabey
Chairman
Leicestershire Local Research Ethics Committee One

(N.B. All communications related to Leicestershire Research Ethics Committee must be sent to the LREC Office at Leicestershire, Northamptonshire and Rutland Health Authority. If, however, your original application was submitted through a Trust Research & Development Office, then any response or further correspondence must be submitted in the same way).

Enc:
List of members present and members who submitted written comments

Leicestershire, Northamptonshire **NHS**
and Rutland
Strategic Health Authority

Ethics Administration
Direct dial: 0116 295 7591/2

19 August 2003

7088   Please quote this number on all correspondence

Mr Philip Charlesworth
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Tel: 0116 295 7500
Fax: 0116 295 7599
Mini Com: 0116 295 7501

Dear Mr Charlesworth

Re: Staff Emotional Reactions, Self-Efficacy and Management of Client Agression in a Treament and Recovery Service, ethics ref: 7088

The Chair of the Leicestershire Local Research Committee (Committee One) has considered the amendments submitted in response to the Committee's earlier review of your application on 01 August 2003 as set out in our letter dated 07 August 2003. The documents considered were as follows:

Your letter dated 16 August 2003
Amended application form
Letter of Invitation, ref: lptfomh0285il-p030816
PIS, ref: lptfomh0285is-p030816
Staff Questionnaire, ref: lptfomh0285id-p030816
Protocol, ref: lptdomh0285rp030816

Advice: Please remove reference to the consent form at the end of the PIS

The Chair, acting under delegated authority, is satisfied that these accord with the decision of the Committee and has agreed that there is no objection on ethical grounds to the proposed study. I am, therefore, happy to give you the favourable opinion of the committee on the understanding that you will follow the conditions set out below:

Conditions

* You do not recruit any research subjects within a research site unless favourable opinion has been obtained from the relevant LREC.

Ethics ref: 7088

- You do not undertake this research in an NHS organisation until the relevant NHS management approval has been gained as set out in *the Framework for Research Governance in Health and Social Care*.

- You do not deviate from, or make changes to, the protocol without prior written approval of the LREC, except where this is necessary to eliminate immediate hazards to research participants or when the change involves only logistical or administrative aspects of the research. In such cases the LREC should be informed within seven days of the implementation of the change.

- You complete and return the standard progress report to the LREC one year from the date on this letter and thereafter on an annual basis. This form should also be used to notify the LREC when your research is completed and in this case should be sent to this LREC within three months of completion.

- If you decided to terminate this research prematurely you send a report to this LREC within 15 days, indicating the reason for the early termination.

- You advise the LREC of any unusual or unexpected results that raise questions about the safety of the research.

- The project must be started within three years of the date on which LREC approval is given.

- You should be able to assure the Ethics Committee that satisfactory arrangements have been made for the labelling, safe storage and dispensation of drugs and pharmaceutical staff are always willing to provide advice on this.

Your application has been given a unique reference number. Please use it on all correspondence with the LREC.

Yours sincerely

PCRabey

Dr PG Rabey
Chairman
Leicestershire Local Research Ethics Committee One

(N.B. All communications related to Leicestershire Research Ethics Committee must be sent to the LREC Office at Leicestershire, Northamptonshire and Rutland Health Authority. If, however, your original application was submitted through a Trust Research & Development Office, then any response or further correspondence must be submitted in the same way).

Ethics ref: 7088

Appendix 6

Letter of Invitation

CLINICAL PSYCHOLOGY DEPT
Tel : 0116 225 6845
Fax : 0116 225 6855

A University Teaching Trust

Treatment and Recovery Services
Sandringham Suite
Windsor House
Troon Way Business Centre
Humberstone Lane
Leicester LE4 9HA

www.leicspt.nhs.uk

Letter of Invitation to Participate

Dear Staff Member

I would like to invite you to participate in a research project concerning staff emotional reactions, self-efficacy (confidence) and management of aggressive behaviour displayed by service users. I am a trainee clinical psychologist at Leicester University. As part of my work, I am involved in research looking at staff emotions and service user aggression, their confidence in dealing with such behaviour and their preferred management strategies. This work is supervised by Chris Stowers (Consultant Clinical Psychologist) and Dr Aftab Laher (Lecturer in Clinical Psychology and Consultant Clinical Psychologist). This research is described in more detail in the 'Information Sheet'.

Please take some time to read the information sheet. I will return in a few days to discuss with you whether you would be willing to participate in the study. You will be able to ask any questions that you might have. Participation is voluntary and you do not have to take part.

If you have any queries about the questionnaires or the research more generally either now or in the future, please do not hesitate to contact me on 0116 252 2162, or alternatively e-mail me on: pmc8@le.ac.uk.

Thank you very much for your time.

Yours faithfully

Phil Charlesworth
Trainee Clinical Psychologist

Working with Leicester City Council, Leicestershire County Council and Rutland County Council
to provide mental health and learning disability services
Trust Headquarters: George Hine House, Gipsy Lane, Leicester LE5 0TD Tel: 0116 225 6000
Chairman: Dr Wendy Hickling OBE JP DL BA LLD Chief Executive: Dr Maggie Cork BA MSc PhD DMS DipM C. Psychol AFBPs

Appendix 7

Participant Information Sheet

INVESTOR IN PEOPLE

Leicestershire Partnership **NHS**
NHS Trust

CLINICAL PSYCHOLOGY DEPT
Tel : 0116 225 6845
Fax : 0116 225 6855

A University Teaching Trust

Treatment and Recovery Services
Sandringham Suite
Windsor House
Troon Way Business Centre
Humberstone Lane
Leicester LE4 9HA

Participant Information Sheet

www.leicspt.nhs.uk

Study title: Staff Emotional Reactions to Client Aggression.

Invitation paragraph:

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part.

What are the purposes of the study?

I am carrying out research with staff who may experience client aggression. This research is a part of my Doctoral course in Clinical Psychology. I am particularly interested in staff emotional reactions to client aggression and their confidence in dealing with such incidents. The information you give in the questionnaires will contribute to this research.

The main purpose of the study is to examine staff emotional reactions to client aggression and to examine the impact of factors such as staff confidence, training and qualifications on these emotional reactions. It will also seek to examine what staff would do when faced with client aggression and what they find helpful.

The study will start in September 2003 and all the findings will be written up by June 2004. A summary of all the findings will be available to all interested parties from July 2004.

Working with Leicester City Council, Leicestershire County Council and Rutland County Council
to provide mental health and learning disability services
Trust Headquarters: George Hine House, Gipsy Lane, Leicester LE5 0TD Tel: 0116 225 6000
Chairman: Dr Wendy Hickling OBE JP DL BA LLD Chief Executive: Dr Maggie Cork BA MSc PhD DMS DipM C. Psychol AFBPs

Date August 16th 2003, version 2

Why have I been chosen?

The aim is to get all staff members from particular units to complete a staff questionnaire examining the factors mentioned above. You have been chosen to take part in the research as you work within one of the units under investigation.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep. If you decide to take part you are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect you in any way.

What will happen to me if I take part?

Participation in the study will involve completing a 'staff questionnaire'. The researcher will visit your place of work and time will be arranged for you to complete the questionnaire. This will take between 20 and 30 minutes. The questionnaire does not have to be completed when the researcher visits and can be completed at a time that is convenient to you. You will not be required to do anything else, although you are free to contact the researcher at any point for further information/advice.

What do I have to do?

The staff questionnaire is divided into a number of parts. First, you will be asked to read a 'story' of aggressive client behaviour and then answer a number of questions relating to your emotional reactions and confidence in dealing with such behaviour. You will then be asked to answer a series of questions about how you would deal with such behaviour and how supported you feel in the work place. Finally, you will be asked some questions about you and your work, for example, qualifications and training.

Once you have completed the questionnaire it may be posted to the researcher in the pre-paid envelope or left in the manager's office.

What are the possible disadvantages and risks of taking part?

There are no disadvantages or risks to taking part in this study as all you are required to do is fill in the short staff questionnaire. However, if you become distressed about thinking about client aggression support will be facilitated through management.

What are the possible benefits of taking part?

There are a number of possible benefits to taking part in this study. It is hoped that the findings of the study will enable service managers to provide appropriate staff training and support, particularly in relation to the management of client aggression and staff self-confidence in dealing with such behaviour.

What if something goes wrong?

We do not believe that taking part in this study will cause you harm. Medical research is covered for mishaps in the same way as for patients undergoing treatment in the NHS, i.e. compensation is only available if negligence occurs. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been approached or treated during the course of this study, the normal National Health Service complaints mechanisms will be available to you.

Will my taking part in this study be kept confidential?

All information collected on the questionnaire will be kept confidential from management but it is not anonymous as it might be possible to identify a member of staff from the details given in the questionnaire. The management of the Treatment and Recovery Service supports this research and staff will be allowed to complete the questionnaire during work time.

What will happen to the results of the research study?

A summary of the findings will be available to all interested parties (including all participants) from July 2004. Additionally, the researcher will present the findings back to the teams that have taken part, and will be available to give specific feedback to anyone if required. The study will be written up and submitted to a relevant journal (e.g. British Journal of Clinical Psychology). No individual will be identifiable in any report/publication.

Who is organising and funding the research?

The University of Leicester will be funding the study. The researcher will not be paid for conducting the study.

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Who has reviewed the study?

This study has been reviewed and approved by the Leicestershire and Northamptonshire Strategic Health Authority Research Ethics Committee.

Contact for further information.

If you have any queries about the research, or the questionnaires, please contact:

Principal Investigator: Phil Charlesworth, Trainee Clinical Psychologist

You may contact Phil Charlesworth at:
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Thank you for your time and co-operation

Note: You will be given a copy of this information sheet to keep.